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Characterization of ICRISAT-Bred Sorghum Hybrid Parents (Set I)

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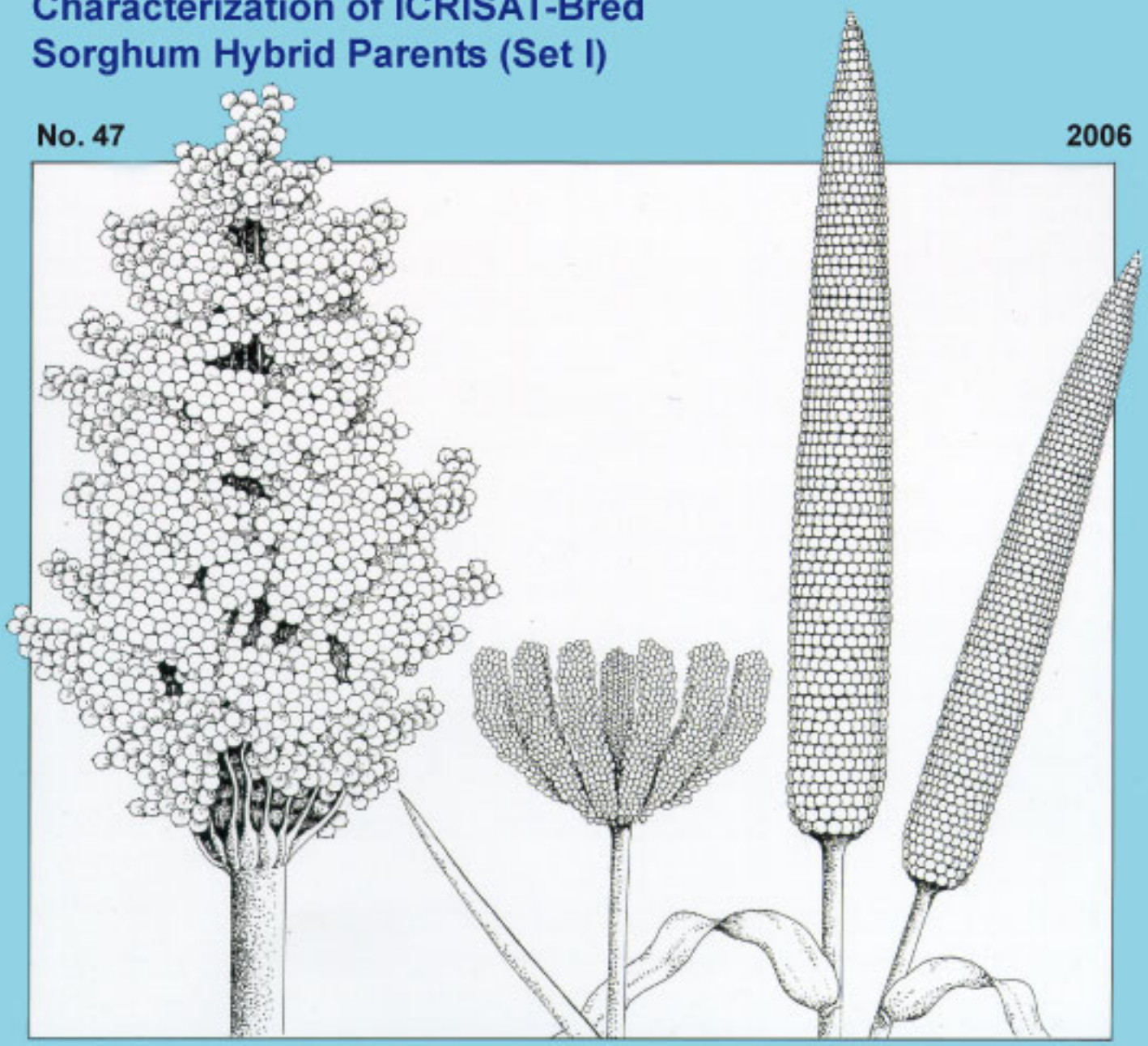

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Note: A photo album of ICRISAT-Bred Sorghum Hybrid Parents (Set I) can be found through http://www.icrisat.org/gt-ci/ISMN-47_Specialissue.htm. If there is a specific need to have the entire publication and the photo album on a CD, kindly contact: b.reddy@cgiar.org.

Foreword

For the millions of poor and food insecure people living in the semi-arid tropics in Asia, Africa and Latin America, sorghum (*Sorghum bicolor* L. Moench) is an important staple foodgrain crop. Given its importance as food, feed and fodder, considerable global efforts have gone into improving its productivity through genetic enhancement. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), established in 1972 at Patancheru, Andhra Pradesh, India, has a global mandate for conserving the genetic resources of sorghum (one of its mandate crops) and enhancing its research in Asia, Africa and Latin America in collaboration with partners in the national agricultural research system (NARS), advanced research institutes, private sector seed companies and non-governmental organizations (NGOs).

ICRISAT's vision is to improve the *well-being of the poor of the SAT. Its research is conducted with the mission of* reducing poverty, enhancing food and nutritional security and protecting the environment of the semi-arid tropics by helping empower the poor through science with a human face.

Initially, ICRISAT's focus was on developing pure lines. However, availability of the cytoplasmic-nuclear genetic male-sterility (CMS) system coupled with the demonstration of substantial heterosis for grain and forage yields prompted the Institute to make greater investments in hybrid parents' research in 1978. Since then, several improved hybrid parents have been developed through trait-based breeding, capturing both the crop's geographical and genetic diversities. These products have been shared with NARS partners in the public and private sectors, who in turn have developed and released/marketed a large number of hybrids for commercial cultivation in Asia, Africa and Latin America. The adoption of hybrids has significantly contributed to increased productivity and on-farm cultivar diversity.

The enactment of the Protection of Plant Varieties Acts in several countries will have significant implications on the International Public Goods (IPGs) nature of improved research products developed by ICRISAT. The Institute seeks to protect its research products by placing them in the public domain and establishing a *prior art* for its research products. As an immediate strategy, ICRISAT will characterize all the available hybrid parents as per the Distinctiveness, Uniformity and Stability (DUS)-test guidelines for sorghum and place them in the public domain.

In an effort towards complying with the mandate of producing IPGs, 269 designated A_1 (*milo*) CMS system-based trait-specific seed parents (A-/B-lines) and 156 restorer parents (R-lines) were characterized during the 2004 rainy and 2004–05 postrainy seasons at ICRISAT, Patancheru, India, for all the traits stipulated in the DUS-test guidelines for sorghum, and for other traits including grain yield.

This special issue of the International Sorghum and Millets Newsletter focuses on the history of the development of sorghum hybrid parents at ICRISAT and their characterization data for the traits stipulated in the DUS-test guidelines.

I am sure this publication will be useful to all sorghum researchers globally.

William D Dar
Director General, ICRISAT

Characterization of ICRISAT-Bred Sorghum Hybrid Parents[1]

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I. Introduction

Increased demand for food by a fast-growing human population, the need to sustain biodiversity, and the spurt in private sector investments in agricultural research driven by modern tools for genetic improvement of crop plants has resulted in increased demand for seeking Intellectual Property Rights (IPR) over the products of research. This has led to the introduction of plant variety protection legislations in European countries and in the USA. International efforts to harmonize the IPRs across countries to improve trade has led to various conventions [including Union Pour la Protection des Obtentions Végétales (UPOV) 1991] leading to the establishment of guidelines on Plant Breeder's Rights (PBRs). This was followed by the Uruguay round of deliberations resulting in Trade Related Intellectual Property (TRIPs) rights in 1995. The TRIPs agreement [article 27.3 (b)] has a provision for protection of plant varieties either by patents or by an effective *sui-generis* system or any combination thereof, as a minimum requirement.

The Protection of Plant Varieties (PPV) Act, in general, requires registration of plant varieties/hybrids, for which protection is sought. The four essential parameters for granting protection to varieties/hybrids are **N**ovelty (N), **D**istinctiveness (D), **U**niformity (U) and **S**tability (S). The variety deemed to be **N**ovel if it is not previously known publicly or not commercially exploited prior to a specific period at the time of seeking protection under the act. **D**istinctiveness refers to the characters of the variety that differentiates it from the other varieties. **U**niformity indicates the absence of the intra-genotypic differences within a variety rendering it to be uniform. **S**tability denotes the consistent performance of the variety for the traits when tested from season to season, and at different locations. For granting protection to any new variety/ hybrid under the PPV act, testing for the three parameters, D, U and S is essential and it is designated as the DUS-testing procedure.

The DUS-testing procedure depends on the crops and their economic importance in various countries or various geographic regions within the countries. In India, the Indian Council of Agricultural Research (ICAR) is the nodal agency for developing the DUS-test guidelines. National Test Guidelines have been developed in 35 crops including sorghum. National Research Center for Sorghum (NRCS), Hyderabad, India, has developed the DUS-test guidelines for sorghum (Annexure I) in consultation with sorghum scientists in India.

The Consultative Group on International Agricultural Research (CGIAR), established in 1971 in response to the demand for food security in developing countries has a global mandate of conserving the plant Genetic Resources (PGR) of mandate crops and their improvement for adaptation to targeted geographic regions. The enactment of *sui generis* Protection of Plant Varieties and Farmers Rights (PPV&FR) Acts in several countries will have significant implications on the nature of International Public Goods (IPGs) (including improved varieties, breeding lines and hybrid parents) developed by CGIAR centers. International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) established in 1972 has the responsibility of conserving genetic resources and developing improved breeding products of sorghum, pearl millet, chickpea, pigeonpea and groundnut. ICRISAT has to ensure that its improved breeding lines are freely disseminated to public sector and private seed companies, and to the farmers in the Semi-Arid Tropics (SAT) while preventing others from limiting ICRISAT's role to make the products available. The revised ICRISAT's Material Transfer Agreement (MTA) for breeding materials (products of its own research) includes conditions that the recipient should not seek IPR/ownership of the materials in the form received. In addition, ICRISAT has evolved strategies in consultation with IPR experts that do not unduly impede its main focus of developing and sharing improved research products.

II. Strategy for protecting ICRISAT products

ICRISAT seeks to protect its research products from other parties by placing them in the public domain and establishing a *prior art* for the research products. As an immediate strategy, ICRISAT intends to characterize all the available hybrid parents as per the DUS-test guidelines and place them in public domain (hard copy and/or its website) to make them accessible to all parties

[1]Besides the authors, several other scientists [LR House (late), JW Stenhouse, SZ Mukuru, KV Ramaiah, MJ Vasudeva Rao, BL Agarwal, DS Murty, Bholanath Verma, H Doggett, R Bandyopadhyay, KF Nwanze, SL Taneja, K Leuschner, R Jambunathan, SD Singh, LK Mughogho, and Suresh Pande] have contributed to the development of the sorghum hybrid parents.

interested in increasing the production and productivity of its mandate crops. This publication contains the morphological characterization data of 269 designated (designated lines refer to those which are stabilized and evaluated for specific traits and/or grain yield in comparison to known controls and assigned ICRISAT numbers; A-/B-lines are prefixed by ICSA and R-lines by ICSR) A_1 (*milo*) cytoplasmic-nuclear male sterility system (CMS)-based trait-specific sorghum A-/B-lines, and 156 R-lines (referred to as Set I for convenience) collected for the all the traits as stipulated in the DUS-test guidelines for sorghum (Annexure I) and other traits of interest including grain yield. This will be followed by the publication of the morphological characterization data of another set (Set II) of other designated A_1 CMS-based trait-specific sorghum A-/B-lines, and R-lines. As a prelude to the characterization data, a brief description is provided on the history of the sorghum hybrid parents' development, major traits of interest, geographic locations targeted and breeding methods used at ICRISAT.

III. Development of hybrid parents

A. Seed parents

Hybrid development requires additional research investment over and above needed for varietal development, for developing suitable hybrid parents. ICRISAT, with its Headquarters at Patancheru, Andhra Pradesh, India has the mandate for improving productivity of sorghum. The hybrid parents' research was initiated in 1978 and the major objective was to develop hybrid parents that would be useful for developing high yielding hybrids with wide adaptation in sorghum-growing areas in Asia, Africa and the Americas. Since then, the hybrid parents' research at ICRISAT has undergone significant changes. External environment, and changing crop and cropping system requirements and opportunities, and National Agricultural Research System (NARS) capacity were the important factors that triggered these changes. Consequently, seed parents' research at ICRISAT could be placed in three phases: Phase I (1978–1988), Phase II (1989–1998), and Phase III (1999 onwards).

Phase I (1978–1988): During this phase, grain yield and grain-quality traits, along with geographic adaptation (such as maturity) received greater emphasis to match the cropping season and geographical requirements. The breeding strategy involved conversion of F_6 homozygous lines (derived through pedigree selection) with male-sterility maintainer reaction (B-lines) into male-sterile (A-) lines. The lines with good general combining ability (GCA) for grain yield, grain quality, desired maturity, and plant height (dwarf) were converted into A-lines, with 5 to 6 backcrosses to a known A-line with A_1 cytoplasm. A total of 92 high-yielding A-/B-lines, including 17 early-maturity (≤65 days to 50% flowering) lines, and 75 medium-maturity lines (66 to 75 days to 50% flowering) were developed during this period.

Phase II (1989–1998): Over the years, it was realized that incorporating resistance to biotic and abiotic constraints into hybrid parents was necessary to stabilize the yield. Therefore, trait-based breeding approach was followed to develop hybrid parents during this phase. Initially, selected individual plants (from F_6 generation) resistant to specific biotic/abiotic stress with maintainer reaction within the selected high yielding families were converted into A-lines after testing for GCA. This approach not only resulted in significant reduction in grain yield potential and resistance levels in the A-lines, but the conversion process took longer time (9 to 10 years). Therefore, a different strategy was conceptualized and executed to develop A-lines. Considering high correlation between *per se* performance of parental lines and hybrids (Rao 1972), an efficient method of A-line development (Fig. 1) was adopted. The method involved simultaneous selection for resistance to a specific biotic (shoot fly, stem borer, midge, head bug, grain mold, downy mildew, leaf blight, anthracnose, rust and *Striga*) and abiotic (terminal drought) stresses based on families, and for grain yield based on individual plants within the selected resistant families from F_4 generation onwards. The selected lines with maintainer reaction were converted into A-lines with resistance to the target biotic and abiotic stresses in the shortest possible period of seven years (Reddy et al. 2005). The trait-based method also ensured retaining greater genetic diversity in the A-lines. Thus, 567 trait-based A-/B-lines and 30 high-yielding A-/B-lines were developed during the Phase II, adding to a total of 689 A-/B-lines in Phases I and II (Table 1).

Phase III (1999 onwards): This phase marked the beginning of race-specific and alternative (non-*milo*) CMS systems-specific diversification of A-lines. To capture the advantage of different races in sorghum, race-specific diversification of A-/B-lines was initiated involving landraces in crossing program. Also, considering that the cytoplasm uniformity of the hybrids might lead to outbreaks of insect pests and diseases, as evidenced by devastation of Texas (T) cytoplasm-based corn hybrids due to the southern leaf blight in 1970 (Tatum 1971), and the limits imposed by the use of single source of CMS for diversifying the nuclear genetic base of hybrid parents, development of both A_1 and A_2 cytoplasms-based A-lines is being given greater emphasis. Conversion of race-specific (*caudatum* and *guinea*) selections from F_4 generations (derived from various crosses) with male-sterility

maintainer reaction into A_1 and A_2 cytoplasms-based A-lines is in progress. Similarly, selected *feterita* type F_4 progenies with male-sterility maintainer reaction are being converted into A_2 cytoplasm-based A-lines. At present, all these are in advanced stages of conversion into A-lines. Diversification of A-lines for farmer-preferred grain quality traits such as large, white and lustrous grains for postrainy season is receiving greater emphasis. Diversification of seed parents for resistance to biotic stresses has been scaled down to only two major stresses-shoot fly (for both rainy and post rainy seasons) and grain mold (for the rainy season), while maintaining reasonably high yield. Identification/development of A-/B-lines for sweet stalk trait, salinity-tolerance, grain micronutrients (Iron and Zinc), and β-Carotene are some of the new traits of focus in phase III, apart from race-specific and trait-specific diversification of A-/B-lines.

B. Restorers

Utilization of CMS system for hybrid development would require complementary efforts for developing restorers (R-lines). Identification of promising R-lines with respect to agronomic and adaptation traits, and high GCA for grain yield is an important breeding activity. Equally important is the genetic improvement of existing R-lines for these traits.

However, there is no focused program to develop restorers at ICRISAT, Patancheru or at other centers in Africa. Several of the improved varieties bred in various projects at ICRISAT, Patancheru upon test crossing have been found to be restorers on A_1 CMS system. These selections with restorer reaction in seed parent development programs have been added to the restorer gene pool, though their contribution to the restorer gene pool is limited. The R-line breeding therefore, rested mainly on varietal development program, wherein grain quality traits and yield potential were given major emphasis between 1972 and 1978, and resistance to biotic and abiotic stresses between 1979 and 1988 at ICRISAT, Patancheru, India. The program on varietal/restorer improvement has been renewed during the last three years at ICRISAT, Patancheru though on a small scale.

Varietal/R-line improvement programs at ICRISAT, Patancheru have led to the identification/development of 883 R-lines (873 old and 10 new) on A_1, 146 on A_2, and three dual R-lines. All these R-lines have been designated and their characteristics are available at the ICRISAT website:http:/www.icrisat.org/text/research/grep/homepage/sorghum/breeding/main.htm.

Apart from these, 36 dual-restorers on A_1 and A_2, two on A_1, A_2 and A_3, and two on A_1, A_2, A_3 and A_4 (Maldandi), A_4 (VZM) and A_4 (Guntur) CMS systems have been identified. During 2005, 14 high-yielding restorers have been identified. These restorers along with 36 new dual R-lines are yet to be designated.

IV. Material and Methods

As per the DUS-test guidelines, hybrid parental lines were placed in three groups (early, medium and late maturity) based on days to 50% flowering. Of the 269 A-/B-lines (pedigrees provided in Annexure II), 73 high-yielding, 73 disease resistant and 57 insect pests resistant A-/B-lines were placed in two/three groups (Table 2). Of the remaining 66 A-/B-lines, 24 *milo* CMS system-based A-/B-lines (11 *Striga* resistant, five acid soil tolerant, six stay green lines and two tillering lines), and 42 non-*milo* CMS system-based A-/B-lines (28 A_2, eight A_3 and six A_4) were placed in one group each as there were fewer entries for each trait/cytoplasm (Table 2). As did for A-/B-lines, the 156 designated R-lines were placed in three maturity groups (Table 3).

These hybrid parents were evaluated during the 2004 rainy season in high fertile Vertisols (deep black soils, hereafter referred to as E1) and alfisols (light red laterite soils, hereafter referred to as E2); and during 2004-05 postrainy season in two high fertile Vertisol soils (deep black soils) (hereafter referred to as E3 and E4 respectively) at the experimental fields of ICRISAT, Patancheru, India. The experimental site is located at an altitude of 545 m above mean sea level, latitude of 17.53°N and latitude of 78.27°E. The site receives an average annual rainfall of 887.56 mm (average of 31 years from 1974 to 2004). The entries were planted in two rows, two meter long with row spacing of 0.75m and 0.1m between plants within a row, following a randomized complete block design (RCBD) with four replications. The planting was carried out on 7th and 10th July, 2004 in E1 and E2, respectively, while it was carried out on 22nd September 2004 and 20th October 2004 in E3 and E4, respectively. The recommended crop production and protection packages were followed to raise a healthy crop.

Data collection: The data were recorded for all the 41 traits (except grain tannin content) as stipulated in the DUS-test guidelines. The tannin content of the grain was not estimated as most of the lines are white sorghums, which do not contain tannins (Rooney 2005). Procedures for data recording are provided in Annexure I. Data were also recorded on other traits (ancillary) (not stipulated in the DUS-test guidelines for sorghum) such as days to seedling emergence, seedling vigor, leaf glossiness, plant agronomic aspect, panicle and grain yields and stability of male-sterility. The data on stability of male sterility in A-lines as assessed by selfed set (%) under high atmospheric temperatures (>42°C) (as per details in Table 4) was

collected in an unreplicated nursery during 2005 summer season. Owing to the poor plant population in E1 and severe grasshopper damage in the E2 environment during flowering stage, data on many of the traits could not be recorded. However, the data on all the traits were recorded in E3 and E4 (except fifth leaf sheath color). The replication-wise data (averaged over individual plants) for days to seedling emergence, seedling vigor, leaf glossiness, plant agronomic aspect, 1000-grain mass (g), and panicle and grain yields were subjected to analyses of variance. For other traits, mean scores across replications are presented (Annexure III: 1 to 12).

The earlier recorded data on A-/B-lines for traits such as leaf and panicle anthracnose severity (recorded on a 1 to 9 scale, where 1 = no anthracnose lesions and 9 = >75% of area covered with anthracnose lesions), leaf blight and leaf rust (recorded on a 1 to 9 scale, where 1 = leaf lamina free from disease and 9 = >75% of leaf lamina affected with disease), panicle grain mold score (recorded on a 1 to 9 scale, where 1 = <5% mold infected grain, and 9 = >75% mold infected grains on the panicle) and threshed grain mold score (recorded on a 1 to 9 scale, where 1 = no mold on the surface of the grain and 9 = >75% surface of the grains with mold after panicle threshing), downy mildew incidence (% infected over healthy plants), stem borer leaf feeding score (20 days after borer infestation taken on a 1 to 9 scale, where 1 = 10% of leaf area damaged and 9 = >75% of leaf area damaged), midge damage score taken on caged heads and open-heads under field conditions (taken on a 1 to 5 scale, where 1 = <10% chaffy spikelets and 5 = >75% chaffy spikelets), head bug score (taken on a 1 to 5 scale, where 1= a few grains with head bug feeding punctures and 9 = most of the grains with 60% shriveling due to head bug damage), shoot fly dead hearts % and stem borer dead hearts % (over healthy plants), *Striga* count, acid soil tolerance as assessed by drought tolerance score (on a 1-5 scale, where 1= least scorched leaves and 5= severely scorched leaves and no recovery) taken at Matazul center of Centro Internacional de Agricultura Tropical (CIAT), the Spanish acronym for International Center for Tropical Agriculture located at Cali, Colombia, stay green score (taken on a 1–5 scale, where 1 = most green and 5 = least green) and tillering ability (which is expressed when the lines receive adequate moisture after early drought stress) for which different trait-specific A-/B-lines were bred are presented in the respective tables. The data recording guidelines for insect pest damage are given by Sharma et al. (1992), Sharma and Nwanze (1997), Teetes et al. (1980) and Sharma et al. (2003).

Besides these, earlier recorded data on A-/B- and R-lines for a few of the agronomic traits (monitored) such as plant color (tan/non-tan), grain pericarp thickness (thick/thin), and grain hardness [determined as force (in kgs) required to break the grain using Kiya's grain hardness tester] and on the A-lines for seed set (%) under open pollination where available are reported.

Acknowledgements: We are thankful to B Ramaiah and P Sanjana Reddy for compilation of data, statistical analysis, and tabulation of results. We are also thankful to K Devendram, PL Ranga Reddy and B Balakrishna Singh for efficient conduct of the trials and recording of field and laboratory characterization data.

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Table 1. Trait-specific (*milo*) and non-*milo* A-/B-lines of sorghum developed in phases I and II at ICRISAT, Patancheru, India

ICSA numbers	Traits	No. of lines
1 to 103	High yielding	77*
88001 to 88026	″	15*
89001 to 89004	″	4
90001 to 90004	″	4
91001 to 91010	″	10
94001 to 94012	″	12
201 to 259	Downy mildew resistant	59
260 to 295	Anthracnose resistant	36
296 to 328	Leaf blight resistant	33
329 to 350	Rust resistant	22
351 to 408	Grain mold resistant	58
409 to 436	Shoot fly resistant (rainy)	28
437 to 463	Shoot fly resistant (postrainy)	27
464 to 474	Stem borer resistant (rainy)	11
475 to 487	Stem borer resistant (postrainy)	13
488 to 545	Midge resistant	58
546 to 565	Head bug resistant	20
566 to 599	*Striga* resistant	34
600 to 614	Acid soil tolerant lines	15
615 to 637	Early-maturity lines	23
638 to 670	*Durra* (large grain) lines	33
671 to 687	Tillering and staygreen lines	17
688 to 738	Non-*milo* (A_2) cytoplasmic lines	51
739 to 755	Non-*milo* (A_3) cytoplasmic lines	17
756 to 767	Non-*milo* (A_4) cytoplasmic lines	12
Total		689

* The number of lines being maintained currently at ICRISAT, Patancheru, India.

Table 2. Maturity-wise grouping of designated 203 trait-specific sorghum A-/B-lines characterized for the traits stipulated in the DUS-test guidelines (ICRISAT, Patancheru, India, 2004 rainy and postrainy seasons).

	Maturity group			
Trait	Early	Medium	Late	Total no. of entries
High yielding (A_1)	20	53	–	73
Disease resistant (A_1)	9	42	22	73
Insect pest resistant (A_1)	–	44	13	57
Total	29	139	35	203

Table 3. Maturity-wise grouping of 156 designated sorghum R-lines (on A_1 CMS system) characterized for the traits stipulated in the DUS-test guidelines (ICRISAT, Patancheru, India, 2004 rainy and postrainy seasons).

Maturity group	Number of entries
Early	53
Medium	85
Late	18
Total	156

Table 4. Procedures for recording data on additional traits (ancillary) other than those stipulated in the DUS-test guidelines for sorghum.

Trait	Procedure
Days to emergence	Number of days required for 50% of the seeds to germinate.
Seedling vigor	Scored visually on a 1 to 9 scale (1= most vigorous and 9 = least vigorous) at 7 days after emergence (DAE). Plant height, pseudo stem thickness, spread of leaf canopy and/or the length and breadth of the leaves.
Leaf glossiness	Scored on a 1 to 9 scale, where 1 = glossy and 9 = non-glossy at 10 DAE.
Plant agronomic aspect	Scored on a 1 to 5 scale (1 = very good, 2 = good, 3 = average, 4 = below average, and 5 = poor). Plant height, plant color, panicle shape and size, and grain color and size were considered while scoring.
Panicle yield (t ha^{-1})	Panicles from 16 representative plants in each line were weighed and used to estimate panicle yield in t ha^{-1}.
Grain yield (t ha^{-1})	Threshed grain from 16 representative panicles in each entry were weighed and used to estimate grain yield in t ha^{-1}.
Selfed seed set (%) in A-lines under high atmospheric temperature(>42°C)	Seed set in five randomly selfed plants in each of the A-lines was recorded at maturity. Any A-line with more than 5% seed set was considered unstable for male-sterility.

Annexure I. Description of characters and the type of measurements as per the DUS-test guidelines for sorghum[1].

Sl. No.	Characteristics	States	Node[2]	Stage of observation	Type of assessment[3]
1	Seedling: anthocyanin colouration of coleoptile	green purple	1 2	seedling	VS
2	Leaf sheath: anthocyanin colouration	tan red purple	1 2 3	5 leaf	VS
3	Leaf : midrib color (5th fully developed leaf)	white dull green yellow brown purple	1 2 3 4 5	5 leaf	VS
4 (*)	Plant: time of panicle emergence (50% of the plants with complete panicle emergence)	very early (<56 days) early (56–65 days) medium (66–75 days) late (76–85 days) very late (>85 days)	1 3 5 7 9	panicle emergence	VG
5	Plant: natural height of foliage up to the base of flag leaf	very short (<76 cm) short (76–150 cm) medium (151–225 cm) tall (226–300 cm) very tall (>300 cm)	1 3 5 7 9	panicle emergence	MS
6 (*)	Flag leaf: extension of discoloration of midrib	absent or very weak weak medium strong very strong	1 3 5 7 9	panicle emergence	VG
7 (*)	Flag leaf: intensity of green coloration of midrib compared to blade (if not discolored)	paler same colour darker	1 2 3	panicle emergence	VG
8 (*)	Flag leaf: yellow coloration of midrib	absent or weak medium strong	1 5 9	panicle emergence	VS
9	Glume: anthocyanin colouration of pubescence (a covering of soft and short hair)	absent or weak medium strong	1 5 7	flowering	VS
10 (*)	Lemma: arista formation	absent or weak medium strong	1 5 9	flowering	VS
11 (*)	Stigma: anthocyanin coloration	absent or weak medium strong	1 5 9	flowering	VS

contd.

Sl. No.	Characteristics	States	Node[2]	Stage of observation	Type of assessment[3]
12 (*)	Stigma: yellow coloration	absent or weak	1	flowering	VS
		medium	5		
		strong	7		
13	Stigma: length	short	3	flowering	MS
		medium	5		
		long	9		
14	Flower with pedicel: length of flower	very short	1	flowering	MS
		short	3		
		medium	5		
		long	7		
		very long	9		
15	Anther: length	short	3	flowering	MS
		medium	5		
		long	7		
16	Anther: color of dry anther	yellow	1	end of flowering	VG
		pink grey	2		
		dark yellow	3		
		orange	4		
		red	5		
17 (*)	Glume: color	green	1	physiological maturity	VG
		straw	2		
		brown	3		
		light red	4		
		red	5		
		yellow	6		
		purple	7		
		black	8		
18(*)	Plant: height	very short (<76 cm)	1	maturity	MS
		short (76–150 cm)	3		
		medium (151–225 cm)	5		
		long (226–300 cm)	7		
		very long (>300 cm)	9		
19	Stem: diameter (at lower one third height of plant)	small (<2 cm)	3	maturity	MS
		medium (2–4 cm)	5		
		large (>4 cm)	7		
20	Stalk: juiciness	juicy	1	maturity	
		dry	2		
21	Stalk: sweetness	sweet	1	maturity	
		insipid	2		

contd.

Sl. No.	Characteristics	States	Node[2]	Stage of observation	Type of assessment[3]
22	Leaf: length of blade of the third leaf from top	short (<41 cm) medium (41–60 cm) long (61–80 cm) very long (>80 cm)	3 5 7 9	maturity	MS
23	Leaf: width of blade of the third leaf from top	narrow (<4.1 cm) medium (4.1–6.0 cm) broad (6.1–8.0 cm) very broad (>8.0 cm)	3 5 7 9	maturity	MS
24	Panicle: length without peduncle	very short (<11 cm) short (11–20 cm) medium (21–30 cm) long (31–40 cm) very long (>40 cm)	1 3 5 7 9	maturity	MS
25	Panicle: length of branches (middle third of panicle)	short (<5.1 cm) medium (5.1–10 cm) long (10.1–15 cm) very long (>15 cm)	3 5 7 9	maturity	MS
26 (*)	Panicle: density at maturity (ear head compactness)	very loose loose semi loose semi compact compact	1 3 5 7 9	maturity	VG
27 (*)	Panicle: shape	reversed pyramid panicle broader in upper part symmetric panicle broader in lower part pyramidal	1 2 3 4 5	maturity	VG
28 (*)	Neck of panicle: visible length above sheath	absent or very short (<5.1 cm) short (5.1–10 cm) medium (10.1–15 cm) long (15.1–20 cm) very long (>20cm)	1 3 5 7 9	maturity	MS
29	Glume: length	very short (25% of grain covered) short (50% of grain covered) medium (75% of grain covered) long (100% of grain covered) very long (longer than the grain)	1 3 5 7 9	maturity	MS

contd.

Sl. No.	Characteristics	States	Node[2]	Stage of observation	Type of assessment[3]
30	Shattering	low	3	maturity	VG
		medium	5		
		high	7		
31	Threshability	freely threshable (<11% unthreshed grain)	1	maturity	VG
		partly thresahble (11–50% unthreshed grain)	5		
		difficult to thresh (>50% unthreshed grain)	7		
32	Grain: form	Single	1	maturity	VS
		Twin	2		
33 (*)	Caryopsis: color after threshing	white	1	after threshing	VG
		chalky white	2		
		pearly white	3		
		yellow	4		
		red	5		
		light brown	6		
		dark brown	7		
34	Grain: weight of 1000 grains	very low (<16 g)	1	after threshing	MG
		low (16–25 g)	3		
		medium (26–35 g)	5		
		high (36–45 g)	7		
		very high (>45 g)	9		
35	Grain: shape in dorsal view	narrow elliptic	1	after threshing	VG
		elliptic	2		
		circular	3		
36	Grain: shape in profile view	narrow elliptic	1	after threshing	VG
		elliptic	2		
		circular	3		
37	Grain: size of mark of germ	very small	1	after threshing	VG
		small	3		
		medium	5		
		large	7		
		very large	9		
38	Grain: content of tannin	absent or very low	1	after threshing	MG
		low	3		
		medium	5		
		high	7		
		very high	9		

contd.

Sl. No.	Characteristics	States	Node[2]	Stage of observation	Type of assessment[3]
39	Grain: texture of endosperm (in longitudinal section)	fully vitreous (100% corneous)	1	after threshing	VG
		¾ vitreous (75% corneous)	3		
		half vitreous (50% corneous)	5		
		¾ farinaceous (25% corneous)	7		
		fully farinaceous (0% corneous)	9		
40	Grain: color of vitreous albumen	white	1	after threshing	VG
		pale yellow	2		
		yellow	3		
		orange	4		
41	Grain: lustre	non-lustrous	1	after threshing	VG
		medium	5		
		lustrous	7		

*Characteristics that should be observed every growing season for the examinations of all lines and should always be included in the description of the material, except when the state of expression of a preceding characteristic or regional environmental conditions render this impossible.

[1]Source: www.plantauthority.in/crop_list.htm#
[2]Nodes (1 to 9) are for the purpose of electronic data processing.
[3]Type of assessment of characteristics.

MG: Measurement by a single observation of a group of plants or parts of plants.
MS: Measurement of a number of individual plants or plant parts.
VG: Visual assessment by single observation of a group of plants or plant parts.
VS: Visual assessment by observation of individual plants or plant parts.

Annexure II. Pedigrees of ICRISAT-bred designated sorghum A-/B-, and R-lines characterized at ICRISAT, Patancheru, India as per the DUS[1]-test guidelines.

Sl. No.	Designation	Pedigree
High-yielding (early-maturity) sorghum B-lines		
1	ICSB 13	[(BTx 678 × UChV2)B lines bulk]-3-2-5-7
2	ICSB 16	[(BTx 623 × 1807B)B lines bulk]-3-2-4-4
3	ICSB 22	[(BTx 623 × CSV 4)B lines bulk]-7-2-2
4	ICSB 30	[(MR 807 × BTx 622)B lines bulk]-7-1-2-3
5	ICSB 31	[(MR 807 × BTx 622)B lines bulk]-5-3-4-1
6	ICSB 33	[(MR 807 × BTx 622)B lines bulk]-7-1-2-2
7	ICSB 79	(2077B × F_4s)-1
8	ICSB 624	(ICSB 11 × IS 2815)1-1-1-2
9	ICSB 627	(ICSB 37 × IS 10288B)1-2-2-2
10	ICSB 629	(ICSB 54 × SAR 35)44-3-2-2-1-1
11	ICSB 632	[(IS 18425 × ICSB 6) × ICSB 11]1-3-1-2
12	ICSB 633	[(IS 1347 × ICSB 11) × ICSB 88001]10-1-2-2-2
13	ICSB 641	(ICSB 6 × IS 18432)3-1
14	ICSB 642	(ICSB 6 × IS 18432)13-1-1-2-1
15	ICSB 652	[({(ICSB 6 × IS 18432)13-1-1-1} × (ICSB 101 × SP 36257))9-3-3-2]6
16	ICSB 654	[{(ICSB 11 × ICSV 702) × PS 19349B}12]4-1-1-2-1
17	ICSB 655	[(ICSB 26 × ICSV 702) × PS 19349B]10-3-2-1-1
18	ICSB 656	[(ICSB 26 × ICSV 702) × PS 19349B]10-3-2-1-2
19	ICSB 661	(ICSB 70 × IS 10288B)2-2-3-1
20	ICSB 667	[(IS 18425 × ICSB 6) × PM 17467B]11-2-2-2-3
High-yielding (medium-maturity) sorghum B-lines		
1	ICSB 1	(BULK Y × CSV 4)-25-1-1-1
2	ICSB 4	[(BTx 622 × UChV2)B lines bulk]-10-1-1
3	ICSB 5	[(BTx 622 × UChV2)B lines bulk]-10-1-1-3
4	ICSB 6	[(BTx 623 × UChV2)B lines bulk]-3-1-4-3
5	ICSB 8	[(BTx 623 × UChV2)B lines bulk]-10-3-2
6	ICSB 9	[(BTx 623 × UChV2)B lines bulk]-10-3-3
7	ICSB 11	[(BTx 624 × UChV2)B lines bulk]-5-1-1-1
8	ICSB 12	[(BTx 678 × UChV2)B lines bulk]-3-2-2-5
9	ICSB 18	[(BTx 623 × 1807B)B lines bulk]-18-3-1
10	ICSB 26	[(296B × BTx 624)B lines bulk]-2-1-1-3
11	ICSB 28	[(MR 876 × BTx 678)B lines bulk]-5-2-2-5
12	ICSB 32	[(MR 807 × BTx 622)B lines bulk]-3-1-6-1
13	ICSB 37	[(BTx 623 × MR 862)B lines bulk]-5-1-2-5
14	ICSB 38	[(BTx 623 × MR 862)B lines bulk]-5-1-3-5
15	ICSB 39	[(BTx 623 × MR 862)B lines bulk]-5-1-3-3
16	ICSB 40	[(BTx 623 × MR 862)B lines bulk]-5-2-5-6
17	ICSB 42	[(BTx 623 × MR 862)B lines bulk]-5-3-6-3
18	ICSB 44	[(BTx 624 × MR 861)B lines bulk]-3-1-2-1
19	ICSB 46	US/R 50-378-1
20	ICSB 48	Rs/R 20-682-1-2
21	ICSB 49	(FLR 141 × CSV 4)-3-3-1-1
22	ICSB 50	(FLR 274 × CSV 4)-6-1-3-1
23	ICSB 51	Ind. Syn. 89-2
24	ICSB 53	Diallal 346-1
25	ICSB 55	(Serere elite × IS 9530)-2-2
26	ICSB 56	WAE 1067-3-5-1
27	ICSB 58	(2219B × 148)-8-1-1-1-2
28	ICSB 70	Ind. Syn. 422-1
29	ICSB 73	[(296B × SPV 105) × (2077B × M 35-1)]-19
30	ICSB 75	[(2077B × 4-54) × (2077B × 2219B)]-3

contd.

Sl. No.	Designation	Pedigree
31	ICSB 77	(E 303 × 2077B)-4
32	ICSB 81	[(2077B × BJ 111) × CSV 4]
33	ICSB 84	(Ind. Syn. 89-1 × US/R-20-682)-5-1-3
34	ICSB 85	(Ind. Syn. 422-1 × US/R-20-682)-5-1-4-2
35	ICSB 90	[(296B × SPV 105) × (2077B × M 35-1)]-10
36	ICSB 93	[(296B × SPV 105) × (2077B × M 35-1)]-20
37	ICSB 95	(296B × SPV 105)-12
38	ICSB 101	(Ind. Syn. 89-1 × Rs/R 20-682)-5-1-3
39	ICSB 102	(Ind. Syn. 89-2 × Rs/R 20-682)-5-4-2
40	ICSB 653	[(ICSB 7 × IS 18425) × IS 18425]4-2
41	ICSB 657	(ICSB 37 × IS 10475B)2-3-1-2-1
42	ICSB 659	(ICSB 37 × PM 17500-2-1)11-1-2-1
43	ICSB 664	[((ICSB 101 × PM 17467B) × ICSB 6) × PM 17467B]9-1-3-1-2-1
44	ICSB 88001	[(ICSB 22 × ICSB 53) × Diallel 7-2-862]-1-1
45	ICSB 88007	[(ICSB 4 × ICSB 13) × ICSB 7]-4-1-1-1
46	ICSB 88010	[A 7451 × (BTx 624 × 296B)-7-2]-1-1-1
47	ICSB 88013	(Ind. Syn. 89-1 × Ind. Syn. 89-2-2)-2-3
48	ICSB 89002	(Ind. Syn. 422-1 × Rs/R-20-682)-5-1-6-2-1
49	ICSB 89003	[ICSB 11 × ICSB 7) × DM 50]-1-1-1-1-3-2
50	ICSB 89004	[(ICSB 3 × ICSR 72) × ICSB 11]-9-4-2
51	ICSB 90001	[(ICSB 3 × ICSR 72) × (BTx 678 × B lines bulk)-9-3]-2
52	ICSB 91001	(PS 21221 × ISPYT-2/E#20)-7-1-1-1
53	ICSB 91002	(PQ 35B-1)-1-1
Disease-resistant (early-maturity) sorghum B-lines		
1	ICSB 269	[(ICSB 11 × TRL 74/C 57) × ICSB 6]7-5-1-3-1
2	ICSB 339	(ICSB 51 × PM 1861)4-2
3	ICSB 351	(ICSB 11 × IS 2815)2-1-1-2-2
4	ICSB 362	(ICSB 11 × IS 2815)25-1-2-1
5	ICSB 366	(ICSB 11 × IS 2815)30-1-1-2
6	ICSB 369	(ICSB 11 × IS 2815)30-1-3-1-1
7	ICSB 371	(ICSB 11 × IS 2815)32-1-1-3-2-2
8	ICSB 391	(ICSB 37 × IS 10475B)2-2-1-2-1-1
9	ICSB 405	(ICSB 70 × IS 10288B)2-2-2-1-2
Disease-resistant (medium-maturity) sorghum B-lines		
1	ICSB 201	(ICSB 11 × SP 36257)6-1-2-2
2	ICSB 205	(ICSB 37 × SP 36257)5-2-1-1-1-3
3	ICSB 207	[(ICSB 37 × SP 36257) × ICSB 88001]9-2-2-1-2-2
4	ICSB 213	[(ICSB 101 × IS 18757) × ICSB 6]8-4-1-2-1-1
5	ICSB 215	[(ICSB 101 × IS 18757) × ICSB 6]8-4-1-1-1-2
6	ICSB 264	[(ICSB 11 × TRL 74/C 57) × ICSB 6]7-5-1-1
7	ICSB 272	[(ICSB 26 × TRL 74/C 57) × ICSB 88001]4-2-2-1-4
8	ICSB 274	[(ICSB 101 × TRL 74/C 57) × PM 17467B]2-5-1-3-1
9	ICSB 275	[(ICSB 101 × TRL 74/C 57) × PM 17467B]2-5-1-3-2
10	ICSB 276	[(ICSB 101 × TRL 74/C 57) × PM 17467B]2-5-1-3-3
11	ICSB 280	[(ICSB 101 × TRL 74/C 57) × PM 17467B]8-4-1-1
12	ICSB 293	[(ICSB 101 × A 2267-2) × PM 17467B]2-5-1-3-1
13	ICSB 297	[(ICSB 11 × TRL 74/C 57) × ICSB 6]7-5-1-1
14	ICSB 300	[(ICSB 26 × PM 1861) × (ICSB 88001 × ICSB 17)]1-1-2-1
15	ICSB 301	[(ICSB 26 × PM 1861) × (ICSB 88001 × ICSB 17]1-1-2
16	ICSB 303	[(ICSB 26 × PM 1861) × (ICSB 22 × ICSB 45) × (ICSB 52 × ICSB 51)]1-3-7-3-6-2
17	ICSB 304	[(ICSB 26 × PM 1861) × (ICSB 22 × ICSB 45) × (ICSB 52 × ICSB 51)]1-3-7-3-4
18	ICSB 305	[(ICSB 26 × PM 1861) × (ICSB 22 × ICSB 45) × (ICSB 52 × ICSB 51)]1-3-7-3
19	ICSB 318	(ICSB 102 × ICSV 700)5-4-1-1-2-3
20	ICSB 323	(IS 29016 × ICSB 26)2
21	ICSB 324	[{(IS 18417 × ICSB 11) × ICSB 45} × ICSB 30]1-2-1-1

contd.

Sl. No.	Designation	Pedigree
22	ICSB 327	[{(IS 18417 × ICSB 11) × ICSB 45} × ICSB 30]4-2-1-2-2
23	ICSB 333	(ICSB 26 × PM 1861)5-3-1
24	ICSB 334	(ICSB 26 × PM 1861)5-3-1-1
25	ICSB 336	[(ICSB 26 × PM 1861) × (ICSB 22 × ICSB 45) × (ICSB 52 × ICSB 51)]1-3-7-3-6
26	ICSB 338	(ICSB 51 × PM 1861)4-1-2-2
27	ICSB 342	[(ICSB 101 × TRL 74/C 57) × PM 17467B]2-5-1-3-2
28	ICSB 343	[(ICSB 101 × TRL 74/C 57) × PM 17467B]3-1-2-2
29	ICSB 345	[(ICSB 101 × TRL 74/C 57) × PM 17467B]8-4-1-3-2
30	ICSB 350	[((IS 18417 × ICSB 11) × ICSB 45) × ICSB 30]1-2-1-1
31	ICSB 353	(ICSB 11 × IS 2815)2-1-2-1-2
32	ICSB 355	(ICSB 11 × IS 2815)12-1-1
33	ICSB 358	(ICSB 11 × IS 2815)16-2-3-2
34	ICSB 374	(ICSB 11 × IS 2815)42-2-1-1
35	ICSB 376	(ICSB 11 × IS 2815)43-1-2-1
36	ICSB 381	(ICSB 11 × IS 2815)62-3-4-2
37	ICSB 383	(ICSB 17 × IS 10646)5-1-2
38	ICSB 384	(ICSB 17 × IS 2815)1-2-1-2-1
39	ICSB 396	(ICSB 37 × IS 10475B)11-2-1
40	ICSB 401	(ICSB 42 × IS 23585)1-2-2-2-2
41	ICSB 404	(ICSB 51 × IS 10475B)2-2-2-2
42	ICSB 406	(IS 3436 × PQ 35B)4-1-2-1
Disease-resistant (late-maturity) sorghum B-lines		
1	ICSB 204	(ICSB 37 × SP 36257)5-2-1-1-1-2-2
2	ICSB 206	(ICSB 37 × SP 36257)5-3-3-2-1-1
3	ICSB 210	(ICSB 37 × IS 18757)3-1-1-1-2-1-1
4	ICSB 222	[296 B × (296 B × QL 3)]27-2-12-9-1
5	ICSB 233	[296 B × (296 B × QL 3)]27-2-1-7-1-4-1
6	ICSB 235	[296 B × (296 B × QL 3)]27-2-1-7-2-2-4-2
7	ICSB 236	[296 B × (296 B × QL 3)]27-2-1-7-2-2-4-3
8	ICSB 237	[296 B × (296 B × QL 3)]27-2-1-7-2-6-2-4
9	ICSB 243	[296 B × (296 B × QL 3)]27-2-2-6-4-3
10	ICSB 244	[296 B × (296 B × QL 3)]28-3-3-2-1-1-2-3
11	ICSB 247	[296 B × (296 B × QL 3)]28-3-3-3-2-2-2
12	ICSB 250	[296 B × (296 B × QL 3)]28-3-3-5-1-1-2
13	ICSB 254	[296 B × (296 B × QL 3)]28-3-3-5-3-2
14	ICSB 261	[(ICSB 11 × TRL 74/C 57) × ICSB 6]6-1-2-1
15	ICSB 266	[(ICSB 11 × TRL 74/C 57) × ICSB 6]7-5-1-3-1
16	ICSB 309	(ICSB 70 × PM 1861)5-1
17	ICSB 321	(IS 29016 × ICSB 26)1-1
18	ICSB 328	[(C 85-2 × CSV 11) × MR 929]1-3-1-2-4
19	ICSB 340	(ICSB 70 × PM 1861)10-1
20	ICSB 348	(IS 29016 × ICSB 26)1-1
21	ICSB 378	(ICSB 11 × IS 2815)53-1-2
22	ICSB 400	[(ICSB 37 × IS 2501) × ICSB 11]5-1-2-2-1
Stress (*Striga*) tolerant (medium-maturity) sorghum B-lines		
1	ICSB 570	(ICSB 11 × SAR 1)7-1-2-2-2
2	ICSB 576	[((ICSB 11 × SAR 1) × PM 7061) × ICSB 102]1-2-1
3	ICSB 577	(ICSB 12 × SAR 1)3-1-2-2-2-1
4	ICSB 578	(ICSB 12 × SAR 1)3-1-2-2-2-2
5	ICSB 579	(ICSB 12 × SAR 1)3-1-2-2-3-2
6	ICSB 583	(ICSB 26 × SAR 16)7-2-2-1-3
7	ICSB 587	[(ICSB 34 × SAR 35) × SAR 35]18-1-1-2-2-1
8	ICSB 589	(ICSB 37 × SAR 34)7-1-2-1-1-2

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Sl. No.	Designation	Pedigree
9	ICSB 591	(ICSB 37 × SAR 34)7-3-3-1-2
10	ICSB 592	[(ICSB 37 × SAR 34) × ICSB 88001]5-1-1-1
11	ICSB 593	[(ICSB 37 × SAR 34) × ICSB 88001]5-1-2-2-1
Acid soil tolerant (medium-maturity) sorghum B-lines		
12	ICSB 604	[(ICSB 11 × PM 17500-2-1) × PM 17467B]3-2
13	ICSB 607	[(ICSB 26 × PM 17467B) × PM 17467B]10-3
14	ICSB 608	[(SPV 373 × SPV 55) × PD-3-1-11]5-1-1-3-1
15	ICSB 609	[(ICSB 101 × PM 17500-2-1) × PM 19268B]2-4-2
16	ICSB 613	(Ind. Syn. 422-1 × Rs/R-20-682)-5-1-6-2-1
Tillering (medium-maturity) sorghum B-lines		
17	ICSB 672	(IS 1347 × ICSB 37)9-1-2-4-5
18	ICSB 673	[(IS 1347 × ICSB 11) × ICSB 88001]4-1-2-2-2
Stay-green (medium-maturity) sorghum B-lines		
19	ICSB 675	(E 36-1 × ICSB 17)12-2
20	ICSB 677	(E 36-1 × ICSB 17)12-3-2
21	ICSB 683	(ICSB 51 × PM 1861)2-1-1
22	ICSB 684	(ICSB 51 × PM 1861)4-1-2-2
23	ICSB 686	(IS 29016 × ICSB 26)1-2-2
24	ICSB 687	(IS 7672 × ICSB 16)1-16-1-1-1-2 (A_4 cytoplasm)
Non-*milo* (medium-maturity) sorghum B-lines		
1	ICSB 689	(ICSB 11 × PM 17467B)3-1-1-1-1
2	ICSB 690	(ICSB 11 × PM 1861)5-2-1
3	ICSB 691	[(ICSB 11 × TRL 74/C 57) × ICSB 6]7-5-1-1
4	ICSB 692	(ICSB 12 × SAR 1)3-1-2-2-3-2
5	ICSB 693	(ICSB 17 × IS 10646B)5-2-1
6	ICSB 695	(ICSB 37 × SP 36257)5-2-1-1-1-1
7	ICSB 697	(ICSB 37 × ICSV 705)10-3-3-1
8	ICSB 699	(ICSB 42 × IS 23585)2-1-2
9	ICSB 702	(ICSB 101 × SP 36257)3-3-1-2
10	ICSB 703	[(ICSB 101 × TRL 74/C 57) × PM 17467B]1
11	ICSB 704	[(ICSB 101 × TRL 74/C 57) × PM 17467B]3-1-2
12	ICSB 707	[(ICSB 101 × PM 17500-2-1) × PM 19268B]2-4-2
13	ICSB 711	[(SPV 373 × SPV 55) × PD-3-1-11]5-1-1-3-1
14	ICSB 712	(IS 84 × ICSR 41)3-5-1-1
15	ICSB 713	(IS 84 × ICSR 38)8-2-1-1-1-2
16	ICSB 716	[(IS 18425 × ICSB 6) × PM 17467B]2
17	ICSB 717	[(IS 1347 × ICSB 11) × ICSB 88001]1-1-1
18	ICSB 724	ICSP 1B/R MFR-S 7-303-2-1
19	ICSB 725	ICSP 1B/R MFR-S 10-41-2-9-3-2-1-1
20	ICSB 726	ICSP 1B/R MFR-S 10-41-2-9-3-6-2-2
21	ICSB 727	ICSP 1B/R MFR-S 79-2-2-6-1-1-1
22	ICSB 730	ICSV 1125BF
23	ICSB 731	ICSV 1171BF
24	ICSB 733	ICSR 92012
25	ICSB 734	ICSR 22-1
26	ICSB 735	ICSR 22-2
27	ICSB 736	ICSR 22-3
28	ICSB 738	R 150-2
29	ICSB 739	[(ICSB 11 × TRL 74/C 57) × ICSB 6]7-5-1
30	ICSB 744	[(ICSB 101 × TRL 74/C 57) × PM 17467B]2-5-2
31	ICSB 745	[(ICSB 101 × PM 17467B) × (ICSB 6 × PM 17467B)]9-1-3
32	ICSB 746	(IS 692 × ICSR 41)3-2-1
33	ICSB 747	(IS 8013 × ICSB 37)13-1-2-1-1
34	ICSB 749	(IS 10036 × ICSR 33)9-3-2-1-1

contd.

Sl. No.	Designation	Pedigree
35	ICSB 751	[(IS 10036 × ICSB 11) × ICSB 88004]2-2-1-2-1
36	ICSB 753	ICSP 1B/R MFR-S 10-41-2-9-3-6-2-2
37	ICSB 757	(ICSB 26 × PM 17467B)1-1-2-1
38	ICSB 758	(ICSB 37 × SP 36257)5-2-1-1-1-1
39	ICSB 761	[(ICSB 101 × PM 17467B) × (ICSB 6 × PM 17467B)]9-1
40	ICSB 762	[(ICSB 101 × PM 17467B) × (ICSB 6 × PM 17467B)]9-1-1
41	ICSB 765	[(1C-89 × ICSV 1) × MR 940]6-3-1-2-1
42	ICSB 766	ICSP 1B/R MFR 210-41-2-9-3-6-2
Insect pest-resistant (medium-maturity) sorghum B-lines		
1	ICSB 422	(ICSB 51 × ICSV 705)9-5-3-3-3-1
2	ICSB 432	(ICSB 102 × PS 28060-3)4-2-2-2-2
3	ICSB 440	(ICSB 37 × ICSV 705)13-3-1-4
4	ICSB 445	(ICSB 37 × ICSV 705)13-3-2-6
5	ICSB 446	(ICSB 37 × ICSV 705)13-5-2-2-1-3-1
6	ICSB 449	(ICSB 37 × ICSV 705)13-5-2-3-1
7	ICSB 451	(ICSB 51 × PS 28060-3-1)2-1-1-2-1
8	ICSB 452	(ICSB 51 × PS 28060-3-1)2-1-1-2-2
9	ICSB 460	[296 B ×{(296 B × QL 3)-27-2-1-7-2-5 × {ICSB 11 × (S 35 × *FaraFara*)}}]1-1-2-2-3
10	ICSB 464	[(ICSB 11 × ICSV 702) × PS 19349B]5-1-2-2
11	ICSB 465	[((ICSB 11 × ICSV 700) × PS 19349B) × ICSB 3]1-1-3-2
12	ICSB 467	[((ICSB 11 × ICSV 700) × PS 19349B) × ICSB 13]4-1
13	ICSB 469	[(ICSB 37 × ICSV 702) × PS 19349B]3-3-4-2
14	ICSB 471	[(ICSB 51 × ICSV 700)9-4-4-2
15	ICSB 472	(ICSB 51 × ICSV 702)7-3-1
16	ICSB 475	[(ICSB 37 × ICSV 700) × PS 19349B]7-1-2-2-1
17	ICSB 478	(ICSB 70 × ICSV 702)10-2-3-2-2
18	ICSB 479	[(ICSB 70 × ICSV 700) × PS 19349B]5-4-1-2-2
19	ICSB 484	(ICSB 102 × ICSV 702)4-2-1-2-1
20	ICSB 486	(ICSB 102 × ICSV 700)5-2-4-1-1
21	ICSB 488	(ICSB 11 × PM 17467B)3-1-2-1-1
22	ICSB 490	[(ICSB 11 × PM 17500-2-1) × PM 17467B]1-1-1-1
23	ICSB 491	[(ICSB 11 × PM 17500-2-1) × PM 17467B]1-1-1-2
24	ICSB 496	[(ICSB 11 × PM 17500-2-1) × PM 17467B]4-1-1
25	ICSB 499	[(ICSB 11 × PM 17500-2-1) × PM 17467B]5-2-1-1
26	ICSB 500	[(ICSB 11 × PM 17500-2-1) × PM 17467B]5-2-1-2
27	ICSB 501	[(ICSB 11 × PM 17500-2-1) × PM 17467B]5-2-1-3
28	ICSB 504	[(ICSB 11 × PM 17500-2-1) × PM 17467B]7-1-2-2
29	ICSB 505	[(ICSB 11 × PM 17500-2-1) × PM 17467B]7-1-3
30	ICSB 507	[(ICSB 26 × PM 17467B) × PM 17467B]4-4-1-2-1
31	ICSB 512	[(ICSB 26 × PM 17467B) × PM 17467B]10-3-1
32	ICSB 535	[(ICSB 70 × PM 17467B) × PM 17682B]4-3-2-2
33	ICSB 537	(ICSB 70 × PM 17500-2-1)6-2-2
34	ICSB 539	(ICSB 101 × PM 17500-2-1)4-1-1-1
35	ICSB 540	[(ICSB 101 × PM 17500-2-1) × PS 19268B]3-2-1
36	ICSB 541	[ICSV 112 × (ICSV 197 × ICSV 112)]2-3-1-1
37	ICSB 547	(ICSB 13 × Mali Sor 84-2)3-3
38	ICSB 548	(ICSB 13 × Mali Sor 84-2)3-3-1
39	ICSB 554	(ICSB 13 × Mali Sor 84-7)5-1-2
40	ICSB 557	(ICSB 13 × Mali Sor 84-7)5-4-1
41	ICSB 558	(ICSB 13 × Mali Sor 84-7)5-6
42	ICSB 560	(ICSB 37 × Mali Sor 84-2)2-1
43	ICSB 561	(ICSB 38 × Mali Sor 84-2)4-2
44	ICSB 564	(ICSB 38 × Mali Sor 84-7)4-3-1

contd.

Sl. No.	Designation	Pedigree
Insect pest-resistant (late-maturity) sorghum B-lines		
1	ICSB 415	(ICSB 37 × ICSV 705)13-3-2-2-1
2	ICSB 418	[(ICSB 37 × ICSV 705) × PS 19349B]10
3	ICSB 419	[(ICSB 37 × ICSV 708) × PS 19349B]2-1-1-1-1
4	ICSB 425	[(ICSB 51 × ICSV 705) × PS 19349B]8-2-2-1-3
5	ICSB 444	(ICSB 37 × ICSV 705)13-3-2-3
6	ICSB 457	(ICSB 102 × PS 30715-1)1-4-1
7	ICSB 508	[(ICSB 26 × PM 17467B) × PM 17467B]4-2-1-2
8	ICSB 514	[(ICSB 26 × PM 17467B) × PM 17467B]10-3-1-2
9	ICSB 515	[(ICSB 26 × PM 17467B) × PM 17467B]10-3-1-2
10	ICSB 529	(ICSB 70 × PM 17467B)9-1-1-1-2-1
11	ICSB 531	(ICSB 70 × PM 17467B)9-1-1-1-4
12	ICSB 532	(ICSB 70 × PM 17467B)9-1-1-2-1
13	ICSB 555	(ICSB 13 × Mali Sor 84-7)5-2
High-yielding (early-maturity) sorghum R-lines		
1	ICSR 1	(SC 108-3 × CSV 4)-3-1
2	ICSR 4	(SC 108-3 × CSV 4)-19-2-1-3
3	ICSR 6	[E 12-5 × (SC 108-3 × Swarna)]-4-2-2
4	ICSR 7	[(SC 108-3 × Swarna) × IS 9327]-6-2-1
5	ICSR 9	[ET 2039deri × (SC 108-3 × 148)]-29-3-1
6	ICSR 10	(SPV 105 × IS 3443)-1-5-3
7	ICSR 13	(EC 64734 × CSV 4)-2-1-2
8	ICSR 17	[(TAM 428 × E 35-1) × CSV 4]-1-2-4
9	ICSR 19	SPV 475-dwarf
10	ICSR 26	(SPV 105 × IS 3443)-1-5-3
11	ICSR 29	(CSV 4 × IN 15-2)-26-1
12	ICSR 30	[(IS 12645C × CSV 4) × E 35-1]-8-1
13	ICSR 36	(SC 108-3 × CSV 4)-20-2-2
14	ICSR 39	[(SC 108-3 × Swarna) × E 35-1]-8-1-2
15	ICSR 42	[(SC 108-3 × E 35-1) × CSV 4]-2-3-2
16	ICSR 43	[(IS 10927 × UChV2) × CSV 4]-5
17	ICSR 52	[(148 × E 35-1)CSV 4]-1-1-5
18	ICSR 53	[(CS 3687 × 9530) × CSV 4]-1-1-5
19	ICSR 56	(SC 108-3 × CSV 4)-11-2-3
20	ICSR 65	[(SC 423 × CSV 4) × UChV2]-1-1-1-3
21	ICSR 66	[(IS 10680 × CSV 4) × E 35-1]-1-1-1
22	ICSR 67	(CSV 4 × 137-62Yera yeri)-19-2-1
23	ICSR 70	[(SC 108-3 × Swarna) × CSV 4]-10-1
24	ICSR 71	[(Bulk Y × 165)CSV 4]-18-1
25	ICSR 77	(E.S. elite#12-1 × CSV 4)-1-1
26	ICSR 86	[(SC 108-3 × Swarna) × IS 9327]-6-2-1
27	ICSR 89	[ET 2039 deri × (SC 108-3 × 148)]-20-3-1
28	ICSR 90	[(148 × E 35-1) × 148]-3-2
29	ICSR 104	{MR 840 × [(2077B × 9327) × R 2797]}-15-2-2-1
30	ICSR 108	[(148 × E 35-1)4-1 × CSV 4]-1-1-1
31	ICSR 111	[IS 19614 × SPV 471]-1-2-1-1-6-2-3
32	ICSR 120	(IS 517 × SPV 471)-8-6
33	ICSR 161	[(M 35-1 × M 1009) × (SC 108-3 × CSV 4) × E 12-5]-1
34	ICSR 162	[(M 35-1 × M 1009)-3-2-1 × $6F_5$ s]-5-1-4-1
35	ICSR 89009	[(C 101 × SPV 351) × MR 926]-7-1-2
36	ICSR 89012	(C 58 × SPV 475)-4-2
37	ICSR 89013	[(C 89 × SPV 351) × MR 934]-6-2
38	ICSR 89014	[(C 89 × SPV 351) × MR 934]-13-1
39	ICSR 89018	[(C 89 × SPV 351) × MR 934]-6-6
40	ICSR 89028	[(IS 23493 × SPV 351) × MR 940]-6-3

contd.

Sl. No.	Designation	Pedigree
41	ICSR 89034	[C 58 × (SC 108-3 × CSV 4)-3-1]-1-2
42	ICSR 89041	[(IS 230 × SPV 475) × MR 910]-8-1
43	ICSR 89042	[(IS 230 × SPV 475) × MR 910]-8-2
44	ICSR 89043	[(IS 230 × SPV 475) × SPL 17R]-2-2
45	ICSR 89058	(PS 21143 × E 35-1)-2-2-2-3-1-1-1
46	ICSR 89065	[C 58 × (SC 108-3 × CSV 4)-3-1]-9-1
47	ICSR 89068	(PM 6751 × ICSV 189)-11-2-2-1-1
48	ICSR 90003	[(C 101 × ICSV 1) × MR 926]-7-1-2
49	ICSR 90004	(C 58 × ICSV 112)-4-2 (ICSR 89012)
50	ICSR 90006	[C 58 × (SC 108-3 × CSV 4)]-5-1
51	ICSR 90007	[C 59 × (SC 108-3 × CSV 4)]-2
52	ICSR 93004	[(IS 23493 × SPV 351) × ICSR 135]-8-2
53	ICSR 94035	ICSR 91016
High-yielding (medium-maturity) sorghum R-lines		
1	ICSR 3	(SC 108-3 × CSV 4)-20-2-3
2	ICSR 11	[(E 35-1 × SC 108-4-8) × CSV 4]-38-1-4-5
3	ICSR 12	(SPV 99 × E 35-1)-2-1-1
4	ICSR 15	[(SC 108-3 × E 35-1) × CSV 4]-4-2
5	ICSR 16	(IS 12611 × SC 108-3)-4-4
6	ICSR 23	[(SC 108-3 × Swarna) × IS 9327]-6-1-2
7	ICSR 24	[SC 170 × (SC 108-3 × 148)]-1-2-2
8	ICSR 28	(EC 64735 × CSV 4)-21-2
9	ICSR 33	(SC 108-3 × CSV 4)-51-1
10	ICSR 34	[(SC 108-3 × Swarna) × IS 9327]-6-1-2
11	ICSR 35	[(SC 108-3 × Swarna) × E 35-1]-6-1-1
12	ICSR 37	(SC 108-3 × E 35-1)-25-1
13	ICSR 38	(SC 108-3 × CSV 4)-27-2-1
14	ICSR 40	(UChV2 × E 35-1)-11-3-4
15	ICSR 41	[(SC 108-3 × E 35-1) × CSV 4]-2-2-1-1
16	ICSR 49	(IS 12611 × SC 108-3)-4-2-4-2
17	ICSR 51	(IS 12611 × SC 108-3)-4-3-5
18	ICSR 57	(SC 108-3 × 148)-12-5-3
19	ICSR 62	(SC 108-4-8 × CSV 4)-26-3-1
20	ICSR 63	(SC 108-3 × E 35-1)-29-2
21	ICSR 68	[(SC 108-3 × Swarna) × E 35-1]-8-1-3
22	ICSR 72	[(SC 108-3 × Swarna) × E 35-1]-6-2-2
23	ICSR 73	{[(SC 108-3 × 148)148] × CSV 4}-14-1
24	ICSR 76	[(SC 108-3 × 148) × CSV 4]-3-1
25	ICSR 87	[(SC 108-3 × Swarna) × IS 9327]-6-2-2
26	ICSR 95	[SPV 350 × (CSV 4 × E.Bulk)]-2-1-5-5
27	ICSR 96	(IS 12611 × SC 108-3)-4-2-1-3
28	ICSR 101	[(95406 × CSV 4)-64-3 × 1807B]-5-3
29	ICSR 103	{[(SC 108-3 × CSV 4)-16-3 × MR 801] × R 2751}-5-2-3
30	ICSR 106	(PR 82AF3-137 × MR 821)-3-2-2-2
31	ICSR 107	[(95406 × CSV 4)64-3 × 1807B]-5-3
32	ICSR 109	[MR 836 × (CK 60B × IS 84)]-1-1
33	ICSR 110	[MR 836 × (CK 60B × IS 84)]-4-1
34	ICSR 112	[(148 × E 35-1)-11-1 × CSV 4]-5-3-4-4
35	ICSR 114	[IS 19652 × (IS 12611 × SC 108-3)]-3-2-2-3-1
36	ICSR 116	(E 36-1 × CSV 4)-5-14-1
37	ICSR 125	{MR 840 × [(2077B × IS 9327) × R 2797]}-15-1-3
38	ICSR 126	{MR 840 × [(2077B × IS 9327) × R 2797]}-15-3-2
39	ICSR 128	{MR 840 × [(2077B × IS 9327) × R 2797]}-15-3-6
40	ICSR 130	{PR 82A-137 × [(SPV 35 × E 35-1) × CSV 4]}-16-3-8

contd.

Sl. No.	Designation	Pedigree
41	ICSR 134	{MR 822 × [(SC 108-3 × Swarna) × CSV 4]}-2-1
42	ICSR 140	(FLR 101 × IS 1082)-4-4-1-3
43	ICSR 143	(FLR 101 × CSV 4)-4-1-2-3-1-1
44	ICSR 149	(E 35-1 × Bulk Y)-2-1-2-1
45	ICSR 150	[(CSV 4 tall × Bulk Y)D 181]-1-1-1
46	ICSR 152	(FLR 266 × CSV 4)-2-2-2-1-1
47	ICSR 153	(IS 9327 × US/R Bulk)-6-1-2-1-1
48	ICSR 160	[(IS 12622C × 555) × (IS 3612C × 2219B)-5-1 × E 35-1]
49	ICSR 170	(D 93070 × F_5's)-1-1-1-1-1-3
50	ICSR 172	(KVSR 6F_5's × 77BGB-123)-1-1-1-2
51	ICSR 174	[9-13 × (SC 108-3 × CSV 4) × (D 181 × SPV 104)]-1-1
52	ICSR 194	(PQ 213 × M 35-1)-5-2-2-1
53	ICSR 196	[(M 35-1 × M 1009) × (SC 108-3 × CSV 4) × E 12-5]-2-1
54	ICSR 89001	[(IS 23493 × SPV 351) × MR 940]-6-3
55	ICSR 89004	[(C 138 × SPV 475) × SPL 7R]-5-1-2
56	ICSR 89005	[(C 138 × SPV 475) × SPL 7R]-5-3-1
57	ICSR 89006	[(C 138 × SPV 475) × SPL 7R]-5-3-5
58	ICSR 89008	[(C 101 × SPV 351) × MR 926]-7-1-1
59	ICSR 89010	(C 101 × SPV 351)-14-2-1
60	ICSR 89015	[(C 101 × SPV 351) × MR 926]-7-1-1
61	ICSR 89017	[(C 101 × SPV 475) × MR 933]-3-1
62	ICSR 89019	[(C 138 × SPV 475) × SPL 7R]-4-2
63	ICSR 89020	[(C 138 × SPV 475) × SPL 7R]-5-1-1
64	ICSR 89022	[(C 138 × SPV 475) × SPL 7R]-5-3-1
65	ICSR 89024	[(IS 23493 × SPV 475) × MR 923]-3-1-1
66	ICSR 89025	[(IS 23493 × SPV 475) × MR 923]-3-1-2
67	ICSR 89030	[(C 138 × SPV 475) × SPL 7R]-4-2
68	ICSR 89031	[(C 138 × SPV 475) × SPL 7R]-5-1-1
69	ICSR 89032	[(C 138 × SPV 475) × SPL 7R]-5-1-2
70	ICSR 89045	(PM 7348 × SPV 351)-10-8-1-1-1-2
71	ICSR 89053	(PM 7400-1-3 × SPV 475)-16-1-1-1
72	ICSR 89064	[(IS 23493 × ICSV 1) × ICSR 135]-6-3
73	ICSR 89075	[(S 35 × Short *kaura*) × (SPV 476 × SAR 2)-6-2-1-2
74	ICSR 89076	[(ICSB 22 × ICSR 35) × (BTx 623)B lines bulk]-3-1-6-1
75	ICSR 90017	(IS 1082 × SC 108-3)-1-1-1-1-1
76	ICSR 91008	(IS 12664C × ICSP 1R MFR BK)-8-2-1
77	ICSR 91011	[(SPV 475 × (20-67 × SB 1067)-4-1)]-4-3
78	ICSR 91027	[(IS 3443 × DJ 6514)-1-1-1-1-1 × A 6250)]-4-1-1-1
79	ICSR 91034	E 36-1
80	ICSR 92003	[(IS 23528 × SPV 475) × (PS 29154)]-4-2-2-4
81	ICSR 93001	[(IS 23528 × SPV 475) × PS 29159]-4-2-1-1
82	ICSR 93009	IS 33843
83	ICSR 93031	M 35-1-36
84	ICSR 94034	{[IS 9562 × (IS 12611 × SC 108-3)]-3-2-2-5-1 × R 11864}-4-1-1-2
85	ICSR 94489	M 35-1-19
High-yielding (late-maturity) sorghum R-lines		
1	ICSR 18	[ET 2039 (SC 108-3 × 148)]-12-10-12
2	ICSR 20	(IS 12611 × SC 108-3)-4-1-3
3	ICSR 165	SPV 422
4	ICSR 176	{2077B × [(Bulk Y × D 111) × SPV 104]}-4-1-3-1
5	ICSR 89016	[(C 85-1 × SPV 475) × ICSB 12]-1
6	ICSR 89027	ICSR 89014
7	ICSR 89052	(PM 7400-1-3 × SPV 475)-15-2-1-1
8	ICSR 89059	(PS 21163 × A 7045)-7-1-2-1-1

contd.

Sl. No.	Designation	Pedigree
9	ICSR 89071	(PS 27621-3 × R 12109)-5-1-1-1-1
10	ICSR 91012	(SPV 475 × DKV 74)-1-2-1
11	ICSR 91014	[(DKV 74 × (ICSV 197 × DKV 74)]-7
12	ICSR 91015	[(IS 2195 × (ICSP 1R MFR BK)]-1-2-1
13	ICSR 91016	[(IS 12664C × (ICSP 1R MFR BK)]-1-1-2-2
14	ICSR 91017	[(SPV 373 × SPV 55) × PD3-1-11]-1-3-2-1
15	ICSR 92013	[(IS 23493 × CSV 11) × (MR 840)]-6-3-1-2
16	ICSR 93026	B 92155
17	ICSR 93034	IS 12611
18	ICSR 94453	GD 34425

[1]D = distinctiveness; U = uniformity; S = stability.

Annexure III. List of tables with characterization data on ICRISAT-bred sorghum trait-specific (*milo*) and non-*milo* A-/B-lines, and R-lines.

No.	Title
III - 1	Characteristics of high-yielding (early-maturity) sorghum B-lines evaluated during 2004 rainy and postrainy seasons (ICRISAT-Patancheru, India).
III - 2	Characteristics of high-yielding (medium-maturity) sorghum B-lines evaluated during 2004 rainy and postrainy seasons (ICRISAT-Patancheru, India).
III - 3	Characteristics of disease-resistant (early-maturity) sorghum B-lines evaluated during 2004 rainy and postrainy seasons (ICRISAT-Patancheru, India).
III - 4	Characteristics of disease-resistant (medium-maturity) sorghum B-lines evaluated during2004 rainy and postrainy seasons (ICRISAT-Patancheru, India).
III - 5	Characteristics of disease-resistant (late-maturity) sorghum B-lines evaluated during 2004 rainy and postrainy seasons (ICRISAT-Patancheru, India).
III - 6	Characteristics of stress (*Striga* and soil acidity) tolerant, tillering and staygreen (medium maturity) sorghum B-lines evaluated during 2004 rainy and postrainy seasons (ICRISAT-Patancheru, India).
III - 7	Characteristics of non-*milo* (medium-maturity) sorghum B-lines evaluated during 2004 rainy and postrainy seasons (ICRISAT-Patancheru, India).
III - 8	Characteristics of insect pest-resistant (medium-maturity) sorghum B-lines evaluated during 2004 rainy and postrainy seasons (ICRISAT-Patancheru, India).
III - 9	Characteristics of insect pest-resistant (late-maturity) sorghum B-lines evaluated during 2004 rainy and postrainy seasons (ICRISAT-Patancheru, India).
III -10	Characteristics of high-yielding (early-maturity) sorghum R-lines evaluated during 2004 rainy and postrainy seasons (ICRISAT-Patancheru, India).
III -11	Characteristics of high-yielding (medium-maturity) sorghum R-lines evaluated during 2004 rainy and postrainy seasons (ICRISAT-Patancheru, India).
III -12	Characteristics of high-yielding (late-maturity) sorghum R-lines evaluated during 2004 rainy and postrainy seasons (ICRISAT-Patancheru, India).

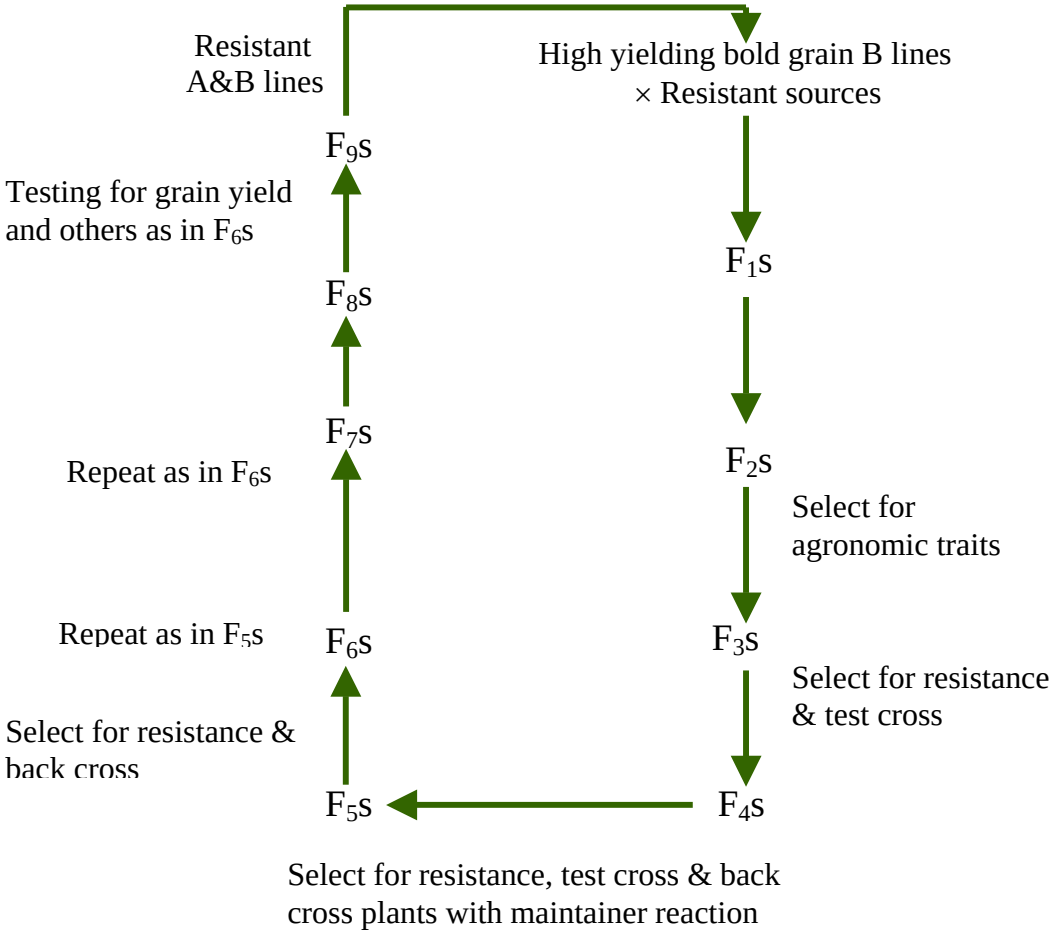

Figure 1. Method of breeding for sorghum male-sterile lines resistant to various biotic and abiotic stress factors.

Annexure III-1. Characteristics of high yielding (early maturity) sorghum B-lines evaluated during the rainy and postrainy seasons, 2004 at ICRISAT-Patancheru.

Trait No. →			1				2	3						4						5			6			7			8			9	
			Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: Extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: yellow coloration of mid rib			Glume hair c	
			Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy	
Serial number	ICSB number	Trait	E1	E3	E4	Mean	E4	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4
1	13	High yield	2	2	2	2	3	2	2	2	2	2	2	53	58	56	52	65	59	0.9	0.9	0.9	1	5	1-5	2	0	0-2	1	1	1	1	1
2	16	High yield	1	1	1	1	1	2	2	2	2	2	2	60	62	61	58	69	64	0.8	0.8	0.8	1	1	1	2	2	2	1	1	1	1	1
3	22	High yield	2	2	2	2	3	2	2	2	2	2	2	56	60	58	55	67	61	0.8	0.8	0.8	5	5	5	0	0	0	1	1	1	1	1
4	30	High yield	1	1	1	1	1	2	2	2	2	2	2	57	60	58	57	69	63	0.9	0.8	0.8	3	5	3-5	0	0	0	1	1	1	1	1
5	31	High yield	1	2	1	1-2	1	2	2	2	2	2	2	57	60	58	57	69	63	1.0	1.0	1.0	1	1	1	2	2	2	1	1	1	1	1
6	33	High yield	1	1	1	1	1	2	2	2	2	2	2	58	63	60	57	69	63	0.8	0.8	0.8	1	1	1	2	2	2	1	1	1	1	1
7	79	High yield	1	1	1	1	1	2	2	2	2	2	2	58	60	59	59	72	66	1.4	1.1	1.3	1	1	1	2	2	2	1	1	1	1	1
8	624	Early	1	1	1	1	1	2	2	2	2	2	2	59	64	62	58	69	63	1.1	1.0	1.0	1	3	1-3	2	0	0-2	1	1	1	1	1
9	627	Early	1	1	1	1	1	2	2	2	2	2	2	57	60	58	57	70	64	0.8	0.8	0.8	1	1	1	2	2	2	1	1	1	1	1
10	629	Early	1	1	1	1	1	2	2	2	2	2	2	53	58	55	56	69	63	0.8	0.8	0.8	1	1	1	2	2	2	1	1	1	1	1
11	632	Early	1	2	1	1-2	1	2	2	2	2	2	2	59	59	59	58	70	64	1.1	1.1	1.1	1	1	1	2	2	2	1	1	1	1	1
12	633	Early	2	2	2	2	3	2	2	2	2	2	2	57	61	59	57	69	63	0.8	0.8	0.8	1	1	1	2	2	2	1	1	1	1	1
13	641	Durra	2	2	2	2	3	2	2	2	2	2	2	61	63	62	57	68	63	1.3	1.1	1.2	3	1	1-3	0	2	0-2	1	1	1	1	1
14	642	Durra	2	2	2	2	3	2	2	2	2	2	2	59	66	62	57	69	63	0.9	0.9	0.9	1	1	1	2	2	2	1	1	1	1	1
15	652	Durra	2	2	2	2	3	2	2	2	2	2	2	58	62	60	58	76	67	1.5	1.2	1.4	1	5	1-5	2	0	0-2	1	1	1	1	1
16	654	Durra	1	2	1	1-2	1	2	2	2	2	2	2	58	60	59	57	67	62	1.2	1.1	1.2	1	1	1	2	2	2	1	1	1	1	1
17	655	Durra	1	1	1	1	1	1	2	1-2	2	2	2	58	59	58	57	68	63	0.9	0.8	0.8	1	3	1-3	2	0	0-2	1	1	1	1	1
18	656	Durra	1	2	1	1-2	1	1	2	1-2	2	2	2	58	59	59	57	69	63	0.9	0.8	0.8	1	5	1-5	2	0	0-2	1	1	1	1	1
19	661	Durra	1	1	1	1	1	2	2	2	2	2	2	60	64	62	60	74	67	0.9	0.9	0.9	1	1	1	2	2	2	1	1	1	1	1
20	667	Durra	1	2	1	1-2	1	2	2	2	2	2	2	59	59	59	58	70	64	1.1	1.0	1.1	1	1	1	2	2	2	1	1	1	1	1
	Control																																
21	296B	High yield	1	2	2	1-2	1	3	3	3	2	2	2	68	72	70	68	78	73	0.9	0.8	0.9	3	5	3-5	0	0	0	1	1	1	1	1
	Mean		-	-	-	-	-	2	2	2	-	-	-	59	62	60	58	70	64	1.0	0.9	1.0	-	-	-	-	-	-	-	-	-	-	-
	SE±		-	-	-	-	-	0.20	0.17	0.19	-	-	-	0.73	0.99	0.87	0.92	1.13	0.73	0.03	0.03	0.03	-	-	-	-	-	-	-	-	-	-	-
	CV (%)		-	-	-	-	-	21.96	17.86	19.89	-	-	-	2.48	3.22	2.91	2.71	2.77	2.76	5.33	5.88	6.26	-	-	-	-	-	-	-	-	-	-	-
	CD (5%)		-	-	-	-	-	0.57	0.49	0.53	-	-	-	2.05	3.00	2.52	2.61	3.22	2.04	0.09	0.09	0.08	-	-	-	-	-	-	-	-	-	-	-

Early- Early maturity; Durra- Durra large grain

E1- Black Manmool (BM)15, Rainy; E2- Red Campus East (RCE) 3, Rainy; E3- Black Precision (BP) 14, Postrainy; E4- BP 3, Postrainy

Range of notes whereever given indicates that the line shows variable expression

Zero in the trait no. 7 indicates absence of midrib green coloration due to midrib discoloration

Trait No. 1-41 : Triats stipulated in the DUS-test guidelines (Trait no 38 was not recorded in the current trials)

Trait No. 42-48 : Ancillary traits recorded in the current trials

Trait No. 49-52 : Monitored traits recorded in various trials conducted earlier at ICRISAT

Continued...

Annexure III-1. … Contd.

olor	Trait No. →			10			11			12			13			14			15			16			17			18			19			J
				Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicellate flower			Length of anther			Dried anther color			Glume color			Plant height (m)			Stem thickness (mm)			
				Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			
Mean	Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3
1	1	13	High yield	1	1	1	1	1	1	1	5	1-5	5	5	5	3	7	5	5	5	5	4	4	4	5	4	4-5	1.29	1.33	1.31	16.7	12.0	14.3	1
1	2	16	High yield	1	1	1	1	1	1	1	1	1	5	5	5	3	5	4	5	5	5	7	4	4-7	4	4	4	1.15	1.19	1.17	19.0	12.7	15.8	1
1	3	22	High yield	1	1	1	1	1	1	1	1	1	3	3	3	5	5	5	5	5	5	4	4	4	2	4	2-4	1.12	1.11	1.11	19.7	14.3	17.0	1
1	4	30	High yield	1	1	1	1	1	1	5	1	1-5	3	3	3	3	7	5	7	5	6	4	7	4-7	4	4	4	1.26	1.22	1.24	19.0	12.7	15.8	1
1	5	31	High yield	1	1	1	1	1	1	1	1	1	3	3	3	5	7	6	5	5	5	4	4	4	2	2	2	1.36	1.30	1.33	17.3	15.7	16.5	1
1	6	33	High yield	1	1	1	1	1	1	5	5	5	5	3	4	3	7	5	5	5	5	4	7	4-7	2	4	2-4	1.10	1.05	1.07	18.3	15.3	16.8	1
1	7	79	High yield	1	1	1	1	1	1	5	5	5	5	5	5	5	7	6	5	5	5	6	6	6	2	2	2	1.86	1.61	1.73	17.7	14.3	16.0	1
1	8	624	Early	1	1	1	1	1	1	1	1	1	5	5	5	5	7	5	5	5	5	6	4	4-6	2	4	2-4	1.43	1.28	1.36	15.7	11.3	13.5	1
1	9	627	Early	1	1	1	1	1	1	5	5	5	5	5	5	3	5	4	5	5	5	7	7	7	3	8	3-8	1.23	1.18	1.21	16.3	13.3	14.8	1
1	10	629	Early	1	1	1	1	1	1	1	1	1	3	5	4	3	7	5	7	7	7	6	4	4-6	1	2	1-2	1.14	1.18	1.16	17.7	15.7	16.7	1
1	11	632	Early	1	1	1	1	1	1	1	1	1	5	5	5	3	5	4	5	5	5	4	4	4	4	4	4	1.58	1.48	1.53	16.7	11.7	14.2	1
1	12	633	Early	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	1.23	1.25	1.24	17.0	14.3	15.7	1
1	13	641	Durra	1	1	1	1	1	1	5	5	5	5	9	7	5	7	6	3	5	4	4	6	4-6	2	4	2-4	1.52	1.44	1.48	14.7	12.7	13.7	1
1	14	642	Durra	1	1	1	1	1	1	5	1	1-5	5	9	7	5	7	6	7	7	7	4	4	4	1	2	1-2	1.24	1.25	1.24	17.3	14.0	15.7	1
1	15	652	Durra	5	9	7	1	1	1	5	5	5	5	9	7	5	7	6	7	7	7	4	6	4-6	2	2	2	1.97	1.55	1.76	16.0	11.0	13.5	1
1	16	654	Durra	1	1	1	1	1	1	5	5	5	5	5	5	5	7	5	5	5	5	7	7	7	4	7	4-7	1.66	1.50	1.58	15.0	10.7	12.8	1
1	17	655	Durra	1	1	1	1	1	1	1	1	1	5	5	5	5	7	6	5	5	5	7	4	4-7	2	4	2-4	1.19	1.13	1.16	17.0	12.0	14.5	1
1	18	656	Durra	1	1	1	1	1	1	1	1	1	5	5	5	5	7	6	5	5	5	4	7	4-7	2	4	2-4	1.21	1.08	1.14	16.7	11.7	14.2	1
1	19	661	Durra	1	1	1	1	1	1	7	7	7	5	5	5	3	7	5	5	3	4	7	7	7	5	7	5-7	1.23	1.18	1.21	17.0	13.3	15.2	1
1	20	667	Durra	1	1	1	1	1	1	1	1	1	5	5	5	3	7	5	5	5	5	4	4	4	4	4	4	1.56	1.49	1.53	18.0	13.3	15.7	1
		Control																																
1	21	296B	High yield	5	9	7	1	1	1	1	1	1	5	9	7	3	5	4	5	5	5	4	7	4-7	2	2	2	1.22	1.10	1.16	19.7	15.3	17.5	1
-		Mean		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.36	1.28	1.32	17.25	13.21	15.23	-
-		SE±		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.04	0.03	0.02	1.19	1.21	0.85	-
-		CV (%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.47	4.40	4.44	11.78	15.35	13.34	-
-		CD (5%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.10	0.09	0.07	3.40	3.44	2.39	-

Continued...

Annexure III-1. … Contd.

Trait No.→			20		21			22			23			24			25			26			27			28			29			30		
			uicy score		Brix reading (%)			Leaf length (cm)			Leaf width (cm)			Panicle length (cm)			Panicle branch length (cm)			Panicle compactness			Panicle shape			Panicle exertion (cm)			Glume coverage (%)			Shattering		
			Postrainy		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	13	High yield	1	1	10.7	8.0	9.3	58.7	55.0	56.8	7.2	7.3	7.3	26.7	23.3	25.0	8.7	8.0	8.3	7	7	7	3	3	3	10.3	18.3	14.3	33.3	50.0	41.7	3	3	3
2	16	High yield	1	1	11.3	8.3	9.8	61.3	48.0	54.7	7.7	6.3	7.0	24.3	19.7	22.0	7.3	6.0	6.7	7	5	6	3	3	3	14.0	16.7	15.3	33.3	41.7	37.5	3	3	3
3	22	High yield	1	1	7.3	7.3	7.3	74.3	64.7	69.5	8.2	7.0	7.6	26.7	23.3	25.0	9.0	7.3	8.2	5	5	5	3	3	3	7.3	10.3	8.8	50.0	41.7	45.8	3	3	3
4	30	High yield	1	1	7.3	7.3	7.3	68.3	54.7	61.5	7.3	6.0	6.7	29.7	26.7	28.2	9.3	6.7	8.0	5	7	6	3	3	3	10.7	12.3	11.5	50.0	41.7	45.8	3	3	3
5	31	High yield	2	2	8.3	7.0	7.7	64.0	53.0	58.5	7.3	6.0	6.7	26.3	25.0	25.7	8.7	7.0	7.8	5	5	5	3	3	3	5.3	9.3	7.3	50.0	58.3	54.2	3	3	3
6	33	High yield	1	1	9.3	7.0	8.2	65.3	52.0	58.7	7.7	5.7	6.7	27.3	22.3	24.8	6.7	6.7	6.7	7	7	7	3	3	3	3.0	6.3	4.7	50.0	33.3	41.7	3	3	3
7	79	High yield	1	1	6.7	8.3	7.5	59.7	53.3	56.5	7.7	6.3	7.0	29.0	23.3	26.2	10.0	7.0	8.5	3	3	3	3	3	3	14.7	23.3	19.0	41.7	41.7	41.7	3	3	3
8	624	Early	2	2	7.7	6.3	7.0	67.3	55.7	61.5	6.3	5.7	6.0	27.7	25.0	26.3	7.3	7.0	7.2	7	7	7	3	3	3	8.0	6.7	7.3	50.0	41.7	45.8	3	3	3
9	627	Early	1	1	7.3	6.3	6.8	65.7	59.7	62.7	5.3	5.7	5.5	26.3	23.7	25.0	7.7	7.7	7.7	5	5	5	3	3	3	15.0	12.3	13.7	50.0	50.0	50.0	3	3	3
10	629	Early	1	1	12.0	7.0	9.5	65.0	60.7	62.8	6.8	6.7	6.8	23.0	22.0	22.5	7.3	6.0	6.7	3	5	4	3	3	3	14.0	18.3	16.2	50.0	33.3	41.7	3	3	3
11	632	Early	1	1	9.7	6.7	8.2	71.0	61.0	66.0	9.7	7.0	8.3	24.7	23.0	23.8	8.0	7.0	7.5	7	7	7	3	3	3	24.7	19.0	21.8	25.0	25.0	25.0	3	3	3
12	633	Early	2	1	6.7	7.0	6.8	63.0	50.0	56.5	8.0	6.3	7.2	24.7	22.0	23.3	6.3	6.3	6.3	5	7	6	3	3	3	20.7	23.3	22.0	58.3	58.3	58.3	3	3	3
13	641	Durra	1	1	13.3	5.7	9.5	64.3	56.3	60.3	5.3	7.3	6.3	19.0	19.3	19.2	5.7	6.0	5.8	7	8	7	3	3	3	7.3	14.3	10.8	33.3	41.7	37.5	3	3	3
14	642	Durra	1	1	6.3	8.0	7.2	64.7	57.3	61.0	7.7	5.7	6.7	24.7	21.7	23.2	6.7	5.7	6.2	7	7	7	3	3	3	7.0	11.3	9.2	50.0	50.0	50.0	3	3	3
15	652	Durra	1	1	11.0	9.7	10.3	71.0	58.0	64.5	7.5	6.3	6.9	24.0	20.3	22.2	7.0	6.7	6.8	5	7	6	3	3	3	19.7	13.7	16.7	75.0	66.7	70.8	3	3	3
16	654	Durra	1	1	17.3	9.3	13.3	69.3	63.3	66.3	6.8	7.0	6.9	26.0	22.0	24.0	7.0	6.0	6.5	7	7	7	3	3	3	16.3	17.0	16.7	50.0	50.0	50.0	3	3	3
17	655	Durra	1	1	11.3	9.3	10.3	70.0	57.0	63.5	9.0	5.3	7.2	25.3	21.3	23.3	8.3	7.3	7.8	7	7	7	3	3	3	8.3	9.7	9.0	41.7	33.3	37.5	3	3	3
18	656	Durra	1	1	9.3	7.3	8.3	73.3	65.0	69.2	9.0	7.3	8.2	25.7	22.7	24.2	8.7	7.7	8.2	7	7	7	3	3	3	8.0	9.3	8.7	33.3	25.0	29.2	3	3	3
19	661	Durra	1	1	5.3	6.7	6.0	64.3	58.3	61.3	7.8	7.0	7.4	29.3	23.3	26.3	8.0	6.3	7.2	7	7	7	3	3	3	4.0	9.7	6.8	41.7	33.3	37.5	3	3	3
20	667	Durra	1	1	7.7	6.7	7.2	67.7	53.3	60.5	8.5	6.0	7.3	25.7	22.7	24.2	8.0	7.0	7.5	7	7	7	3	3	3	21.3	24.0	22.7	25.0	25.0	25.0	3	3	3
	Control																																	
21	296B	High yield	1	1	13.0	8.0	10.5	66.0	59.7	62.8	7.8	7.3	7.6	28.0	26.3	27.2	7.3	7.3	7.3	7	7	7	3	3	3	2.3	0.0	1.2	25.0	25.0	25.0	3	3	3
	Mean		-	-	9.48	7.49	8.48	66.4	57.0	61.7	7.6	6.4	7.0	25.9	22.8	24.4	7.8	6.8	7.3	-	-	-	-	-	-	11.5	13.6	12.6	43.7	41.3	42.5	-	-	-
	SE±		-	-	1.66	0.91	0.95	2.92	2.17	1.82	0.67	0.37	0.38	0.88	0.71	0.57	0.52	0.41	0.33	-	-	-	-	-	-	1.86	1.39	1.16	5.61	6.33	4.23	-	-	-
	CV (%)		-	-	29.86	20.82	27.00	7.70	6.56	7.25	15.28	9.70	13.18	5.97	5.44	5.75	11.49	10.52	11.11	-	-	-	-	-	-	30.09	18.32	23.84	22.60	27.18	24.86	-	-	-
	CD (5%)		-	-	4.73	2.57	2.66	8.31	6.17	5.11	1.90	1.06	1.07	2.51	2.02	1.59	1.47	1.17	0.93	-	-	-	-	-	-	5.29	3.95	3.26	15.95	17.99	11.87	-	-	-

Continued...

Annexure III-1. … Contd.

Trait No. →			31			32			33			34			35			36			37			39			40			41			4	
			Threshability			Grain form			Grain color			1000-grain mass (g)			Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm texture			Albumen color			Grain lustre			Days to e	
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Rainy	
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E2	E3
1	13	High yield	1	1	1	1	1	1	3	4	3-4	28.40	30.02	29.21	3	3	3	3	3	3	5	5	5	6	5	5	2	2	2	1.0	5.0	3.0	5	5
2	16	High yield	1	1	1	1	1	1	3	4	3-4	24.43	24.89	24.66	3	2	3	2	2	2	5	5	5	6	5	5	2	2	2	2.3	3.7	3.0	4	4
3	22	High yield	1	1	1	1	1	1	1	4	1-4	23.03	26.14	24.59	3	3	3	3	3	3	3	5	4	4	4	4	2	2	2	5.0	5.0	5.0	4	5
4	30	High yield	1	1	1	1	1	1	4	4	4	30.57	30.17	30.37	3	3	3	3	3	3	7	5	6	6	4	5	2	2	2	6.3	5.0	5.7	4	4
5	31	High yield	1	1	1	1	1	1	4	4	4	28.00	30.60	29.30	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	7.0	6.3	6.7	3	4
6	33	High yield	1	1	1	1	1	1	4	4	4	30.47	30.91	30.69	3	3	3	3	3	3	7	5	6	5	4	5	2	2	2	1.0	1.0	1.0	4	4
7	79	High yield	1	1	1	1	1	1	4	4	4	30.93	30.89	30.91	3	3	3	3	3	3	7	5	6	5	6	5	2	2	2	7.0	7.0	7.0	4	4
8	624	Early	1	1	1	1	1	1	1	4	1-4	27.23	26.44	26.84	3	3	3	3	3	3	7	5	6	4	4	4	2	2	2	5.0	5.0	5.0	4	4
9	627	Early	1	1	1	1	1	1	5	5	5	23.60	24.87	24.23	2	2	2	2	2	2	5	5	5	4	4	4	2	2	2	1.0	2.3	1.7	4	4
10	629	Early	1	1	1	1	1	1	4	4	4	31.83	31.60	31.72	3	3	3	3	3	3	9	5	7	5	4	5	2	2	2	1.0	5.0	3.0	5	5
11	632	Early	1	1	1	1	1	1	1	4	1-4	31.70	30.86	31.28	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	7.0	5.0	6.0	4	4
12	633	Early	1	1	1	1	1	1	1	4	1-4	23.37	23.96	23.66	3	3	3	2	3	3	5	5	5	4	4	4	2	2	2	5.0	5.0	5.0	3	4
13	641	Durra	1	1	1	1	1	1	3	4	3-4	36.70	35.59	36.14	3	3	3	3	3	3	7	5	6	6	4	5	2	2	2	5.0	5.0	5.0	4	4
14	642	Durra	1	1	1	1	1	1	1	3	1-3	35.37	34.85	35.11	3	3	3	3	3	3	9	5	7	5	3	4	2	2	2	5.0	5.0	5.0	4	5
15	652	Durra	1	1	1	1	1	1	1	4	1-4	29.50	28.86	29.18	3	3	3	3	3	3	7	5	6	5	5	5	2	2	2	5.0	5.0	5.0	4	4
16	654	Durra	1	1	1	1	1	1	5	5	-	32.50	32.77	32.63	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	1.0	1.0	1.0	4	4
17	655	Durra	1	1	1	1	1	1	1	3	1-3	29.97	27.39	28.68	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5.0	5.0	5.0	4	5
18	656	Durra	1	1	1	1	1	1	1	4	1-4	29.27	28.54	28.90	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	7.0	5.0	6.0	4	4
19	661	Durra	1	1	1	1	1	1	5	5	5	31.23	31.97	31.60	3	3	3	3	3	3	5	5	5	6	6	6	2	2	2	5.0	2.3	3.7	4	4
20	667	Durra	1	1	1	1	1	1	1	4	1-4	32.73	32.45	32.59	3	3	3	3	3	3	5	5	5	4	5	5	2	2	2	5.7	5.0	5.3	4	5
	Control																																	
21	296B	High yield	1	1	1	1	1	1	4	4	4	28.73	28.83	28.78	3	3	3	3	3	3	5	5	5	6	6	6	2	2	2	1.0	1.0	1.0	6	5
	Mean		-	-	-	1	1	1	-	-	-	29.50	29.65	29.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4
	SE±		-	-	-	-	-	-	-	-	-	0.93	1.00	0.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	0.37
	CV (%)		-	-	-	-	-	-	-	-	-	5.30	5.77	5.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.61	13.80
	CD (5%)		-	-	-	-	-	-	-	-	-	2.63	2.86	1.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.67	1.05

Continued...

Annexure III-1. … Contd.

Trait No. →			2	
			mergence	
			Postrainy	
Serial number	ICSB number	Trait	E4	Mean
1	13	High yield	5	5
2	16	High yield	5	5
3	22	High yield	5	5
4	30	High yield	5	5
5	31	High yield	5	4
6	33	High yield	5	5
7	79	High yield	4	4
8	624	Early	5	5
9	627	Early	5	5
10	629	Early	5	5
11	632	Early	5	5
12	633	Early	4	4
13	641	Durra	4	4
14	642	Durra	5	5
15	652	Durra	5	4
16	654	Durra	4	4
17	655	Durra	5	5
18	656	Durra	5	5
19	661	Durra	5	5
20	667	Durra	5	5
	Control			
21	296B	High yield	5	5
	Mean		5	5
	SE±		0.26	0.23
	CV (%)		9.41	11.72
	CD (5%)		0.75	0.63

Continued...

Annexure III-1. … Contd.

Trait No.→			43						44						45			46			47			48	49	50	51	52
			Leaf glossy score						Seedling vigor score						Plant agronomic aspect score			Panicle yield (t ha^{-1})			Grain yield (t ha^{-1})			Seed set % under high atmospheric temperature in A-line	Seed set % in A-line under open pollination	Plant color	Grain pericarp thickness	Grain hardness in kg by Kiya's hardness tester
			Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Summer	Postrainy	Postrainy	Postrainy	Postrainy
Serial number	ICSB number	Trait	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean					
1	13	High yield	2.8	2.8	2.8	3.0	3.0	3.0	2.5	1.5	2.0	1.7	3.0	2.3	2.0	2.0	2.0	4.8	4.7	4.8	3.6	3.5	3.5	0	-	Tan	Thin	10.6
2	16	High yield	2.5	3.3	2.9	2.7	3.0	2.8	1.5	1.3	1.4	1.7	3.0	2.3	2.0	1.7	1.8	3.7	3.8	3.8	2.8	2.7	2.8	0	-	Tan	Thick	7.9
3	22	High yield	2.5	2.8	2.6	3.0	3.3	3.2	2.8	1.5	2.1	2.0	3.3	2.7	2.0	1.7	1.8	5.6	4.5	5.0	3.8	3.3	3.6	0	-	Tan	Thick	7.0
4	30	High yield	3.0	3.0	3.0	2.3	3.7	3.0	1.8	1.5	1.6	1.7	2.3	2.0	2.0	2.0	2.0	5.2	4.7	4.9	4.1	3.4	3.7	0	-	Tan	Thin	7.8
5	31	High yield	2.0	2.3	2.1	2.0	3.3	2.7	1.0	1.3	1.1	1.0	2.3	1.7	1.0	2.0	1.5	5.6	4.3	4.9	4.4	3.1	3.8	0	-	Tan	Thin	8.2
6	33	High yield	2.5	3.3	2.9	3.0	4.0	3.5	3.0	1.5	2.3	1.3	3.0	2.2	2.3	1.7	2.0	4.6	3.8	4.2	3.3	2.6	3.0	0	-	Tan	Thin	7.9
7	79	High yield	3.0	2.5	2.8	2.7	3.7	3.2	1.8	2.3	2.0	2.3	2.3	2.3	2.0	2.0	2.0	5.3	3.9	4.6	3.8	2.8	3.3	70	-	Tan	Thin	5.2
8	624	Early	2.8	3.3	3.0	1.3	3.7	2.5	2.5	2.3	2.4	1.0	3.3	2.2	1.0	1.7	1.3	5.9	4.7	5.3	4.9	3.7	4.3	0	40	Tan	-	-
9	627	Early	3.3	3.0	3.1	1.7	3.7	2.7	3.5	1.5	2.5	2.3	3.0	2.7	2.7	2.0	2.3	4.2	4.1	4.2	3.3	2.9	3.1	0	50	Tan	-	-
10	629	Early	3.3	3.0	3.1	3.7	3.3	3.5	2.8	2.8	2.8	2.7	4.0	3.3	2.0	2.0	2.0	4.7	4.2	4.5	3.4	3.4	3.4	0	55	Tan	-	-
11	632	Early	2.3	3.0	2.6	1.7	3.3	2.5	2.3	1.5	1.9	1.7	2.7	2.2	1.3	1.0	1.2	4.6	4.5	4.6	3.6	3.1	3.4	0	50	Tan	-	-
12	633	Early	3.3	3.0	3.1	2.7	4.0	3.3	1.8	1.5	1.6	2.0	2.7	2.3	1.7	2.3	2.0	4.6	3.9	4.3	3.8	2.9	3.3	0	65	Tan	-	-
13	641	Durra	3.5	2.5	3.0	2.7	3.7	3.2	1.5	1.5	1.5	1.3	1.7	1.5	1.7	1.7	1.7	6.1	4.8	5.4	4.5	3.2	3.9	2	25	Non tan	-	-
14	642	Durra	3.0	3.5	3.3	2.0	3.7	2.8	2.5	1.8	2.1	1.3	2.7	2.0	1.0	2.0	1.5	6.9	5.1	6.0	5.3	3.3	4.3	0	15	Non tan	-	-
15	652	Durra	1.0	2.3	1.6	1.7	2.3	2.0	1.5	1.3	1.4	1.3	2.7	2.0	1.7	2.0	1.8	5.4	4.7	5.0	4.3	3.4	3.8	0	40	Tan	-	-
16	654	Durra	2.5	3.0	2.8	2.7	3.7	3.2	2.3	1.0	1.6	1.0	2.0	1.5	2.3	1.7	2.0	4.2	3.6	3.9	3.1	2.3	2.7	0	65	Tan	-	-
17	655	Durra	2.3	2.0	2.1	2.7	3.0	2.8	1.8	1.0	1.4	1.3	2.3	1.8	1.0	1.7	1.3	5.8	4.1	4.9	4.8	3.0	3.9	0	80	Tan	-	-
18	656	Durra	2.0	3.0	2.5	2.7	3.0	2.8	1.3	1.0	1.1	1.0	2.7	1.8	1.3	1.3	1.3	6.1	4.9	5.5	5.0	3.5	4.3	0	70	Tan	-	-
19	661	Durra	3.0	2.8	2.9	2.7	4.0	3.3	2.8	1.0	1.9	1.3	2.3	1.8	1.3	1.3	1.3	5.7	4.8	5.3	4.3	3.4	3.8	0	45	Non tan	-	-
20	667	Durra	2.3	3.0	2.6	2.7	3.7	3.2	2.8	1.5	2.1	2.3	3.0	2.7	1.3	1.7	1.5	5.1	3.7	4.4	3.8	2.1	3.0	0	40	Tan	-	-
	Control																											
21	296B	High yield	3.3	3.0	3.1	3.0	3.7	3.3	3.8	2.5	3.1	2.7	3.3	3.0	1.7	2.0	1.8	6.1	4.0	5.1	4.2	2.4	3.3		30	Tan	-	-
	Mean		2.70	2.83	2.76	2.49	3.46	2.98	2.39	1.67	2.03	1.67	2.75	2.21	1.7	1.8	1.7	5.2	4.3	4.8	4.0	3.0	3.5	-	-	-	-	-
	SE±		0.29	0.23	0.26	0.32	0.26	0.20	0.24	0.24	0.24	0.29	0.32	0.21	0.22	0.22	0.16	0.27	0.34	0.22	0.25	0.28	0.19	-	-	-	-	-
	CV (%)		21.31	16.48	18.97	21.40	12.97	16.66	20.19	28.19	23.34	28.54	19.23	22.81	24.25	22.64	23.41	8.68	13.16	11.04	10.48	15.48	12.66	-	-	-	-	-
	CD (5%)		0.81	0.67	0.74	0.90	0.74	0.58	0.68	0.66	0.66	0.82	0.90	0.60	0.63	0.64	0.44	0.76	0.97	0.62	0.71	0.80	0.53	-	-	-	-	-

Continued...

Annexure III-2. Characteristics of high yielding (medium maturity) sorghum B-lines evaluated during the rainy and postrainy seasons, 2004 at ICRISAT-Patancheru

Trait No. →			1				2	3						4						5			6			7			8		
Serial number	ICSB number	Trait	Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: Extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: yellow coloration of mid rib		
			Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E1	E3	E4	Mean	E4	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	1	High Yield	2	2	2	2	3	2	2	2	2	2	2	62	70	66	64	74	69	1.0	0.9	0.9	1	1	1	2	2	2	1	1	1
2	4	High Yield	2	2	2	2	3	2	2	2	1	2	1-2	63	66	64	60	76	68	1.0	0.9	1.0	3	5	3-5	0	0	0	1	1	1
3	5	High Yield	2	2	2	2	3	2	2	2	2	2	2	62	65	64	62	73	68	1.1	1.0	1.0	5	3	3-5	0	0	0	1	1	1
4	6	High Yield	1	1	1	1	1	2	2	2	2	2	2	60	64	62	61	78	70	0.9	0.9	0.9	1	1	1	2	2	2	1	1	1
5	8	High Yield	1	1	1	1	1	2	2	2	2	2	2	63	64	63	62	79	71	0.7	0.8	0.7	1	1	1	2	2	2	1	1	1
6	9	High Yield	1	2	1	1-2	1	2	2	2	2	2	2	64	66	65	60	79	70	1.0	0.9	0.9	1	3	1-3	2	0	0-2	1	1	1
7	11	High Yield	1	1	1	1	1	2	2	2	2	2	2	61	64	62	60	68	64	1.0	1.1	1.0	1	1	1	2	2	2	1	1	1
8	12	High Yield	1	2	1	1-2	1	2	2	2	2	2	2	62	65	63	60	68	64	1.0	0.9	0.9	3	1	1-3	0	2	0-2	1	1	1
9	18	High Yield	2	2	2	2	3	1	1	1	1	2	1-2	64	67	66	62	72	67	1.1	0.9	1.0	1	5	1-5	2	0	0-2	1	1	1
10	26	High Yield	2	2	2	2	3	2	2	2	2	1	1-2	61	64	62	61	73	67	0.9	0.9	0.9	1	1	1	2	2	2	1	1	1
11	28	High Yield	1	2	1	1-2	1	2	2	2	2	2	2	59	64	62	61	78	70	0.9	1.0	1.0	1	1	1	2	2	2	1	1	1
12	32	High Yield	1	1	1	1	1	2	2	2	2	2	2	64	68	66	63	77	70	1.1	0.9	1.0	1	1	1	2	2	2	1	1	1
13	37	High Yield	1	1	1	1	1	2	2	2	2	2	2	63	70	66	62	79	70	0.9	0.9	0.9	1	1	1	2	2	2	1	1	1
14	38	High Yield	1	2	1	1-2	1	2	2	2	2	2	2	63	67	65	62	78	70	0.9	0.7	0.8	1	3	1-3	2	0	0-2	1	1	1
15	39	High Yield	1	1	1	1	1	2	2	2	2	2	2	65	67	66	63	78	71	0.9	0.7	0.8	1	1	1	2	2	2	1	1	1
16	40	High Yield	2	2	2	2	3	2	2	2	2	2	2	63	64	63	59	79	69	0.9	1.0	0.9	1	1	1	2	2	2	1	1	1
17	42	High Yield	1	1	1	1	1	2	2	2	2	2	2	63	64	64	63	76	70	0.9	0.8	0.9	1	3	1-3	2	0	0-2	1	1	1
18	44	High Yield	2	2	2	2	3	2	2	2	2	2	2	60	66	63	63	72	68	0.9	0.9	0.9	5	5	5	0	0	0	1	1	1
19	46	High Yield	1	1	1	1	1	3	3	3	3	2	2-3	63	66	65	62	76	69	0.9	0.9	0.9	5	5	5	0	0	0	1	1	1
20	48	High Yield	2	2	2	2	3	2	2	2	2	2	2	65	65	65	63	77	70	1.0	0.9	0.9	5	3	3-5	0	0	0	1	1	1
21	49	High Yield	2	2	2	2	3	1	1	1	1	2	1-2	61	66	64	62	77	69	1.1	0.9	1.0	1	1	1	2	2	2	1	1	1
22	50	High Yield	2	2	2	2	3	2	2	2	2	2	2	60	62	61	61	72	67	1.0	0.9	0.9	3	3	3	0	0	0	1	1	1
23	51	High Yield	1	1	1	1	1	1	2	1-2	1	2	1-2	61	62	62	58	73	66	1.1	0.9	1.0	1	1	1	2	2	2	1	1	1
24	53	High Yield	1	1	1	1	1	2	2	2	2	2	2	63	65	64	66	80	73	1.2	0.9	1.1	1	1	1	2	2	2	1	1	1
25	55	High Yield	2	2	2	2	3	2	2	2	2	2	2	59	65	62	61	76	68	1.1	0.9	1.0	1	1	1	2	2	2	1	1	1
26	56	High Yield	1	1	1	1	1	2	2	2	2	2	2	59	63	61	60	71	65	0.9	0.9	0.9	1	1	1	2	2	2	1	1	1
27	58	High Yield	1	1	1	1	1	2	2	2	2	2	2	59	62	60	60	73	66	1.4	1.0	1.2	1	1	1	2	2	2	1	1	1
28	70	High Yield	1	1	1	1	1	2	2	2	2	2	2	63	68	65	60	76	68	1.2	1.0	1.1	5	1	1-5	0	2	0-2	1	1	1
29	73	High Yield	1	1	1	1	1	1	1	1	2	1	1-2	67	71	69	65	81	73	1.5	1.2	1.3	1	1	1	2	2	2	1	1	1
30	75	High Yield	1	1	1	1	1	1	1	1	1	2	1-2	65	65	65	63	80	72	1.3	1.0	1.2	1	1	1	2	2	2	1	1	1
31	77	High Yield	1	1	1	1	1	2	2	2	2	2	2	64	71	68	64	78	71	1.5	1.0	1.3	1	1	1	2	2	2	1	1	1
32	81	High Yield	1	1	1	1	1	2	2	2	2	2	2	65	73	69	68	82	75	1.6	1.2	1.4	5	3	3-5	0	0	0	1	1	1
33	84	High Yield	1	1	1	1	1	1	1	1	2	2	2	61	64	63	63	80	71	1.2	0.9	1.1	1	1	1	2	2	2	1	1	1
34	85	High Yield	1	1	1	1	1	2	2	2	2	2	2	64	66	65	61	76	69	1.1	0.9	1.0	1	1	1	2	2	2	1	1	1
35	90	High Yield	1	1	1	1	1	1	1	1	1	2	1-2	-	71	71	64	79	71	1.4	1.0	1.2	1	1	1	2	2	2	1	1	1
36	93	High Yield	1	1	1	1	1	1	1	1	2	2	2	66	70	68	65	79	72	1.3	1.0	1.2	1	1	1	2	2	2	1	1	1

Continued...

Trait No. →			1				2	3						4						5			6			7			8		
Serial number	ICSB number	Trait	Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: Extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: yellow coloration of mid rib		
			Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E1	E3	E4	Mean	E4	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
37	95	High Yield	1	1	1	1	1	2	2	2	2	2	2	63	67	64	62	78	70	1.4	1.1	1.2	1	1	1	2	2	2	1	1	1
38	101	High Yield	1	1	1	1	1	1	1	1	2	1	1-2	61	64	62	63	79	71	1.3	1.0	1.1	5	3	3-5	0	0	0	1	1	1
39	102	High Yield	1	1	1	1	1	2	2	2	2	2	2	60	61	60	61	78	69	1.0	0.8	0.9	1	1	1	2	2	2	1	1	1
40	653	Durra	2	2	2	2	3	2	2	2	2	2	2	60	64	62	61	73	67	1.3	1.2	1.2	3	1	1-3	0	2	0-2	1	1	1
41	657	Durra	1	1	1	1	1	2	2	2	2	2	2	62	63	63	62	81	72	1.1	1.0	1.1	1	1	1	2	2	2	1	1	1
42	659	Durra	1	1	1	1	1	2	2	2	2	2	2	68	72	70	65	79	72	1.0	0.8	0.9	1	3	1-3	2	0	0-2	1	1	1
43	664	Durra	1	1	1	1	1	1	1	1	2	2	2	66	72	70	65	78	72	1.1	1.0	1.1	1	1	1	2	2	2	1	1	1
44	88001	High Yield	1	1	1	1	1	2	2	2	2	2	2	62	64	63	62	75	68	1.3	1.0	1.1	1	1	1	2	2	2	1	1	1
45	88007	High Yield	1	1	1	1	1	2	2	2	2	2	2	67	70	68	63	77	70	0.8	0.7	0.8	1	1	1	2	2	2	1	1	1
46	88010	High Yield	1	2	2	1-2	3	1	1	1	1	2	1-2	64	67	66	63	78	70	1.0	1.1	1.1	5	3	3-5	0	0	0	1	1	1
47	88013	High Yield	1	1	1	1	1	2	2	2	2	2	2	61	63	62	60	76	68	0.9	0.9	0.9	1	1	1	2	2	2	1	1	1
48	89002	High Yield	2	2	2	2	3	2	2	2	2	2	2	64	69	66	65	79	72	0.9	0.9	0.9	1	1	1	2	2	2	1	1	1
49	89003	High Yield	1	2	1	1-2	1	2	2	2	2	2	2	63	67	65	60	79	70	0.9	0.8	0.9	1	1	1	2	2	2	1	1	1
50	89004	High Yield	2	2	2	2	3	2	2	2	2	2	2	64	68	66	65	79	72	1.1	0.9	1.0	5	3	3-5	0	0	0	1	1	1
51	90001	High Yield	2	2	2	2	1	1	2	1-2	2	2	2	67	68	68	65	80	73	1.2	1.0	1.1	3	5	3-5	0	0	0	1	1	1
52	91001	High Yield	2	1	1	1-2	3	2	2	2	2	2	2	64	67	66	69	79	74	1.2	1.0	1.1	5	3	3-5	0	0	0	1	1	1
53	91002	High Yield	1	1	1	1	1	2	2	2	2	2	2	59	66	62	63	69	66	0.9	1.0	1.0	1	1	1	2	2	2	1	1	1
	Control																														
54	296 B	High Yield	1	1	2	1-2	3	3	3	3	2	2	2	66	72	69	66	81	74	1.0	0.8	0.9	5	5	5	0	0	0	1	1	1
	Mean		-	-	-	-	-	1.87	1.85	1.86	-	-	-	62	66	64	62	77	70	1.1	0.9	1.0	-	-	-	-	-	-	-	-	-
	SE±		-	-	-	-	-	0.23	0.21	0.22	-	-	-	1.07	1.20	1.20	0.79	1.02	0.64	0.03	0.09	0.05	-	-	-	-	-	-	-	-	-
	CV (%)		-	-	-	-	-	24.34	22.73	23.57	-	-	-	3.41	3.64	3.72	2.18	2.31	2.27	4.68	15.64	10.71	-	-	-	-	-	-	-	-	-
	CD (5%)		-	-	-	-	-	0.64	0.59	0.61	-	-	-	3.06	3.40	3.39	2.20	2.85	1.79	0.08	0.24	0.13	-	-	-	-	-	-	-	-	-

Durra- Durra large grain

E1- Black Manmool (BM)15, Rainy; E2- Red Campus East (RCE) 3, Rainy; E3- Black Precision (BP) 14, Postrainy; E4- BP 3, Postrainy

Range of notes whereever given indicates that the line shows variable expression

Zero in the trait no. 7 indicates absence of midrib green coloration due to midrib discoloration

Trait No. 1-41 : Triats stipulated in the DUS-test guidelines (Trait no 38 was not recorded in the current trials)

Trait No. 42-48 : Ancillary traits recorded in the current trials

Trait No. 49-52 : Monitored traits recorded in various trials conducted earlier at ICRISAT

Continued...

Annexure III-2. … Contd.

Trait No. →			9			10			11			12			13			14			15			16			17			18		
Serial number	ICSB number	Trait	Glume hair color			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicellate flower			Length of anther			Dried anther color			Glume color			Plant height (m)		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	1	High Yield	1	1	1	5	5	5	1	1	1	5	5	5	5	5	5	3	6	4	6	7	7	4	4	4	2	4	2-4	1.3	1.2	1.2
2	4	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	4	4	5	5	5	7	4	4-7	4	5	4-5	1.4	1.3	1.4
3	5	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	3	4	4	4	4	4	6	5	5	4	4	4	4	4	4	1.5	1.4	1.4
4	6	High Yield	1	1	1	1	1	1	1	1	1	5	5	5	3	4	3	4	6	5	7	7	7	7	7	7	2	2	2	1.2	1.2	1.2
5	8	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	4	4	4	4	4	4	4	4	4	4	5	4-5	1.0	1.1	1.1
6	9	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	3	5	4	5	4	5	7	7	7	4	5	4-5	1.4	1.3	1.4
7	11	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	4	6	5	4	4	4	7	4	4-7	5	4	4-5	1.3	1.5	1.4
8	12	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	3	4	3	4	6	5	6	5	5	4	4	4	5	5	5	1.4	1.3	1.3
9	18	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	3	5	4	4	5	5	6	4	5	7	4	4-7	5	5	5	1.5	1.3	1.4
10	26	High Yield	1	1	1	1	1	1	1	1	1	5	1	1-5	5	5	5	4	6	5	3	4	4	7	4	4-7	1	2	1-2	1.3	1.4	1.3
11	28	High Yield	1	1	1	1	1	1	1	1	1	7	5	5-7	5	4	5	4	5	5	7	6	7	7	4	4-7	2	2	2	1.3	1.4	1.3
12	32	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	4	5	4	4	5	5	4	4	4	5	5	5	1.5	1.3	1.4
13	37	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	5	4	5	6	5	4	4	4	4	5	4-5	1.3	1.4	1.3
14	38	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	3	4	4	3	5	4	4	5	5	7	7	7	4	5	4-5	1.3	1.2	1.3
15	39	High Yield	1	1	1	1	1	1	1	1	1	1	5	1-5	3	5	4	3	4	4	4	5	5	4	4	4	2	5	2-5	1.3	1.2	1.3
16	40	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	5	6	5	5	4	5	6	5	5	7	4	4-7	3	4	3-4	1.3	1.5	1.4
17	42	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	3	4	3	3	5	4	5	5	5	7	4	4-7	2	2	2	1.4	1.2	1.3
18	44	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	3	3	4	4	4	4	4	4	3	3	3	1.2	1.3	1.2
19	46	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	9	7	8	5	7	6	7	6	7	6	6	6	2	4	2-4	1.2	1.2	1.2
20	48	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	3	4	3	3	5	4	3	4	4	7	4	4-7	4	2	2-4	1.3	1.3	1.3
21	49	High Yield	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	6	6	6	4	6	5	7	4	4-7	2	4	2-4	1.5	1.3	1.4
22	50	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	4	4	4	6	5	6	4	4	4	5	5	5	1.4	1.3	1.3
23	51	High Yield	1	1	1	5	5	5	1	1	1	5	5	5	5	5	5	4	6	5	5	5	5	7	4	4-7	7	4	4-7	1.6	1.3	1.5
24	53	High Yield	1	1	1	1	1	1	1	1	1	5	5	5	5	4	4	5	5	5	6	6	6	4	4	4	4	2	2-4	1.6	1.3	1.4
25	55	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	5	3	4	4	6	5	7	6	6	7	7	7	2	6	2-6	1.4	1.3	1.3
26	56	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	5	3	4	5	6	5	5	5	5	6	6	6	4	4	4	1.3	1.2	1.2
27	58	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	5	3	4	3	6	5	7	6	7	4	6	4-6	4	4	4	1.7	1.4	1.5
28	70	High Yield	1	1	1	1	1	1	1	1	1	5	1	1-5	5	6	5	6	7	6	6	6	6	6	4	4-6	2	2	2	1.5	1.4	1.4
29	73	High Yield	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	3	5	4	6	5	6	4	4	4	6	2	2-6	1.8	1.5	1.6
30	75	High Yield	1	1	1	5	5	5	1	1	1	1	5	1-5	5	4	5	6	7	6	7	6	7	4	4	4	2	2	2	1.8	1.5	1.6
31	77	High Yield	1	1	1	5	5	5	1	1	1	5	7	5-7	5	7	6	4	6	5	7	6	6	4	4	4	2	2	2	2.0	1.6	1.8
32	81	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	3	4	3	4	6	5	7	7	7	4	4	4	2	2	2	2.1	1.6	1.9
33	84	High Yield	1	1	1	1	1	1	1	1	1	7	5	5-7	5	5	5	4	5	4	4	4	4	4	4	4	2	2	2	1.7	1.3	1.5
34	85	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	9	6	7	6	6	6	5	5	5	7	7	7	2	2	2	1.6	1.3	1.4
35	90	High Yield	1	1	1	1	5	3	1	1	1	5	5	5	5	5	5	3	6	5	7	7	7	4	4	4	2	2	2	1.7	1.4	1.6
36	93	High Yield	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	4	5	5	7	6	6	4	4	4	2	2	2	1.7	1.5	1.6

Continued...

Trait No. →			9			10			11			12			13			14			15			16			17			18		
Serial number	ICSB number	Trait	Glume hair color			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicellate flower			Length of anther			Dried anther color			Glume color			Plant height (m)		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
37	95	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	5	6	6	4	6	5	6	5	6	7	7	7	2	2	2	1.7	1.5	1.6
38	101	High Yield	1	1	1	1	1	1	1	1	1	5	7	5-7	5	6	5	4	6	5	4	5	4	7	7	7	2	2	2	1.7	1.4	1.5
39	102	High Yield	1	1	1	1	1	1	1	1	1	1	5	1-5	5	6	5	4	6	5	6	5	6	7	4	4-7	2	2	2	1.4	1.2	1.3
40	653	Durra	1	1	1	1	5	3	1	1	1	1	1	1	9	4	7	5	5	5	6	6	6	7	4	4-7	2	4	2-4	1.6	1.5	1.6
41	657	Durra	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	3	3	3	4	4	4	4	4	4	5	7	5-7	1.5	1.4	1.4
42	659	Durra	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	6	5	5	6	5	6	4	4-6	2	6	2-6	1.4	1.2	1.3
43	664	Durra	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	6	5	6	6	5	6	7	7	7	4	4	4	1.3	1.3	1.3
44	88001	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	7	6	6	7	5	6	4	4	4	2	2	2	1.6	1.4	1.5
45	88007	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	3	4	3	4	5	5	6	5	5	4	4	4	1	4	1-4	1.2	1.2	1.2
46	88010	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	9	6	7	4	4	4	3	4	4	4	6	4-6	6	6	6	1.5	1.6	1.6
47	88013	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	3	6	4	4	5	5	4	5	4	7	6	6-7	5	4	4-5	1.3	1.3	1.3
48	89002	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	4	5	4	3	4	4	4	4	4	4	4	4	2	4	2-4	1.3	1.3	1.3
49	89003	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	4	4	5	5	5	7	4	4-7	5	5	5	1.4	1.2	1.3
50	89004	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	5	3	4	5	4	5	6	5	5	4	4	4	5	5	5	1.5	1.3	1.4
51	90001	High Yield	1	1	1	1	1	1	1	1	1	5	1	1-5	5	4	4	5	5	5	5	6	5	6	4	4-6	5	5	5	1.5	1.3	1.4
52	91001	High Yield	1	1	1	1	1	1	1	1	1	1	1	1	6	3	5	3	4	4	5	5	5	6	4	4-6	5	5	5	1.6	1.3	1.4
53	91002	High Yield	1	1	1	1	1	1	1	1	1	1	5	1-5	3	4	3	5	5	5	6	5	6	4	7	4-7	5	8	5-8	1.4	1.4	1.4
	Control																															
54	296 B	High Yield	1	1	1	9	9	9	1	1	1	1	1	1	9	7	8	4	4	4	4	5	5	4	7	4-7	2	2	2	1.3	1.1	1.2
	Mean		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	1.3	1.4
	SE±		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	0.09	0.04
	CV (%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.56	10.93	7.72
	CD (5%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.08	0.24	1.24

Continued...

Annexure III-2. … Contd.

Trait No. →			19			20			21			22			23			24			25			26			27			28		
Serial number	ICSB number	Trait	Stem thickness (mm) Postrainy			Juicy score Postrainy			Brix reading (%) Postrainy			Leaf length (cm) Postrainy			Leaf width (cm) Postrainy			Panicle length (cm) Postrainy			Panicle branch length (cm) Postrainy			Panicle compactness Postrainy			Panicle shape Postrainy			Panicle exertion (cm) Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	1	High Yield	15.5	12.8	14.2	1	2	2	4.8	6.3	5.6	65.3	51.0	58.2	7.3	6.7	7.0	23.9	19.1	21.5	7.8	5.9	6.8	7	6	7	3	3	3	5.0	8.4	6.7
2	4	High Yield	17.1	13.4	15.2	1	1	1	17.1	12.3	14.7	72.3	57.3	64.8	8.2	6.7	7.4	32.0	25.3	28.7	8.6	7.9	8.2	6	7	7	3	3	3	10.3	14.6	12.4
3	5	High Yield	16.5	17.1	16.8	1	1	1	14.7	12.7	13.7	73.7	62.3	68.0	7.3	6.7	7.0	31.6	26.0	28.8	8.1	7.1	7.6	7	7	7	3	3	3	6.9	10.8	8.9
4	6	High Yield	18.3	15.0	16.6	1	1	1	5.2	6.0	5.6	68.0	55.3	61.7	7.8	6.0	6.9	29.8	23.6	26.7	8.7	6.1	7.4	6	7	7	3	3	3	4.8	12.9	8.8
5	8	High Yield	17.4	14.2	15.8	1	1	1	5.8	7.0	6.4	59.0	51.7	55.3	8.5	6.7	7.6	25.3	21.6	23.5	6.6	5.7	6.1	7	7	7	3	3	3	5.6	13.8	9.7
6	9	High Yield	18.1	15.1	16.6	1	1	1	7.4	13.7	10.6	74.3	67.7	71.0	7.5	7.3	7.4	29.9	26.7	28.3	10.1	7.9	9.0	5	5	5	3	3	3	14.6	16.8	15.7
7	11	High Yield	15.1	14.1	14.6	1	1	1	5.7	8.3	7.0	66.3	57.0	61.7	6.3	5.7	6.0	27.8	22.9	25.3	6.7	5.3	6.0	7	7	7	3	3	3	8.2	16.8	12.5
8	12	High Yield	18.3	13.4	15.8	1	1	1	7.1	7.7	7.4	75.0	56.3	65.7	7.2	5.7	6.4	31.7	26.9	29.3	8.6	7.2	7.9	5	5	5	3	3	3	5.6	12.7	9.1
9	18	High Yield	16.4	14.9	15.7	2	1	2	6.2	6.7	6.5	71.3	54.7	63.0	7.8	6.0	6.9	28.2	22.5	25.3	8.2	6.7	7.4	7	7	7	3	3	3	11.0	15.7	13.3
10	26	High Yield	19.2	16.9	18.1	1	1	1	6.0	10.0	8.0	76.3	62.7	69.5	7.5	7.0	7.3	31.9	26.6	29.2	10.9	8.1	9.5	5	5	5	3	3	3	11.6	20.7	16.2
11	28	High Yield	21.2	18.3	19.7	1	1	1	5.6	6.3	6.0	70.3	63.0	66.7	8.5	7.7	8.1	30.1	28.0	29.1	8.6	7.0	7.8	6	5	5	3	3	3	4.2	10.3	7.3
12	32	High Yield	16.8	16.1	16.5	2	1	2	5.2	9.3	7.3	71.7	56.3	64.0	6.8	5.7	6.3	29.3	27.3	28.3	8.4	8.0	8.2	5	5	5	3	3	3	9.5	13.4	11.4
13	37	High Yield	18.3	16.6	17.4	2	1	1	5.3	5.7	5.5	75.0	55.0	65.0	7.5	6.3	6.9	30.8	27.6	29.2	9.9	9.0	9.4	6	6	6	3	3	3	8.5	13.8	11.1
14	38	High Yield	20.2	16.3	18.2	1	1	1	6.1	8.3	7.2	80.7	62.7	71.7	8.2	6.3	7.3	31.6	29.9	30.7	11.3	11.4	11.4	6	7	6	3	3	3	14.1	18.4	16.2
15	39	High Yield	17.9	13.8	15.8	1	1	1	5.6	6.3	5.9	75.7	60.0	67.8	7.3	6.0	6.7	32.1	27.8	29.9	10.3	8.4	9.4	5	7	6	3	3	3	13.2	20.4	16.8
16	40	High Yield	17.5	16.0	16.8	2	1	2	6.4	8.3	7.4	74.3	61.3	67.8	8.7	7.0	7.8	29.7	28.2	28.9	6.8	8.1	7.5	7	5	6	3	3	3	5.2	21.0	13.1
17	42	High Yield	21.1	14.6	17.8	1	1	1	6.1	10.7	8.4	68.3	56.3	62.3	7.7	6.3	7.0	38.6	32.0	35.3	10.1	9.9	10.0	6	7	7	3	3	3	7.3	12.5	9.9
18	44	High Yield	17.8	17.1	17.4	2	1	1	5.8	8.0	6.9	73.7	60.7	67.2	6.8	6.3	6.6	25.7	21.9	23.8	6.7	5.4	6.1	6	6	6	3	3	3	7.6	16.1	11.9
19	46	High Yield	18.3	17.2	17.8	2	2	2	5.8	7.3	6.6	68.7	59.3	64.0	7.5	6.7	7.1	23.7	18.2	20.9	7.0	5.1	6.1	7	7	7	3	3	3	4.9	13.8	9.4
20	48	High Yield	17.8	13.7	15.7	1	1	1	12.0	11.0	11.5	71.3	53.7	62.5	7.7	6.0	6.8	27.3	23.0	25.2	8.3	7.6	8.0	7	7	7	3	3	3	7.6	15.8	11.7
21	49	High Yield	16.7	14.5	15.6	1	1	1	6.9	6.3	6.6	77.7	62.7	70.2	8.8	7.0	7.9	28.6	25.9	27.2	8.4	8.1	8.3	6	5	6	3	3	3	3.0	11.6	7.3
22	50	High Yield	17.3	14.3	15.8	1	1	1	6.4	6.3	6.4	65.0	59.0	62.0	6.5	5.7	6.1	26.4	23.8	25.1	8.1	6.7	7.4	6	6	6	3	3	3	13.0	15.5	14.2
23	51	High Yield	15.1	13.6	14.4	2	1	2	6.4	7.3	6.9	73.0	53.3	63.2	7.5	6.0	6.8	28.1	24.2	26.2	11.1	9.4	10.3	3	4	3	3	3	3	20.5	23.1	21.8
24	53	High Yield	16.9	17.3	17.1	1	1	1	9.7	6.3	8.0	56.3	56.7	56.5	7.8	8.0	7.9	27.6	24.8	26.2	9.2	8.1	8.7	6	6	6	3	3	3	6.9	12.1	9.5
25	55	High Yield	15.1	13.0	14.0	2	1	1	10.2	6.0	8.1	70.3	57.3	63.8	7.7	6.7	7.2	25.3	21.4	23.4	4.8	5.1	4.9	7	7	7	3	3	3	4.9	12.1	8.5
26	56	High Yield	17.1	14.4	15.7	1	1	1	6.0	7.3	6.7	72.7	55.0	63.8	7.5	6.3	6.9	22.4	21.9	22.2	5.7	5.9	5.8	7	7	7	3	3	3	8.1	7.3	7.7
27	58	High Yield	15.1	13.1	14.1	1	2	1	5.9	7.3	6.6	72.7	53.7	63.2	6.7	5.3	6.0	21.6	19.8	20.7	6.9	6.7	6.8	6	6	6	3	3	3	11.8	21.2	16.5
28	70	High Yield	16.6	13.5	15.1	1	1	1	12.7	9.3	11.0	77.7	60.0	68.8	7.3	6.0	6.7	27.7	22.4	25.1	9.8	7.1	8.4	5	5	5	3	3	3	4.3	11.1	7.7
29	73	High Yield	19.1	16.0	17.6	2	1	1	6.8	8.0	7.4	69.7	59.3	64.5	8.2	6.7	7.4	19.7	19.6	19.6	4.9	5.4	5.2	9	8	9	3	3	3	6.8	14.3	10.6
30	75	High Yield	17.9	19.9	18.9	2	2	2	8.8	6.7	7.7	73.3	67.0	70.2	8.2	7.3	7.8	30.8	29.9	30.3	7.5	8.1	7.8	7	7	7	3	3	3	14.1	20.2	17.2
31	77	High Yield	17.6	14.3	15.9	1	1	1	12.5	7.3	9.9	65.0	54.3	59.7	7.8	6.3	7.1	26.9	23.8	25.3	7.2	6.8	7.0	7	6	7	3	3	3	16.2	27.7	21.9
32	81	High Yield	20.0	17.2	18.6	2	1	2	7.7	8.0	7.8	70.0	58.3	64.2	7.8	6.3	7.1	32.7	28.8	30.7	8.8	8.0	8.4	5	5	5	2	3	3	13.4	18.0	15.7
33	84	High Yield	16.4	12.8	14.6	2	1	1	7.3	9.3	8.3	78.7	62.3	70.5	8.0	7.3	7.7	31.2	24.1	27.7	10.8	9.0	9.9	6	6	6	3	3	3	11.9	20.7	16.3
34	85	High Yield	15.3	14.1	14.7	1	1	1	14.4	7.7	11.1	75.3	59.3	67.3	7.3	5.7	6.5	27.6	27.0	27.3	9.4	9.8	9.6	3	3	3	3	3	3	13.9	18.0	15.9
35	90	High Yield	19.3	16.0	17.6	1	1	1	9.3	7.7	8.5	65.3	54.7	60.0	7.3	6.3	6.8	26.7	24.4	25.6	7.6	8.0	7.8	7	7	7	3	3	3	8.0	17.1	12.6
36	93	High Yield	17.9	13.9	15.9	2	2	2	7.4	6.0	6.7	71.3	61.0	66.2	8.5	7.0	7.8	25.8	22.2	24.0	6.5	6.0	6.2	7	7	7	3	3	3	14.5	29.1	21.8

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Trait No. →			19			20			21			22			23			24			25			26			27			28		
Serial number	ICSB number	Trait	Stem thickness (mm)			Juicy score			Brix reading (%)			Leaf length (cm)			Leaf width (cm)			Panicle length (cm)			Panicle branch length (cm)			Panicle compactness			Panicle shape			Panicle exertion (cm)		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
37	95	High Yield	16.2	13.3	14.7	1	2	2	9.4	10.7	10.1	73.7	59.0	66.3	8.8	6.7	7.8	30.2	26.1	28.2	9.6	8.9	9.3	5	3	4	3	3	3	5.8	13.5	9.7
38	101	High Yield	18.8	18.4	18.6	2	1	1	6.7	8.7	7.7	75.3	66.7	71.0	8.7	8.3	8.5	31.0	25.3	28.2	10.8	9.7	10.2	5	5	5	3	3	3	8.2	15.3	11.8
39	102	High Yield	16.4	16.3	16.4	1	1	1	7.8	9.3	8.6	69.3	56.0	62.7	7.7	6.0	6.8	26.1	21.1	23.6	9.0	7.0	8.0	5	6	6	3	3	3	12.9	19.5	16.2
40	653	Durra	17.7	16.7	17.2	2	1	2	9.6	7.3	8.5	67.3	53.7	60.5	7.7	7.0	7.3	26.2	22.3	24.3	7.7	7.0	7.3	7	7	7	3	3	3	4.7	14.2	9.4
41	657	Durra	16.8	12.8	14.8	1	1	1	5.2	6.3	5.8	67.0	57.0	62.0	6.8	6.0	6.4	24.0	21.7	22.8	6.7	6.7	6.7	7	7	7	3	3	3	10.2	11.9	11.0
42	659	Durra	21.7	18.5	20.1	1	1	1	5.9	6.3	6.1	76.7	59.0	67.8	9.0	6.3	7.7	31.5	28.7	30.1	8.0	8.4	8.2	7	6	7	3	3	3	8.2	13.2	10.7
43	664	Durra	19.1	15.5	17.3	1	1	1	6.2	11.0	8.6	76.7	65.0	70.8	8.7	8.0	8.3	24.6	21.1	22.8	8.9	6.0	7.4	7	7	7	3	3	3	0.0	6.7	3.4
44	88001	High Yield	16.1	15.2	15.6	2	1	1	8.2	5.7	7.0	66.0	54.0	60.0	8.8	6.0	7.4	30.6	26.7	28.6	9.6	8.6	9.1	5	5	5	3	3	3	4.8	13.0	8.9
45	88007	High Yield	21.7	14.8	18.3	1	1	1	8.0	7.7	7.8	63.7	54.0	58.8	7.8	6.7	7.3	30.3	26.2	28.3	8.1	6.9	7.5	5	6	5	3	3	3	11.3	18.2	14.8
46	88010	High Yield	19.2	15.1	17.1	1	1	1	6.7	13.3	10.0	70.7	58.3	64.5	6.5	6.3	6.4	37.0	31.8	34.4	9.3	8.7	9.0	3	5	4	3	3	3	6.8	16.0	11.4
47	88013	High Yield	16.2	15.5	15.8	2	1	2	6.6	8.3	7.5	66.3	53.7	60.0	7.7	6.7	7.2	27.8	23.8	25.8	6.9	6.5	6.7	6	7	6	3	3	3	8.6	12.5	10.6
48	89002	High Yield	18.9	17.7	18.3	1	1	1	12.1	8.7	10.4	79.7	60.7	70.2	8.3	7.0	7.7	26.2	19.7	23.0	10.1	7.1	8.6	5	7	6	3	3	3	12.1	13.1	12.6
49	89003	High Yield	18.2	12.3	15.2	1	1	1	7.7	10.0	8.8	77.0	59.7	68.3	9.0	6.0	7.5	30.8	26.8	28.8	9.3	7.8	8.5	6	5	5	3	3	3	13.2	17.4	15.3
50	89004	High Yield	18.5	16.5	17.5	2	2	2	5.1	6.3	5.7	71.3	60.0	65.7	8.2	6.0	7.1	32.1	28.6	30.3	10.7	8.5	9.6	5	4	4	3	3	3	4.3	7.0	5.7
51	90001	High Yield	19.0	16.5	17.7	2	1	2	4.8	6.7	5.7	74.3	63.0	68.7	8.2	6.3	7.3	31.0	30.6	30.8	8.7	8.6	8.6	4	3	3	3	3	3	0.0	3.3	1.7
52	91001	High Yield	20.2	13.9	17.0	2	1	2	6.8	7.0	6.9	74.0	57.7	65.8	7.7	6.0	6.8	30.8	28.3	29.6	9.5	8.8	9.1	5	3	4	3	3	3	4.8	6.9	5.8
53	91002	High Yield	18.5	15.1	16.8	1	1	1	7.0	7.0	7.0	67.0	57.3	62.2	7.3	6.0	6.7	31.3	24.8	28.1	8.4	7.1	7.8	5	7	6	3	3	3	13.4	10.7	12.1
	Control																															
54	296 B	High Yield	18.7	18.3	18.5	2	1	2	7.0	8.0	7.5	73.0	58.7	65.8	8.2	7.0	7.6	27.4	26.1	26.8	7.2	7.4	7.3	7	7	7	3	3	3	0.0	0.6	0.3
	Mean		17.8	15.3	16.6	-	-	-	7.65	8.10	7.87	71.4	58.4	64.9	7.8	6.5	7.1	28.7	25.0	26.8	8.5	7.5	8.0	-	-	-	-	-	-	8.6	14.6	11.6
	SE±		1.08	1.09	0.77	-	-	-	0.83	1.06	0.67	2.89	2.21	1.82	0.51	0.36	0.31	0.69	0.83	0.54	0.57	0.50	0.38	-	-	-	-	-	-	1.13	1.43	0.91
	CV (%)		10.46	12.32	11.32	-	-	-	19.12	22.42	21.02	7.03	6.56	6.88	11.38	9.65	10.74	4.19	5.81	4.96	11.93	11.77	11.88	-	-	-	-	-	-	24.22	17.92	20.38
	CD (5%)		3.02	3.05	2.14	-	-	-	2.31	2.97	1.88	8.07	6.18	5.06	1.42	1.01	0.87	1.94	2.33	1.51	1.61	1.40	1.06	-	-	-	-	-	-	3.17	4.00	2.54

Continued...

Annexure III-2. … Contd.

Trait No. →			29			30			31			32			33			34			35			36			37			39		
			Glume coverage (%)			Shattering			Threshability			Grain form			Grain color			1000-grain mass (g)			Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm texture		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	1	High Yield	50	50	50	3	3	3	1	1	1	1	1	1	1	3	1-3	22.23	23.30	22.76	2	3	3	2	3	3	4	5	5	5	4	5
2	4	High Yield	33	42	38	3	3	3	1	1	1	1	1	1	1	3	1-3	25.08	25.47	25.27	3	3	3	3	3	3	5	5	5	4	4	4
3	5	High Yield	42	42	42	3	3	3	1	1	1	1	1	1	1	4	1-4	21.83	25.34	23.59	2	3	3	2	3	3	5	5	5	4	3	3
4	6	High Yield	50	42	46	3	3	3	1	1	1	1	1	1	4	3	3-4	28.95	35.50	32.23	3	3	3	3	3	3	7	5	6	6	5	5
5	8	High Yield	33	25	29	3	3	3	1	1	1	1	1	1	4	4	4	21.80	23.01	22.41	3	3	3	3	3	3	4	5	5	6	5	5
6	9	High Yield	42	33	38	3	3	3	1	1	1	1	1	1	1	3	1-3	29.34	31.21	30.28	3	3	3	3	3	3	5	5	5	4	3	3
7	11	High Yield	25	25	25	3	3	3	1	1	1	1	1	1	3	4	3-4	28.04	33.03	30.54	3	3	3	3	3	3	6	6	6	5	4	5
8	12	High Yield	58	50	54	3	3	3	1	1	1	1	1	1	1	3	1-3	24.82	24.43	24.63	3	3	3	3	3	3	6	5	5	3	3	3
9	18	High Yield	25	25	25	3	3	3	1	1	1	1	1	1	1	4	1-4	29.82	30.67	30.25	3	3	3	3	3	3	6	5	5	4	5	5
10	26	High Yield	50	33	42	3	3	3	1	1	1	1	1	1	3	4	3-4	23.27	25.65	24.46	3	3	3	3	3	3	5	5	5	6	4	5
11	28	High Yield	50	42	46	3	3	3	1	1	1	1	1	1	1	4	1-4	18.15	22.84	20.50	2	3	3	2	3	3	5	5	5	5	5	5
12	32	High Yield	25	42	33	3	3	3	1	1	1	1	1	1	4	4	4	25.90	31.00	28.45	3	3	3	3	3	3	5	5	5	5	5	5
13	37	High Yield	33	33	33	3	3	3	1	1	1	1	1	1	1	4	1-4	27.97	31.64	29.81	3	3	3	3	3	3	5	5	5	5	5	5
14	38	High Yield	50	33	42	3	3	3	1	1	1	1	1	1	1	3	1-3	24.10	26.74	25.42	3	3	3	3	3	3	5	5	5	4	4	4
15	39	High Yield	25	25	25	3	3	3	1	1	1	1	1	1	1	3	1-3	23.61	27.87	25.74	3	3	3	3	3	3	4	5	5	5	4	5
16	40	High Yield	50	25	38	3	3	3	1	1	1	1	1	1	1	4	1-4	24.92	32.04	28.48	3	3	3	3	3	3	4	5	5	5	4	5
17	42	High Yield	33	25	29	3	3	3	1	1	1	1	1	1	3	4	3-4	27.69	29.82	28.76	3	3	3	3	3	3	6	5	5	4	4	4
18	44	High Yield	25	25	25	3	3	3	1	1	1	1	1	1	1	3	1-3	22.90	25.72	24.31	2	3	3	2	3	3	5	5	5	4	3	4
19	46	High Yield	50	50	50	3	3	3	1	1	1	1	1	1	1	3	1-3	29.12	30.91	30.02	3	3	3	3	3	3	6	5	6	5	5	5
20	48	High Yield	42	33	38	3	3	3	1	1	1	1	1	1	4	4	4	25.70	27.49	26.60	3	3	3	3	3	3	4	5	4	4	4	4
21	49	High Yield	25	50	38	3	3	3	1	1	1	1	1	1	1	4	1-4	21.45	23.64	22.55	3	3	3	3	3	3	4	5	5	4	5	5
22	50	High Yield	25	33	29	3	3	3	1	1	1	1	1	1	1	3	1-3	22.53	24.96	23.75	3	3	3	3	3	3	5	5	5	6	4	5
23	51	High Yield	50	42	46	3	3	3	1	1	1	1	1	1	4	4	4	30.35	33.84	32.09	3	3	3	3	3	3	4	5	5	4	5	4
24	53	High Yield	50	50	50	3	3	3	1	1	1	1	1	1	4	4	4	27.28	26.36	26.82	3	3	3	3	3	3	4	5	4	4	5	5
25	55	High Yield	42	42	42	3	3	3	1	1	1	1	1	1	1	4	1-4	25.88	29.71	27.80	3	3	3	3	3	3	4	5	5	6	5	5
26	56	High Yield	50	33	42	3	3	3	1	1	1	1	1	1	4	4	4	24.65	24.17	24.41	3	3	3	3	3	3	6	5	5	4	4	4
27	58	High Yield	50	50	50	3	3	3	1	1	1	1	1	1	1	3	1-3	28.55	29.40	28.97	3	3	3	3	3	3	6	5	6	4	4	4
28	70	High Yield	50	58	54	3	3	3	1	1	1	1	1	1	1	4	1-4	36.29	41.96	39.13	3	3	3	3	3	3	5	5	5	6	5	6
29	73	High Yield	42	25	33	3	3	3	1	1	1	1	1	1	4	4	4	30.57	32.02	31.29	3	3	3	3	3	3	6	5	6	6	5	6
30	75	High Yield	33	25	29	3	3	3	1	1	1	1	1	1	4	4	4	36.18	37.04	36.61	3	3	3	3	3	3	7	6	6	6	5	5
31	77	High Yield	50	42	46	3	3	3	1	1	1	1	1	1	4	4	4	28.04	30.58	29.31	3	3	3	3	3	3	6	5	6	5	5	5
32	81	High Yield	50	50	50	3	3	3	1	1	1	1	1	1	4	4	4	25.80	27.08	26.44	3	3	3	3	3	3	5	5	5	4	5	4
33	84	High Yield	50	50	50	3	3	3	1	1	1	1	1	1	3	4	3-4	28.54	28.40	28.47	3	3	3	3	3	3	4	5	5	3	4	3
34	85	High Yield	33	33	33	3	3	3	1	1	1	1	1	1	4	4	4	29.16	31.98	30.57	3	3	3	3	3	3	8	6	7	5	5	5
35	90	High Yield	58	67	63	3	3	3	1	1	1	1	1	1	4	4	4	27.04	25.71	26.38	3	3	3	3	3	3	8	5	6	5	5	5
36	93	High Yield	50	50	50	3	3	3	1	1	1	1	1	1	4	4	4	27.01	31.98	29.50	3	3	3	3	3	3	7	5	6	5	5	5

Continued...

Trait No. →			29			30			31			32			33			34			35			36			37			39		
Serial number	ICSB number	Trait	Glume coverage (%)			Shattering			Threshability			Grain form			Grain color			1000-grain mass (g)			Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm texture		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
37	95	High Yield	42	33	38	3	3	3	1	1	1	1	1	1	4	4	4	31.90	34.02	32.96	3	3	3	3	3	3	9	7	8	4	4	4
38	101	High Yield	50	50	50	3	3	3	1	1	1	1	1	1	4	4	4	26.61	28.02	27.31	3	3	3	3	3	3	4	5	5	4	4	4
39	102	High Yield	58	50	54	3	3	3	1	1	1	1	1	1	4	4	4	28.72	28.79	28.76	3	3	3	3	3	3	7	5	6	5	5	5
40	653	Durra	33	42	38	3	3	3	1	1	1	1	1	1	1	4	1-4	28.95	30.68	29.82	3	3	3	3	3	3	6	5	6	4	4	4
41	657	Durra	33	33	33	3	3	3	1	1	1	1	1	1	3	4	3-4	23.46	25.66	24.56	3	3	3	3	3	3	5	5	5	4	5	4
42	659	Durra	33	33	33	3	3	3	1	1	1	1	1	1	1	4	1-4	23.24	23.74	23.49	3	3	3	3	3	3	5	5	5	4	4	4
43	664	Durra	42	25	33	3	3	3	1	1	1	1	1	1	3	4	3-4	29.48	30.92	30.20	3	3	3	3	3	3	7	5	6	6	5	5
44	88001	High Yield	42	50	46	3	3	3	1	1	1	1	1	1	4	4	4	22.58	25.94	24.26	3	3	3	3	3	3	6	5	5	5	5	5
45	88007	High Yield	42	25	33	3	3	3	1	1	1	1	1	1	1	4	1-4	23.95	24.37	24.16	2	3	3	2	3	3	4	5	5	4	3	3
46	88010	High Yield	33	25	29	3	3	3	1	1	1	1	1	1	1	3	1-3	25.45	30.83	28.14	3	3	3	3	3	3	6	5	5	6	4	5
47	88013	High Yield	33	25	29	3	3	3	1	1	1	1	1	1	3	4	3-4	26.41	28.17	27.29	3	3	3	3	3	3	4	5	4	4	4	4
48	89002	High Yield	33	42	38	3	3	3	1	1	1	1	1	1	4	3	3-4	23.52	25.28	24.40	3	3	3	3	3	3	3	4	4	4	5	5
49	89003	High Yield	50	33	42	3	3	3	1	1	1	1	1	1	1	3	1-3	28.09	29.55	28.82	3	3	3	3	3	3	5	5	5	4	4	4
50	89004	High Yield	42	42	42	3	3	3	1	1	1	1	1	1	1	4	1-4	21.30	25.34	23.32	2	3	3	2	3	3	4	5	5	4	4	4
51	90001	High Yield	50	50	50	3	3	3	1	1	1	1	1	1	1	4	1-4	21.28	24.95	23.11	2	3	3	2	3	3	6	5	5	4	4	4
52	91001	High Yield	25	33	29	3	3	3	1	1	1	1	1	1	3	4	3-4	25.44	26.40	25.92	3	3	3	3	3	3	4	5	5	6	3	4
53	91002	High Yield	42	25	33	3	3	3	1	1	1	1	1	1	1	5	1-5	24.02	33.89	28.96	3	3	3	3	3	3	5	5	5	4	5	4
	Control																															
54	296 B	High Yield	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	24.00	28.31	26.16	3	3	3	3	3	3	5	5	5	7	5	6
	Mean		41	38	39	-	-	-	-	-	-	-	-	-	-	-	-	26.17	28.66	27.41	-	-	-	-	-	-	-	-	-	-	-	-
	SE±		5.79	5.77	4.09	-	-	-	-	-	-	-	-	-	-	-	-	0.99	0.91	0.67	-	-	-	-	-	-	-	-	-	-	-	-
	CV (%)		24.21	25.99	25.07	-	-	-	-	-	-	-	-	-	-	-	-	6.52	5.50	6.00	-	-	-	-	-	-	-	-	-	-	-	-
	CD (5%)		16.20	16.13	11.38	-	-	-	-	-	-	-	-	-	-	-	-	2.78	2.56	1.88	-	-	-	-	-	-	-	-	-	-	-	-

Continued...

Annexure III-2. … Contd.

Trait No. →			40			41			42				43						44						45			46			47		
			Albumen color			Grain lustre			Days to emergence				Leaf glossy score						Seedling vigor score						Plant agronomic aspect score			Panicle yield (t ha^{-1})			Grain yield (t ha^{-1})		
			Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	1	High Yield	2	2	2	5	5	5	4	4	4	4	1.3	2.5	1.9	1.7	3.0	2.3	2.5	1.5	2.0	2.0	2.3	2.2	2.3	2.0	2.2	4.8	4.3	4.6	3.9	3.0	3.4
2	4	High Yield	2	2	2	5	5	5	4	4	5	5	1.8	2.5	2.1	1.7	3.3	2.5	1.3	1.3	1.3	2.0	1.7	1.8	2.3	1.7	2.0	4.3	3.2	3.7	3.2	2.2	2.7
3	5	High Yield	2	2	2	5	5	5	4	5	5	5	1.3	2.8	2.0	2.7	3.7	3.2	1.5	2.0	1.8	1.0	3.3	2.2	2.7	2.0	2.3	3.8	4.0	3.9	2.8	2.8	2.8
4	6	High Yield	2	2	2	6	5	5	4	5	5	5	2.3	3.0	2.6	2.7	4.0	3.3	1.0	1.0	1.0	1.7	1.0	1.3	1.3	1.7	1.5	5.9	4.7	5.3	4.5	3.2	3.8
5	8	High Yield	2	2	2	2	5	4	4	5	5	5	3.0	3.0	3.0	2.3	3.7	3.0	2.5	1.8	2.1	2.7	2.3	2.5	1.7	1.7	1.7	4.7	3.5	4.1	3.5	2.3	2.9
6	9	High Yield	2	2	2	5	5	5	4	5	5	5	2.5	3.0	2.8	1.3	3.7	2.5	1.0	1.5	1.3	1.0	2.3	1.7	1.3	2.3	1.8	5.2	3.6	4.4	3.8	2.1	2.9
7	11	High Yield	2	2	2	5	5	5	4	6	5	5	2.5	3.0	2.8	2.3	3.0	2.7	2.3	2.0	2.1	1.0	1.7	1.3	2.3	1.3	1.8	4.8	4.4	4.6	3.7	2.9	3.3
8	12	High Yield	2	2	2	5	5	5	4	5	4	5	1.0	2.5	1.8	1.0	2.3	1.7	1.0	2.0	1.5	1.3	3.0	2.2	1.7	2.0	1.8	5.3	4.2	4.8	4.4	3.0	3.7
9	18	High Yield	2	2	2	5	5	5	5	5	5	5	1.8	2.8	2.3	1.0	4.3	2.7	1.3	1.5	1.4	1.0	1.7	1.3	1.3	1.7	1.5	5.8	4.1	5.0	4.3	2.9	3.6
10	26	High Yield	2	2	2	5	5	5	4	5	5	5	2.3	2.8	2.5	3.0	4.0	3.5	1.3	1.5	1.4	1.7	1.7	1.7	1.7	2.0	1.8	4.6	3.7	4.1	3.7	2.4	3.0
11	28	High Yield	2	2	2	5	5	5	4	4	5	5	2.3	3.0	2.6	1.3	3.3	2.3	2.3	1.8	2.0	2.3	2.0	2.2	1.3	1.7	1.5	4.8	5.2	5.0	3.8	3.2	3.5
12	32	High Yield	2	2	2	6	7	6	4	4	5	5	1.8	2.5	2.1	2.3	4.0	3.2	1.3	1.5	1.4	1.0	1.7	1.3	1.3	2.0	1.7	4.8	3.9	4.4	3.8	2.3	3.0
13	37	High Yield	2	2	2	5	5	5	4	4	5	4	2.0	3.0	2.5	1.7	3.7	2.7	1.0	1.8	1.4	1.3	1.3	1.3	2.3	2.3	2.3	5.1	4.0	4.6	4.0	2.6	3.3
14	38	High Yield	2	2	2	5	5	5	4	5	4	5	2.5	2.5	2.5	2.3	3.3	2.8	2.5	1.5	2.0	1.7	2.3	2.0	1.0	1.3	1.2	5.2	4.9	5.0	4.1	2.8	3.5
15	39	High Yield	2	2	2	5	5	5	4	4	5	5	2.3	2.5	2.4	2.3	3.3	2.8	1.8	1.3	1.5	1.3	3.0	2.2	1.0	2.0	1.5	5.7	4.2	5.0	4.5	2.8	3.6
16	40	High Yield	2	2	2	5	5	5	4	5	5	5	2.5	2.8	2.6	1.7	4.0	2.8	1.8	2.0	1.9	1.3	4.0	2.7	1.7	1.3	1.5	5.1	5.6	5.4	4.0	3.6	3.8
17	42	High Yield	2	2	2	5	5	5	4	5	5	5	2.8	3.0	2.9	2.0	4.0	3.0	2.3	1.3	1.8	1.7	1.7	1.7	1.0	2.7	1.8	6.3	3.6	5.0	4.5	2.3	3.4
18	44	High Yield	2	2	2	5	5	5	4	5	5	5	1.8	3.0	2.4	1.7	3.3	2.5	3.0	2.0	2.5	1.7	3.0	2.3	1.3	2.0	1.7	5.1	4.1	4.6	4.2	3.0	3.6
19	46	High Yield	2	2	2	5	5	5	4	5	4	5	1.0	2.3	1.6	1.3	3.3	2.3	1.0	1.3	1.1	1.0	3.0	2.0	1.3	2.0	1.7	6.5	4.8	5.6	5.2	3.2	4.2
20	48	High Yield	2	2	2	5	5	5	4	5	5	5	2.3	3.0	2.6	3.7	3.3	3.5	1.5	1.5	1.5	2.7	2.0	2.3	1.7	2.3	2.0	6.3	3.0	4.7	3.6	1.9	2.8
21	49	High Yield	2	2	2	5	5	5	4	4	5	5	2.8	2.5	2.6	2.7	3.7	3.2	2.5	1.8	2.1	1.3	2.7	2.0	1.3	1.7	1.5	5.7	4.7	5.2	4.6	3.4	4.0
22	50	High Yield	2	2	2	5	5	5	3	5	5	5	2.0	2.0	2.0	2.0	3.3	2.7	1.3	1.5	1.4	1.3	1.7	1.5	2.0	2.3	2.2	4.3	4.0	4.1	3.3	2.8	3.0
23	51	High Yield	2	2	2	5	5	5	3	4	5	5	2.0	2.8	2.4	1.7	3.3	2.5	1.0	1.5	1.3	1.7	1.7	1.7	2.3	2.0	2.2	4.9	4.1	4.5	3.8	3.0	3.4
24	53	High Yield	2	2	2	5	5	5	3	4	5	5	2.8	2.5	2.6	2.3	3.7	3.0	2.3	1.3	1.8	1.7	1.7	1.7	1.0	1.3	1.2	5.4	4.4	4.9	4.3	2.9	3.6
25	55	High Yield	2	2	2	6	5	5	4	4	4	4	2.3	2.8	2.5	2.3	3.7	3.0	2.5	1.3	1.9	1.3	1.7	1.5	1.7	1.7	1.7	5.2	5.4	5.3	4.0	3.7	3.9
26	56	High Yield	2	2	2	6	5	6	3	4	4	4	1.0	2.8	1.9	2.0	3.0	2.5	1.0	1.5	1.3	1.3	2.3	1.8	1.0	1.7	1.3	5.7	4.2	4.9	4.1	2.7	3.4
27	58	High Yield	2	2	2	5	5	5	4	5	4	5	1.0	2.3	1.6	1.7	3.0	2.3	1.0	1.3	1.1	1.3	1.3	1.3	1.3	2.0	1.7	4.8	3.5	4.2	3.7	2.3	3.0
28	70	High Yield	2	2	2	6	6	6	4	5	5	5	2.0	3.3	2.6	2.3	3.3	2.8	2.5	2.5	2.5	1.3	2.7	2.0	1.0	1.3	1.2	6.0	4.8	5.4	4.2	2.7	3.5
29	73	High Yield	2	2	2	6	5	5	4	5	5	5	3.0	3.0	3.0	2.7	4.0	3.3	2.8	1.8	2.3	2.0	2.7	2.3	1.0	1.0	1.0	6.8	5.1	6.0	5.0	3.0	4.0
30	75	High Yield	2	2	2	6	7	7	4	5	5	5	2.5	2.8	2.6	2.0	3.7	2.8	3.3	2.5	2.9	1.0	2.3	1.7	1.3	1.7	1.5	5.1	4.2	4.7	3.5	2.7	3.1
31	77	High Yield	2	2	2	6	6	6	4	5	4	5	1.3	2.8	2.0	1.7	3.0	2.3	1.0	2.0	1.5	1.0	1.3	1.2	1.0	2.0	1.5	6.3	3.5	4.9	4.4	1.9	3.2
32	81	High Yield	2	2	2	5	5	5	4	5	5	5	2.8	3.0	2.9	3.0	3.7	3.3	2.5	1.8	2.1	1.0	1.7	1.3	1.0	1.3	1.2	5.7	4.9	5.3	4.2	2.9	3.5
33	84	High Yield	2	2	2	6	6	6	4	5	5	5	1.3	2.5	1.9	1.7	3.0	2.3	1.5	1.5	1.5	1.3	1.7	1.5	1.3	2.0	1.7	6.5	3.7	5.1	5.2	2.4	3.8
34	85	High Yield	2	2	2	5	4	4	4	4	5	5	2.3	2.8	2.5	1.3	4.3	2.8	1.5	2.5	2.0	1.3	3.0	2.2	1.3	1.3	1.3	5.5	4.4	4.9	4.3	2.8	3.6
35	90	High Yield	2	2	2	5	4	4	4	5	5	5	2.5	2.5	2.5	1.7	4.0	2.8	2.3	1.8	2.0	1.0	2.3	1.7	1.0	2.0	1.5	5.1	3.5	4.3	3.5	2.1	2.8
36	93	High Yield	2	2	2	2	5	4	4	5	4	5	2.5	2.8	2.6	2.7	3.7	3.2	1.5	2.3	1.9	1.0	1.3	1.2	1.0	1.3	1.2	6.8	5.1	6.0	5.2	2.9	4.1

Continued...

Trait No. →			40			41			42				43						44						45			46			47		
Serial number	ICSB number	Trait	Albumen color			Grain lustre			Days to emergence				Leaf glossy score						Seedling vigor score						Plant agronomic aspect score			Panicle yield (t ha^{-1})			Grain yield (t ha^{-1})		
			Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
37	95	High Yield	2	2	2	2	5	4	4	5	5	5	2.0	3.5	2.8	2.3	4.0	3.2	1.8	2.0	1.9	1.3	1.7	1.5	1.0	1.0	1.0	7.5	6.1	6.8	5.5	4.1	4.8
38	101	High Yield	2	2	2	5	5	5	4	4	5	5	1.5	2.5	2.0	1.7	3.0	2.3	1.5	1.8	1.6	1.3	3.0	2.2	1.0	1.0	1.0	5.8	5.9	5.8	4.6	4.0	4.3
39	102	High Yield	2	2	2	6	5	6	4	4	5	5	2.5	2.8	2.6	1.3	3.7	2.5	1.8	1.8	1.8	1.7	3.0	2.3	1.3	1.3	1.3	5.6	4.4	5.0	4.3	3.0	3.6
40	653	Durra	2	2	2	5	5	5	4	5	5	5	1.5	2.8	2.1	1.7	4.0	2.8	1.8	1.3	1.5	1.0	2.7	1.8	1.3	1.3	1.3	4.9	4.7	4.8	3.7	3.1	3.4
41	657	Durra	2	2	2	4	5	4	4	5	5	5	2.3	2.8	2.5	2.3	4.3	3.3	2.5	1.8	2.1	1.7	2.7	2.2	1.7	2.3	2.0	5.7	4.4	5.1	4.6	3.0	3.8
42	659	Durra	2	2	2	5	5	5	4	5	5	5	1.3	3.0	2.1	1.3	3.3	2.3	2.5	1.3	1.9	2.3	2.7	2.5	1.3	1.3	1.3	5.0	5.2	5.1	4.5	3.9	4.2
43	664	Durra	2	2	2	6	5	5	4	4	5	5	1.3	3.0	2.1	1.3	3.0	2.2	1.0	1.8	1.4	1.0	2.3	1.7	1.0	1.0	1.0	5.9	5.1	5.5	4.8	3.4	4.1
44	88001	High Yield	2	2	2	6	6	6	4	4	4	4	1.8	2.8	2.3	1.7	3.0	2.3	2.5	1.0	1.8	2.7	1.7	2.2	1.0	1.0	1.0	6.6	5.3	6.0	5.0	3.7	4.3
45	88007	High Yield	2	2	2	5	5	5	4	4	5	5	2.3	2.5	2.4	2.3	3.7	3.0	3.3	1.8	2.5	1.7	3.3	2.5	1.0	2.0	1.5	6.0	3.7	4.9	4.8	2.6	3.7
46	88010	High Yield	2	2	2	5	5	5	5	6	5	5	2.5	3.3	2.9	1.7	4.3	3.0	2.5	2.5	2.5	2.0	2.7	2.3	1.7	1.7	1.7	5.7	5.2	5.4	4.8	3.1	4.0
47	88013	High Yield	2	2	2	6	5	5	4	5	5	5	1.8	2.3	2.0	2.3	3.7	3.0	1.5	2.3	1.9	2.7	2.0	2.3	2.0	1.7	1.8	5.2	4.4	4.8	4.1	2.9	3.5
48	89002	High Yield	2	2	2	4	5	5	5	5	5	5	2.3	3.3	2.8	2.7	3.3	3.0	1.8	2.8	2.3	2.0	3.3	2.7	1.0	1.3	1.2	5.2	4.6	4.9	4.1	3.1	3.6
49	89003	High Yield	2	2	2	5	5	5	4	5	5	5	3.3	2.5	2.9	2.0	3.3	2.7	2.5	1.5	2.0	1.7	1.7	1.7	1.3	2.0	1.7	5.2	3.4	4.3	3.9	2.1	3.0
50	89004	High Yield	2	2	2	5	6	6	4	4	5	5	1.5	3.3	2.4	1.3	3.3	2.3	2.5	2.3	2.4	1.3	3.3	2.3	1.0	2.0	1.5	5.6	4.9	5.2	4.3	3.4	3.8
51	90001	High Yield	2	2	2	5	5	5	4	4	5	5	2.0	3.5	2.8	1.7	3.3	2.5	1.3	3.0	2.1	1.0	3.3	2.2	1.0	1.0	1.0	6.7	6.3	6.5	5.0	4.2	4.6
52	91001	High Yield	2	2	2	6	6	6	4	4	4	4	1.8	2.8	2.3	1.7	3.3	2.5	1.8	1.5	1.6	1.3	1.3	1.3	1.0	1.3	1.2	7.1	5.2	6.2	5.6	3.5	4.5
53	91002	High Yield	2	2	2	6	1	3	3	5	4	5	1.8	2.5	2.1	1.7	3.7	2.7	1.8	1.5	1.6	1.3	2.7	2.0	1.0	1.3	1.2	5.4	5.1	5.2	4.3	3.6	4.0
	Control																																
54	296 B	High Yield	2	2	2	1	1	1	5	5	5	5	2.8	3.0	2.9	1.7	4.0	2.8	3.3	2.5	2.9	2.0	3.0	2.5	2.0	2.0	2.0	6.1	4.3	5.2	4.2	2.3	3.3
	Mean		-	-	-	-	-	-	4	5	5	5	2.06	2.74	2.40	1.97	3.54	2.76	1.89	1.78	1.84	1.52	2.28	1.90	1.4	1.7	1.5	5.54	4.46	5.00	4.23	2.92	3.57
	SE±		-	-	-	-	-	-	0.24	0.38	0.25	0.23	0.31	0.31	0.32	0.31	0.27	0.20	0.25	0.26	0.26	0.26	0.29	0.19	0.25	0.25	0.17	0.41	0.44	0.30	0.31	0.35	0.24
	CV (%)		-	-	-	-	-	-	12.49	14.08	9.27	11.91	30.56	22.90	26.40	27.42	13.07	18.16	26.19	29.32	27.89	29.48	21.24	24.52	29.21	25.25	27.07	12.81	16.93	14.94	12.89	20.56	16.07
	CD (5%)		-	-	-	-	-	-	0.68	1.07	0.71	0.64	0.88	0.87	0.88	0.86	0.75	0.57	0.69	0.73	0.71	0.72	0.80	0.54	0.69	0.70	0.49	1.14	1.23	0.84	0.88	0.98	0.65

Continued...

Annexure III-2. … Contd.

Trait No. →			48	49	50	51	52
Serial number	ICSB number	Trait	Seed set % under high atmospheric temperature in A line Summer	Seed set % in A-line under open pollination Postrainy	Plant color Postrainy	Grain pericarp thickness Postrainy	Grain hardness in kg by Kiya's hardness tester Postrainy
1	1	High Yield	20	-	Tan	Thin	6.9
2	4	High Yield	0	-	Tan	Thick	10.6
3	5	High Yield	0	-	Tan	Thick	11.5
4	6	High Yield	0	-	Tan	Thin	7.3
5	8	High Yield	0	-	Tan	Thin	6.3
6	9	High Yield	0	-	Tan	Thin	5.7
7	11	High Yield	0	-	Tan	Thin	8.4
8	12	High Yield	0	-	Tan	Thick	9.8
9	18	High Yield	0	-	Tan	Thick	8.3
10	26	High Yield	0	-	Tan	Thin	7
11	28	High Yield	0	-	Tan	Thin	6.2
12	32	High Yield	0	-	Tan	Thin	8.6
13	37	High Yield	0	-	Tan	Thin	6.6
14	38	High Yield	0	-	Tan	Thin	7.8
15	39	High Yield	0	-	Tan	Thin	7.9
16	40	High Yield	5	-	Tan	Thin	8.1
17	42	High Yield	0	-	Tan	Thin	6.3
18	44	High Yield	0	-	Tan	Thick	10.4
19	46	High Yield	0	-	Tan	Thin	6.5
20	48	High Yield	0	-	Tan	Thin	7.3
21	49	High Yield	50	-	Tan	Thin	6.7
22	50	High Yield	40	-	Tan	Thin	6.6
23	51	High Yield	70	-	Tan	Thin	9.3
24	53	High Yield	0	-	Tan	Thin	5.9
25	55	High Yield	0	-	Tan	Thin	7
26	56	High Yield	0	-	Tan	Thin	7.9
27	58	High Yield	0	-	Tan	Thin	6.4
28	70	High Yield	0	-	Tan	Thin	8.8
29	73	High Yield	0	-	Tan	Thin	5.4
30	75	High Yield	0	-	Tan	Thin	4.9
31	77	High Yield	0	-	Tan	Thin	5.8
32	81	High Yield	0	-	Tan	Thin	5.8
33	84	High Yield	0	-	Tan	Thin	7.5
34	85	High Yield	0	-	Tan	Thin	7
35	90	High Yield	0	-	Tan	Thin	5.1
36	93	High Yield	0	-	Tan	Thin	7.5

Continued...

Trait No. →			48	49	50	51	52
Serial number	ICSB number	Trait	Seed set % under high atmospheric temperature in A line	Seed set % in A-line under open pollination	Plant color	Grain pericarp thickness	Grain hardness in kg by Kiya's hardness tester
			Summer	Postrainy	Postrainy	Postrainy	Postrainy
37	95	High Yield	0	-	Tan	Thin	7.8
38	101	High Yield	0	-	Tan	Thin	8.3
39	102	High Yield	0	-	Tan	Thin	7.9
40	653	Durra	0	-	Tan	-	-
41	657	Durra	0	50	Tan	-	-
42	659	Durra	0	35	Tan	-	-
43	664	Durra	35	35	Tan	-	-
44	88001	High Yield	20	-	Tan	Thin	7
45	88007	High Yield	0	-	Tan	Thick	7
46	88010	High Yield	0	-	Tan	Thick	5.2
47	88013	High Yield	0	-	Tan	Thin	6.4
48	89002	High Yield	0	-	Tan	Thin	7.4
49	89003	High Yield	0	-	Tan	Thin	8.5
50	89004	High Yield	0	-	Tan	Thin	8.4
51	90001	High Yield	0	-	Tan	Thin	7.1
52	91001	High Yield	5	-	-	-	-
53	91002	High Yield	0	-	-	-	-
	Control						
54	296 B	High Yield	-	30	Tan	-	-
	Mean		-	-	-	-	-
	SE±		-	-	-	-	-
	CV (%)		-	-	-	-	-
	CD (5%)		-	-	-	-	-

Continued...

Annexure III-3. Characteristics of disease resistant (early maturity) sorghum B-lines evaluated during the rainy and postrainy seasons, 2004 at ICRISAT-Patancheru.

Trait No. →			1				2	3						4						5			6			7			8			9		
			Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: Extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: yellow coloration of mid rib			Glume hair color		
			Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E1	E3	E4	Mean	E4	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	269	AN-R	1	1	1	1	1	2	2	2	2	2	2	72	60	69	61	75	68	1.0	0.9	1.0	1	1	1	2	2	2	1	1	1	1	1	1
2	339	RU-R	1	1	1	1	1	2	2	2	2	2	2	61	63	62	61	74	68	1.2	1.0	1.1	3	1	1-3	0	2	0-2	1	1	1	1	1	1
3	351	GM-R	2	1	2	1-2	1	3	3	3	3	3	3	61	60	61	61	73	67	1.3	1.1	1.2	7	7	7	0	0	0	1	1	1	1	1	1
4	362	GM-R	1	1	1	1	1	2	2	2	2	2	2	58	60	59	59	72	65	1.2	1.1	1.1	1	1	1	2	2	2	1	1	1	1	1	1
5	366	GM-R	1	1	1	1	1	2	2	2	2	2	2	58	60	59	58	65	62	1.2	1.0	1.1	1	1	1	2	2	2	1	1	1	1	1	1
6	369	GM-R	1	2	1	1-2	1	2	2	2	2	2	2	57	60	58	57	67	62	1.1	1.1	1.1	1	1	1	2	2	2	1	1	1	1	1	1
7	371	GM-R	1	2	2	1-2	1	2	2	2	2	2	2	57	60	58	59	66	63	1.2	1.2	1.2	1	1	1	2	2	2	1	1	1	1	1	1
8	391	GM-R	1	1	1	1	1	3	3	3	3	2	2-3	60	60	60	60	72	66	1.0	1.1	1.1	5	1	1-5	0	2	0-2	1	1	1	1	1	1
9	405	GM-R	1	1	1	1	1	2	2	2	2	2	2	61	61	61	60	72	66	0.8	0.9	0.9	1	1	1	2	2	2	1	1	1	1	1	1
	Control																																	
10	AKMS 14B		2	2	2	2	3	2	2	2	2	2	2	66	70	67	64	77	71	1.1	0.9	1.0	1	1	1	2	2	2	1	1	1	1	1	1
	Mean		-	-	-	-	-	-	-	-	-	-	-	60	62	61	60	71	66	1.1	1.0	1.1	-	-	-	-	-	-	-	-	-	-	-	-
	SE±		-	-	-	-	-	-	-	-	-	-	-	0.73	0.48	0.62	0.77	1.51	0.85	0.04	0.03	0.03	-	-	-	-	-	-	-	-	-	-	-	-
	CV (%)		-	-	-	-	-	-	-	-	-	-	-	2.43	1.54	2.03	2.23	3.69	3.18	5.71	4.61	5.26	-	-	-	-	-	-	-	-	-	-	-	-
	CD (5%)		-	-	-	-	-	-	-	-	-	-	-	2.34	1.66	2.01	2.24	4.38	2.41	0.12	0.09	0.07	-	-	-	-	-	-	-	-	-	-	-	-

AN- Anthracnose; RU- Rust; GM- Grain mold; R- Resistant

E1- Black Manmool (BM)15, Rainy; E2- Red Campus East (RCE) 3, Rainy; E3- Black Precision (BP) 14, Postrainy; E4- BP 3, Postrainy

Range of notes whereever given indicates that the lines showed variable expression

Zero in the trait no. 7 indicates absence of midrib green coloration due to midrib discoloration

Trait No 1-41 : Triats stipulated in the DUS-test guidelines (Trait no 38 was not recorded in the current trials)

Trait No. 42-48 : Ancillary traits recorded in the current trials

Trait No. 49-54 : Specific traits for which A-/B-lines were bred

Trait No. 55 : Monitored trait recorded in various trials conducted earlier at ICRISAT

Continued...

Annexure III-3. … Contd.

Trait No. →			10			11			12			13			14			15			16			17			18			19		
			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicellate flower			Length of anther			Dried anther color			Glume color			Plant height (m)			Stem thickness (mm)		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	269	AN-R	1	1	1	1	1	1	5	5	5	5	5	5	3	5	4	5	4	5	4	4	4	2	2	2	1.4	1.3	1.4	17.3	12.6	15.0
2	339	RU-R	1	1	1	1	1	1	5	5	5	5	5	5	4	5	4	6	6	6	4	4	4	2	2	2	1.7	1.4	1.6	15.3	13.4	14.3
3	351	GM-R	1	1	1	1	1	1	5	5	5	3	5	4	3	5	4	5	4	4	7	7	7	2	2	2	1.7	1.5	1.6	14.7	14.7	14.7
4	362	GM-R	1	1	1	1	1	1	1	1	1	5	5	4	3	5	4	5	5	5	4	4	4	4	4	4	1.5	1.5	1.5	15.0	11.4	13.2
5	366	GM-R	1	1	1	1	1	1	5	5	5	5	5	5	3	4	3	5	3	4	7	7	7	4	5	4-5	1.6	1.5	1.5	13.0	12.3	12.7
6	369	GM-R	1	1	1	1	1	1	7	7	7	5	5	4	3	4	3	6	5	6	7	7	7	7	8	7-8	1.5	1.5	1.5	17.3	11.2	14.3
7	371	GM-R	1	1	1	1	1	1	7	5	5-7	5	5	5	3	6	4	5	6	6	7	7	7	7	8	7-8	1.6	1.6	1.6	17.0	11.6	14.3
8	391	GM-R	1	1	1	1	1	1	5	5	5	5	5	5	4	5	4	5	5	5	7	7	7	2	2	2	1.4	1.5	1.5	20.7	14.7	17.7
9	405	GM-R	1	1	1	1	1	1	5	7	5-7	5	5	4	3	5	4	5	3	4	7	7	7	5	7	5-7	1.2	1.2	1.2	18.7	14.9	16.8
	Control																															
10	AKMS 14B		1	1	1	1	1	1	1	1	5	4	5	4	4	4	4	7	5	6	4	4	4	4	4	4	1.5	1.2	1.3	18.7	15.5	17.1
	Mean		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.62	1.53	1.58	16.8	13.2	15.0
	SE±		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.04	0.02	0.02	0.73	0.99	0.62
	CV (%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.50	2.58	3.73	7.66	12.91	10.12
	CD (5%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.12	0.07	0.07	2.11	2.88	1.75

Continued...

Annexure III-3. … Contd.

Trait No. →			20			21			22			23			24			25			26			27			28		
			Juicy score			Brix reading (%)			Leaf length (cm)			Leaf width (cm)			Panicle length (cm)			Panicle branch length (cm)			Panicle compactness			Panicle shape			Panicle exertion (cm)		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	269	AN-R	1	1	1	7.0	7.0	7.0	75.3	59.0	67.2	7.7	5.7	6.7	29.3	27.3	28.3	9.3	7.3	8.3	5	4	5	3	3	3	10.0	12.0	11.0
2	339	RU-R	1	1	1	6.3	6.7	6.5	73.7	58.3	66.0	7.7	5.7	6.7	27.0	24.0	25.5	8.0	7.0	7.5	4	5	5	3	3	3	21.3	20.3	20.8
3	351	GM-R	2	1	2	7.3	7.3	7.3	63.3	58.3	60.8	7.3	7.0	7.2	26.3	23.7	25.0	4.0	4.7	4.3	7	7	7	3	3	3	13.0	16.3	14.7
4	362	GM-R	1	2	1	7.3	8.7	8.0	63.7	56.3	60.0	6.8	6.0	6.4	25.3	20.7	23.0	9.3	7.3	8.3	6	5	6	3	3	3	13.3	18.0	15.7
5	366	GM-R	1	1	1	8.7	7.0	7.8	63.3	51.3	57.3	7.5	5.3	6.4	25.0	20.7	22.8	6.0	5.3	5.7	7	6	7	3	3	3	14.7	23.0	18.8
6	369	GM-R	1	1	1	6.3	7.0	6.7	66.7	55.3	61.0	8.0	6.0	7.0	29.0	24.0	26.5	6.7	5.3	6.0	7	7	7	3	3	3	9.0	21.0	15.0
7	371	GM-R	1	1	1	7.3	6.7	7.0	60.0	59.7	59.8	6.3	6.0	6.2	28.0	24.7	26.3	6.7	5.0	5.8	7	7	7	3	3	3	10.0	18.7	14.3
8	391	GM-R	1	1	1	8.0	7.3	7.7	75.0	53.7	64.3	8.3	6.0	7.2	28.3	20.0	24.2	8.0	5.3	6.7	6	5	6	3	3	3	8.3	20.3	14.3
9	405	GM-R	1	1	1	6.0	6.7	6.3	61.7	52.0	56.8	7.2	6.3	6.8	29.3	23.3	26.3	6.7	4.3	5.5	6	7	7	3	3	3	3.7	11.3	7.5
	Control																												
10	AKMS 14B		1	1	1	6.0	7.0	6.5	71.7	56.3	64.0	8.7	6.0	7.3	28.0	23.3	25.7	9.7	6.3	8.0	5	5	5	3	3	3	5.0	9.3	7.2
	Mean		-	-	-	7.0	7.1	7.1	67.4	56.0	61.7	7.6	6.0	6.8	27.6	23.2	25.4	7.4	5.8	6.6	-	-	-	-	-	-	10.8	17.0	13.9
	SE±		-	-	-	0.64	0.54	0.42	2.87	2.75	1.99	0.41	0.43	0.30	0.80	0.96	0.63	0.50	0.55	0.37	-	-	-	-	-	-	0.93	1.81	1.02
	CV (%)		-	-	-	16.02	12.02	13.96	7.26	8.37	7.77	9.41	12.52	10.80	5.16	7.12	6.10	11.14	15.03	12.89	-	-	-	-	-	-	14.60	17.46	17.17
	CD (5%)		-	-	-	1.86	1.56	1.19	8.31	7.96	5.63	1.18	1.25	0.84	2.32	2.79	1.78	1.45	1.58	1.05	-	-	-	-	-	-	2.71	5.23	2.88

Continued...

Annexure III-3. … Contd.

Trait No. →			29			30			31			32			33			34			35			36			37			39		
			Glume coverage (%)			Shattering			Threshability			Grain form			Grain color			1000-grain mass (g)			Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm texture		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	269	AN-R	25	33	29	3	3	3	1	1	1	1	1	1	3	4	3-4	30.05	30.00	30.03	3	3	3	3	3	3	6	5	5	4	5	5
2	339	RU-R	42	50	46	3	3	3	1	1	1	1	1	1	3	3	3	31.32	32.00	31.66	3	3	3	3	3	3	5	5	5	4	4	4
3	351	GM-R	33	42	38	3	3	3	1	1	1	1	1	1	7	7	7	21.62	27.00	24.31	3	3	3	3	3	3	5	4	5	5	5	5
4	362	GM-R	25	33	29	3	3	3	1	1	1	1	1	1	4	4	4	30.06	31.33	30.70	3	3	3	3	3	3	5	5	5	5	4	5
5	366	GM-R	33	33	33	3	3	3	1	1	1	1	1	1	5	5	5	27.15	31.33	29.24	3	3	3	3	3	3	5	5	5	6	5	5
6	369	GM-R	25	50	38	3	3	3	1	1	1	1	1	1	5	5	5	27.53	29.67	28.60	3	3	3	3	3	3	5	5	5	4	4	4
7	371	GM-R	25	42	33	3	3	3	1	1	1	1	1	1	5	5	5	28.27	30.33	29.30	3	3	3	3	3	3	5	5	5	6	5	5
8	391	GM-R	25	33	29	3	3	3	1	1	1	1	1	1	5	5	5	31.16	31.33	31.25	3	3	3	3	3	3	5	5	5	6	5	5
9	405	GM-R	25	25	25	3	3	3	1	1	1	1	1	1	5	5	5	28.64	32.00	30.32	3	3	3	3	3	3	6	5	5	6	5	5
	Control																															
10	AKMS 14B		25	25	25	3	3	3	1	1	1	1	1	1	3	3	3	31.50	33.00	32.25	3	3	3	3	3	3	5	5	5	4	4	4
	Mean		28	37	33	-	-	-	-	-	-	-	-	-	-	-	-	28.73	30.80	29.77	-	-	-	-	-	-	-	-	-	-	-	-
	SE±		4.34	6.22	3.79	-	-	-	-	-	-	-	-	-	-	-	-	1.08	0.85	0.69	-	-	-	-	-	-	-	-	-	-	-	-
	CV (%)		21.49	25.86	24.24	-	-	-	-	-	-	-	-	-	-	-	-	6.47	4.72	5.60	-	-	-	-	-	-	-	-	-	-	-	-
	CD (5%)		12.58	18.02	10.74	-	-	-	-	-	-	-	-	-	-	-	-	3.13	2.47	1.95	-	-	-	-	-	-	-	-	-	-	-	-

Continued...

Annexure III-3. … Contd.

Trait No. →			40			41			42				43						44						45			46		
			Albumen color			Grain lustre			Days to emergence				Leaf glossy score						Seedling vigor score						Plant agronomic aspect score			Panicle yield (t ha^{-1})		
			Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	269	AN-R	2	2	2	5.0	5.0	5.0	4	4	5	5	3.5	2.8	3.1	2.3	3.0	2.7	2.8	2.5	2.6	1.7	2.0	1.8	1.3	1.7	1.5	6.6	4.8	5.7
2	339	RU-R	2	2	2	5.0	5.0	5.0	4	4	5	5	3.3	3.0	3.1	1.7	3.0	2.3	1.8	1.5	1.6	2.0	1.0	1.5	2.0	1.3	1.7	5.5	3.8	4.6
3	351	GM-R	4	4	4	1.0	1.0	1.0	4	4	5	5	3.0	2.5	2.8	2.7	3.3	3.0	2.5	1.0	1.8	2.0	1.0	1.5	2.0	2.0	2.0	4.8	3.5	4.1
4	362	GM-R	2	2	2	5.0	5.0	5.0	4	5	5	5	3.5	2.8	3.1	2.7	3.0	2.8	2.5	1.0	1.8	1.3	1.0	1.2	2.3	2.0	2.2	3.8	3.7	3.8
5	366	GM-R	2	2	2	5.0	5.0	5.0	4	5	5	5	3.3	3.3	3.3	2.3	3.7	3.0	2.0	2.5	2.3	2.0	1.0	1.5	2.0	2.3	2.2	4.4	3.1	3.7
6	369	GM-R	2	2	2	5.0	3.7	4.3	4	5	5	5	3.3	2.8	3.0	3.3	3.3	3.3	2.3	1.5	1.9	3.0	1.7	2.3	2.0	2.0	2.0	5.3	3.2	4.2
7	371	GM-R	2	2	2	5.0	3.7	4.3	4	5	5	5	3.3	3.0	3.1	3.0	4.0	3.5	3.0	1.5	2.3	3.0	1.7	2.3	2.0	2.0	2.0	5.9	4.2	5.1
8	391	GM-R	2	2	2	5.0	5.0	5.0	4	5	5	5	3.3	3.0	3.1	3.3	3.0	3.2	3.0	2.0	2.5	3.0	2.7	2.8	1.7	1.7	1.7	5.9	3.8	4.9
9	405	GM-R	2	2	2	5.0	5.0	5.0	4	5	5	5	3.8	3.0	3.4	2.0	3.7	2.8	2.3	1.5	1.9	2.0	1.0	1.5	1.7	1.3	1.5	5.5	4.4	4.9
	Control																													
10	AKMS 14B		2	2	2	5.0	5.0	5.0	4	5	6	5	3.5	2.5	3.0	1.7	3.5	2.6	1.8	2.3	2.0	1.7	2.0	1.8	1.0	1.7	1.3	6.6	5.0	5.8
	Mean		-	-	-	-	-	-	4	5	5	5	3.3	2.8	3.0	2.5	3.3	2.9	2.3	1.8	2.0	2.2	1.5	1.8	1.8	1.8	1.8	5.4	4.0	4.7
	SE±		-	-	-	-	-	-	0.11	0.37	0.33	0.25	0.43	0.26	0.36	0.35	0.23	0.21	0.36	0.25	0.31	0.34	0.20	0.20	0.18	0.33	0.19	0.38	0.39	0.27
	CV (%)		-	-	-	-	-	-	5.71	13.34	11.01	12.16	26.53	18.69	24.09	24.55	12.11	17.83	31.70	27.24	30.68	27.29	22.68	26.26	15.34	29.66	23.32	12.56	17.37	14.62
	CD (5%)		-	-	-	-	-	-	0.32	1.08	0.95	0.70	1.23	0.74	1.02	1.01	0.68	0.60	1.03	0.70	0.88	0.98	0.57	0.56	0.52	0.97	0.54	1.11	1.14	0.78

Continued...

Annexure III-3. … Contd.

Trait No. →			47			48	49	50	51	52	53	54	55
			Grain yield (t ha^{-1})			Seed set % under high atmospheric temperature in A-line	Anthracnose score for leaf	Anthracnose score for panicle	Leaf blight score	Rust score	Panicle grain mold rating score	Threshed grain mold rating score	Seed set % in A-line under open pollination
			Postrainy			Summer	Rainy	Rainy	Postrainy	Postrainy	Rainy	Rainy	Postrainy
Serial number	ICSB number	Trait	E3	E4	Mean								
1	269	AN-R	5.4	3.8	4.6	0	3.6	7	-	-	-	-	50
2	339	RU-R	4.5	2.9	3.7	0	-	-	4.0	2.5	-	-	70
3	351	GM-R	3.8	2.8	3.3	0	-	-	-	-	4.7	3.2	70
4	362	GM-R	3.1	2.8	2.9	0	-	-	-	-	5.7	5.1	45
5	366	GM-R	3.6	2.4	3.0	0	-	-	-	-	6.3	5.2	45
6	369	GM-R	4.3	2.5	3.4	0	-	-	-	-	5.7	4.3	45
7	371	GM-R	4.8	3.3	4.0	0	-	-	-	-	5.8	4.6	65
8	391	GM-R	4.7	2.8	3.8	15	-	-	-	-	6.7	5.6	60
9	405	GM-R	4.2	3.3	3.8	0	-	-	-	-	6.5	5.8	20
	Control												
10	AKMS 14B		5.4	3.7	4.6	-	-	-	-	-	-	-	-
	Mean		4.4	3.0	3.7	-	-	-	-	-	-	-	-
	SE±		0.38	0.35	0.26	-	-	-	-	-	-	-	-
	CV (%)		15.98	20.55	17.89	-	-	-	-	-	-	-	-
	CD (5%)		1.11	1.01	0.73	-	-	-	-	-	-	-	-

Continued...

Annexure III-4. Characteristics of disease resistant (medium maturity) sorghum B-lines evaluated during the rainy and postrainy seasons, 2004 at ICRISAT-Patancheru.

Trait No. ⟶			1				2	3						4						5			6			7			8			9		
			Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: Extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: yellow coloration of mid rib			Glume hair color		
Serial	ICSB		Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
number	number	Trait	E1	E3	E4	Mean	E4	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	201	DM-R	1	1	1	1	1	2	2	2	2	2	2	-	69	69	62	80	71	1.1	0.7	0.9	1	1	1	2	2	2	1	1	1	1	1	1
2	205	DM-R	1	1	1	1	1	2	2	2	2	2	2	70	71	70	63	77	70	1.1	0.9	1.0	1	3	1-3	2	0	0-2	1	1	1	1	1	1
3	207	DM-R	1	1	1	1	1	2	2	2	2	2	2	70	66	68	70	83	76	1.0	0.9	0.9	1	1	1	2	2	2	1	1	1	1	1	1
4	213	DM-R	1	1	1	1	1	2	2	2	2	2	2	64	64	64	63	73	68	1.6	1.3	1.4	1	3	1-3	2	0	0-2	1	1	1	1	1	1
5	215	DM-R	1	1	1	1	1	2	2	2	2	2	2	64	63	63	63	78	71	1.4	1.5	1.5	1	3	1-3	2	0	0-2	1	1	1	1	1	1
6	264	AN-R	1	1	1	1	1	2	2	2	2	2	2	70	69	69	64	76	70	1.2	1.0	1.1	5	3	3-5	0	0	0	1	1	1	1	1	1
7	272	AN-R	1	1	2	1-2	1	2	2	2	2	2	2	65	70	68	63	78	70	1.1	0.9	1.0	5	5	5	0	0	0	1	1	1	1	1	1
8	274	AN-R	1	1	1	1	1	2	2	2	2	2	2	63	70	67	63	77	70	1.0	0.9	0.9	1	1	1	2	2	2	1	1	1	1	1	1
9	275	AN-R	1	1	1	1	1	2	2	2	2	2	2	69	68	69	65	77	71	1.3	1.1	1.2	3	3	3	0	0	0	1	1	1	1	1	1
10	276	AN-R	1	1	1	1	1	2	2	2	2	2	2	66	69	68	63	75	69	1.4	1.2	1.3	3	1	1-3	0	2	0-2	1	1	1	1	1	1
11	280	AN-R	1	1	1	1	1	2	2	2	2	2	2	62	62	62	61	71	66	0.9	0.8	0.9	1	3	1-3	2	0	0-2	1	1	1	1	1	1
12	293	AN-R	1	1	1	1	1	2	2	2	2	2	2	64	68	67	63	74	68	1.3	1.0	1.2	1	1	1	2	2	2	1	1	1	1	1	1
13	297	LB-R	1	1	1	1	1	2	2	2	2	2	2	65	70	69	65	75	70	1.2	1.1	1.1	3	1	1-3	0	2	0-2	1	1	1	1	1	1
14	300	LB-R	2	2	2	2	3	2	2	2	2	2	2	66	69	67	62	76	69	1.0	1.2	1.1	1	1	1	2	2	2	1	1	1	1	1	1
15	301	LB-R	2	2	2	2	3	2	2	2	2	2	2	67	67	67	63	76	69	0.9	0.9	0.9	1	1	1	2	2	2	1	1	1	1	1	1
16	303	LB-R	1	1	1	1	1	2	2	2	2	2	2	63	68	66	65	79	72	1.1	1.0	1.1	1	3	1-3	2	0	0-2	1	1	1	1	1	1
17	304	LB-R	1	1	1	1	1	1	2	1-2	2	2	2	69	69	69	66	79	73	1.2	1.0	1.1	1	1	1	2	2	2	1	1	1	1	1	1
18	305	LB-R	1	1	2	1-2	1	2	2	2	2	2	2	69	69	69	66	71	68	1.4	1.1	1.3	1	1	1	2	2	2	1	1	1	1	1	1
19	318	LB-R	1	1	1	1	1	1	1	1	2	2	2	66	70	68	66	77	71	1.5	1.4	1.4	1	1	1	2	2	2	1	1	1	1	1	1
20	323	LB-R	1	1	1	1	1	1	1	1	1	1	1	73	70	72	64	80	72	1.2	1.2	1.2	3	3	3	0	0	0	2	1	1-2	1	1	1
21	324	LB-R	1	1	1	1	1	2	2	2	2	2	2	65	68	66	65	79	72	1.6	1.1	1.3	1	1	1	2	2	2	1	1	1	1	1	1
22	327	LB-R	1	1	1	1	1	2	2	2	2	2	2	65	67	66	66	81	74	1.2	0.9	1.0	1	1	1	2	2	2	1	1	1	1	1	1
23	333	RU-R	1	1	1	1	1	2	2	2	2	2	2	66	67	67	64	79	71	1.1	0.9	1.0	5	5	5	0	0	0	1	1	1	1	1	1
24	334	RU-R	1	1	1	1	1	2	2	2	2	2	2	62	65	63	62	75	69	1.1	1.0	1.1	5	1	1-5	0	2	0-2	1	1	1	1	1	1
25	336	RU-R	1	1	1	1	1	2	2	2	2	2	2	64	67	66	66	78	72	1.4	1.0	1.2	1	5	1-5	2	0	0-2	1	1	1	1	1	1
26	338	RU-R	2	2	2	2	3	2	2	2	2	2	2	64	62	64	59	70	65	0.8	0.9	0.9	1	1	1	2	2	2	1	1	1	1	1	1
27	342	RU-R	1	1	1	1	1	2	2	2	2	2	2	66	65	66	61	74	68	1.3	1.1	1.2	1	1	1	2	2	2	1	1	1	1	1	1
28	343	RU-R	1	1	1	1	1	1	2	1-2	2	2	2	65	-	65	61	75	68	0.9	0.9	0.9	1	1	1	2	2	2	1	1	1	1	1	1
29	345	RU-R	1	2	1	1-2	1	2	2	2	2	2	2	65	68	67	61	75	68	1.0	0.8	0.9	1	1	1	2	2	2	1	1	1	1	1	1
30	350	RU-R	1	1	1	1	1	2	2	2	2	2	2	67	67	67	64	78	71	1.5	1.1	1.3	5	1	1-5	0	2	0-2	1	1	1	1	1	1
31	353	GM-R	1	1	1	1	1	2	2	2	2	2	2	59	60	60	59	72	65	1.3	1.2	1.3	1	1	1	2	2	2	1	1	1	1	1	1
32	355	GM-R	2	2	2	2	3	3	3	3	3	3	3	57	60	58	57	63	60	1.0	1.0	1.0	1	7	1-7	1	0	0-1	1	1	1	1	1	1

Continued...

Trait No. →			1				2	3						4						5			6			7			8			9		
Serial number	ICSB number	Trait	Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: Extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: yellow coloration of mid rib			Glume hair color		
			Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E1	E3	E4	Mean	E4	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
33	358	GM-R	1	1	1	1	1	2	2	2	2	2	2	61	61	61	58	71	64	1.2	1.0	1.1	1	1	1	2	2	2	1	1	1	1	1	1
34	374	GM-R	1	1	1	1	1	2	2	2	2	2	2	60	63	61	59	67	63	1.4	1.2	1.3	1	1	1	2	2	2	1	1	1	1	1	1
35	376	GM-R	1	2	2	1-2	1	2	2	2	2	2	2	59	60	60	60	76	68	1.5	1.3	1.4	1	1	1	2	2	2	1	1	1	1	1	1
36	381	GM-R	1	1	1	1	1	2	2	2	2	2	2	61	60	61	57	69	63	1.3	1.1	1.2	1	1	1	2	2	2	1	1	1	1	1	1
37	383	GM-R	2	2	2	2	3	2	2	2	2	2	2	67	70	68	61	72	66	1.5	1.2	1.3	1	1	1	2	2	2	1	1	1	1	1	1
38	384	GM-R	2	2	2	2	3	2	2	2	2	2	2	62	62	62	61	70	66	1.5	1.1	1.3	3	5	3-5	0	0	0	1	1	1	1	1	1
39	396	GM-R	1	1	1	1	1	2	2	2	2	2	2	59	60	59	56	69	63	0.9	1.2	1.1	3	1	1-3	0	2	0-2	1	1	1	1	1	1
40	401	GM-R	1	1	1	1	1	1	2	1-2	2	2	2	68	69	69	65	82	74	1.3	1.3	1.3	1	1	1	2	2	2	1	1	1	1	1	1
41	404	GM-R	1	1	2	1-2	1	2	2	2	2	2	2	63	61	62	58	68	63	1.1	1.1	1.1	1	1	1	2	2	2	1	1	1	1	1	1
42	406	GM-R	1	1	2	1-2	1	2	2	2	2	2	2	60	60	60	57	69	63	0.9	0.7	0.8	1	1	1	2	2	2	1	1	1	1	1	1
	Control																																	
43	296B	High yield	1	2	2	1-2	3	2	2	2	2	2	2	71	69	70	69	81	75	1.0	0.8	0.9	5	5	5	0	0	0	1	1	1	1	1	1
	Mean		-	-	-	-	-	2	2	2	-	-	-	64	66	65	62	75	69	1.19	1.04	1.11	-	-	-	-	-	-	-	-	-	-	-	-
	SE±		-	-	-	-	-	0.18	0.13	0.16	-	-	-	1.17	1.03	1.10	1.06	1.68	0.99	0.09	0.11	0.07	-	-	-	-	-	-	-	-	-	-	-	-
	CV (%)		-	-	-	-	-	18.87	12.64	15.91	-	-	-	3.66	3.13	3.39	2.96	3.89	3.53	12.89	18.05	15.43	-	-	-	-	-	-	-	-	-	-	-	-
	CD (5%)		-	-	-	-	-	0.50	0.36	0.44	-	-	-	3.81	3.21	3.48	2.98	4.71	2.75	0.26	0.32	0.20	-	-	-	-	-	-	-	-	-	-	-	-

AN- Anthracnose; RU- Rust; GM- Grain mold; R- Resistant

E1- Black Manmool (BM)15, Rainy; E2- Red Campus East (RCE) 3, Rainy; E3- Black Precision (BP) 14, Postrainy; E4- BP 3, Postrainy

Range of notes whereever given indicates that the lines showed variable expression

Zero in the trait no. 7 indicates absence of midrib green coloration due to midrib discoloration

Trait No. 1-41 : Triats stipulated in the DUS-test guidelines (Trait no 38 was not recorded in the current trials)

Trait No. 42-48 : Ancillary traits recorded in the current trials

Trait No. 49-55 : Specific traits for which A-/B-lines were bred

Trait No. 56 : Monitored traits recorded in various trials conducted earlier at ICRISAT

Continued...

Annexure III-4. … Contd.

Trait No. →			10			11			12			13			14			15			16			17			18			19		
Serial number	ICSB number	Trait	Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicellate flower			Length of anther			Dried anther color			Glume color			Plant height (m)			Stem thickness (mm)		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	201	DM-R	1	1	1	1	1	1	1	1	1	4	8	6	3	5	4	6	5	6	4	4	4	2	2	2	1.3	1.0	1.2	12.3	14.3	13.3
2	205	DM-R	1	1	1	1	1	1	1	1	1	5	6	5	3	4	4	5	4	5	4	4	4	2	6	2-6	1.5	1.3	1.4	14.7	15.0	14.8
3	207	DM-R	1	1	1	1	1	1	5	1	1-5	4	4	4	4	5	5	5	5	5	6	4	4-6	4	4	4	1.3	1.2	1.3	18.0	14.7	16.3
4	213	DM-R	1	1	1	1	1	1	5	5	5	4	4	4	5	6	5	6	7	7	4	4	4	2	2	2	2.0	1.7	1.8	15.3	14.8	15.1
5	215	DM-R	1	1	1	1	1	1	5	5	5	4	4	4	6	6	6	6	7	7	4	4	4	2	2	2	1.8	1.8	1.8	17.3	16.3	16.8
6	264	AN-R	1	1	1	1	1	1	5	5	5	3	3	3	4	5	5	6	5	5	4	4	4	2	2	2	1.7	1.5	1.6	13.3	13.3	13.3
7	272	AN-R	1	1	1	1	1	1	1	1	1	3	4	4	5	5	5	4	5	5	4	4	4	6	2	2-6	1.5	1.3	1.4	15.0	13.5	14.3
8	274	AN-R	1	1	1	1	1	1	1	1	1	4	3	3	3	4	3	7	5	6	4	4	4	2	6	2-6	1.5	1.4	1.5	16.7	16.1	16.4
9	275	AN-R	1	1	1	1	1	1	5	5	5	4	4	4	4	5	5	6	5	6	4	4	4	2	2	2	1.8	1.6	1.7	15.3	11.8	13.6
10	276	AN-R	1	1	1	1	1	1	1	1	1	4	4	4	5	5	5	6	5	5	6	4	4-6	2	2	2	1.9	1.7	1.8	15.7	13.3	14.5
11	280	AN-R	1	1	1	1	1	1	1	1	1	5	5	5	4	5	5	5	5	5	4	4	4	2	4	2-4	1.2	1.1	1.2	13.0	13.5	13.3
12	293	AN-R	1	1	1	1	1	1	5	5	5	3	3	3	4	5	4	5	5	5	4	4	4	2	2	2	1.9	1.6	1.7	13.3	13.8	13.6
13	297	LB-R	1	1	1	1	1	1	5	5	5	3	3	3	4	5	5	6	5	6	4	4	4	2	6	2-6	1.7	1.6	1.6	16.0	12.0	14.0
14	300	LB-R	1	1	1	1	1	1	1	1	1	3	4	3	4	5	4	6	5	5	4	4	4	2	4	2-4	1.5	1.7	1.6	16.0	12.4	14.2
15	301	LB-R	1	1	1	1	1	1	1	1	1	3	4	4	4	4	4	6	5	5	4	4	4	4	4	4	1.4	1.4	1.4	17.3	14.0	15.7
16	303	LB-R	1	1	1	1	1	1	1	1	1	4	5	5	3	5	4	6	6	6	6	4	4-6	4	4	4	1.5	1.4	1.4	18.7	12.4	15.5
17	304	LB-R	1	1	1	1	1	1	1	1	1	3	3	3	4	5	5	6	5	6	4	4	4	4	4	4	1.5	1.3	1.4	17.0	14.2	15.6
18	305	LB-R	1	1	1	1	1	1	1	1	1	3	4	3	4	6	5	6	6	6	6	4	4-6	4	4	4	1.7	1.5	1.6	19.7	14.3	17.0
19	318	LB-R	1	1	1	1	1	1	1	1	1	3	4	4	3	5	4	5	5	5	6	6	6	4	4	4	1.9	1.8	1.9	16.7	14.0	15.3
20	323	LB-R	1	1	1	1	1	1	5	1	1-5	5	4	5	4	4	4	6	4	5	6	6	6	6	6	6	1.6	1.6	1.6	16.3	13.6	15.0
21	324	LB-R	1	1	1	1	1	1	1	1	1	4	5	5	4	4	4	6	5	5	4	4	4	4	4	4	2.0	1.6	1.8	15.3	14.0	14.7
22	327	LB-R	1	1	1	1	1	1	5	5	5	3	3	3	6	6	6	5	5	5	4	4	4	4	4	4	1.6	1.3	1.4	14.7	16.8	15.7
23	333	RU-R	1	1	1	1	1	1	5	5	5	4	4	4	3	3	3	6	5	6	4	4	4	4	4	4	1.5	1.3	1.4	17.3	15.8	16.6
24	334	RU-R	1	1	1	1	1	1	1	5	1-5	4	5	4	3	4	3	6	5	5	7	4		4	4	4	1.6	1.3	1.5	14.3	15.1	14.7
25	336	RU-R	1	1	1	1	1	1	1	1	1	4	4	4	3	5	4	6	5	6	6	4	4-6	4	4	4	1.7	1.3	1.5	16.7	14.3	15.5
26	338	RU-R	1	1	1	1	1	1	1	5	1-5	5	5	5	3	5	4	3	5	4	4	4	4	2	4	2-4	1.2	1.2	1.2	16.0	14.3	15.1
27	342	RU-R	1	1	1	1	1	1	5	5	5	4	4	4	4	5	5	5	5	5	4	4	4	2	6	2-6	1.9	1.6	1.8	14.7	12.5	13.6
28	343	RU-R	1	1	1	1	1	1	5	1	1-5	5	9	7	6	7	6	6	6	6	7	7	7	4	4	4	1.1	1.1	1.1	16.7	12.5	14.6
29	345	RU-R	1	1	1	1	1	1	1	1	1	5	4	5	5	4	5	6	5	5	4	4	4	4	4	4	1.3	1.1	1.2	14.7	12.0	13.3
30	350	RU-R	1	1	1	1	1	1	1	1	1	5	4	5	3	3	3	6	5	5	6	4	4-6	2	4	2-4	1.9	1.6	1.8	14.7	13.5	14.1
31	353	GM-R	1	1	1	1	1	1	1	1	1	3	6	4	3	5	4	6	5	6	4	4	4	4	5	4-5	1.7	1.7	1.7	13.3	13.6	13.5
32	355	GM-R	1	1	1	1	1	1	5	7	5-7	4	4	4	3	5	4	5	5	5	7	7	7	1	7	1-7	1.4	1.4	1.4	17.0	12.2	14.6

Continued...

Trait No. →			10			11			12			13			14			15			16			17			18			19		
Serial number	ICSB number	Trait	Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicellate flower			Length of anther			Dried anther color			Glume color			Plant height (m)			Stem thickness (mm)		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
33	358	GM-R	1	1	1	1	1	1	1	1	1	3	3	3	3	7	5	7	5	6	4	4	4	4	4	4	1.6	1.5	1.5	14.7	13.1	13.9
34	374	GM-R	1	1	1	1	1	1	5	5	5	3	4	3	4	6	5	6	5	5	7	7	7	2	4	2-4	1.8	1.6	1.7	12.3	13.7	13.0
35	376	GM-R	1	1	1	1	1	1	5	5	5	4	6	5	4	5	4	6	5	5	7	4	4-7	8	7	7-8	1.8	1.7	1.8	14.0	13.8	13.9
36	381	GM-R	1	1	1	1	1	1	1	1	1	4	5	4	4	7	5	6	4	5	4	6	4-6	4	5	4-5	1.7	1.6	1.6	16.0	12.4	14.2
37	383	GM-R	1	1	1	1	1	1	5	5	5	4	3	3	4	6	5	7	5	6	7	7	7	4	5	4-5	1.9	1.6	1.7	16.7	13.1	14.9
38	384	GM-R	1	1	1	1	1	1	1	1	1	5	4	5	5	5	5	5	5	5	4	4	4	6	6	6	1.8	1.4	1.6	14.0	12.9	13.4
39	396	GM-R	1	1	1	1	1	1	5	5	5	4	4	4	3	4	4	6	5	5	7	7	7	3	3	3	1.3	1.6	1.5	14.3	11.2	12.8
40	401	GM-R	1	1	1	1	1	1	5	7	5-7	4	4	4	4	6	5	4	5	5	7	4	4-7	2	8	2-8	1.8	1.8	1.8	16.3	14.0	15.1
41	404	GM-R	1	1	1	1	1	1	5	5	5	5	4	4	4	6	5	7	5	6	7	7	7	2	2	2	1.5	1.5	1.5	17.7	14.0	15.8
42	406	GM-R	1	1	1	1	1	1	5	5	5	4	3	3	3	5	4	6	6	6	7	7	7	3	5	3-5	1.3	1.0	1.2	22.7	20.3	21.5
	Control																															
43	296B	High yield	9	1	5	1	1	1	1	1	1	9	8	8	3	5	4	5	5	5	4	4	4	2	2	2	1.2	1.1	1.2	17.3	15.4	16.4
	Mean		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.60	1.45	1.52	15.79	13.90	14.84
	SE±		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.10	0.11	0.07	1.16	0.81	0.71
	CV (%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.20	12.78	11.48	12.64	10.20	11.67
	CD (5%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.27	0.31	0.20	3.25	2.27	1.97

Continued...

Annexure III-4. … Contd.

Trait No. →			20			21			22			23			24			25			26			27			28		
Serial number	ICSB number	Trait	Juicy score			Brix reading (%)			Leaf length (cm)			Leaf width (cm)			Panicle length (cm)			Panicle branch length (cm)			Panicle compactness			Panicle shape			Panicle exertion (cm)		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	201	DM-R	2	1	2	5.7	7.3	6.5	62.3	54.3	58.3	7.5	6.3	6.9	20.3	17.7	19.0	4.0	3.7	3.8	7	7	7	3	3	3	3.0	5.7	4.3
2	205	DM-R	2	1	2	6.3	6.3	6.3	73.3	59.3	66.3	7.2	6.0	6.6	28.0	26.0	27.0	8.7	6.7	7.7	5	4	4	3	3	3	13.0	11.7	12.3
3	207	DM-R	1	2	1	5.3	6.0	5.7	68.7	50.0	59.3	9.0	6.0	7.5	26.7	21.0	23.8	7.7	5.3	6.5	7	6	7	3	3	3	5.7	9.7	7.7
4	213	DM-R	1	2	1	6.3	6.7	6.5	66.3	58.0	62.2	7.0	6.3	6.7	27.0	24.3	25.7	7.3	7.0	7.2	5	5	5	3	3	3	7.0	14.3	10.7
5	215	DM-R	1	1	1	6.0	7.7	6.8	67.0	54.7	60.8	8.0	7.3	7.7	28.3	22.3	25.3	7.7	6.0	6.8	4	5	5	3	3	3	6.0	10.0	8.0
6	264	AN-R	1	1	1	5.3	7.0	6.2	73.7	59.7	66.7	9.0	6.7	7.8	31.3	27.3	29.3	11.0	7.3	9.2	5	5	5	3	3	3	19.3	22.3	20.8
7	272	AN-R	1	1	1	5.7	8.3	7.0	80.0	58.0	69.0	6.7	5.0	5.8	29.7	25.0	27.3	7.0	6.3	6.7	5	5	5	3	3	3	4.7	8.0	6.3
8	274	AN-R	1	1	1	6.3	6.7	6.5	77.0	62.3	69.7	7.3	6.7	7.0	31.7	29.3	30.5	11.3	10.0	10.7	5	5	5	3	3	3	18.0	23.0	20.5
9	275	AN-R	1	2	2	5.3	6.7	6.0	77.7	57.3	67.5	8.3	6.3	7.3	31.3	28.3	29.8	11.0	8.3	9.7	5	5	5	3	3	3	19.0	22.3	20.7
10	276	AN-R	1	1	1	5.7	6.3	6.0	71.3	58.3	64.8	8.3	6.3	7.3	30.0	27.0	28.5	11.0	9.0	10.0	6	5	5	3	3	3	22.7	27.3	25.0
11	280	AN-R	1	1	1	5.3	8.3	6.8	73.0	57.3	65.2	8.2	6.0	7.1	23.0	19.0	21.0	5.3	4.7	5.0	7	7	7	3	3	3	10.3	9.7	10.0
12	293	AN-R	1	1	1	6.3	6.7	6.5	71.0	56.3	63.7	7.3	6.0	6.7	27.3	27.7	27.5	8.7	9.0	8.8	5	5	5	3	3	3	28.0	25.7	26.8
13	297	LB-R	1	1	1	6.0	6.7	6.3	79.0	61.3	70.2	9.0	7.0	8.0	30.3	28.0	29.2	10.0	9.0	9.5	5	5	5	3	3	3	17.7	23.7	20.7
14	300	LB-R	2	2	2	5.7	6.3	6.0	78.3	59.7	69.0	7.0	6.0	6.5	32.3	31.0	31.7	9.3	10.0	9.7	5	5	5	3	3	3	14.3	17.0	15.7
15	301	LB-R	1	1	1	6.3	7.0	6.7	76.0	62.0	69.0	6.7	6.3	6.5	34.0	30.7	32.3	10.3	9.7	10.0	5	5	5	3	3	3	16.3	23.0	19.7
16	303	LB-R	1	1	1	7.0	7.3	7.2	76.0	59.7	67.8	7.5	7.0	7.3	30.7	27.7	29.2	8.7	8.3	8.5	5	4	5	3	3	3	5.3	12.0	8.7
17	304	LB-R	1	2	1	6.7	6.7	6.7	77.3	60.0	68.7	7.7	6.7	7.2	32.3	25.7	29.0	9.0	6.3	7.7	5	5	5	3	3	3	0.0	8.3	4.2
18	305	LB-R	1	1	1	9.0	9.7	9.3	80.0	58.0	69.0	8.5	6.0	7.3	33.3	27.3	30.3	10.0	8.0	9.0	5	5	5	3	3	3	3.0	13.0	8.0
19	318	LB-R	1	1	1	7.0	7.0	7.0	77.7	58.7	68.2	8.3	6.7	7.5	26.3	24.0	25.2	7.0	6.3	6.7	6	6	6	3	3	3	19.3	24.7	22.0
20	323	LB-R	2	1	2	7.3	9.0	8.2	68.7	59.0	63.8	8.5	6.7	7.6	24.0	20.0	22.0	6.3	5.7	6.0	7	5	6	3	3	3	17.0	18.0	17.5
21	324	LB-R	1	2	2	7.0	7.0	7.0	65.3	53.3	59.3	7.0	6.0	6.5	28.7	24.7	26.7	8.3	6.3	7.3	5	5	5	3	3	3	18.0	23.0	20.5
22	327	LB-R	1	1	1	6.3	7.0	6.7	74.3	60.7	67.5	9.0	6.7	7.8	32.0	28.7	30.3	8.7	7.3	8.0	5	5	5	3	3	3	6.0	7.3	6.7
23	333	RU-R	1	2	1	5.7	6.7	6.2	70.7	56.0	63.3	8.5	6.0	7.3	26.7	24.0	25.3	8.7	6.3	7.5	6	6	6	3	3	3	14.0	16.3	15.2
24	334	RU-R	1	1	1	5.3	6.7	6.0	67.0	54.0	60.5	7.5	5.3	6.4	25.7	23.0	24.3	8.7	6.3	7.5	7	6	6	3	3	3	16.0	14.7	15.3
25	336	RU-R	1	1	1	7.3	7.0	7.2	73.3	57.7	65.5	7.3	6.7	7.0	31.0	25.0	28.0	10.7	5.3	8.0	6	6	6	3	3	3	0.0	10.0	5.0
26	338	RU-R	1	1	1	11.0	8.3	9.7	71.3	57.7	64.5	6.0	5.3	5.7	32.3	28.7	30.5	9.7	8.3	9.0	5	4	4	3	3	3	7.0	7.7	7.3
27	342	RU-R	1	2	2	6.3	6.3	6.3	75.3	59.0	67.2	7.3	6.0	6.7	31.3	27.0	29.2	10.0	8.3	9.2	5	6	5	3	3	3	22.7	24.3	23.5
28	343	RU-R	1	1	1	9.7	8.7	9.2	69.0	52.7	60.8	8.3	6.3	7.3	21.7	22.0	21.8	4.3	5.0	4.7	7	7	7	3	3	3	0.0	0.0	0.0
29	345	RU-R	1	1	1	7.3	8.3	7.8	73.7	59.0	66.3	8.0	7.0	7.5	26.3	19.7	23.0	6.3	4.7	5.5	7	6	7	3	3	3	4.7	9.0	6.8
30	350	RU-R	1	2	1	8.0	7.7	7.8	65.0	53.7	59.3	7.2	6.3	6.8	27.7	25.7	26.7	8.0	7.0	7.5	5	5	5	3	3	3	18.3	20.3	19.3
31	353	GM-R	1	1	1	7.0	7.0	7.0	78.7	56.3	67.5	8.2	5.7	6.9	30.3	25.7	28.0	8.0	6.3	7.2	6	7	6	3	3	3	8.3	20.3	14.3
32	355	GM-R	2	1	2	7.3	8.0	7.7	67.3	58.7	63.0	7.3	6.0	6.7	28.7	24.7	26.7	7.3	6.7	7.0	7	6	7	3	3	3	5.7	21.3	13.5

Continued...

Trait No. →			20			21			22			23			24			25			26			27			28		
			Juicy score			Brix reading (%)			Leaf length (cm)			Leaf width (cm)			Panicle length (cm)			Panicle branch length (cm)			Panicle compactness			Panicle shape			Panicle exertion (cm)		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
33	358	GM-R	1	1	1	11.3	8.0	9.7	65.3	54.0	59.7	7.0	5.7	6.3	30.3	26.0	28.2	9.3	8.0	8.7	5	5	5	3	3	3	8.3	17.7	13.0
34	374	GM-R	1	1	1	6.0	7.7	6.8	75.3	63.0	69.2	8.5	6.0	7.3	28.7	23.0	25.8	7.0	5.7	6.3	6	5	6	3	3	3	9.7	22.3	16.0
35	376	GM-R	1	2	1	6.0	6.0	6.0	60.0	55.7	57.8	7.0	6.7	6.8	27.3	22.3	24.8	7.3	5.0	6.2	7	7	7	3	3	3	8.7	17.0	12.8
36	381	GM-R	1	1	1	6.7	7.3	7.0	65.7	54.0	59.8	8.0	6.0	7.0	30.0	26.3	28.2	6.7	6.0	6.3	7	7	7	3	3	3	9.0	23.7	16.3
37	383	GM-R	1	2	2	5.7	6.0	5.8	66.0	56.7	61.3	8.0	6.7	7.3	27.3	23.3	25.3	6.3	5.0	5.7	7	7	7	3	3	3	11.3	18.7	15.0
38	384	GM-R	1	2	2	9.0	6.7	7.8	70.3	58.7	64.5	7.7	7.3	7.5	22.7	20.7	21.7	5.0	5.0	5.0	7	6	6	3	3	3	10.3	8.7	9.5
39	396	GM-R	1	1	1	9.7	7.0	8.3	67.0	50.0	58.5	6.8	5.7	6.3	27.7	24.7	26.2	7.3	6.0	6.7	6	6	6	3	3	3	11.7	17.7	14.7
40	401	GM-R	1	1	1	12.0	10.7	11.3	70.3	59.0	64.7	7.7	6.3	7.0	32.3	28.0	30.2	9.0	7.3	8.2	6	5	6	3	3	3	13.7	20.7	17.2
41	404	GM-R	1	2	2	7.0	7.0	7.0	78.3	63.7	71.0	6.8	6.7	6.8	27.3	22.0	24.7	8.0	4.7	6.3	7	7	7	3	3	3	7.7	12.7	10.2
42	406	GM-R	1	1	1	18.3	9.3	13.8	65.0	55.7	60.3	7.8	7.0	7.4	32.3	26.3	29.3	9.3	7.0	8.2	7	6	6	3	3	3	4.3	5.3	4.8
	Control																												
43	296B	High yield	2	1	2	6.7	9.3	8.0	76.3	56.0	66.2	8.2	6.3	7.3	26.3	27.0	26.7	6.3	6.0	6.2	7	7	7	3	3	3	0.0	3.3	1.7
	Mean		-	-	-	7.24	7.38	7.31	71.74	57.42	64.58	7.72	6.30	7.01	28.67	25.06	26.86	8.18	6.75	7.47	-	-	-	-	-	-	10.81	15.61	13.21
	SE±		-	-	-	0.81	0.97	0.63	2.90	2.46	1.90	0.51	0.43	0.33	1.00	1.00	0.71	0.75	0.50	0.45	-	-	-	-	-	-	1.14	1.58	0.98
	CV (%)		-	-	-	19.27	22.36	20.96	6.98	7.39	7.19	11.41	11.82	11.64	6.15	6.94	6.52	16.21	12.88	14.97	-	-	-	-	-	-	18.54	17.57	18.20
	CD (5%)		-	-	-	2.26	2.72	1.76	8.12	6.89	5.29	1.43	1.20	0.93	2.80	2.79	1.97	2.09	1.39	1.25	-	-	-	-	-	-	3.20	4.43	2.72

Continued...

Annexure III-4. … Contd.

Trait No. →			29			30			31			32			33			34			35			36			37		
Serial number	ICSB number	Trait	Glume coverage (%)			Shattering			Threshability			Grain form			Grain color			1000-grain mass (g)			Grain shape-dorsal view			Grain shape-profile view			Grain germ size		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	201	DM-R	25	42	33	3	3	3	1	1	1	1	1	1	4	4	4	26.37	25.00	25.69	3	3	3	3	3	3	5	4	5
2	205	DM-R	25	33	29	3	3	3	1	1	1	1	1	1	4	4	4	27.48	27.00	27.24	3	3	3	3	3	3	5	5	5
3	207	DM-R	42	33	38	3	3	3	5	1	1-5	1	1	1	3	3	3	20.90	24.67	22.78	3	3	3	3	3	3	5	5	5
4	213	DM-R	50	58	54	3	3	3	1	1	1	1	1	1	3	4	3-4	38.75	35.67	37.21	3	3	3	3	3	3	5	5	5
5	215	DM-R	42	50	46	3	3	3	1	1	1	1	1	1	3	4	3-4	41.09	40.33	40.71	3	3	3	3	3	3	5	5	5
6	264	AN-R	25	25	25	3	3	3	1	1	1	1	1	1	3	4	3-4	26.90	29.67	28.28	3	3	3	3	3	3	4	4	4
7	272	AN-R	25	25	25	3	3	3	1	1	1	1	1	1	4	3	3-4	31.21	29.33	30.27	3	3	3	3	3	3	5	5	5
8	274	AN-R	33	33	33	3	3	3	1	1	1	1	1	1	3	4	3-4	20.77	25.35	23.06	3	3	3	3	3	3	3	4	3
9	275	AN-R	42	33	38	3	3	3	1	1	1	1	1	1	3	3	3	24.96	28.67	26.81	3	3	3	3	3	3	4	4	4
10	276	AN-R	25	42	33	3	3	3	1	1	1	1	1	1	3	4	3-4	27.91	30.11	29.01	3	3	3	3	3	3	5	5	5
11	280	AN-R	25	33	29	3	3	3	1	1	1	1	1	1	3	3	3	24.36	24.67	24.51	3	3	3	3	3	3	5	5	5
12	293	AN-R	25	33	29	3	3	3	1	1	1	1	1	1	3	4	3-4	26.64	29.00	27.82	3	3	3	3	3	3	4	4	4
13	297	LB-R	33	25	29	3	3	3	1	1	1	1	1	1	3	3	3	28.25	29.33	28.79	3	3	3	3	3	3	4	4	4
14	300	LB-R	33	33	33	3	3	3	1	1	1	1	1	1	4	4	4	21.35	23.00	22.17	3	3	3	3	3	3	5	5	5
15	301	LB-R	25	25	25	3	3	3	1	1	1	1	1	1	3	4	3-4	23.11	24.67	23.89	3	3	3	3	3	3	5	5	5
16	303	LB-R	33	33	33	3	3	3	1	1	1	1	1	1	4	4	4	32.06	32.00	32.03	3	3	3	3	3	3	5	5	5
17	304	LB-R	25	33	29	3	3	3	1	1	1	1	1	1	4	4	4	29.46	27.92	28.69	3	3	3	3	3	3	5	5	5
18	305	LB-R	25	42	33	3	3	3	1	1	1	1	1	1	4	4	4	33.39	33.12	33.26	3	3	3	3	3	3	5	5	5
19	318	LB-R	25	33	29	3	3	3	1	1	1	1	1	1	4	3	3-4	37.01	36.00	36.51	3	3	3	3	3	3	5	5	5
20	323	LB-R	25	33	29	3	3	3	1	1	1	1	1	1	3	3	3	29.51	28.01	28.76	3	3	3	3	3	3	5	5	5
21	324	LB-R	42	25	33	3	3	3	1	1	1	1	1	1	3	4	3-4	26.05	25.33	25.69	3	3	3	3	3	3	4	3	3
22	327	LB-R	33	33	33	3	3	3	1	1	1	1	1	1	3	4	3-4	27.27	26.67	26.97	3	3	3	3	3	3	5	5	5
23	333	RU-R	25	25	25	3	3	3	1	1	1	1	1	1	3	3	3	26.05	25.33	25.69	3	3	3	3	3	3	6	5	5
24	334	RU-R	25	25	25	3	3	3	1	1	1	1	1	1	3	3	3	22.40	26.30	24.35	3	3	3	3	3	3	5	5	5
25	336	RU-R	33	25	29	3	3	3	1	1	1	1	1	1	4	4	4	30.52	29.33	29.93	3	3	3	3	3	3	5	5	5
26	338	RU-R	58	50	54	3	3	3	1	1	1	1	1	1	3	3	3	24.37	27.00	25.69	3	3	3	3	3	3	5	5	5
27	342	RU-R	25	33	29	3	3	3	1	1	1	1	1	1	3	4	3-4	26.26	28.00	27.13	3	3	3	3	3	3	4	4	4
28	343	RU-R	50	75	63	3	3	3	1	1	1	1	1	1	3	3	3	33.60	36.00	34.80	3	3	3	3	3	3	6	5	6
29	345	RU-R	25	33	29	3	3	3	1	1	1	1	1	1	3	4	3-4	24.06	26.31	25.18	3	3	3	3	3	3	5	5	5
30	350	RU-R	33	25	29	3	3	3	1	1	1	1	1	1	3	4	3-4	24.17	23.81	23.99	3	3	3	3	3	3	4	3	3
31	353	GM-R	42	42	42	3	3	3	1	1	1	1	1	1	3	3	3	22.72	26.33	24.53	3	3	3	3	3	3	5	5	5
32	355	GM-R	25	58	42	3	3	3	1	1	1	1	1	1	7	7	7	26.32	27.00	26.66	3	3	3	3	3	3	5	5	5

Continued...

Trait No. →			29			30			31			32			33			34			35			36			37		
Serial number	ICSB number	Trait	Glume coverage (%)			Shattering			Threshability			Grain form			Grain color			1000-grain mass (g)			Grain shape-dorsal view			Grain shape-profile view			Grain germ size		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
33	358	GM-R	50	50	50	3	3	3	1	1	1	1	1	1	3	3	3	31.65	28.23	29.94	3	3	3	3	3	3	5	5	5
34	374	GM-R	50	50	50	3	3	3	1	1	1	1	1	1	5	5	5	26.22	26.98	26.60	3	3	3	3	3	3	5	5	5
35	376	GM-R	50	33	42	3	3	3	1	1	1	1	1	1	5	5	5	31.38	31.33	31.36	3	3	3	3	3	3	6	5	5
36	381	GM-R	33	50	42	3	3	3	1	1	1	1	1	1	3	3	3	31.50	34.67	33.08	3	3	3	3	3	3	5	5	5
37	383	GM-R	50	50	50	3	3	3	1	1	1	1	1	1	7	7	7	30.38	26.67	28.53	3	3	3	3	3	3	6	5	5
38	384	GM-R	25	25	25	3	3	3	1	1	1	1	1	1	3	4	3-4	31.47	30.67	31.07	3	3	3	3	3	3	5	5	5
39	396	GM-R	58	42	50	3	3	3	1	1	1	1	1	1	5	5	5	22.55	23.67	23.11	3	3	3	3	3	3	5	5	5
40	401	GM-R	50	50	50	3	3	3	1	1	1	1	1	1	7	7	7	31.55	30.33	30.94	3	3	3	3	3	3	5	5	5
41	404	GM-R	50	50	50	3	3	3	1	1	1	1	1	1	5	5	5	28.74	26.67	27.71	3	3	3	3	3	3	5	4	5
42	406	GM-R	33	42	38	3	3	3	1	1	1	1	1	1	5	5	5	31.48	33.00	32.24	3	3	3	3	3	3	5	5	5
	Control																												
43	296B	High yield	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	24.97	28.67	26.82	3	3	3	3	3	3	6	5	5
	Mean		35	38	36	-	-	-	-	-	-	-	-	-	-	-	-	28.07	28.65	28.36	-	-	-	-	-	-	-	-	-
	SE±		6.38	6.49	4.55	-	-	-	-	-	-	-	-	-	-	-	-	0.93	0.85	0.63	-	-	-	-	-	-	-	-	-
	CV (%)		29.67	28.20	28.91	-	-	-	-	-	-	-	-	-	-	-	-	5.72	5.13	5.42	-	-	-	-	-	-	-	-	-
	CD (5%)		17.86	18.17	12.67	-	-	-	-	-	-	-	-	-	-	-	-	2.60	2.39	1.76	-	-	-	-	-	-	-	-	-

Continued...

Annexure III-4. … Contd.

Trait No. →			39			40			41			42				43						44						
			Endosperm texture			Albumen color			Grain lustre			Days to emergence				Leaf glossy score						Seedling vigor score						Plant a
			Postrainy			Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3
1	201	DM-R	4	4	4	2	2	2	3.7	3.7	3.7	3	5	4	5	2.3	2.8	2.5	1.7	3.0	2.3	1.0	1.5	1.3	1.3	1.7	1.5	2.0
2	205	DM-R	5	5	5	2	2	2	5.0	5.0	5.0	3	5	6	5	2.8	2.8	2.8	2.3	3.7	3.0	1.8	1.3	1.5	1.0	1.3	1.2	2.0
3	207	DM-R	4	5	5	2	2	2	5.0	5.0	5.0	4	5	5	5	2.8	2.8	2.8	2.3	3.7	3.0	2.0	1.5	1.8	2.0	1.7	1.8	2.0
4	213	DM-R	4	4	4	2	2	2	5.0	6.3	5.7	4	5	5	5	2.0	3.0	2.5	2.0	3.3	2.7	1.5	1.5	1.5	1.7	1.3	1.5	1.7
5	215	DM-R	5	5	5	2	2	2	3.7	5.7	4.7	4	5	5	5	2.5	2.5	2.5	2.0	3.7	2.8	1.5	1.8	1.6	1.3	1.7	1.5	1.7
6	264	AN-R	4	4	4	2	2	2	5.0	5.0	5.0	4	5	5	5	2.0	2.5	2.3	2.0	2.3	2.2	2.3	1.8	2.0	1.0	1.7	1.3	1.0
7	272	AN-R	5	4	5	2	2	2	5.0	5.0	5.0	5	5	6	6	3.5	2.8	3.1	2.0	2.7	2.3	4.0	3.3	3.6	1.7	3.3	2.5	1.7
8	274	AN-R	5	4	4	2	2	2	5.0	5.0	5.0	4	5	6	6	2.0	2.3	2.1	1.7	2.3	2.0	2.3	2.0	2.1	2.0	3.0	2.5	1.3
9	275	AN-R	5	4	4	2	2	2	5.0	5.0	5.0	4	5	5	5	2.3	2.8	2.5	1.7	2.3	2.0	1.8	1.8	1.8	1.7	1.3	1.5	1.7
10	276	AN-R	4	4	4	2	2	2	5.0	5.0	5.0	4	5	6	5	2.0	2.3	2.1	2.0	2.3	2.2	2.3	1.0	1.6	1.0	1.7	1.3	2.0
11	280	AN-R	6	4	5	2	2	2	5.0	5.0	5.0	3	5	5	5	2.5	3.0	2.8	2.0	2.3	2.2	1.5	1.3	1.4	2.0	1.3	1.7	1.3
12	293	AN-R	4	4	4	2	2	2	5.0	5.7	5.3	4	5	5	5	2.5	3.3	2.9	1.7	2.3	2.0	3.0	2.3	2.6	1.3	1.3	1.3	2.0
13	297	LB-R	5	5	5	2	2	2	5.0	5.0	5.0	4	5	5	5	2.5	3.0	2.8	2.0	2.3	2.2	1.8	1.3	1.5	1.3	1.3	1.3	1.3
14	300	LB-R	4	4	4	2	2	2	5.0	6.3	5.7	4	5	5	5	3.0	3.3	3.1	2.3	3.3	2.8	1.8	2.0	1.9	1.7	1.7	1.7	1.7
15	301	LB-R	4	4	4	2	2	2	5.7	7.0	6.3	4	5	6	6	2.8	2.8	2.8	2.0	2.3	2.2	1.5	1.8	1.6	1.7	1.0	1.3	1.7
16	303	LB-R	5	5	5	2	2	2	5.0	5.7	5.3	4	5	5	5	2.5	2.5	2.5	2.0	3.3	2.7	2.3	1.5	1.9	1.3	3.0	2.2	1.0
17	304	LB-R	5	4	5	2	2	2	6.3	5.7	6.0	4	5	5	5	2.8	2.8	2.8	2.0	3.0	2.5	2.3	1.3	1.8	1.3	1.0	1.2	1.3
18	305	LB-R	5	5	5	2	2	2	7.0	7.0	7.0	4	5	6	5	2.5	2.8	2.6	2.3	3.3	2.8	1.8	1.5	1.6	1.3	1.0	1.2	1.0
19	318	LB-R	6	5	6	2	2	2	5.0	5.0	5.0	4	5	5	5	2.5	3.0	2.8	2.0	3.0	2.5	3.3	2.3	2.8	1.3	1.7	1.5	2.0
20	323	LB-R	4	5	5	2	2	2	5.0	5.0	5.0	4	5	5	5	2.8	2.8	2.8	2.0	3.7	2.8	2.3	1.5	1.9	2.0	1.3	1.7	1.0
21	324	LB-R	3	3	3	2	2	2	5.0	6.3	5.7	3	5	5	5	2.0	3.3	2.6	2.0	3.0	2.5	1.0	1.5	1.3	1.3	1.0	1.2	1.7
22	327	LB-R	5	5	5	2	2	2	5.0	5.7	5.3	6	7	6	7	3.3	3.5	3.4	3.3	4.0	3.7	4.3	2.8	3.5	3.0	3.7	3.3	1.3
23	333	RU-R	4	4	4	2	2	2	5.0	5.0	5.0	6	6	7	6	3.3	3.0	3.1	2.7	3.7	3.2	3.8	3.0	3.4	2.7	3.3	3.0	2.0
24	334	RU-R	4	4	4	2	2	2	5.0	5.0	5.0	4	5	4	5	2.8	3.0	2.9	2.0	3.3	2.7	2.3	1.5	1.9	2.3	1.7	2.0	2.0
25	336	RU-R	5	5	5	2	2	2	5.0	5.0	5.0	4	5	5	5	2.5	3.0	2.8	2.0	3.3	2.7	1.5	2.0	1.8	1.3	1.7	1.5	1.0
26	338	RU-R	5	5	5	2	2	2	5.0	5.0	5.0	4	6	6	6	3.8	3.0	3.4	3.0	4.7	3.8	3.0	2.3	2.6	1.7	2.3	2.0	3.7
27	342	RU-R	3	4	3	2	2	2	5.7	5.0	5.3	4	5	5	5	2.3	3.0	2.6	1.7	2.0	1.8	2.3	1.5	1.9	1.7	1.0	1.3	2.0
28	343	RU-R	5	4	5	2	2	2	3.7	5.0	4.3	3	5	5	5	2.3	2.8	2.5	1.7	2.3	2.0	2.5	1.3	1.9	1.0	2.3	1.7	2.7
29	345	RU-R	6	5	5	2	2	2	5.0	5.0	5.0	3	5	5	5	2.0	2.8	2.4	1.7	2.7	2.2	1.0	1.5	1.3	1.7	1.3	1.5	1.3
30	350	RU-R	4	4	4	2	2	2	5.0	5.7	5.3	3	5	5	5	2.3	2.8	2.5	2.3	2.7	2.5	1.0	1.3	1.1	1.3	1.0	1.2	1.7
31	353	GM-R	4	4	4	2	2	2	5.0	5.0	5.0	4	5	5	5	2.8	3.0	2.9	2.7	3.3	3.0	2.5	1.5	2.0	1.7	1.3	1.5	2.0
32	355	GM-R	8	7	7	2	4	2-4	1.0	1.0	1.0	4	6	5	6	2.8	3.0	2.9	3.0	4.3	3.7	2.5	1.5	2.0	2.3	1.0	1.7	2.0

Continued...

Trait No. →			39			40			41			42				43						44						
			Endosperm texture			Albumen color			Grain lustre			Days to emergence				Leaf glossy score						Seedling vigor score						Plant a
			Postrainy			Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3
33	358	GM-R	4	4	4	2	2	2	5.0	5.0	5.0	4	5	5	5	2.5	2.8	2.6	3.0	3.0	3.0	1.5	1.0	1.3	1.7	1.0	1.3	2.0
34	374	GM-R	4	5	5	2	2	2	3.7	5.0	4.3	3	5	5	5	3.0	2.8	2.9	2.3	3.0	2.7	1.3	1.0	1.1	1.0	1.0	1.0	1.3
35	376	GM-R	5	5	5	2	2	2	3.7	5.0	4.3	3	5	5	5	3.0	2.8	2.9	2.0	3.0	2.5	1.3	1.0	1.1	1.3	1.0	1.2	1.7
36	381	GM-R	4	5	5	2	2	2	5.0	5.0	5.0	4	5	6	6	2.8	3.5	3.1	2.7	4.0	3.3	2.5	1.8	2.1	1.3	1.7	1.5	2.0
37	383	GM-R	8	7	8	2	4	2-4	1.0	1.0	1.0	4	5	5	5	2.5	3.0	2.8	2.7	3.0	2.8	2.3	1.5	1.9	1.0	1.0	1.0	1.3
38	384	GM-R	5	5	5	2	2	2	5.0	5.7	5.3	4	5	5	5	2.5	3.0	2.8	2.0	2.7	2.3	2.0	1.5	1.8	1.0	1.7	1.3	1.0
39	396	GM-R	5	6	5	2	2	2	2.3	5.0	3.7	3	5	5	5	3.3	2.8	3.0	2.7	3.7	3.2	1.3	1.0	1.1	1.7	1.0	1.3	2.0
40	401	GM-R	6	6	6	4	4	4	1.0	1.0	1.0	4	5	5	5	2.8	2.8	2.8	2.0	3.7	2.8	3.5	1.8	2.6	1.3	1.7	1.5	2.3
41	404	GM-R	5	5	5	2	2	2	3.7	5.0	4.3	4	6	6	6	2.3	3.0	2.6	2.3	3.7	3.0	2.8	2.0	2.4	1.0	1.7	1.3	1.7
42	406	GM-R	4	4	4	2	2	2	5.0	5.0	5.0	5	6	6	6	3.5	3.0	3.3	2.0	4.7	3.3	3.3	2.5	2.9	1.3	2.7	2.0	3.0
	Control																											
43	296B	High yield	7	5	6	2	2	2	1.0	1.0	1.0	4	6	5	6	3.0	3.3	3.1	2.7	3.0	2.8	3.5	2.5	3.0	1.7	1.7	1.7	2.0
	Mean		-	-	-	-	-	-	-	-	-	4	5	5	5	2.64	2.92	2.78	2.19	3.14	2.67	2.28	1.75	2.02	1.54	1.65	1.60	1.74
	SE±		-	-	-	-	-	-	-	-	-	0.21	0.24	0.29	0.19	0.29	0.28	0.31	0.27	0.30	0.20	0.32	0.25	0.29	0.28	0.28	0.20	0.21
	CV (%)		-	-	-	-	-	-	-	-	-	10.71	7.95	9.50	8.78	22.20	19.37	22.32	20.33	16.45	18.08	27.76	28.79	28.66	29.97	25.91	27.79	19.92
	CD (5%)		-	-	-	-	-	-	-	-	-	0.58	0.68	0.82	0.53	0.82	0.80	0.87	0.75	0.85	0.56	0.89	0.70	0.80	0.78	0.77	0.54	0.60

Continued...

Annexure III-4. … Contd.

Trait No. →			45		46			47			48	49	50	51	52	53	54	55	56
Serial number	ICSB number	Trait	gronomic aspect score		Panicle yield (t ha^{-1})			Grain yield (t ha^{-1})			Seed set % under high atmospheric temperature in A-line	Downy mildew infected plants%	Anthracnose score for leaf	Anthracnose score for panicle	Leaf blight score	Rust score	Panicle grain mold rating score	Threshed grain mold rating score	Seed set % in A-line under open pollination
			Postrainy		Postrainy			Postrainy			Summer	Rainy	Rainy	Rainy	Postrainy	Postrainy	Rainy	Rainy	Postrainy
			E4	Mean	E3	E4	Mean	E3	E4	Mean									
1	201	DM-R	2.0	2.0	5.3	3.4	4.4	4.3	2.5	3.4	15	0	-	-	-	-	-	-	30
2	205	DM-R	2.0	2.0	5.9	4.6	5.3	4.8	3.6	4.2	90	0	-	-	-	-	-	-	35
3	207	DM-R	1.3	1.7	5.6	4.6	5.1	4.1	3.5	3.8	10	0	-	-	-	-	-	-	20
4	213	DM-R	1.0	1.3	6.7	5.6	6.1	4.7	4.1	4.4	0	2	-	-	-	-	-	-	50
5	215	DM-R	1.0	1.3	7.2	6.4	6.8	5.4	4.5	5.0	0	0	-	-	-	-	-	-	15
6	264	AN-R	1.0	1.0	5.4	4.3	4.9	4.6	2.9	3.7	10	-	2.6	4	-	-	-	-	40
7	272	AN-R	2.0	1.8	5.1	3.4	4.3	3.9	2.4	3.1	0	-	3.4	-	-	-	-	-	75
8	274	AN-R	1.3	1.3	5.7	4.4	5.1	4.7	3.4	4.1	0	-	2.7	5.3	-	-	-	-	55
9	275	AN-R	1.0	1.3	6.6	4.7	5.6	5.2	3.6	4.4	0	-	2.4	3.1	-	-	-	-	45
10	276	AN-R	1.0	1.5	6.4	4.6	5.5	5.3	3.6	4.5	20	-	2.2	2.9	-	-	-	-	35
11	280	AN-R	2.0	1.7	4.1	3.6	3.8	3.3	2.7	3.0	0	-	3.6	-	-	-	-	-	85
12	293	AN-R	1.7	1.8	5.6	4.0	4.8	4.6	3.2	3.9	0	-	2.7	4.5	-	-	-	-	75
13	297	LB-R	1.0	1.2	6.2	4.0	5.1	4.9	3.0	4.0	20	-	-	-	6.3	4.3	-	-	60
14	300	LB-R	1.0	1.3	4.8	4.0	4.4	3.8	2.9	3.3	0	-	-	-	5.1	2.0	-	-	80
15	301	LB-R	1.0	1.3	5.5	4.0	4.8	4.4	2.8	3.6	0	-	-	-	5.7	2.3	-	-	-
16	303	LB-R	1.0	1.0	6.0	4.4	5.2	4.9	3.3	4.1	0	-	-	-	4.8	3.0	-	-	15
17	304	LB-R	1.7	1.5	6.3	4.1	5.2	5.0	3.0	4.0	0	-	-	-	4.7	2.7	-	-	25
18	305	LB-R	1.0	1.0	7.7	5.0	6.3	6.3	3.8	5.0	10	-	-	-	6.2	2.8	-	-	15
19	318	LB-R	1.3	1.7	5.8	3.8	4.8	4.4	2.7	3.6	0	-	-	-	4.5	2.4	-	-	50
20	323	LB-R	1.0	1.0	6.4	4.4	5.4	5.3	3.3	4.3	80	-	-	-	4.2	3.1	-	-	55
21	324	LB-R	1.7	1.7	5.7	3.5	4.6	4.7	2.5	3.6	0	-	-	-	5.2	2.2	-	-	80
22	327	LB-R	1.0	1.2	7.1	5.6	6.3	5.3	3.7	4.5	0	-	-	-	4.1	4.8	-	-	30
23	333	RU-R	2.0	2.0	6.1	4.1	5.1	4.9	2.9	3.9	10	-	-	-	5.1	3.0	-	-	60
24	334	RU-R	1.3	1.7	4.8	4.5	4.7	4.0	3.5	3.7	10	-	-	-	-	-	-	-	30
25	336	RU-R	1.0	1.0	6.5	4.0	5.3	5.2	2.9	4.1	10	-	-	-	-	-	-	-	35
26	338	RU-R	3.0	3.3	2.7	2.7	2.7	2.0	2.4	2.2	0	-	-	-	3.9	2.0	-	-	30
27	342	RU-R	1.0	1.5	6.0	4.2	5.1	5.2	3.1	4.1	0	-	-	-	-	-	-	-	55
28	343	RU-R	2.3	2.5	4.3	3.8	4.1	3.1	2.9	3.0	0	-	-	-	3.3	4.7	-	-	40
29	345	RU-R	2.3	1.8	4.8	2.9	3.8	3.7	2.1	2.9	0	-	-	-	-	-	-	-	90
30	350	RU-R	2.0	1.8	6.1	3.3	4.7	5.0	2.4	3.7	0	-	-	-	4.8	3.5	-	-	55
31	353	GM-R	2.0	2.0	4.7	4.2	4.4	3.8	3.2	3.5	0	-	-	-	-	-	6.0	5.1	40
32	355	GM-R	2.0	2.0	5.6	3.7	4.7	4.2	2.6	3.4	0	-	-	-	-	-	5.3	3.6	65

Continued...

Trait No. →			45		46			47			48	49	50	51	52	53	54	55	56
Serial number	ICSB number	Trait	gronomic aspect score		Panicle yield (t ha^{-1})			Grain yield (t ha^{-1})			Seed set % under high atmospheric temperature in A-line	Downy mildew infected plants%	Anthracnose score for leaf	Anthracnose score for panicle	Leaf blight score	Rust score	Panicle grain mold rating score	Threshed grain mold rating score	Seed set % in A-line under open pollination
			Postrainy		Postrainy			Postrainy			Summer	Rainy	Rainy	Rainy	Postrainy	Postrainy	Rainy	Rainy	Postrainy
			E4	Mean	E3	E4	Mean	E3	E4	Mean									
33	358	GM-R	2.7	2.3	6.6	2.7	4.6	5.3	2.0	3.6	15	-	-	-	-	-	6.9	5.7	35
34	374	GM-R	2.0	1.7	5.3	3.7	4.5	4.2	2.9	3.5	0	-	-	-	-	-	6.8	6.4	70
35	376	GM-R	1.3	1.5	5.3	4.6	5.0	4.2	3.3	3.8	0	-	-	-	-	-	5.7	5.1	80
36	381	GM-R	1.7	1.8	4.7	3.7	4.2	3.8	2.6	3.2	0	-	-	-	-	-	6.5	5.9	45
37	383	GM-R	1.7	1.5	6.3	5.8	6.1	4.9	3.4	4.2	0	-	-	-	-	-	5.4	3.8	40
38	384	GM-R	1.3	1.2	5.5	4.5	5.0	4.6	3.7	4.1	90	-	-	-	-	-	5.8	5.9	95
39	396	GM-R	2.0	2.0	3.9	3.5	3.7	3.0	2.6	2.8	20	-	-	-	-	-	8.0	8.1	70
40	401	GM-R	2.3	2.3	5.3	3.5	4.4	4.0	2.5	3.3	30	-	-	-	-	-	5.7	3.2	35
41	404	GM-R	1.0	1.3	6.0	4.5	5.3	4.8	3.4	4.1	0	-	-	-	-	-	6.0	4.9	60
42	406	GM-R	1.3	2.2	2.9	3.9	3.4	1.7	2.5	2.1	0	-	-	-	-	-	7.3	6.8	40
	Control																		
43	296B	High yield	2.0	2.0	5.8	3.8	4.8	4.0	2.6	3.3	-	100	-	-	7.7	4.7	8.2	8.4	30
	Mean		1.57	1.65	5.58	4.14	4.86	4.41	3.02	3.71	-	-	-	-	-	-	-	-	-
	SE±		0.22	0.15	0.35	0.40	0.26	0.29	0.29	0.21	-	-	-	-	-	-	-	-	-
	CV (%)		22.60	21.21	10.87	16.63	13.40	11.67	16.27	13.58	-	-	-	-	-	-	-	-	-
	CD (5%)		0.62	0.43	0.97	1.12	0.74	0.83	0.80	0.57	-	-	-	-	-	-	-	-	-

Continued...

Annexure III-5. Characteristics of disease resistant (late maturity) sorghum B-lines evaluated during the rainy and postrainy seasons, 2004 at ICRISAT-Patancheru.

Trait No. →			1				2	3						4						5			6			7			8			9			10	
Serial number	ICSB number	Trait	Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: Extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: yellow coloration of mid rib			Glume hair color			Lemma: a formati	
			Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrai	
			E1	E3	E4	Mean	E4	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4
1	204	DM	1	1	2	1-2	1	2	2	2	2	2	2	71	71	71	62	76	69	1.0	1.0	1.0	3	3	3	0	0	0	1	1	1	1	1	1	1	1
2	206	DM	1	1	1	1	1	2	2	2	2	2	2	63	65	64	58	70	64	1.1	1.0	1.1	3	3	3	0	0	0	1	1	1	1	1	1	1	1
3	210	DM	1	1	1	1	1	2	2	2	2	2	2	-	72	72	70	81	76	0.8	0.6	0.7	1	1	1	2	2	2	1	1	1	1	1	1	1	1
4	222	DM	2	2	2	2	1	3	3	3	2	2	2	72	75	73	72	81	76	1.0	0.8	0.9	5	5	5	0	0	0	1	1	1	1	1	1	5	5
5	233	DM	1	2	2	1-2	3	2	2	2	1	2	1-2	72	70	71	73	79	76	1.2	0.9	1.1	5	1	1-5	0	2	0-2	5	1	1-5	1	1	1	5	1
6	235	DM	1	2	2	1-2	3	2	2	2	2	2	2	73	74	73	72	82	77	1.0	0.9	0.9	5	5	5	0	0	0	1	1	1	1	1	1	1	1
7	236	DM	1	2	2	1-2	3	2	2	2	1	2	1-2	74	73	74	72	84	78	1.1	0.8	1.0	5	1	1-5	0	2	0-2	1	1	1	1	1	1	5	5
8	237	DM	2	1	2	1-2	3	2	2	2	1	2	1-2	-	81	81	75	83	79	1.3	1.1	1.2	1	1	1	3	2	2-3	5	1	1-5	1	1	1	5	5
9	243	DM	1	1	2	1-2	3	3	2	2-3	1	3	1-3	69	67	68	68	79	73	1.1	0.8	0.9	5	7	5-7	0	0	0	1	1	1	1	1	1	1	1
10	244	DM	2	2	2	2	3	2	2	2	1	1	1	73	75	74	72	84	78	1.1	0.8	0.9	5	3	3-5	0	0	0	5	1	1-5	1	1	1	5	5
11	247	DM	1	2	2	2	3	2	2	2	1	2	1-2	-	82	82	75	85	80	1.1	0.9	1.0	5	1	1-5	0	2	0-2	5	1	1-5	1	1	1	5	5
12	250	DM	2	2	2	2	3	2	2	2	1	2	1-2	72	74	73	69	81	75	0.9	0.9	0.9	5	5	5	0	0	0	5	1	1-5	1	1	1	5	9
13	254	DM	2	2	2	2	3	1	2	1-2	1	2	1-2	69	73	71	66	78	72	1.0	0.8	0.9	7	5	5-7	0	0	0	1	1	1	1	1	1	5	1
14	261	AN	1	1	1	1	1	2	2	2	2	2	2	65	66	65	63	78	71	0.9	0.9	0.9	1	1	1	2	2	2	1	1	1	1	1	1	1	1
15	266	AN	1	1	2	1-2	1	2	2	2	2	2	2	63	66	64	62	80	71	0.9	0.8	0.9	1	1	1	2	2	2	1	1	1	1	1	1	1	1
16	309	LB	1	1	1	1	1	1	2	1-2	2	2	2	72	72	72	68	79	73	1.4	1.1	1.2	1	1	1	2	2	2	1	1	1	1	1	1	1	1
17	321	LB	1	1	2	1-2	1	2	2	2	2	1	1-2	-	78	78	65	79	72	1.6	1.1	1.4	1	1	1	2	2	2	1	1	1	1	1	1	1	1
18	328	LB	1	1	1	1	1	2	2	2	2	2	2	72	75	74	72	83	77	1.1	0.8	1.0	5	1	1-5	0	2	0-2	1	1	1	1	1	1	1	1
19	340	RU	1	1	2	1-2	3	2	2	2	2	2	2	69	72	71	59	71	65	1.1	0.8	1.0	1	1	1	2	2	2	1	1	1	1	1	1	5	5
20	348	RU	1	1	1	1	1	1	2	1-2	1	2	1-2	-	78	78	65	81	73	1.7	1.0	1.3	1	1	1	3	2	2-3	5	1	1-5	1	1	1	1	1
21	378	GM	1	2	2	1-2	3	2	2	2	2	2	2	64	63	64	63	75	69	1.0	0.8	0.9	1	1	1	2	2	2	1	1	1	1	1	1	1	1
22	400	GM	1	1	1	1	1	2	2	2	2	2	2	62	63	63	61	75	68	1.0	1.0	1.0	1	1	1	2	2	2	1	1	1	1	1	1	1	1
	Control																																			
23	296B	High yield	1	2	2	1-2	3	3	3	3	2	2	2	71	72	72	67	80	73	1.0	0.8	0.9	5	5	5	0	0	0	1	1	1	1	1	1	9	5
	Mean		-	-	-	-	-	2	2	2				68	70	69	67	79	73	1.10	0.90	1.00										-	-	-	-	-
	SE±		-	-	-	-	-	0.20	0.24	0.23	-	-	-	0.49	1.24	0.95	0.81	1.09	0.68	0.04	0.03	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CV (%)		-	-	-	-	-	20.45	23.34	22.56	-	-	-	1.46	3.51	2.73	2.13	2.44	2.32	6.48	5.72	6.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CD (5%)		-	-	-	-	-	0.57	0.69	0.64	-	-	-	2.00	3.96	3.32	2.31	3.11	1.91	0.13	0.09	0.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-

HY- High yielding; DM- Downy mildew; AN- Anthracnose; LB- Leaf blight; RU- Rust; GM- Grain mold; R- Resistant; S- Susceptible; LM- Late maturity

E1- Black Manmool (BM)15, Rainy; E2- Red Campus East (RCE) 3, Rainy; E3- Black Precision (BP) 14, Postrainy; E4- BP 3, Postrainy

Range of notes whereever ever given indicates that the line shows variable expression

Zero in the trait no. 7 indicates absence of midrib green coloration due to midrib discoloration

Trait No. 1-41 : Triats stipulated in the DUS-test guidelines (Trait no 38 was not recorded in the current trials)

Trait No. 42-48 : Ancillary traits recorded in the current trials

Trait No. 49-54 : Specific traits for which A-/B-lines were bred

Trait No. 55 : Monitored trait recorded in various trials conducted earlier at ICRISAT

Continued...

Annexure III-5. … Contd.

arista ion			Trait No. →	11			12			13			14			15			16			17			18			19			20			21			22	
				Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicellate flower			Length of anther			Dried anther color			Glume color			Plant height (m)			Stem thickness (mm)			Juicy score			Brix reading (%)			Leaf length (	
ny				Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy	
Mean	Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4
1	1	204	DM	1	1	1	5	1	1-5	6	8	7	3	4	4	5	4	5	4	4	4	2	2	2	1.4	1.3	1.4	14.3	14.9	14.6	1	1	1	6.3	6.7	6.5	70.3	60.0
1	2	206	DM	1	1	1	1	1	1	5	8	6	3	4	4	5	5	5	4	4	4	6	2	2-6	1.5	1.4	1.5	15.3	14.6	14.9	1	2	2	8.0	6.3	7.2	71.3	58.3
1	3	210	DM	1	1	1	1	5	1-5	3	5	4	4	3	3	6	3	4	7	7	7	2	2	2	1.1	1.0	1.1	18.0	16.1	17.1	1	2	2	8.3	7.3	7.8	71.7	60.3
5	4	222	DM	1	1	1	1	1	1	5	8	6	4	5	5	5	5	5	7	4	4-7	2	2	2	1.3	1.2	1.2	19.0	16.3	17.7	2	2	2	8.7	8.7	8.7	66.3	57.3
3	5	233	DM	1	1	1	1	1	1	5	8	6	4	6	5	6	5	6	7	7	7	2	2	2	1.5	1.3	1.4	20.3	14.3	17.3	2	1	2	7.0	9.0	8.0	65.3	51.7
1	6	235	DM	1	1	1	1	1	1	5	8	6	3	4	3	5	4	4	4	7	4-7	2	2	2	1.3	1.3	1.3	17.7	15.1	16.4	1	2	2	10.7	8.3	9.5	62.0	53.7
5	7	236	DM	1	1	1	1	1	1	6	9	8	4	4	4	6	4	5	7	7	7	4	4	4	1.5	1.2	1.3	18.0	17.0	17.5	1	1	1	10.0	7.3	8.7	82.3	68.7
5	8	237	DM	1	1	1	5	1	1-5	5	9	7	5	4	5	5	4	5	7	7	7	2	2	2	1.8	1.6	1.7	16.7	15.8	16.3	1	2	2	8.3	9.7	9.0	71.0	62.0
1	9	243	DM	1	1	1	1	1	1	5	4	5	4	3	4	4	3	4	4	4	4	2	2	2	1.4	1.1	1.3	17.0	14.7	15.9	2	1	1	6.3	7.7	7.0	71.7	56.7
5	10	244	DM	1	1	1	1	1	1	5	9	7	3	4	4	4	4	4	7	7	7	2	4	2-4	1.4	1.2	1.3	18.3	12.6	15.5	2	2	2	7.0	7.7	7.3	78.3	65.7
5	11	247	DM	1	1	1	1	1	1	9	9	9	4	3	3	5	4	4	7	7	7	4	4	4	1.4	1.2	1.3	20.7	15.5	18.1	1	1	1	11.3	10.3	10.8	73.0	62.0
7	12	250	DM	1	1	1	1	1	1	5	8	6	5	5	5	5	5	5	7	7	7	2	2	2	1.3	1.3	1.3	17.7	15.5	16.6	1	2	2	11.0	8.3	9.7	71.0	59.7
3	13	254	DM	1	1	1	1	1	1	6	4	5	5	4	5	5	5	5	4	7	4-7	2	2	2	1.4	1.3	1.3	18.0	14.7	16.4	2	2	2	9.3	6.7	8.0	73.7	61.7
1	14	261	AN	1	1	1	1	1	1	5	3	4	5	5	5	6	5	6	6	4	4-6	2	2	2	1.3	1.3	1.3	16.3	16.7	16.5	1	1	1	5.3	7.3	6.3	65.0	56.7
1	15	266	AN	1	1	1	1	1	1	5	4	5	6	6	6	7	7	7	4	4	4	2	1	1-2	1.3	1.2	1.3	16.7	14.0	15.3	1	2	2	5.3	6.3	5.8	77.7	57.7
1	16	309	LB	1	1	1	1	1	1	3	9	6	4	4	4	6	6	6	6	6	6	2	2	2	1.8	1.4	1.6	18.7	16.4	17.5	1	2	1	9.7	7.0	8.3	71.0	53.3
1	17	321	LB	1	1	1	1	5	1-5	4	6	5	4	4	4	5	5	5	4	4	4	6	6	6	2.0	1.5	1.8	14.7	14.4	14.5	1	1	1	10.7	13.7	12.2	74.0	56.0
1	18	328	LB	1	1	1	1	1	1	5	6	6	4	5	4	5	5	5	4	4	4	2	2	2	1.5	1.2	1.3	21.0	15.9	18.5	1	1	1	9.7	9.3	9.5	78.7	58.0
5	19	340	RU	1	1	1	5	5	5	6	6	6	3	4	4	6	5	6	4	4	4	2	2	2	1.4	1.1	1.2	14.0	12.1	13.1	2	2	2	6.3	6.3	6.3	68.7	52.3
1	20	348	RU	1	1	1	1	1	1	3	5	4	4	5	5	6	5	5	6	6	6	6	6	6	2.1	1.3	1.7	16.0	17.5	16.7	1	1	1	10.0	8.4	9.9	80.0	57.8
1	21	378	GM	1	1	1	5	5	5	4	4	4	4	5	4	6	5	5	7	7	7	2	5		1.3	1.2	1.2	17.7	13.1	15.4	2	1	1	8.3	9.0	8.7	73.7	53.7
1	22	400	GM	1	1	1	1	1	1	5	5	5	4	5	5	5	5	5	4	4	4	5	7	5-7	1.4	1.3	1.3	14.3	14.0	14.2	1	1	1	7.0	6.3	6.7	74.0	57.0
		Control																																				
7	23	296B	High yield	1	1	1	1	1	1	8	8	8	4	5	4	5	5	5	7	4	4-7	2	2	2	1.3	1.1	1.2	17.0	15.0	16.0	1	1	1	8.3	8.0	8.2	66.7	55.3
-		Mean		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							1.54	1.35	1.45	17.28	15.05	16.16	-	-	-	8.39	8.08	8.26	72.06	58.06
-		SE±		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.04	0.03	0.03	0.94	1.25	0.77	-	-	-	1.03	0.73	0.63	3.25	2.91
-		CV (%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.83	4.04	4.56	9.54	14.36	11.74	-	-	-	20.43	15.01	18.06	7.84	8.67
-		CD (5%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.12	0.09	0.08	2.65	3.57	2.17	-	-	-	2.91	2.07	1.77	9.22	8.25

Continued...

Annexure III-5. … Contd.

Trait No. →			
Serial number	ICSB number	Trait	cm) Mean
1	204	DM	65.2
2	206	DM	64.8
3	210	DM	66.0
4	222	DM	61.8
5	233	DM	58.5
6	235	DM	57.8
7	236	DM	75.5
8	237	DM	66.5
9	243	DM	64.2
10	244	DM	72.0
11	247	DM	67.5
12	250	DM	65.3
13	254	DM	67.7
14	261	AN	60.8
15	266	AN	67.7
16	309	LB	62.2
17	321	LB	65.0
18	328	LB	68.3
19	340	RU	60.5
20	348	RU	68.9
21	378	GM	63.7
22	400	GM	65.5
	Control		
23	296B	High yield	61.0
	Mean		65.06
	SE±		2.18
	CV (%)		8.23
	CD (5%)		6.12

Continued...

Annexure III-5. … Contd.

Trait No. →			23			24			25			26			27			28			29			30			31			32			33			34	
			Leaf width (cm)			Panicle length (cm)			Panicle branch length (cm)			Panicle compactness			Panicle shape			Panicle exertion (cm)			Glume coverage (%)			Shattering			Threshability			Grain form			Grain color			1000-grain mas	
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4
1	204	DM	7.3	6.0	6.7	28.0	25.3	26.7	7.7	6.3	7.0	7	5	6	3	3	3	11.7	11.3	11.5	25	33	29	3	3	3	1	1	1	1	1	1	3	4	3-4	27.78	28.33
2	206	DM	6.8	5.7	6.3	27.3	25.3	26.3	7.0	5.3	6.2	7	6	6	3	3	3	12.3	12.3	12.3	25	42	33	3	3	3	1	1	1	1	1	1	3	4	3-4	31.58	30.51
3	210	DM	7.5	6.3	6.9	30.3	25.3	27.8	9.3	5.7	7.5	7	7	7	3	3	3	0.0	10.7	5.3	33	50	42	3	3	3	5	1	1-5	1	1	1	5	5	5	23.88	22.00
4	222	DM	9.0	7.3	8.2	31.0	24.3	27.7	8.0	6.0	7.0	5	6	5	2	2	2	0.0	11.3	5.7	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	25.13	26.00
5	233	DM	8.8	6.7	7.8	31.0	23.3	27.2	8.3	5.3	6.8	5	5	5	2	2	2	0.0	12.0	6.0	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	24.97	28.67
6	235	DM	8.2	6.3	7.3	28.0	22.0	25.0	6.0	4.7	5.3	6	6	6	3	3	3	6.3	14.0	10.2	25	25	25	3	3	3	5	1	1-5	1	1	1	4	4	4	21.87	26.67
7	236	DM	9.3	8.0	8.7	33.7	26.0	29.8	8.0	7.0	7.5	5	5	5	2	3	3	0.0	13.0	6.5	25	25	25	3	3	3	5	1	1-5	1	1	1	4	4	4	24.96	25.67
8	237	DM	8.7	7.3	8.0	34.0	29.3	31.7	8.7	7.0	7.8	5	6	5	3	3	3	14.3	16.3	15.3	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	26.45	28.33
9	243	DM	8.7	6.7	7.7	31.7	18.3	25.0	8.3	4.3	6.3	5	7	6	3	3	3	0.0	13.7	6.8	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	28.21	23.67
10	244	DM	8.5	7.0	7.8	31.7	25.0	28.3	7.7	5.7	6.7	5	5	5	2	2	2	0.0	11.0	5.5	25	25	25	3	3	3	5	1	1-5	1	1	1	4	4	4	26.45	27.67
11	247	DM	9.3	6.7	8.0	30.7	22.7	26.7	8.0	5.0	6.5	5	6	5	2	2	2	0.0	10.0	5.0	25	33	29	3	3	3	5	1	1-5	1	1	1	4	4	4	24.54	28.33
12	250	DM	7.8	7.0	7.4	30.3	26.3	28.3	8.0	7.3	7.7	6	5	5	3	3	3	11.3	12.0	11.7	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	21.69	28.33
13	254	DM	8.3	6.0	7.2	31.0	28.0	29.5	8.0	6.3	7.2	5	6	5	2	2	2	10.0	16.3	13.2	25	25	25	3	3	3	5	1	1-5	1	1	1	4	4	4	23.02	25.33
14	261	AN	6.2	5.0	5.6	29.0	24.3	26.7	7.3	5.3	6.3	6	6	6	3	3	3	10.7	18.7	14.7	42	25	33	3	3	3	1	1	1	1	1	1	3	3	3	24.99	33.33
15	266	AN	7.5	5.7	6.6	30.0	26.3	28.2	8.0	6.0	7.0	5	5	5	3	3	3	6.7	13.7	10.2	42	58	50	3	3	3	1	1	1	1	1	1	3	3	3	26.81	29.33
16	309	LB	7.8	6.3	7.1	27.3	23.7	25.5	7.3	6.3	6.8	7	7	7	3	3	3	10.0	14.0	12.0	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	27.25	29.33
17	321	LB	8.2	6.7	7.4	27.0	22.0	24.5	7.3	5.7	6.5	5	5	5	3	3	3	15.3	14.3	14.8	33	25	29	3	3	3	1	1	1	1	1	1	3	3	3	31.20	33.00
18	328	LB	8.7	6.3	7.5	32.3	25.0	28.7	10.0	7.0	8.5	5	6	5	3	3	3	8.7	10.0	9.3	25	25	25	3	3	3	1	1	1	1	1	1	3	3	3	26.71	23.67
19	340	RU	7.0	5.7	6.3	21.7	19.3	20.5	5.7	4.7	5.2	7	6	6	3	3	3	0.0	13.0	6.5	25	25	25	3	3	3	1	1	1	1	1	1	3	3	3	25.43	23.67
20	348	RU	9.5	9.8	9.6	27.3	27.5	27.4	8.7	10.4	9.6	5	5	5	3	3	3	15.3	8.7	12.0	25	38	32	3	3	3	1	1	1	1	1	1	3	3	3	31.97	29.53
21	378	GM	7.3	5.7	6.5	24.0	19.0	21.5	4.7	4.3	4.5	7	7	7	3	3	3	0.0	13.7	6.8	42	67	54	3	3	3	5	1	1-5	1	1	1	7	7	7	23.27	26.00
22	400	GM	7.8	6.3	7.1	25.7	22.3	24.0	7.0	5.3	6.2	7	7	7	3	3	3	8.3	10.0	9.2	25	25	25	3	3	3	1	1	1	1	1	1	3	3	3	27.36	28.00
	Control																																				
23	296B	High yield	8.0	6.7	7.3	27.3	24.3	25.8	6.3	5.3	5.8	7	6	7	3	3	3	0.0	4.7	2.3	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	24.68	30.00
	Mean		8.10	6.57	7.34	29.14	24.14	26.64	7.62	5.93	6.78	-	-	-	-	-	-	6.13	12.38	9.25	28	31	30	-	-	-	-	-	-	-	-	-	-	-	-	26.10	27.62
	SE±		0.47	0.48	0.34	0.80	0.87	0.59	0.53	0.59	0.39	-	-	-	-	-	-	0.78	1.40	0.80	4.77	3.77	3.04	-	-	-	-	-	-	-	-	-	-	-	-	1.32	0.81
	CV (%)		10.16	12.96	11.39	4.91	6.30	5.55	11.69	16.67	13.88	-	-	-	-	-	-	18.13	18.40	19.02	25.48	18.35	21.94	-	-	-	-	-	-	-	-	-	-	-	-	8.64	4.96
	CD (5%)		1.33	1.36	0.94	2.28	2.46	1.66	1.49	1.67	1.11	-	-	-	-	-	-	2.20	3.97	2.24	13.53	10.68	8.53	-	-	-	-	-	-	-	-	-	-	-	-	3.75	2.29

Continued...

Annexure III-5. … Contd.

Trait No. →				35			36			37			39			40			41			42				43				44						
			s (g)	Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm texture			Albumen color			Grain lustre			Days to emergence				Leaf glossy score				Seedling vigor score						Plan as
				Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			
Serial number	ICSB number	Trait	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3
1	204	DM	28.05	3	3	3	3	3	3	5	5	5	5	6	5	2	2	2	5	5	5	4	4	6	5	2.3	3.0	2.6	2.3	3.0	2.7	1.5	1.8	1.6	1.7	1.7	1.7	2.0
2	206	DM	31.04	3	3	3	3	3	3	6	5	5	4	5	5	2	2	2	5	5	5	4	4	5	5	2.3	3.3	2.8	2.3	3.3	2.8	1.5	1.8	1.6	1.0	1.3	1.2	2.0
3	210	DM	22.94	3	3	3	3	3	3	5	5	5	4	5	5	2	2	2	5	5	5	4	6	6	6	4.0	3.3	3.6	3.0	3.3	3.2	3.5	2.0	2.8	2.3	2.7	2.5	1.0
4	222	DM	25.57	3	3	3	3	3	3	5	5	5	6	4	5	2	2	2	1	1	1	4	6	6	6	3.0	3.0	3.0	1.7	3.0	2.3	2.5	2.3	2.4	1.7	2.0	1.8	1.0
5	233	DM	26.82	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	5	6	6	6	2.8	3.5	3.1	2.0	4.0	3.0	1.8	2.5	2.1	2.0	1.7	1.8	1.3
6	235	DM	24.27	3	3	3	3	3	3	5	5	5	4	5	5	2	2	2	1	5	3	4	6	7	6	3.0	3.0	3.0	3.3	4.0	3.7	2.5	2.3	2.4	1.7	3.0	2.3	1.0
7	236	DM	25.31	3	3	3	3	3	3	5	5	5	6	6	6	2	2	2	5	5	5	4	6	6	6	2.5	3.3	2.9	2.3	3.3	2.8	3.8	2.5	3.1	1.3	2.3	1.8	1.0
8	237	DM	27.39	3	3	3	3	3	3	5	5	5	5	6	5	2	2	2	5	5	5	4	6	6	6	2.8	3.3	3.0	1.7	3.3	2.5	2.3	2.0	2.1	2.0	2.3	2.2	1.0
9	243	DM	25.94	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	4	6	7	6	3.0	3.0	3.0	2.7	3.7	3.2	3.0	2.5	2.8	1.3	2.7	2.0	1.3
10	244	DM	27.06	3	3	3	3	3	3	5	5	5	4	5	5	2	2	2	1	5	3	4	6	6	6	3.5	3.0	3.3	2.7	4.0	3.3	2.8	2.3	2.5	1.7	2.3	2.0	1.0
11	247	DM	26.44	3	3	3	3	3	3	5	6	5	5	5	5	2	2	2	1	2	2	4	6	7	6	3.0	3.0	3.0	2.0	3.0	2.5	3.3	1.8	2.5	1.7	2.3	2.0	1.0
12	250	DM	25.01	3	3	3	3	3	3	5	6	5	4	6	5	2	2	2	1	1	1	4	5	6	6	3.0	3.0	3.0	2.0	3.7	2.8	2.5	1.8	2.1	1.0	2.0	1.5	1.7
13	254	DM	24.18	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	1	1	1	4	6	6	6	3.0	3.0	3.0	2.3	3.7	3.0	2.5	1.5	2.0	2.3	1.7	2.0	1.7
14	261	AN	29.16	3	3	3	3	3	3	5	5	5	4	3	4	2	2	2	4	5	4	4	4	5	5	2.0	3.3	2.6	1.3	3.3	2.3	1.8	1.5	1.6	1.3	1.0	1.2	2.3
15	266	AN	28.07	3	3	3	3	3	3	5	5	5	4	3	3	2	2	2	5	5	5	3	5	6	5	2.3	3.0	2.6	2.3	3.3	2.8	1.8	1.8	1.8	1.7	2.3	2.0	2.7
16	309	LB	28.29	3	3	3	3	3	3	5	5	5	3	4	4	2	2	2	6	7	6	4	5	6	5	2.0	3.5	2.8	1.7	3.0	2.3	2.3	2.5	2.4	1.0	1.7	1.3	1.0
17	321	LB	32.10	3	3	3	3	3	3	5	5	5	4	3	4	2	2	2	6	6	6	3	4	5	4	2.5	3.3	2.9	1.7	3.0	2.3	1.0	1.5	1.3	1.0	1.7	1.3	2.0
18	328	LB	25.19	3	3	3	3	3	3	5	5	5	5	4	4	2	2	2	6	5	5	4	5	5	5	2.3	3.3	2.8	1.7	3.0	2.3	1.8	1.8	1.8	1.7	2.7	2.2	1.0
19	340	RU	24.55	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	3	5	5	5	2.0	3.0	2.5	2.3	3.0	2.7	1.0	1.5	1.3	1.7	1.0	1.3	2.0
20	348	RU	30.75	3	3	3	3	3	3	5	5	5	5	3	4	2	2	2	5	5	5	3	5	5	5	2.5	3.5	3.0	2.3	3.5	2.9	1.8	1.5	1.6	1.0	2.0	1.5	1.7
21	378	GM	24.63	3	3	3	3	3	3	5	5	5	6	7	7	2	4	2-4	1	1	1	4	5	5	5	2.8	2.8	2.8	2.7	3.3	3.0	2.5	1.8	2.1	2.3	1.3	1.8	2.0
22	400	GM	27.68	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	4	5	5	5	2.5	3.0	2.8	2.0	3.0	2.5	1.3	1.3	1.3	1.3	1.3	1.3	2.0
	Control																																					
23	296B	High yield	27.34	3	3	3	3	3	3	5	6	5	5	5	5	2	2	2	1	1	1	4	6	6	6	3.5	3.0	3.3	1.7	3.3	2.5	2.8	2.5	2.6	1.7	2.3	2.0	1.7
	Mean		26.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	5	6	6	2.60	3.18	2.89	2.17	3.35	2.76	2.17	1.93	2.05	1.58	1.97	1.78	1.54
	SE±		0.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	0.24	0.29	0.19	0.29	0.19	0.24	0.34	0.21	0.20	0.27	0.22	0.26	0.27	0.33	0.21	0.23
	CV (%)		6.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.20	7.77	8.76	8.33	22.40	11.71	16.81	25.93	10.96	17.50	24.79	22.84	25.21	29.20	29.06	29.24	22.37
	CD (5%)		2.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.54	0.67	0.83	0.52	0.82	0.52	0.68	0.96	0.60	0.56	0.76	0.62	0.72	0.77	0.93	0.60	0.65

Continued...

Annexure III-5. … Contd.

Trait No. →			45		46			47			48	49	50	51	52	53	54	55
Serial number	ICSB number	Trait	nt agronomic spect score Postrainy		Panicle yield (t ha^{-1}) Postrainy			Grain yield (t ha^{-1}) Postrainy			Seed set % under high atmospheric temperature in A-line Summer	Downy mildew infected plants% Rainy	Anthracnose score for leaf Rainy	Leaf blight score Postrainy	Rust score Postrainy	Panicle grain mold rating score Rainy	Threshed grain mold rating score Rainy	Seed set % in A-line under open pollination Postrainy
			E4	Mean	E3	E4	Mean	E3	E4	Mean								
1	204	DM	2.0	2.0	5.6	5.0	5.3	4.8	3.7	4.2	60	2	-	-	-	-	-	50
2	206	DM	2.0	2.0	4.7	4.6	4.6	4.0	3.3	3.6	20	0	-	-	-	-	-	80
3	210	DM	1.3	1.2	5.6	4.8	5.2	4.7	3.3	4.0	0	-	-	-	-	-	-	-
4	222	DM	1.3	1.2	6.9	4.3	5.6	5.2	2.7	4.0	0	6.5	-	-	-	-	-	20
5	233	DM	1.0	1.2	7.0	5.1	6.0	5.0	3.6	4.3	0	13	-	-	-	-	-	35
6	235	DM	1.7	1.3	6.0	3.9	5.0	4.3	2.5	3.4	0	14.5	-	-	-	-	-	20
7	236	DM	1.7	1.3	6.4	3.6	5.0	4.7	2.7	3.7	0	14.5	-	-	-	-	-	30
8	237	DM	1.0	1.0	6.1	4.6	5.4	4.5	3.0	3.8	0	-	-	-	-	-	-	-
9	243	DM	2.0	1.7	6.8	3.2	5.0	5.0	2.3	3.7	0	2	-	-	-	-	-	15
10	244	DM	2.0	1.5	7.5	2.8	5.1	5.6	1.6	3.6	0	6	-	-	-	-	-	15
11	247	DM	2.0	1.5	6.3	3.4	4.9	4.6	2.2	3.4	0	2	-	-	-	-	-	25
12	250	DM	1.7	1.7	5.4	4.6	5.0	4.3	3.2	3.7	0	12.5	-	-	-	-	-	55
13	254	DM	1.3	1.5	6.3	3.8	5.1	4.9	2.7	3.8	0	5	-	-	-	-	-	35
14	261	AN	2.0	2.2	4.1	3.6	3.9	3.3	2.4	2.9	0	-	3.1	-	-	-	-	60
15	266	AN	2.3	2.5	5.0	3.5	4.2	4.1	2.5	3.3	0	-	3.7	-	-	-	-	60
16	309	LB	1.0	1.0	6.7	5.2	6.0	5.3	3.9	4.6	0	-	-	4.0	2.7	-	-	40
17	321	LB	2.0	2.0	6.8	4.3	5.5	5.9	3.2	4.5	90	-	-	5.7	2.2	-	-	50
18	328	LB	1.0	1.0	7.0	4.5	5.8	5.9	3.2	4.5	0	-	-	3.7	2.5	-	-	10
19	340	RU	2.0	2.0	4.8	3.8	4.3	3.8	2.8	3.3	20	-	-	4.4	2.5	-	-	65
20	348	RU	2.0	1.9	7.0	8.7	7.9	6.1	5.8	5.9	0	-	-	-	-	-	-	85
21	378	GM	2.0	2.0	4.7	4.0	4.4	3.8	2.8	3.3	0	-	-	-	-	5.2	4.4	70
22	400	GM	2.0	2.0	5.4	4.8	5.1	4.7	3.6	4.1	0	-	-	-	-	5.3	7.4	90
	Control																	
23	296B	High yield	2.0	1.8	6.1	4.2	5.1	4.6	2.8	3.7	-	100	-	7.7	4.7	8.2	8.4	30
	Mean		1.71	1.62	6.00	4.36	5.18	4.73	3.03	3.88	-	-	-	-	-	-	-	-
	SE±		0.19	0.15	0.37	0.49	0.31	0.32	0.31	0.22	-	-	-	-	-	-	-	-
	CV (%)		17.42	19.91	11.03	19.43	14.75	####	####	14.46	-	-	-	-	-	-	-	-
	CD (5%)		0.54	0.42	1.04	1.38	0.86	0.92	0.88	0.63	-	-	-	-	-	-	-	-

Continued...

Annexure III-6. Characteristics of stress tolerant (medium maturity) sorghum B-lines evaluated during the rainy and postrainy seasons, 2004 at ICRISAT-Patancheru

Trait No. →			1				2	3						4						5			6			7			8		
			Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: Extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: yellow coloration of mid rib		
			Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E1	E3	E4	Mean	E4	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	570	STR	2	2	2	2	3	1	2	1-2	2	2	2	64	74	66	63	76	69	1.2	1.0	1.1	1	5	1-5	2	0	0-2	1	1	1
2	576	STR	1	1	1	1	1	3	3	3	3	3	3	61	62	62	60	76	68	1.0	0.9	0.9	7	7	7	0	0	0	1	1	1
3	577	STR	2	2	2	2	3	2	2	2	2	3	2-3	63	66	64	60	66	63	1.3	0.9	1.1	1	1	1	2	2	2	1	1	1
4	578	STR	2	2	2	2	3	2	2	2	2	3	2-3	62	61	61	60	65	63	1.2	1.0	1.1	3	3	3	0	0	0	1	1	1
5	579	STR	2	2	2	2	3	2	2	2	2	2	2	65	61	63	60	67	63	1.2	1.0	1.1	1	3	1-3	2	0	0-2	1	1	1
6	583	STR	1	1	1	1	3	3	3	3	3	2	2-3	72	75	73	65	77	71	1.5	1.2	1.4	3	1	1-3	0	2	0-2	1	1	1
7	587	STR	1	1	1	1	1	3	2	2-3	2	3	2-3	62	70	66	61	67	64	0.8	0.7	0.7	7	7	7	0	0	0	1	1	1
8	589	STR	1	1	1	1	1	2	1	1-2	2	2	2	71	74	72	67	81	74	1.3	1.2	1.2	5	3	3-5	0	0	0	1	1	1
9	591	STR	1	1	1	1	1	1	1	1	1	2	1-2	74	75	74	68	83	76	1.3	1.1	1.2	5	5	5	0	0	0	1	1	1
10	592	STR	1	1	1	1	1	3	3	3	2	2	2	67	65	66	60	73	67	1.5	1.4	1.5	1	3	1-3	2	0	0-2	1	1	1
11	593	STR	1	1	1	1	1	3	3	3	2	3	2-3	67	68	68	62	75	68	1.5	1.3	1.4	1	5	1-5	2	0	0-2	1	1	1
12	604	ACID	1	1	1	1	1	2	2	2	2	2	2	56	57	56	58	67	62	0.8	0.7	0.8	1	3	1-3	2	0	0-2	1	1	1
13	607	ACID	1	1	1	1	1	2	2	2	2	2	2	70	72	71	68	79	74	1.0	0.8	0.9	1	1	1	2	2	2	1	1	1
14	608	ACID	1	1	1	1	1	2	3	2-3	1	2	1-2	69	69	69	65	73	69	1.4	1.2	1.3	5	3	3-5	0	0	0	1	1	1
15	609	ACID	1	1	1	1	1	3	3	3	2	2	2	65	65	65	64	77	71	1.4	1.1	1.2	5	5	5	0	0	0	1	1	1
16	613	ACID	1	2	2	1.75	3	2	2	2	2	2	2	64	69	67	64	77	71	0.9	0.9	0.9	5	1	1-5	0	2	0-2	1	1	1
17	672	TILL	2	2	2	2	3	3	3	3	3	3	3	66	67	66	60	68	64	1.0	0.9	1.0	5	5	5	0	0	0	1	1	1
18	673	TILL	2	2	2	2	3	2	2	2	2	2	2	63	68	65	61	68	65	0.9	0.9	0.9	1	1	1	2	2	2	1	1	1
19	675	SG	2	2	2	2	3	2	3	2-3	2	2	2	67	67	67	64	77	71	0.9	0.7	0.8	3	7	3-7	0	0	0	1	1	1
20	677	SG	2	2	2	2	3	2	2	2	2	2	2	65	65	65	59	73	66	1.0	0.8	0.9	5	5	5	0	0	0	1	1	1
21	683	SG	2	2	2	2	3	2	2	2	2	2	2	58	61	60	59	66	63	0.8	0.7	0.8	1	3	1-3	2	0	0-2	1	1	1
22	684	SG	2	2	2	2	3	2	2	2	2	2	2	61	67	63	60	69	65	0.8	0.8	0.8	1	1	1	2	2	2	1	1	1
23	686	SG	1	1	1	1	1	2	2	2	2	2	2	60	63	61	59	68	64	1.2	1.0	1.1	1	1	1	2	2	2	1	1	1
24	687	SG	1	1	2	1-2	1	3	3	3	3	1	1-3	66	70	68	59	70	65	1.2	1.0	1.1	7	7	7	0	0	0	1	1	1
	Control																														
25	296B	High yield	1	2	2	1-2	3	2	3	2-3	2	2	2	68	65	67	66	80	73	0.9	0.9	0.9	5	5	5	0	0	0	1	1	1
	Mean		-	-	-	-	-	2	2	2	-	-	-	64	67	65	62	73	67	1.13	0.97	1.05	-	-	-	-	-	-	-	-	-
	SE±		-	-	-	-	-	0.27	0.19	0.24	-	-	-	0.92	1.34	1.15	0.71	0.95	0.59	0.07	0.07	0.05	-	-	-	-	-	-	-	-	-
	CV (%)		-	-	-	-	-	25.35	16.38	21.17	-	-	-	2.86	4.02	3.52	2.00	2.28	2.17	10.00	12.39	11.10	-	-	-	-	-	-	-	-	-
	CD (5%)		-	-	-	-	-	0.76	0.54	0.67	-	-	-	2.92	4.63	3.77	2.01	2.69	1.66	0.19	0.20	0.14	-	-	-	-	-	-	-	-	-

ACID- Acid Soil Tolerant; TILL- Tillering ability (which is expressed when the lines receive adequate moisture after early drought stress); SG- Stay green; STR- Striga

E1- Black Manmool (BM)15, Rainy; E2- Red Campus East (RCE) 3, Rainy; E3- Black Precision (BP) 14, Postrainy; E4- BP 3, Postrainy

Range of notes whereever given indicates that the line shows variable expression

Zero in the trait no. 7 indicates absence of midrib green coloration due to midrib discoloration

Trait No. 1-41 : Triats stipulated in the DUS-test guidelines (Trait nos. 5 and 38 were not recorded in the current trials)

Trait No. 42-48 : Ancillary traits recorded in the current trials

Trait No. 49-51 : Specific traits for which A-/B-lines were bred

Trait No. 52-53 : Monitored traits recorded in various trials conducted earlier at ICRISAT

Continued...

Annexure III-6. ...Contd.

Trait No. →			9			10			11			12			13			14			15			16			17			18		
			Glume hair color			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of flower			Length of anther			Dried anther color			Glume color			Plant height (m)		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	570	STR	1	1	1	5	5	5	1	1	1	1	1	1	5	5	5	3	5	4	4	4	4	4	4	4	3	5	3-5	1.5	1.3	1.4
2	576	STR	1	1	1	1	1	1	1	1	1	5	5	5	5	4	5	4	5	4	6	6	6	4	4	4	2	2	2	1.3	1.2	1.2
3	577	STR	1	1	1	1	1	1	1	1	1	5	5	5	5	4	5	5	6	6	4	5	5	4	4	4	2	4	2-4	1.5	1.2	1.3
4	578	STR	1	1	1	1	1	1	1	1	1	5	5	5	5	6	6	4	6	5	4	5	4	4	4	4	4	4	4	1.4	1.2	1.3
5	579	STR	1	1	1	1	1	1	1	1	1	5	1	1-5	3	8	5	5	5	5	3	4	3	4	4	4	2	4	2-4	1.4	1.3	1.4
6	583	STR	1	1	1	1	1	1	1	1	1	1	1	1	5	6	6	6	7	7	6	6	6	4	4	4	4	6	4-6	1.8	1.5	1.6
7	587	STR	1	1	1	5	9	7	1	1	1	5	5	5	3	5	4	6	5	5	7	5	6	4	4	4	2	2	2	1.1	1.0	1.0
8	589	STR	1	1	1	1	1	1	1	1	1	5	1	1-5	4	5	4	3	5	4	5	5	5	6	6	6	2	4	2-4	1.7	1.7	1.7
9	591	STR	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	6	5	5	6	5	6	6	6	6	4	4-6	1.8	1.5	1.6
10	592	STR	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	4	6	5	7	5	6	4	4	4	2	2	2	2.0	1.8	1.9
11	593	STR	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	6	5	5	6	5	6	4	4	4	4	4	4	1.9	1.8	1.8
12	604	ACID	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	4	4	4	4	6	5	4	4	4	5	4	4-5	1.1	1.0	1.0
13	607	ACID	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	3	5	4	4	4	4	4	4	4	4	4	4	1.3	1.1	1.2
14	608	ACID	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	5	5	7	5	6	4	4	4	6	6	6	1.7	1.5	1.6
15	609	ACID	1	1	1	1	1	1	1	1	1	1	1	1	9	5	7	4	7	6	6	5	5	4	4	4	4	4	4	1.7	1.4	1.6
16	613	ACID	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	5	4	4	4	4	4	4	4	2	2	2	1.3	1.3	1.3
17	672	TILL	1	1	1	1	1	1	1	1	1	5	5	5	5	6	6	5	6	5	6	6	6	7	7	7	7	4	4-7	1.4	1.2	1.3
18	673	TILL	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	5	4	5	4	5	4	4	4	2	7	2-7	1.3	1.3	1.3
19	675	SG	1	1	1	1	1	1	1	1	1	1	1	1	9	5	7	4	5	4	6	4	5	4	4	4	8	8	8	1.2	1.0	1.1
20	677	SG	1	1	1	1	1	1	1	1	1	1	1	1	4	5	4	4	5	4	4	5	5	4	4	4	5	7	5-7	1.3	1.2	1.2
21	683	SG	1	1	1	5	5	5	1	1	1	5	5	5	3	3	3	3	6	5	4	5	5	7	4	4-7	2	2	2	1.1	1.1	1.1
22	684	SG	1	1	1	1	1	1	1	1	1	5	1	1-5	6	4	5	3	7	5	3	3	3	4	4	4	2	6	2-6	1.2	1.2	1.2
23	686	SG	1	1	1	5	5	5	1	1	1	5	1	1-5	3	5	4	6	6	6	6	6	6	7	4	4-7	2	2	2	1.6	1.3	1.4
24	687	SG	1	1	1	1	1	1	1	1	1	1	1	1	4	6	5	6	7	7	6	7	7	7	4	4-7	4	4	4	1.5	1.3	1.4
	Control																															
25	296B	High yield	1	1	1	9	1	5	1	1	1	1	1	1	9	8	8	4	5	5	4	5	5	4	7	4-7	2	2	2	1.2	1.1	1.1
	Mean		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.44	1.29	1.36
	SE±		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.07	0.07	0.05
	CV (%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.78	8.97	8.34
	CD (5%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	0.20	0.14

Continued...

Annexure III-6. ...Contd.

Trait No. →			19			20			21			22			23			24			25			26			27			28		
Serial number	ICSB number	Trait	Stem thickness (mm) Postrainy			Juicy score Postrainy			Brix reading (%) Postrainy			Leaf length (cm) Postrainy			Leaf width (cm) Postrainy			Panicle length (cm) Postrainy			Panicle branch length (cm) Postrainy			Panicle compactness Postrainy			Panicle shape Postrainy			Panicle exertion (cm) Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	570	STR	15.0	14.7	14.9	1	1	1	5.7	6.3	6.0	78.3	61.7	70.0	7.7	6.00	6.84	24.0	20.3	22.2	6.0	5.3	5.7	7	7	7	3	3	3	2.1	13.0	7.6
2	576	STR	13.7	12.5	13.1	2	1	2	4.8	7.0	5.9	68.3	55.7	62.0	7.7	6.67	7.17	21.7	18.7	20.2	5.3	5.0	5.2	7	7	7	3	3	3	6.7	9.7	8.2
3	577	STR	13.3	11.5	12.4	2	1	2	4.9	9.3	7.1	77.3	66.7	72.0	7.3	6.33	6.83	20.7	20.3	20.5	5.3	6.0	5.7	6	7	7	3	3	3	0.0	2.7	1.3
4	578	STR	14.7	13.4	14.0	2	2	2	5.1	7.7	6.4	80.0	70.7	75.3	8.3	7.00	7.67	21.0	21.3	21.2	5.3	5.7	5.5	5	5	5	3	3	3	0.0	3.7	1.8
5	579	STR	14.0	12.8	13.4	2	2	2	5.0	7.3	6.2	80.7	65.7	73.2	7.3	6.00	6.67	20.3	20.3	20.3	4.7	5.7	5.2	5	5	5	3	3	3	0.0	4.7	2.3
6	583	STR	17.7	13.4	15.5	1	1	1	6.0	7.0	6.5	72.3	49.3	60.8	9.3	6.33	7.83	23.0	17.3	20.2	7.7	6.3	7.0	5	6	6	3	3	3	0.0	7.7	3.8
7	587	STR	19.3	16.2	17.8	1	2	2	5.3	7.0	6.2	80.0	67.3	73.7	8.0	7.00	7.50	27.7	25.0	26.3	7.7	8.3	8.0	6	6	6	3	3	3	0.0	4.0	2.0
8	589	STR	16.7	15.5	16.1	1	1	1	5.3	7.7	6.5	76.0	63.3	69.7	8.3	6.33	7.33	31.0	30.0	30.5	9.7	9.3	9.5	5	5	5	3	3	3	16.0	23.3	19.7
9	591	STR	16.3	18.1	17.2	2	1	1	6.2	9.0	7.6	73.0	57.3	65.2	7.7	6.67	7.17	28.7	26.3	27.5	8.0	8.3	8.2	7	6	7	3	3	3	13.8	16.7	15.2
10	592	STR	16.0	15.4	15.7	1	1	1	6.8	18.3	12.6	65.0	51.0	58.0	7.0	5.67	6.34	31.7	29.7	30.7	9.0	8.3	8.7	6	5	6	3	3	3	11.2	15.7	13.4
11	593	STR	18.0	16.2	17.1	1	1	1	6.0	8.0	7.0	72.3	52.7	62.5	7.0	5.67	6.34	31.3	29.3	30.3	9.3	8.3	8.8	7	5	6	3	3	3	9.8	13.0	11.4
12	604	ACID	16.7	15.7	16.2	2	1	1	8.0	6.7	7.4	69.0	66.3	67.7	8.3	6.67	7.50	21.3	19.7	20.5	5.0	5.7	5.3	7	7	7	3	3	3	0.0	1.7	0.8
13	607	ACID	17.0	15.6	16.3	1	1	1	6.7	7.7	7.2	76.3	62.7	69.5	9.0	8.33	8.67	24.0	22.0	23.0	6.7	6.0	6.3	7	7	7	3	3	3	0.0	3.3	1.7
14	608	ACID	16.7	14.6	15.7	1	2	1	6.5	7.7	7.1	74.7	58.3	66.5	9.0	6.67	7.84	30.7	25.7	28.2	10.3	7.7	9.0	4	5	5	3	3	3	0.0	9.7	4.8
15	609	ACID	17.0	14.9	16.0	1	1	1	8.0	8.0	8.0	71.3	55.0	63.2	8.7	7.00	7.84	22.0	23.3	22.7	6.0	6.3	6.2	9	7	8	3	3	3	8.1	7.3	7.7
16	613	ACID	17.7	13.8	15.7	2	1	1	8.7	9.3	9.0	80.7	63.0	71.8	9.3	8.00	8.67	25.7	19.7	22.7	9.3	6.7	8.0	5	7	6	3	3	3	8.6	14.0	11.3
17	672	TILL	14.7	14.3	14.5	1	1	1	5.4	6.7	6.0	76.3	69.0	72.7	7.7	6.67	7.17	23.7	21.3	22.5	7.0	5.7	6.3	6	5	5	3	3	3	6.8	6.7	6.7
18	673	TILL	17.0	16.9	16.9	1	1	1	5.8	6.7	6.2	74.7	64.0	69.3	6.3	6.00	6.17	31.7	27.3	29.5	10.7	9.0	9.8	3	3	3	3	3	3	7.6	16.0	11.8
19	675	SG	20.0	20.9	20.5	1	1	1	5.4	7.3	6.4	79.0	71.7	75.3	9.3	8.33	8.83	27.0	27.3	27.2	8.7	10.7	9.7	7	6	7	3	3	3	0.0	0.0	0.0
20	677	SG	19.0	20.0	19.5	1	1	1	6.0	11.3	8.7	72.0	63.0	67.5	8.7	8.00	8.34	28.3	26.3	27.3	8.3	9.7	9.0	6	5	5	3	3	3	7.0	6.7	6.8
21	683	SG	15.3	14.8	15.1	1	1	1	7.9	7.0	7.4	78.0	64.7	71.3	8.7	6.00	7.34	28.0	25.7	26.8	8.3	9.0	8.7	3	3	3	3	3	3	7.2	6.7	6.9
22	684	SG	17.7	14.2	15.9	1	1	1	6.3	7.7	7.0	73.0	59.7	66.3	5.7	5.33	5.50	32.3	28.3	30.3	10.3	8.7	9.5	4	3	4	3	3	3	0.0	10.0	5.0
23	686	SG	15.0	14.7	14.9	1	1	1	9.3	7.3	8.3	70.0	62.7	66.3	8.0	7.33	7.67	23.0	22.0	22.5	5.7	6.3	6.0	6	5	5	3	3	3	11.1	6.7	8.9
24	687	SG	12.7	11.7	12.2	2	1	1	4.8	7.3	6.1	70.7	54.3	62.5	6.7	5.00	5.84	24.0	22.7	23.3	7.7	7.3	7.5	3	3	3	3	3	3	6.9	9.7	8.3
	Control																															
25	296B	High yield	19.3	15.6	17.5	2	1	1	5.0	9.3	7.2	75.7	56.7	66.2	8.7	7.00	7.84	27.3	27.3	27.3	6.7	7.3	7.0	7	7	7	3	3	3	0.0	0.0	0.0
	Mean		16.41	15.09	15.75	-	-	-	6.20	8.19	7.19	74.59	61.29	67.94	7.99	6.64	7.29	26.00	23.89	24.95	7.55	7.31	7.43	-	-	-	-	-	-	4.91	8.49	6.70
	SE±		0.96	0.85	0.64	-	-	-	0.55	1.04	0.59	2.33	2.51	1.71	0.44	0.41	0.30	0.96	0.78	0.62	0.55	0.65	0.43	-	-	-	-	-	-	0.57	1.35	0.74
	CV (%)		10.10	9.82	9.98	-	-	-	14.90	21.35	19.46	5.44	7.12	6.21	9.62	10.68	10.11	6.42	5.66	6.09	12.09	15.09	13.59	-	-	-	-	-	-	17.83	26.33	24.89
	CD (5%)		2.70	2.41	1.79	-	-	-	1.55	2.94	1.64	6.58	7.09	4.79	1.25	1.15	0.84	2.72	2.20	1.73	1.56	1.84	1.20	-	-	-	-	-	-	1.62	3.83	2.06

Continued...

Annexure III-6. ...Contd.

Trait No. →			29			30			31			32			33			34			35			36			37			39		
			Glume coverage (%)			Shattering			Threshability			Grain form			Grain color			1000-grain mass (g)			Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm texture		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	570	STR	50	25	38	3	3	3	1	1	1	1	1	1	3	4	3-4	20.79	28.45	24.62	3	3	3	3	3	3	5	5	5	6	5	5
2	576	STR	33	42	38	3	3	3	1	1	1	1	1	1	4	4	4	24.71	27.33	26.02	3	3	3	3	3	3	6	5	5	5	5	5
3	577	STR	42	33	38	3	3	3	1	1	1	1	1	1	1	3	1-3	23.35	25.52	24.43	3	3	3	3	3	3	5	5	5	5	4	5
4	578	STR	42	33	38	3	3	3	1	1	1	1	1	1	1	3	1-3	22.21	24.07	23.14	3	3	3	3	3	3	4	5	5	5	4	5
5	579	STR	42	25	33	3	3	3	1	1	1	1	1	1	1	3	1-3	23.17	25.97	24.57	3	3	3	3	3	3	5	5	5	6	5	6
6	583	STR	58	50	54	3	3	3	1	1	1	1	1	1	4	4	4	23.08	28.59	25.83	3	3	3	3	3	3	5	5	5	5	5	5
7	587	STR	50	25	38	3	3	3	1	1	1	1	1	1	4	4	4	23.36	27.81	25.59	3	3	3	3	3	3	4	5	5	5	5	5
8	589	STR	50	33	42	3	3	3	1	1	1	1	1	1	1	3	1-3	21.22	25.51	23.37	3	3	3	3	3	3	5	5	5	6	4	5
9	591	STR	42	25	33	3	3	3	1	1	1	1	1	1	1	4	1-4	24.39	30.85	27.62	3	3	3	3	3	3	5	5	5	5	5	5
10	592	STR	50	42	46	3	3	3	1	1	1	1	1	1	4	4	4	35.43	38.98	37.21	3	3	3	3	3	3	5	5	5	5	5	5
11	593	STR	50	33	42	3	3	3	1	1	1	1	1	1	1	3	1-3	31.42	38.61	35.01	3	3	3	3	3	3	5	5	5	5	5	5
12	604	ACID	25	50	38	3	3	3	1	1	1	1	1	1	3	4	3-4	22.90	22.68	22.79	3	3	3	3	3	3	6	5	5	5	3	4
13	607	ACID	25	42	33	3	3	3	1	1	1	1	1	1	4	4	4	22.94	22.90	22.92	3	3	3	3	3	3	5	5	5	4	5	5
14	608	ACID	25	50	38	3	3	3	1	1	1	1	1	1	1	3	1-3	24.61	26.58	25.60	3	3	3	3	3	3	4	5	5	4	4	4
15	609	ACID	25	33	29	3	3	3	1	1	1	1	1	1	1	3	1-3	25.79	26.24	26.01	3	3	3	3	3	3	5	5	5	4	4	4
16	613	ACID	42	25	33	3	3	3	1	1	1	1	1	1	4	4	4	21.70	25.46	23.58	3	3	3	3	3	3	3	5	4	5	5	5
17	672	TILL	50	58	54	3	3	3	1	1	1	1	1	1	1	3	1-3	21.00	23.27	22.14	3	3	3	3	3	3	6	5	5	5	5	5
18	673	TILL	33	42	38	3	3	3	1	1	1	1	1	1	1	3	1-3	23.30	32.23	27.77	3	3	3	3	3	3	6	5	5	5	4	5
19	675	SG	33	33	33	3	3	3	1	1	1	1	1	1	4	4	4	33.01	32.14	32.58	3	3	3	3	3	3	5	5	5	6	5	5
20	677	SG	33	42	38	3	3	3	1	1	1	1	1	1	4	4	4	35.76	35.42	35.59	3	3	3	3	3	3	5	5	5	5	5	5
21	683	SG	75	58	67	3	3	3	1	1	1	1	1	1	4	4	4	19.79	25.26	22.53	3	3	3	3	3	3	5	5	5	4	4	4
22	684	SG	83	50	67	3	3	3	1	1	1	1	1	1	3	4	3-4	22.07	27.65	24.86	3	3	3	3	3	3	5	5	5	6	5	5
23	686	SG	42	50	46	3	3	3	1	1	1	1	1	1	1	4	1-4	28.95	27.86	28.40	3	3	3	3	3	3	5	5	5	4	4	4
24	687	SG	100	100	100	3	3	3	1	1	1	1	1	1	3	4	3-4	19.49	21.21	20.35	2	3	3	2	3	3	3	3	3	4	3	4
	Control																															
25	296B	High yield	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	15.94	29.54	22.74	2	3	3	2	3	3	8	5	7	8	5	6
	Mean		45	41	45	-	-	-	-	-	-	-	-	-	-	-	-	24.42	28.01	26.21	-	-	-	-	-	-	-	-	-	-	-	-
	SE±		7.04	5.87	4.58	-	-	-	-	-	-	-	-	-	-	-	-	1.23	1.01	0.80	-	-	-	-	-	-	-	-	-	-	-	-
	CV (%)		26.16	23.40	24.93	-	-	-	-	-	-	-	-	-	-	-	-	8.80	6.33	7.52	-	-	-	-	-	-	-	-	-	-	-	-
	CD (5%)		19.90	16.61	12.83	-	-	-	-	-	-	-	-	-	-	-	-	3.48	2.87	2.23	-	-	-	-	-	-	-	-	-	-	-	-

Continued...

Annexure III-6. ...Contd.

Trait No. →			40			41			42				43						44						45			46		
			Albumen color			Grain lustre			Days to emergence				Leaf glossy score						Seedling vigor score						Plant agronomic aspect score			Panicle yield (t ha^{-1})		
			Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	570	STR	2	2	2	5	5	5	5	5	5	5	2.3	3.5	3.0	2.3	2.7	2.5	1.7	1.5	1.6	1.7	2.0	1.8	1.3	2.0	1.7	5.1	4.6	4.8
2	576	STR	2	2	2	5	5	5	4	4	4	4	1.8	3.0	2.4	1.7	3.3	2.5	1.5	1.0	1.3	1.0	1.7	1.3	2.3	1.0	1.7	4.8	5.1	5.0
3	577	STR	2	2	2	5	5	5	4	4	4	4	1.3	3.0	2.1	1.7	2.3	2.0	2.0	1.8	1.9	1.0	2.0	1.5	1.3	2.0	1.7	4.8	4.3	4.6
4	578	STR	2	2	2	5	5	5	4	4	4	4	1.3	3.0	2.1	1.3	2.7	2.0	1.8	1.8	1.8	2.0	1.3	1.7	2.3	2.0	2.2	5.1	4.4	4.7
5	579	STR	2	2	2	5	5	5	4	4	4	4	2.3	2.8	2.5	1.7	3.3	2.5	2.5	1.3	1.9	1.3	2.3	1.8	2.7	2.0	2.3	4.8	4.7	4.7
6	583	STR	2	2	2	6	6	6	4	4	5	4	1.3	3.0	2.1	1.7	3.0	2.3	2.0	1.5	1.8	1.7	2.0	1.8	2.7	1.7	2.2	5.9	5.6	5.7
7	587	STR	2	2	2	5	5	5	4	5	4	5	2.0	3.3	2.6	3.0	3.3	3.2	2.5	1.8	2.1	1.3	2.7	2.0	2.3	1.7	2.0	5.9	5.5	5.7
8	589	STR	2	2	2	5	5	5	4	4	5	5	2.5	2.8	2.6	1.0	3.3	2.2	2.0	1.3	1.6	2.0	1.7	1.8	1.3	2.0	1.7	5.4	4.2	4.8
9	591	STR	2	2	2	5	5	5	6	5	6	5	3.3	3.0	3.1	1.7	4.7	3.2	3.5	3.3	3.4	1.3	3.7	2.5	1.3	2.0	1.7	4.8	4.8	4.8
10	592	STR	2	2	2	5	7	6	4	4	4	4	1.0	3.0	2.0	1.0	3.3	2.2	1.5	1.3	1.4	1.0	1.7	1.3	1.7	2.0	1.8	5.3	3.7	4.5
11	593	STR	2	2	2	5	5	5	4	4	4	4	1.8	2.8	2.3	1.3	3.0	2.2	2.3	1.5	1.9	1.7	1.0	1.3	1.3	2.0	1.7	5.6	4.4	5.0
12	604	ACID	2	2	2	5	5	5	4	4	5	5	1.8	2.8	2.3	1.3	3.0	2.2	1.5	1.0	1.3	2.0	1.7	1.8	1.7	1.7	1.7	4.4	4.9	4.6
13	607	ACID	2	2	2	6	5	5	4	4	5	5	2.0	3.0	2.5	2.0	3.3	2.7	1.5	1.5	1.5	1.7	3.0	2.3	1.7	1.0	1.3	5.9	5.3	5.6
14	608	ACID	2	2	2	5	5	5	4	4	4	4	2.0	3.0	2.5	1.7	3.7	2.7	1.5	1.3	1.4	1.0	2.0	1.5	2.7	1.3	2.0	6.6	6.0	6.3
15	609	ACID	2	2	2	5	5	5	4	4	4	4	1.0	2.5	1.8	1.0	2.7	1.8	1.0	1.0	1.0	1.0	2.0	1.5	1.7	1.0	1.3	5.7	6.6	6.2
16	613	ACID	2	2	2	5	5	5	5	5	5	5	1.5	3.3	2.4	2.0	4.0	3.0	2.5	2.5	2.5	1.7	3.0	2.3	2.3	1.3	1.8	4.5	4.7	4.6
17	672	TILL	2	2	2	4	5	4	4	4	5	5	2.5	2.8	2.6	1.7	3.7	2.7	2.3	1.0	1.6	2.3	3.0	2.7	1.7	2.0	1.8	4.7	4.6	4.7
18	673	TILL	2	2	2	5	5	5	4	5	4	5	1.0	2.8	1.9	1.3	3.3	2.3	2.0	1.5	1.8	1.3	2.3	1.8	3.0	1.7	2.3	5.0	4.5	4.8
19	675	SG	2	2	2	4	5	4	5	7	5	6	2.5	3.0	2.8	2.7	4.0	3.3	3.8	2.5	3.1	2.3	4.0	3.2	1.3	1.7	1.5	6.5	6.3	6.4
20	677	SG	2	2	2	5	5	5	7	5	5	5	3.0	3.3	3.1	2.3	4.7	3.5	3.5	3.5	3.5	1.0	4.0	2.5	2.0	1.0	1.5	5.6	7.1	6.3
21	683	SG	2	2	2	4	5	4	4	4	5	5	2.3	3.0	2.6	1.7	3.3	2.5	2.0	2.0	2.0	1.0	2.3	1.7	2.3	2.0	2.2	4.1	4.7	4.4
22	684	SG	2	2	2	5	5	5	4	5	5	5	3.0	3.0	3.0	2.7	3.7	3.2	2.0	2.3	2.1	1.7	2.7	2.2	2.7	3.0	2.8	2.8	3.0	2.9
23	686	SG	2	2	2	5	5	5	4	4	5	4	3.0	3.0	3.0	1.0	4.0	2.5	1.3	1.5	1.4	1.0	2.0	1.5	2.3	2.0	2.2	5.2	5.1	5.2
24	687	SG	2	2	2	5	5	5	4	5	5	5	1.5	3.5	2.5	3.0	3.3	3.2	1.5	2.8	2.1	2.0	2.0	2.0	1.7	2.7	2.2	3.8	3.0	3.4
	Control																													
25	296B	High yield	2	2	2	1	1	1	5	6	5	5	2.3	3.8	3.0	2.3	3.7	3.0	3.0	3.3	3.1	1.3	3.0	2.2	1.0	2.0	1.5	4.0	4.9	4.4
	Mean		-	-	-	-	-	-	4	4	5	5	2.14	3.00	2.57	1.80	3.41	2.61	2.12	1.74	1.93	1.49	2.36	1.93	1.95	1.79	1.87	5.05	4.87	4.96
	SE±		-	-	-	-	-	-	0.36	0.35	0.23	0.21	0.30	0.22	0.28	0.29	0.33	0.22	0.30	0.25	0.28	0.26	0.39	0.23	0.32	0.19	0.19	0.38	0.33	0.25
	CV (%)		-	-	-	-	-	-	17.45	13.48	8.56	11.22	28.10	14.99	21.40	27.38	16.85	20.55	28.45	29.14	29.40	28.38	27.14	28.18	27.56	17.90	23.50	13.20	11.74	12.51
	CD (5%)		-	-	-	-	-	-	1.02	1.00	0.65	0.59	0.85	0.63	0.77	0.81	0.94	0.62	0.85	0.71	0.79	0.73	1.10	0.66	0.90	0.55	0.52	1.06	0.92	0.70

Continued...

Annexure III-6. ...Contd.

Trait No. →			47			48	49	50	51	52	53
Serial number	ICSB number	Trait	Grain yield (t ha^{-1}) Postrainy E3	E4	Mean	Seed set % under high atmospheric temperature in A-line Summer	Striga count Postrainy	Acid tolerance assersed as drought tolerance score Postrainy	Stay green score Postrainy	Seed set % in A-line under open pollination Postrainy	Plant color Postrainy
1	570	STR	3.8	3.3	3.5	0	1	-	5	55	-
2	576	STR	3.6	3.7	3.7	0	1	-	5	65	-
3	577	STR	3.9	3.4	3.6	60	1	-	5	40	-
4	578	STR	4.1	3.3	3.7	70	1	-	5	50	-
5	579	STR	3.8	3.6	3.7	70	1	-	5	60	-
6	583	STR	4.7	4.3	4.5	0	1	-	4	20	-
7	587	STR	4.1	3.9	4.0	0	1	-	5	65	-
8	589	STR	3.9	2.6	3.2	75	1	-	3	30	-
9	591	STR	3.7	3.0	3.3	0	1	-	5	10	-
10	592	STR	4.0	2.0	3.0	0	1	-	3	40	-
11	593	STR	4.1	2.9	3.5	0	1	-	4	55	-
12	604	ACID	3.4	3.8	3.6	0	-	1.3	-	-	-
13	607	ACID	4.8	3.9	4.3	0	-	1.0	-	-	-
14	608	ACID	5.3	4.5	4.9	0	-	2.0	-	-	-
15	609	ACID	4.6	4.9	4.8	0	-	3.0	-	-	-
16	613	ACID	3.6	3.2	3.4	0	-	1.7	-	-	-
17	672	TILL	3.7	3.6	3.7	0	-	-	5	80	Non tan
18	673	TILL	4.0	3.4	3.7	0	-	-	4	-	Non tan
19	675	SG	4.9	4.4	4.7	0	-	-	-	40	Non tan
20	677	SG	4.1	5.5	4.8	0	-	-	-	70	Non tan
21	683	SG	3.1	3.4	3.2	50	-	-	4	50	Tan
22	684	SG	1.7	2.1	1.9	50	-	-	5	30	Tan
23	686	SG	4.3	3.9	4.1	50	-	-	4	70	Tan
24	687	SG	2.9	2.2	2.5	0	-	-	-	40	Tan
	Control										
25	296B	High yield	2.7	3.1	2.9	-	0.6	-	3	30	Tan
	Mean		3.86	3.50	3.68	-	-	-	-	-	-
	SE±		0.33	0.25	0.21	-	-	-	-	-	-
	CV (%)		15.02	12.54	13.96	-	-	-	-	-	-
	CD (5%)		0.93	0.71	0.58	-	-	-	-	-	-

Continued...

Annexure III-7. Characteristics of non-*milo* (medium maturity) sorghum B-lines evaluated during the rainy and postrainy seasons, 2004 at ICRISAT-Patancheru.

Trait No. →			1				2	3						4						5			6			7			8		
Serial number	ICSB number	Trait	Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: Extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: yellow coloration of mid rib		
			Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E1	E3	E4	Mean	E4	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	689	A_2	1	1	1	1	1	2	3	2-3	2	2	2	61	63	62	60	67	64	1.2	0.9	1.0	1	3	1-3	2	0	0-2	1	1	1
2	690	A_2	2	2	2	2	3	2	2	2	2	2	2	65	72	69	67	78	73	1.1	0.9	1.0	1	1	1	2	2	2	1	1	1
3	691	A_2	1	1	1	1	1	2	2	2	2	2	2	64	68	66	64	75	70	1.1	0.9	1.0	3	3	3	0	0	0	1	1	1
4	692	A_2	2	2	2	2	3	2	2	2	2	2	2	61	67	63	61	66	63	1.2	1.0	1.1	1	3	1-3	2	0	0-2	1	1	1
5	693	A_2	2	2	2	2	3	2	1	1-2	2	2	2	67	70	69	63	71	67	1.6	1.3	1.4	3	3	3	0	0	0	1	1	1
6	695	A_2	1	1	1	1	1	2	2	2	2	2	2	63	70	67	63	75	69	1.1	0.9	1.0	1	3	1-3	2	0	0-2	1	1	1
7	697	A_2	1	1	1	1	1	2	2	2	2	2	2	69	71	70	64	78	71	1.6	1.4	1.5	1	1	1	2	2	2	1	1	1
8	699	A_2	2	2	2	2	1	2	2	2	2	2	2	64	67	65	68	74	71	1.0	1.1	1.0	1	5	1-5	2	0	0-2	1	1	1
9	702	A_2	1	1	1	1	1	2	2	2	2	2	2	61	61	61	65	74	70	1.4	1.1	1.2	1	1	1	2	2	2	1	1	1
10	703	A_2	1	2	1	1-2	1	2	2	2	3	2	2-3	67	64	66	65	79	72	1.3	1.1	1.2	7	1	1-7	0	2	0-2	1	1	1
11	704	A_2	1	1	1	1	1	2	3	2-3	3	2	2-3	68	72	71	66	80	73	1.7	1.5	1.6	5	3	3-5	0	0	0	1	1	1
12	707	A_2	1	1	1	1	1	3	3	3	3	2	2-3	64	67	66	64	75	70	1.5	1.2	1.3	5	5	3-5	0	0	0	1	1	1
13	711	A_2	1	1	1	1	1	2	2	2	3	2	2-3	65	71	69	64	74	69	1.4	1.1	1.3	5	5	5	0	0	0	1	1	1
14	712	A_2	1	1	1	1	1	2	2	2	2	2	2	61	69	66	64	76	70	1.0	0.9	0.9	1	1	1	2	2	2	1	1	1
15	713	A_2	1	2	2	1-2	1	2	2	2	2	2	2	-	67	67	64	76	70	1.1	1.0	1.0	1	1	1	2	2	2	1	1	1
16	716	A_2	2	1	2	1-2	3	2	2	2	2	2	2	62	64	63	62	70	66	1.4	1.0	1.2	1	3	1-3	2	0	0-2	1	1	1
17	717	A_2	1	1	1	1	1	2	3	2-3	3	3	3	65	69	67	64	75	70	1.1	0.9	1.0	5	5	5	0	0	0	1	1	1
18	724	A_2	1	1	2	1-2	3	2	2	2	2	2	2	69	69	69	67	79	73	1.3	1.0	1.1	7	1	1-7	0	2	0-2	1	1	1
19	725	A_2	2	2	2	2	1	2	2	2	2	2	2	61	62	62	61	72	66	1.3	1.0	1.2	1	1	1	2	2	2	1	1	1
20	726	A_2	1	1	2	1-2	1	2	2	2	2	2	2	61	61	61	60	68	64	1.3	1.0	1.1	1	1	1	2	2	2	1	1	1
21	727	A_2	2	2	2	2	3	2	2	2	2	2	2	65	70	68	63	77	70	1.6	1.2	1.4	1	1	1	2	2	2	1	1	1
22	730	A_2	2	2	2	2	3	2	2	2	2	2	2	62	68	65	62	71	66	1.8	1.3	1.5	3	1	1-3	0	2	0-2	1	1	1
23	731	A_2	2	2	2	2	3	2	2	2	2	2	2	64	63	64	65	75	70	1.6	1.2	1.4	1	1	1	2	2	2	1	1	1
24	733	A_2	2	2	2	2	3	2	2	2	2	2	2	60	62	61	62	71	67	1.3	1.1	1.2	1	3	1-3	2	0	0-2	1	1	1
25	734	A_2	1	1	1	1	1	2	2	2	2	2	2	62	71	68	65	77	71	1.4	1.1	1.2	1	1	1	2	2	2	1	1	1
26	735	A_2	1	1	1	1	1	1	1	1	2	2	2	-	63	63	66	78	72	1.4	1.0	1.2	3	1	1-3	0	2	0-2	1	1	1
27	736	A_2	1	1	1	1	1	2	1	1-2	1	2	1-2	-	67	67	65	78	71	1.3	1.0	1.2	3	1	1-3	0	2	0-2	1	1	1
28	738	A_2	2	2	2	2	3	2	2	2	2	2	2	60	67	64	62	78	70	1.0	0.9	0.9	1	1	1	2	2	2	1	1	1
29	739	A_3	1	1	1	1	1	2	2	2	2	2	2	66	69	68	64	77	71	1.2	1.1	1.1	3	3	3	0	0	0	1	1	1
30	744	A_3	1	1	2	1-2	1	2	2	2	2	2	2	67	68	68	63	75	69	1.4	1.1	1.3	5	3	3-5	0	0	0	1	1	1
31	745	A_3	1	1	1	1	1	2	2	2	2	2	2	-	62	62	65	76	71	1.1	1.0	1.0	1	1	1	2	2	2	1	1	1
32	746	A_3	1	1	1	1	1	2	3	2-3	3	2	2-3	60	65	64	62	71	67	1.6	1.1	1.3	1	1	1	2	2	2	1	1	1
33	747	A_3	1	1	1	1	1	2	2	2	2	2	2	67	70	69	64	78	71	1.3	1.0	1.1	3	3	3	0	0	0	1	1	1
34	749	A_3	1	1	1	1	1	2	2	2	2	2	2	63	66	65	64	78	71	1.4	1.1	1.2	1	1	1	2	2	2	1	1	1
35	751	A_3	1	1	1	1	1	2	2	2	2	2	2	-	72	72	64	77	71	1.1	0.9	1.0	1	1	1	2	2	2	1	1	1

Continued...

Trait No. →			1				2	3						4						5			6			7			8		
Serial number	ICSB number	Trait	Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: Extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: yellow coloration of mid rib		
			Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E1	E3	E4	Mean	E4	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
36	753	A_3	1	1	2	1-2	1	2	2	2	2	2	2	60	62	61	61	66	63	1.3	1.0	1.2	1	3	1-3	2	0	0-2	1	1	1
37	757	A_4	1	1	1	1	1	2	2	2	2	2	2	66	70	68	62	71	67	1.0	0.8	0.9	1	1	1	2	2	2	1	1	1
38	758	A_4	1	1	1	1	1	2	2	2	2	2	2	67	70	68	62	77	69	1.1	0.9	1.0	3	3	3	0	0	0	1	1	1
39	761	A_4	1	1	1	1	1	2	2	2	2	2	2	-	-	-	65	78	71	1.1	1.0	1.1	1	5	1-5	2	0	0-2	1	1	1
40	762	A_4	1	1	1	1	1	2	2	2	2	2	2	59	62	60	62	75	69	1.1	1.0	1.0	1	1	1	2	2	2	1	1	1
41	765	A_4	1	1	2	1-2	3	2	2	2	2	2	2	65	70	66	62	73	67	0.8	0.8	0.8	1	1	1	2	2	2	1	1	1
42	766	A_4	2	2	2	2	3	2	2	2	2	2	2	61	61	61	61	66	63	1.3	1.0	1.2	1	3	1-3	2	0	0-2	1	1	1
	Control																														
43	296 B	High yield	1	2	2	1-2	3	3	3	3	2	2	2	69	70	69	65	81	73	1.0	0.8	0.9	5	5	5	0	0	0	1	1	1
	Mean		-	-	-	-	-	2	2	2	-	-	-	63	66	65	64	75	69	1.26	1.03	1.15	-	-	-	-	-	-	-	-	-
	SE±		-	-	-	-	-	0.17	0.17	0.17	-	-	-	0.71	1.03	0.88	0.68	1.14	0.66	0.05	0.04	0.03	-	-	-	-	-	-	-	-	-
	CV (%)		-	-	-	-	-	16.26	16.92	16.56	-	-	-	2.26	3.11	2.72	1.87	2.67	2.37	7.66	6.85	7.37	-	-	-	-	-	-	-	-	-
	CD (5%)		-	-	-	-	-	0.46	0.48	0.47	-	-	-	2.72	3.51	3.14	1.91	3.19	1.85	0.15	0.11	0.10	-	-	-	-	-	-	-	-	-

A_1 A_2 A_3, A_4 - Corresponding A-lines on A_1, A_2, A_3 & A_4 cytoplasmic background respectively

E1- Black Manmool (BM)15, Rainy; E2- Red Campus East (RCE) 3, Rainy; E3- Black Precision (BP) 14, Postrainy; E4- BP 3, Postrainy

Range of notes whereever given indicates that the line shows variable expression

Zero in the trait no. 7 indicates absence of midrib green coloration due to midrib discoloration

Trait No. 1-41: Triats stipulated in the DUS-test guidelines (Trait no 38 was not recorded in the current trials)

Trait No. 42-48 : Ancillary traits recorded in the current trials

Trait No. 49-50 : Monitored traits recorded in various trials conducted earlier at ICRISAT

Continued...

Annexure III-7. … Contd.

Trait No. →			9			10			11			12			13			14			15			16			17			18		
Serial number	ICSB number	Trait	Glume hair color			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicellate flower			Length of anther			Dried anther color			Glume color			Plant height (m)		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	689	A_2	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	3	7	5	5	6	5	4	4	4	2	4	2-4	1.5	1.3	1.4
2	690	A_2	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	5	5	5	4	4	4	4	4	4	4	4	4	1.5	1.2	1.4
3	691	A_2	1	1	1	1	1	1	1	1	1	5	5	5	4	3	3	5	5	5	4	5	5	4	4	4	2	4	2-4	1.6	1.5	1.5
4	692	A_2	1	1	1	1	1	1	1	1	1	5	5	5	4	5	5	5	6	6	4	5	5	4	4	4	2	4	2-4	1.4	1.2	1.3
5	693	A_2	1	1	1	1	1	1	1	1	1	1	1	1	3	4	3	4	6	5	5	5	5	4	4	4	5	5	5	2.0	1.7	1.9
6	695	A_2	1	1	1	1	1	1	1	1	1	1	1	1	9	6	8	3	5	4	5	5	5	4	4	4	6	6	6	1.5	1.2	1.3
7	697	A_2	1	1	1	1	1	1	1	1	1	1	1	1	3	4	4	3	5	4	4	5	4	4	4	4	6	4	4-6	1.9	1.8	1.8
8	699	A_2	1	1	1	1	1	1	1	1	1	5	1	1-5	3	6	5	3	6	4	6	5	6	4	4	4	8	6	6-8	1.3	1.4	1.4
9	702	A_2	1	1	1	1	1	1	1	1	1	5	1	1-5	9	5	7	3	6	4	4	6	5	6	4	4-6	2	6	2-6	1.7	1.5	1.6
10	703	A_2	1	1	1	1	1	1	1	1	1	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	5	4	4-5	1.7	1.5	1.6
11	704	A_2	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	6	6	6	7	7	7	4	4	4	4	4	4	2.1	1.8	1.9
12	707	A_2	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	3	6	5	5	5	5	4	4	4	4	5	4-5	1.8	1.5	1.6
13	711	A_2	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	6	5	6	6	6	4	4	4	4	6	4-6	1.8	1.5	1.6
14	712	A_2	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	5	6	5	6	6	6	4	4	4	2	6	2-6	1.4	1.2	1.3
15	713	A_2	1	1	1	1	1	1	1	1	1	5	1	1-5	5	5	5	4	6	5	4	5	5	4	4	4	5	4	4-5	1.4	1.3	1.3
16	716	A_2	1	1	1	1	1	1	1	1	1	1	1	1	5	3	4	4	6	5	6	5	5	4	4	4	5	6	5-6	1.8	1.5	1.6
17	717	A_2	1	1	1	1	1	1	1	1	1	1	1	1	5	4	4	5	6	6	6	6	6	4	4	4	2	4	2-4	1.5	1.3	1.4
18	724	A_2	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	3	5	4	4	5	4	6	4	4-6	6	6	6	1.5	1.3	1.4
19	725	A_2	1	1	1	1	1	1	1	1	1	1	1	1	9	4	7	4	5	4	6	5	5	7	4	4-7	1	6	1-6	1.6	1.4	1.5
20	726	A_2	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	4	6	5	5	5	5	7	7	7	2	6	2-6	1.6	1.4	1.5
21	727	A_2	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	3	5	4	6	5	5	4	4	4	2	4	2-4	1.9	1.5	1.7
22	730	A_2	1	1	1	1	1	1	1	1	1	1	5	1-5	4	4	4	4	4	4	6	5	5	4	4	4	2	6	2-6	2.1	1.6	1.8
23	731	A_2	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	4	4	5	4	5	6	4	4-6	2	4	2-4	1.9	1.5	1.7
24	733	A_2	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	3	6	4	4	5	5	4	4	4	5	5	5	1.7	1.4	1.5
25	734	A_2	1	1	1	1	1	1	1	1	1	5	5	5	4	5	5	4	5	4	5	5	5	6	4	4-6	5	4	4-5	1.7	1.4	1.6
26	735	A_2	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	4	5	5	5	5	5	6	4	4-6	3	4	3-4	1.7	1.4	1.5
27	736	A_2	1	1	1	1	1	1	1	1	1	5	5	5	4	4	4	3	4	4	5	5	5	6	4	4-6	3	4	3-4	1.6	1.4	1.5
28	738	A_2	1	1	1	1	1	1	1	1	1	5	5	5	4	4	4	5	5	5	6	5	5	7	4	4-7	2	4	2-4	1.3	1.2	1.2
29	739	A_3	1	1	1	1	1	1	1	1	1	5	5	5	3	3	3	5	5	5	6	5	6	7	4	4-7	1	6	1-6	1.7	1.5	1.6
30	744	A_3	1	1	1	1	1	1	1	1	1	5	1	1-5	5	4	4	4	5	5	6	4	5	4	4	4	1	2	1-2	1.9	1.6	1.8
31	745	A_3	1	1	1	1	1	1	1	1	1	5	5	5	4	5	5	3	5	4	6	5	5	4	4	4	1	4	1-4	1.3	1.2	1.3
32	746	A_3	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	5	5	6	5	5	4	4	4	5	4	4-5	1.8	1.4	1.6
33	747	A_3	1	1	1	1	1	1	1	1	1	5	1	1-5	5	4	5	4	5	4	5	5	5	6	4	4-6	2	4	2-4	1.7	1.4	1.6
34	749	A_3	1	1	1	1	1	1	1	1	1	1	1	1	3	4	3	4	4	4	4	5	5	4	4	4	2	3	2-3	1.7	1.4	1.6
35	751	A_3	1	1	1	1	1	1	1	1	1	1	5	1-5	5	4	5	3	5	4	7	5	6	4	4	4	2	2	2	1.5	1.3	1.4

Continued...

Trait No. →			9			10			11			12			13			14			15			16			17			18		
Serial number	ICSB number	Trait	Glume hair color			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicellate flower			Length of anther			Dried anther color			Glume color			Plant height (m)		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
36	753	A_3	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	3	6	5	6	5	5	4	7	4-7	2	6	2-6	1.6	1.4	1.5
37	757	A_4	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	4	4	4	5	4	4	4	4	2	4	2-4	1.2	1.1	1.2
38	758	A_4	1	1	1	1	1	1	1	1	1	5	1	1-5	5	5	5	3	5	4	4	5	5	4	4	4	2	6	2-6	1.4	1.2	1.3
39	761	A_4	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	4	4	4	6	5	6	4	7	4-7	2	4	2-4	1.4	1.2	1.3
40	762	A_4	1	1	1	1	1	1	1	1	1	7	7	7	5	5	5	4	5	4	5	5	5	4	4	4	2	4	2-4	1.3	1.2	1.3
41	765	A_4	1	1	1	1	1	1	1	1	1	1	1	1	4	3	3	3	5	4	3	5	4	4	4	4	2	2	2	1.1	1.0	1.1
42	766	A_4	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	5	6	5	6	6	6	7	7	7	2	6	2-6	1.6	1.4	1.5
	Control																															
43	296 B	High yield	1	1	1	9	9	9	1	1	1	1	1	1	9	9	9	4	5	4	5	5	5	4	7	4-7	2	2	2	1.2	1.1	1.1
	Mean		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.59	1.38	1.48
	SE±		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	0.04	0.03
	CV (%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.83	4.98	5.49
	CD (5%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15	0.11	0.09

Continued...

Annexure III-7. … Contd.

Trait No. →			19			20			21			22			23			24			25			26			27			28	
Serial number	ICSB number	Trait	Stem thickness (mm) Postrainy			Juicy score Postrainy			Brix reading (%) Postrainy			Leaf length (cm) Postrainy			Leaf width (cm) Postrainy			Panicle length (cm) Postrainy			Panicle branch length (cm) Postrainy			Panicle compactness Postrainy			Panicle shape Postrainy			Panicle exertio Postrainy	
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4
1	689	A_2	17.2	17.4	17.3	2	1	1	5.3	6.7	6.0	60.3	58.0	59.2	8.7	6.0	7.3	28.0	23.7	25.8	7.0	5.3	6.2	6	5	5	3	3	3	4.7	12.0
2	690	A_2	15.8	14.1	14.9	1	1	1	15.0	10.0	12.5	71.7	56.0	63.8	6.5	5.3	5.9	29.0	23.3	26.2	7.0	5.3	6.2	6	5	5	3	3	3	8.7	7.3
3	691	A_2	14.6	17.1	15.9	1	1	1	5.7	6.3	6.0	77.7	61.3	69.5	8.2	6.7	7.4	29.3	27.3	28.3	9.3	8.3	8.8	7	5	6	3	3	3	20.0	26.0
4	692	A_2	14.0	12.3	13.2	2	1	1	5.0	8.7	6.8	75.0	66.7	70.8	7.2	6.3	6.8	21.3	18.3	19.8	6.0	4.7	5.3	6	6	6	3	3	3	0.0	4.7
5	693	A_2	16.6	15.1	15.9	2	1	1	5.7	6.0	5.8	61.7	53.3	57.5	8.0	6.3	7.2	25.0	23.0	24.0	7.0	5.3	6.2	6	7	7	3	3	3	17.0	24.0
6	695	A_2	15.3	15.5	15.4	1	1	1	7.0	7.3	7.2	70.7	48.3	59.5	7.0	5.0	6.0	26.7	23.0	24.8	7.0	5.3	6.2	7	5	6	3	3	3	11.7	9.3
7	697	A_2	16.3	14.7	15.5	1	1	1	9.7	6.7	8.2	54.7	37.7	46.2	6.8	5.3	6.1	24.0	22.0	23.0	6.7	5.7	6.2	7	7	7	3	3	3	4.0	18.0
8	699	A_2	20.3	13.9	17.1	1	1	1	7.3	6.3	6.8	78.0	56.3	67.2	7.8	5.7	6.8	29.7	22.0	25.8	9.7	4.7	7.2	6	7	6	3	3	3	0.0	11.7
9	702	A_2	15.0	15.3	15.2	1	1	1	9.0	7.0	8.0	74.7	61.3	68.0	8.5	7.7	8.1	27.3	25.3	26.3	7.7	7.0	7.3	4	3	4	3	3	3	10.0	14.3
10	703	A_2	16.0	15.0	15.5	1	1	1	10.0	8.3	9.2	71.0	60.3	65.7	8.3	7.3	7.8	25.3	23.0	24.2	8.0	6.7	7.3	7	7	7	3	3	3	14.0	17.7
11	704	A_2	16.4	16.5	16.5	2	1	1	5.0	6.3	5.7	68.0	51.3	59.7	8.2	6.3	7.3	25.3	23.0	24.2	7.7	7.0	7.3	5	5	5	3	3	3	5.3	12.7
12	707	A_2	14.9	16.6	15.7	2	1	1	5.7	10.0	7.8	68.3	48.7	58.5	8.0	5.7	6.8	20.0	20.0	20.0	5.0	5.7	5.3	7	7	7	3	3	3	13.3	11.0
13	711	A_2	15.7	14.3	15.0	1	1	1	7.0	7.0	7.0	83.3	59.3	71.3	9.3	7.0	8.2	29.7	23.3	26.5	8.3	7.0	7.7	5	5	5	3	3	3	7.3	11.0
14	712	A_2	17.3	17.0	17.2	1	1	1	6.0	6.3	6.2	67.7	52.3	60.0	7.3	6.0	6.7	27.7	22.7	25.2	9.3	6.0	7.7	5	5	5	3	3	3	7.3	8.7
15	713	A_2	14.9	15.7	15.3	1	1	1	8.7	11.0	9.8	65.7	54.3	60.0	8.2	6.7	7.4	27.0	24.0	25.5	7.3	7.3	7.3	6	4	5	3	3	3	5.0	7.0
16	716	A_2	15.8	12.2	14.0	1	1	1	7.0	10.0	8.5	63.3	61.3	62.3	6.8	6.7	6.8	27.0	24.0	25.5	6.7	6.0	6.3	5	5	5	3	3	3	17.7	18.3
17	717	A_2	17.5	16.5	17.0	1	1	1	6.3	7.0	6.7	64.3	47.3	55.8	6.5	5.0	5.8	25.0	22.7	23.8	6.0	5.3	5.7	7	7	7	3	3	3	12.7	12.0
18	724	A_2	19.1	13.1	16.1	1	1	1	7.7	7.3	7.5	69.3	49.3	59.3	8.0	6.3	7.2	25.3	20.3	22.8	7.0	4.3	5.7	6	5	6	3	3	3	0.0	9.7
19	725	A_2	14.5	13.5	14.0	1	1	1	5.3	6.3	5.8	67.7	62.3	65.0	8.7	6.7	7.7	20.3	18.3	19.3	5.3	5.0	5.2	8	7	7	3	3	3	6.3	18.3
20	726	A_2	14.1	15.8	15.0	1	1	1	7.0	7.7	7.3	69.3	60.7	65.0	9.5	7.7	8.6	21.3	20.0	20.7	5.7	5.7	5.7	8	7	8	3	3	3	9.7	18.7
21	727	A_2	16.9	16.7	16.8	1	1	1	4.7	7.3	6.0	65.7	57.3	61.5	8.2	7.3	7.8	25.7	20.3	23.0	7.3	5.7	6.5	7	6	6	3	3	3	0.0	8.7
22	730	A_2	14.2	13.5	13.8	1	1	1	5.7	7.0	6.3	75.7	55.0	65.3	7.5	5.7	6.6	21.3	18.7	20.0	6.3	4.7	5.5	7	6	7	3	3	3	7.0	10.3
23	731	A_2	16.0	15.8	15.9	1	1	1	5.7	6.3	6.0	82.0	58.0	70.0	8.7	6.3	7.5	22.3	19.7	21.0	6.3	5.0	5.7	7	6	6	3	3	3	5.7	10.3
24	733	A_2	17.7	14.9	16.3	1	1	1	6.0	6.7	6.3	75.3	53.3	64.3	8.8	7.0	7.9	27.7	23.7	25.7	8.3	6.0	7.2	7	5	6	3	3	3	8.7	8.3
25	734	A_2	17.0	15.1	16.1	1	1	1	8.0	7.3	7.7	68.0	57.3	62.7	8.5	7.0	7.8	24.7	22.0	23.3	7.7	6.3	7.0	7	6	6	3	3	3	8.7	9.7
26	735	A_2	16.6	15.4	16.0	1	1	1	6.7	6.7	6.7	67.7	54.7	61.2	7.8	6.7	7.3	25.0	22.3	23.7	8.0	6.3	7.2	7	5	6	3	3	3	5.0	10.3
27	736	A_2	16.9	15.4	16.2	1	1	1	7.7	7.0	7.3	60.7	52.3	56.5	7.7	6.3	7.0	23.7	21.0	22.3	7.3	6.7	7.0	7	6	6	3	3	3	5.0	10.3
28	738	A_2	16.4	16.3	16.4	1	1	1	6.3	6.7	6.5	75.0	65.3	70.2	7.8	7.7	7.8	25.7	26.3	26.0	6.0	7.0	6.5	6	5	5	3	3	3	5.0	6.7
29	739	A_3	15.9	15.9	15.9	1	1	1	5.7	6.3	6.0	77.3	63.7	70.5	8.7	8.0	8.3	30.7	27.3	29.0	9.7	9.0	9.3	5	5	5	3	3	3	18.7	20.7
30	744	A_3	15.6	14.8	15.2	1	1	1	5.3	6.0	5.7	77.0	59.3	68.2	7.8	6.7	7.3	29.3	28.0	28.7	9.3	9.3	9.3	5	5	5	3	3	3	19.3	21.7
31	745	A_3	16.7	16.4	16.5	1	1	1	6.3	8.7	7.5	74.0	60.3	67.2	8.2	7.3	7.8	24.7	21.3	23.0	7.0	4.7	5.8	6	7	7	3	3	3	0.0	6.3
32	746	A_3	17.1	13.5	15.3	2	1	1	5.7	6.7	6.2	63.3	47.3	55.3	7.5	6.3	6.9	23.7	19.7	21.7	6.0	5.3	5.7	6	6	6	3	3	3	0.0	7.3
33	747	A_3	17.3	16.3	16.8	1	1	1	6.0	8.0	7.0	68.0	58.3	63.2	7.3	6.0	6.7	30.7	25.7	28.2	8.3	5.7	7.0	6	5	5	3	3	3	14.0	17.3
34	749	A_3	18.3	16.2	17.3	2	1	1	5.3	6.7	6.0	69.7	55.7	62.7	7.8	6.3	7.1	27.7	24.0	25.8	7.3	6.0	6.7	7	6	6	3	3	3	5.0	9.7
35	751	A_3	18.9	16.0	17.4	1	1	1	5.3	7.0	6.2	79.3	57.3	68.3	10.0	6.3	8.2	29.0	24.0	26.5	9.0	6.7	7.8	6	5	5	3	3	3	10.0	11.0

Continued...

Trait No. →			19			20			21			22			23			24			25			26			27			28	
Serial number	ICSB number	Trait	Stem thickness (mm) Postrainy			Juicy score Postrainy			Brix reading (%) Postrainy			Leaf length (cm) Postrainy			Leaf width (cm) Postrainy			Panicle length (cm) Postrainy			Panicle branch length (cm) Postrainy			Panicle compactness Postrainy			Panicle shape Postrainy			Panicle exertio Postrainy	
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4
36	753	A_3	13.9	13.2	13.5	1	1	1	6.3	9.7	8.0	66.0	64.3	65.2	8.8	8.3	8.6	20.3	19.0	19.7	6.7	5.3	6.0	6	7	7	3	3	3	8.7	16.7
37	757	A_4	17.4	13.2	15.3	1	1	1	5.7	7.0	6.3	67.0	59.3	63.2	8.2	7.3	7.8	21.7	19.7	20.7	7.0	5.3	6.2	7	6	7	3	3	3	0.0	9.0
38	758	A_4	15.1	14.7	14.9	1	1	1	6.7	7.3	7.0	71.7	62.3	67.0	6.5	6.7	6.6	25.3	24.0	24.7	8.3	5.7	7.0	6	5	6	3	3	3	12.0	9.0
39	761	A_4	16.7	15.5	16.1	1	1	1	5.3	8.7	7.0	77.7	59.3	68.5	9.5	7.3	8.4	24.7	22.3	23.5	7.3	5.7	6.5	7	7	7	3	3	3	0.0	4.0
40	762	A_4	16.8	15.1	16.0	2	1	2	5.3	6.3	5.8	79.0	65.3	72.2	9.5	8.0	8.8	24.3	22.0	23.2	8.7	5.7	7.2	6	5	5	2	3	3	0.0	4.3
41	765	A_4	19.7	19.0	19.4	1	1	1	5.7	7.0	6.3	68.3	47.7	58.0	7.8	5.7	6.8	28.0	24.0	26.0	7.7	6.7	7.2	6	5	5	3	3	3	0.0	0.7
42	766	A_4	14.4	15.3	14.8	1	1	1	5.7	10.0	7.8	69.3	58.0	63.7	8.5	7.3	7.9	22.3	20.0	21.2	6.7	5.7	6.2	7	7	7	3	3	3	6.7	18.7
	Control																														
43	296 B	High yield	17.2	16.6	16.9	2	1	1	6.0	11.0	8.5	69.3	58.0	63.7	7.8	7.0	7.4	25.0	26.7	25.8	6.0	6.3	6.2	7	6	7	3	3	3	0.0	0.0
	Mean		16.37	15.27	15.82	-	-	-	6.57	7.53	7.05	70.45	56.65	63.55	8.06	6.61	7.34	25.53	22.58	24.05	7.35	6.01	6.68	-	-	-	-	-	-	7.30	11.71
	SE±		0.99	1.16	0.76	-	-	-	0.83	0.87	0.60	3.34	2.19	2.00	0.46	0.35	0.29	0.88	0.73	0.57	0.54	0.44	0.35	-	-	-	-	-	-	0.63	1.01
	CV (%)		10.48	13.18	11.81	-	-	-	22.05	19.98	20.94	8.22	6.67	7.69	10.02	9.10	9.70	5.92	5.58	5.78	12.80	12.57	12.76	-	-	-	-	-	-	15.68	15.61
	CD (5%)		2.79	3.25	2.13	-	-	-	2.32	2.43	1.67	9.38	6.14	5.57	1.30	0.98	0.81	2.46	2.05	1.59	1.52	1.24	0.98	-	-	-	-	-	-	1.78	2.84

Continued...

Annexure III-7. … Contd.

Trait No. →				29			30			31			32			33			34			35			36			37			39	
Serial number	ICSB number	Trait	n (cm)	Glume coverage (%)			Shattering			Threshability			Grain form			Grain color			1000-grain mass (g)			Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm tex	
				Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy	
			Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4
1	689	A_2	8.3	33	33	33	3	3	3	1	1	1	1	1	1	3	3	3	25.37	25.00	25.18	3	3	3	3	3	3	6	5	5	4	3
2	690	A_2	8.0	25	33	29	3	3	3	1	1	1	1	1	1	3	4	3-4	28.68	27.33	28.01	3	3	3	3	3	3	5	5	5	4	5
3	691	A_2	23.0	75	33	54	3	3	3	1	1	1	1	1	1	1	4	1-4	21.72	30.33	26.03	3	3	3	3	3	3	4	5	4	4	5
4	692	A_2	2.3	33	25	29	3	3	3	1	1	1	1	1	1	1	3	1-3	24.63	25.67	25.15	3	3	3	3	3	3	4	5	5	5	4
5	693	A_2	20.5	58	58	58	3	3	3	1	1	1	1	1	1	7	7	7	27.86	28.00	27.93	3	3	3	3	3	3	6	5	6	8	6
6	695	A_2	10.5	33	42	38	3	3	3	1	1	1	1	1	1	4	4	4	26.13	27.00	26.56	3	3	3	3	3	3	5	5	5	6	4
7	697	A_2	11.0	33	25	29	3	3	3	1	1	1	1	1	1	4	4	4	26.91	26.67	26.79	3	3	3	3	3	3	4	4	4	4	4
8	699	A_2	5.8	67	50	58	3	3	3	1	1	1	1	1	1	7	3	3-7	26.18	30.00	28.09	3	3	3	3	3	3	4	5	4	6	4
9	702	A_2	12.2	25	25	25	3	3	3	1	1	1	1	1	1	3	4	3-4	28.52	32.67	30.59	3	3	3	3	3	3	4	5	5	4	4
10	703	A_2	15.8	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	26.99	27.67	27.33	3	3	3	3	3	3	3	4	3	6	4
11	704	A_2	9.0	50	33	42	3	3	3	1	1	1	1	1	1	3	4	3-4	21.31	29.33	25.32	2	3	3	2	3	3	5	5	5	5	4
12	707	A_2	12.2	33	33	33	3	3	3	1	1	1	1	1	1	1	4	1-4	23.49	26.67	25.08	3	3	3	3	3	3	4	5	5	4	4
13	711	A_2	9.2	42	33	38	3	3	3	1	1	1	1	1	1	1	3	1-3	23.65	24.33	23.99	3	3	3	3	3	3	4	5	5	4	3
14	712	A_2	8.0	25	42	33	3	3	3	1	1	1	1	1	1	3	4	3-4	25.01	27.00	26.01	3	3	3	3	3	3	6	5	5	4	4
15	713	A_2	6.0	58	33	46	3	3	3	1	1	1	1	1	1	1	4	1-4	27.65	32.33	29.99	3	3	3	3	3	3	5	5	5	5	5
16	716	A_2	18.0	42	33	38	3	3	3	1	1	1	1	1	1	3	4	3-4	26.74	32.00	29.37	3	3	3	3	3	3	6	5	5	4	5
17	717	A_2	12.3	42	42	42	3	3	3	1	1	1	1	1	1	4	4	4	26.73	32.00	29.36	3	3	3	3	3	3	6	6	6	5	5
18	724	A_2	4.8	25	25	25	3	3	3	1	1	1	1	1	1	3	4	3-4	25.78	26.00	25.89	3	3	3	3	3	3	5	5	5	4	4
19	725	A_2	12.3	42	25	33	3	3	3	1	1	1	1	1	1	3	4	3-4	26.42	31.00	28.71	3	3	3	3	3	3	4	5	5	6	5
20	726	A_2	14.2	25	25	25	3	3	3	1	1	1	1	1	1	3	4	3-4	28.23	30.00	29.11	3	3	3	3	3	3	6	5	5	5	5
21	727	A_2	4.3	50	25	38	3	3	3	1	1	1	1	1	1	1	3	1-3	22.48	28.00	25.24	2	3	3	2	3	3	4	5	4	4	5
22	730	A_2	8.7	33	25	29	3	3	3	1	1	1	1	1	1	1	3	1-3	27.51	28.67	28.09	3	3	3	3	3	3	5	5	5	3	3
23	731	A_2	8.0	25	33	29	3	3	3	1	1	1	1	1	1	1	3	1-3	26.30	28.00	27.15	3	3	3	3	3	3	5	5	5	3	4
24	733	A_2	8.5	42	42	42	3	3	3	1	1	1	1	1	1	3	3	3	35.70	42.00	38.85	3	3	3	3	3	3	5	5	5	4	4
25	734	A_2	9.2	25	50	38	3	3	3	1	1	1	1	1	1	4	4	4	29.26	29.67	29.46	3	3	3	3	3	3	4	5	5	5	5
26	735	A_2	7.7	42	33	38	3	3	3	1	1	1	1	1	1	4	4	4	28.60	28.67	28.63	3	3	3	3	3	3	4	5	5	5	5
27	736	A_2	7.7	33	42	38	3	3	3	1	1	1	1	1	1	3	4	3-4	30.24	30.67	30.45	3	3	3	3	3	3	3	5	4	4	5
28	738	A_2	5.8	50	25	38	3	3	3	1	1	1	1	1	1	3	4	3-4	20.25	25.67	22.96	3	3	3	3	3	3	3	4	3	5	5
29	739	A_3	19.7	67	33	50	3	3	3	1	1	1	1	1	1	1	3	1-3	21.57	30.67	26.12	3	3	3	3	3	3	4	5	4	4	5
30	744	A_3	20.5	50	42	46	3	3	3	1	1	1	1	1	1	1	4	1-4	22.62	28.67	25.64	3	3	3	3	3	3	3	5	4	5	4
31	745	A_3	3.2	25	25	25	3	3	3	1	1	1	1	1	1	3	4	3-4	25.59	32.67	29.13	3	3	3	3	3	3	5	5	5	4	5
32	746	A_3	3.7	58	50	54	3	3	3	1	1	1	1	1	1	3	4	3-4	21.96	25.00	23.48	2	2	2	2	2	2	6	5	6	5	3
33	747	A_3	15.7	58	42	50	3	3	3	1	1	1	1	1	1	1	4	1-4	20.73	27.33	24.03	3	3	3	3	3	3	4	5	5	4	4
34	749	A_3	7.3	33	25	29	3	3	3	1	1	1	1	1	1	1	3	1-3	20.96	24.00	22.48	3	3	3	3	3	3	6	5	5	4	4
35	751	A_3	10.5	42	25	33	3	3	3	1	1	1	1	1	1	1	3	1-3	21.00	30.00	25.50	3	3	3	3	3	3	4	5	5	6	4

Continued...

Trait No. →				29			30			31			32			33			34			35			36			37			39	
Serial number	ICSB number	Trait	n (cm) Mean	Glume coverage (%) Postrainy E3	E4	Mean	Shattering Postrainy E3	E4	Mean	Threshability Postrainy E3	E4	Mean	Grain form Postrainy E3	E4	Mean	Grain color Postrainy E3	E4	Mean	1000-grain mass (g) Postrainy E3	E4	Mean	Grain shape-dorsal view Postrainy E3	E4	Mean	Grain shape-profile view Postrainy E3	E4	Mean	Grain germ size Postrainy E3	E4	Mean	Endosperm tex Postrainy E3	E4
36	753	A_3	12.7	33	25	29	3	3	3	1	1	1	1	1	1	3	4	3-4	29.02	29.00	29.01	3	3	3	3	3	3	5	5	5	6	4
37	757	A_4	4.5	25	25	25	3	3	3	1	1	1	1	1	1	1	3	1-3	19.42	22.33	20.88	3	3	3	3	3	3	4	5	5	5	5
38	758	A_4	10.5	33	42	38	3	3	3	1	1	1	1	1	1	4	4	4	26.18	26.67	26.42	3	3	3	3	3	3	6	5	5	5	4
39	761	A_4	2.0	33	33	33	3	3	3	1	1	1	1	1	1	3	4	3-4	24.31	31.67	27.99	3	3	3	3	3	3	6	5	6	4	5
40	762	A_4	2.2	25	33	29	3	3	3	1	1	1	1	1	1	1	3	1-3	18.51	26.67	22.59	2	3	3	2	3	3	5	5	5	6	4
41	765	A_4	0.3	58	33	46	3	3	3	1	1	1	1	1	1	3	4	3-4	20.36	24.00	22.18	3	3	3	3	3	3	4	4	4	4	4
42	766	A_4	12.7	33	25	29	3	3	3	1	1	1	1	1	1	4	4	4	27.82	29.67	28.74	3	3	3	3	3	3	5	7	6	6	4
	Control																															
43	296 B	High yield	0.0	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	19.57	29.67	24.62	2	3	3	2	3	3	6	5	6	7	5
	Mean		9.50	39	33	36	-	-	-	-	-	-	-	-	-	-	-	-	25.07	28.61	26.84	-	-	-	-	-	-	-	-	-	-	-
	SE±		0.60	6.53	6.37	4.56	-	-	-	-	-	-	-	-	-	-	-	-	1.36	0.79	0.79	-	-	-	-	-	-	-	-	-	-	-
	CV (%)		16.05	27.90	31.71	29.67	-	-	-	-	-	-	-	-	-	-	-	-	9.37	4.73	7.14	-	-	-	-	-	-	-	-	-	-	-
	CD (5%)		1.66	18.32	17.88	12.72	-	-	-	-	-	-	-	-	-	-	-	-	3.82	2.20	2.19	-	-	-	-	-	-	-	-	-	-	-

Continued...

Annexure III-7. … Contd.

Trait No. →				40			41			42				43						44						45		
Serial number	ICSB number	Trait	ture	Albumen color			Grain lustre			Days to emergence				Leaf glossy score						Seedling vigor score						Plant agronomic aspect score		
				Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			Postrainy		
			Mean	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean
1	689	A_2	4	2	2	2	5.0	5.0	5.0	4	4	4	4	1.8	3.0	2.4	1.7	2.3	2.0	1.5	1.0	1.3	1.3	1.3	1.3	2.0	2.0	2.0
2	690	A_2	4	2	2	2	5.0	5.7	5.3	4	4	5	4	1.0	3.3	2.1	1.3	3.0	2.2	1.3	1.0	1.1	1.7	1.3	1.5	2.0	1.7	1.8
3	691	A_2	5	2	2	2	5.0	5.0	5.0	4	5	5	5	1.5	2.8	2.1	1.0	3.3	2.2	1.8	1.3	1.5	1.7	1.7	1.7	1.0	1.0	1.0
4	692	A_2	5	2	2	2	5.0	5.0	5.0	4	4	5	4	2.5	3.0	2.8	2.3	3.3	2.8	2.5	2.3	2.4	1.7	2.3	2.0	2.0	2.3	2.2
5	693	A_2	7	2	2	2	1.0	2.3	1.7	4	5	5	5	2.8	3.0	2.9	1.7	3.7	2.7	1.8	1.0	1.4	2.7	1.7	2.2	2.0	1.7	1.8
6	695	A_2	5	2	2	2	3.7	5.0	4.3	4	5	5	5	3.0	3.0	3.0	2.3	4.0	3.2	1.8	1.8	1.8	1.7	1.0	1.3	2.0	2.0	2.0
7	697	A_2	4	2	2	2	5.7	6.3	6.0	6	5	5	5	1.3	2.8	2.0	1.7	2.3	2.0	3.8	3.0	3.4	1.7	2.3	2.0	2.0	2.0	2.0
8	699	A_2	5	2	2	2	1.0	5.0	3.0	5	6	5	6	3.3	3.0	3.1	2.7	4.0	3.3	3.3	2.8	3.0	4.0	1.0	2.5	3.0	2.3	2.7
9	702	A_2	4	2	2	2	5.0	5.0	5.0	4	4	5	4	1.8	2.5	2.1	1.3	3.0	2.2	1.5	1.5	1.5	1.0	1.3	1.2	2.0	1.7	1.8
10	703	A_2	5	2	2	2	5.0	5.0	5.0	4	5	5	5	3.0	3.0	3.0	1.7	3.3	2.5	1.8	1.0	1.4	1.7	1.7	1.7	1.0	1.3	1.2
11	704	A_2	4	2	2	2	3.7	5.0	4.3	6	6	7	6	2.5	3.3	2.9	2.7	4.3	3.5	3.3	2.5	2.9	2.7	3.7	3.2	1.0	1.7	1.3
12	707	A_2	4	2	2	2	5.0	5.0	5.0	4	4	5	4	1.0	2.5	1.8	1.0	2.3	1.7	1.5	1.5	1.5	1.3	1.3	1.3	2.0	2.0	2.0
13	711	A_2	3	2	2	2	5.0	5.0	5.0	4	4	4	4	2.5	2.8	2.6	1.0	3.3	2.2	1.3	1.0	1.1	1.0	1.3	1.2	2.0	1.7	1.8
14	712	A_2	4	2	2	2	5.0	5.0	5.0	4	4	5	5	1.8	3.0	2.4	1.3	3.0	2.2	1.0	1.3	1.1	1.7	1.3	1.5	2.0	1.7	1.8
15	713	A_2	5	2	2	2	5.0	6.3	5.7	4	4	5	4	1.5	3.0	2.3	1.7	3.3	2.5	1.5	1.5	1.5	1.0	1.7	1.3	3.0	2.3	2.7
16	716	A_2	4	2	2	2	5.7	5.0	5.3	4	4	5	4	1.8	3.0	2.4	1.0	3.3	2.2	1.0	1.0	1.0	1.0	1.7	1.3	2.0	2.3	2.2
17	717	A_2	5	2	2	2	5.0	5.0	5.0	4	4	5	4	1.3	2.8	2.0	1.7	2.7	2.2	1.8	1.5	1.6	1.3	1.3	1.3	1.0	1.3	1.2
18	724	A_2	4	2	2	2	5.0	5.0	5.0	4	4	5	5	1.8	2.8	2.3	1.7	3.0	2.3	2.0	1.0	1.5	1.0	1.0	1.0	2.0	2.0	2.0
19	725	A_2	5	2	2	2	5.0	5.0	5.0	4	4	5	5	3.0	3.0	3.0	2.0	4.0	3.0	1.3	1.5	1.4	1.0	1.0	1.0	1.0	1.3	1.2
20	726	A_2	5	2	2	2	5.0	5.0	5.0	4	4	5	5	2.3	3.0	2.6	1.3	3.7	2.5	1.0	1.5	1.3	1.0	3.3	2.2	1.0	1.0	1.0
21	727	A_2	5	2	2	2	5.0	5.0	5.0	4	5	5	5	2.5	3.0	2.8	1.7	3.3	2.5	1.0	1.3	1.1	1.7	1.3	1.5	1.0	1.3	1.2
22	730	A_2	3	2	2	2	5.0	5.0	5.0	4	4	5	4	1.3	3.0	2.1	1.3	3.0	2.2	1.0	1.3	1.1	1.0	1.0	1.0	2.0	1.3	1.7
23	731	A_2	3	2	2	2	5.0	5.0	5.0	3	4	4	4	1.5	2.3	1.9	1.3	2.7	2.0	1.5	1.0	1.3	1.3	1.3	1.3	1.0	0.7	0.8
24	733	A_2	4	2	2	2	5.0	5.0	5.0	4	4	5	5	1.3	2.5	1.9	1.3	2.3	1.8	1.3	1.3	1.3	1.0	1.0	1.0	1.0	1.0	1.0
25	734	A_2	5	2	2	2	5.7	5.0	5.3	4	5	5	5	1.5	3.0	2.3	1.0	3.0	2.0	1.3	1.3	1.3	1.0	1.3	1.2	1.0	1.3	1.2
26	735	A_2	5	2	2	2	5.0	6.3	5.7	4	5	5	5	1.8	3.0	2.4	1.7	2.7	2.2	1.0	1.5	1.3	1.3	1.3	1.3	1.0	1.3	1.2
27	736	A_2	4	2	2	2	5.0	6.3	5.7	4	4	5	5	2.3	3.0	2.6	2.0	3.3	2.7	1.3	1.3	1.3	1.0	1.0	1.0	1.0	1.0	1.0
28	738	A_2	5	2	2	2	5.0	5.0	5.0	6	6	6	6	2.5	3.0	2.8	2.3	3.7	3.0	3.3	2.5	2.9	2.7	3.3	3.0	1.0	1.3	1.2
29	739	A_3	4	2	2	2	5.0	5.0	5.0	5	4	6	5	2.5	2.8	2.6	1.3	3.3	2.3	3.5	2.5	3.0	1.0	3.0	2.0	1.0	1.3	1.2
30	744	A_3	4	2	2	2	5.0	5.0	5.0	4	4	5	5	1.3	2.8	2.0	1.0	2.7	1.8	1.8	1.5	1.6	1.3	2.0	1.7	1.0	1.0	1.0
31	745	A_3	5	2	2	2	5.0	5.0	5.0	4	4	4	4	1.8	3.3	2.5	1.0	2.7	1.8	1.0	1.3	1.1	1.0	1.0	1.0	1.0	1.0	1.0
32	746	A_3	4	2	2	2	3.7	5.0	4.3	3	4	4	4	1.3	3.0	2.1	1.3	2.3	1.8	1.3	1.0	1.1	1.3	1.0	1.2	2.0	1.7	1.8
33	747	A_3	4	2	2	2	5.0	5.0	5.0	5	4	5	5	1.8	3.0	2.4	1.7	3.7	2.7	2.5	1.5	2.0	2.0	2.3	2.2	2.0	1.7	1.8
34	749	A_3	4	2	2	2	5.0	5.0	5.0	4	4	5	5	1.5	3.3	2.4	1.7	3.3	2.5	1.5	1.5	1.5	1.3	1.0	1.2	1.0	1.3	1.2
35	751	A_3	5	2	2	2	5.0	5.0	5.0	4	5	5	5	2.8	3.0	2.9	1.7	4.0	2.8	1.8	1.5	1.6	1.3	2.0	1.7	1.0	1.0	1.0

Continued...

Trait No. →				40			41			42				43						44						45		
			ture	Albumen color			Grain lustre			Days to emergence				Leaf glossy score						Seedling vigor score						Plant agronomic aspect score		
				Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	Mean	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean
36	753	A_3	5	2	2	2	5.0	5.0	5.0	4	4	4	4	1.8	3.0	2.4	1.0	3.0	2.0	1.3	1.0	1.1	1.3	1.0	1.2	1.0	1.3	1.2
37	757	A_4	5	2	2	2	3.7	5.0	4.3	4	5	5	5	1.3	3.0	2.1	1.7	3.0	2.3	1.8	1.0	1.4	1.7	2.7	2.2	1.0	1.7	1.3
38	758	A_4	5	2	2	2	3.7	5.0	4.3	4	4	5	5	2.5	3.0	2.8	1.7	4.0	2.8	2.5	1.3	1.9	1.3	2.7	2.0	2.0	2.0	2.0
39	761	A_4	5	2	2	2	5.0	5.0	5.0	4	5	5	5	1.8	3.0	2.4	1.0	3.0	2.0	1.5	1.3	1.4	1.0	1.0	1.0	1.0	1.0	1.0
40	762	A_4	5	2	2	2	5.0	5.0	5.0	3	4	5	5	1.8	2.8	2.3	1.3	3.0	2.2	1.5	1.3	1.4	1.0	1.7	1.3	1.0	1.3	1.2
41	765	A_4	4	2	2	2	5.0	5.0	5.0	6	7	6	7	1.5	3.0	2.3	1.7	3.0	2.3	4.0	3.8	3.9	3.3	4.3	3.8	2.0	2.0	2.0
42	766	A_4	5	2	2	2	5.0	2.3	3.7	5	5	5	5	3.0	3.0	3.0	2.3	3.7	3.0	1.5	1.5	1.5	1.7	2.3	2.0	2.0	1.3	1.7
	Control																											
43	296 B	High yield	6	2	2	2	2.3	1.0	1.7	4	6	6	6	2.8	3.0	2.9	2.3	4.3	3.3	3.5	2.0	2.8	1.3	4.0	2.7	2.0	2.0	2.0
	Mean		-	-	-	-	-	-	-	4	5	5	5	1.99	2.92	2.45	1.59	3.22	2.40	1.84	1.55	1.69	1.51	1.79	1.65	1.53	1.54	1.54
	SE±		-	-	-	-	-	-	-	0.27	0.34	0.31	0.23	0.26	0.18	0.22	0.28	0.32	0.21	0.23	0.23	0.23	0.25	0.27	0.19	-	0.27	0.19
	CV (%)		-	-	-	-	-	-	-	13.14	13.07	10.97	11.99	25.76	12.09	18.35	29.87	17.29	21.54	25.34	29.76	27.41	28.53	25.35	26.81	-	28.49	28.46
	CD (5%)		-	-	-	-	-	-	-	0.76	0.97	0.88	0.65	0.71	0.49	0.63	0.78	0.91	0.60	0.65	0.64	0.65	0.71	0.76	0.52	-	0.75	0.53

Continued...

Annexure III-7. … Contd.

Trait No. →			46			47			48	49	50
Serial number	ICSB number	Trait	Panicle yield (t ha^{-1}) Postrainy E3	Panicle yield (t ha^{-1}) Postrainy E4	Panicle yield (t ha^{-1}) Postrainy Mean	Grain yield (t ha^{-1}) Postrainy E3	Grain yield (t ha^{-1}) Postrainy E4	Grain yield (t ha^{-1}) Postrainy Mean	Seed set % under high atmospheric temperature in A-line Summer	Seed set % in A-line under open pollination Postrainy	Plant color Postrainy
1	689	A_2	5.4	4.0	4.7	4.3	3.1	3.7	20	70	Tan
2	690	A_2	5.2	3.4	4.3	4.0	2.4	3.2	80	70	Tan
3	691	A_2	4.5	4.6	4.5	3.5	3.5	3.5	10	55	Tan
4	692	A_2	5.2	3.2	4.2	4.0	2.4	3.2	90	40	Tan
5	693	A_2	5.3	4.1	4.7	4.2	2.9	3.5	0	70	Tan
6	695	A_2	5.1	3.7	4.4	4.2	2.8	3.5	0	75	Tan
7	697	A_2	4.5	3.2	3.8	3.3	2.2	2.8	30	50	Tan
8	699	A_2	4.8	4.5	4.7	3.2	3.0	3.1	10	65	Non tan
9	702	A_2	5.1	4.1	4.6	4.1	3.0	3.6	10	35	Tan
10	703	A_2	6.3	5.0	5.6	5.0	3.6	4.3	50	55	Tan
11	704	A_2	4.8	4.4	4.6	3.7	3.1	3.4	0	60	Tan
12	707	A_2	4.8	4.7	4.8	3.9	3.5	3.7	0	90	Tan
13	711	A_2	6.2	3.9	5.0	4.9	2.9	3.9	0	55	Tan
14	712	A_2	4.5	3.7	4.1	3.5	2.7	3.1	30	30	Tan
15	713	A_2	4.5	3.9	4.2	3.4	2.8	3.1	0	55	Tan
16	716	A_2	4.2	3.4	3.8	3.4	2.5	2.9	0	80	Tan
17	717	A_2	5.2	4.5	4.8	4.0	3.2	3.6	0	40	Tan
18	724	A_2	6.8	3.9	5.4	5.4	2.9	4.2	70	70	Tan
19	725	A_2	5.1	4.3	4.7	4.0	3.2	3.6	20	90	Tan
20	726	A_2	5.5	5.6	5.6	4.3	4.1	4.2	10	85	Tan
21	727	A_2	5.8	4.5	5.2	4.5	3.3	3.9	0	50	Tan
22	730	A_2	3.7	4.1	3.9	4.3	3.2	3.8	80	65	Tan
23	731	A_2	6.5	4.6	5.5	5.3	3.6	4.5	0	70	Tan
24	733	A_2	6.1	5.3	5.7	4.6	3.8	4.2	30	40	Tan
25	734	A_2	5.7	4.4	5.0	4.5	3.2	3.9	10	55	Tan
26	735	A_2	5.6	4.7	5.2	4.4	3.6	4.0	30	80	Tan
27	736	A_2	6.2	4.8	5.5	4.9	3.6	4.3	30	75	Tan
28	738	A_2	4.9	5.2	5.1	3.6	3.3	3.5	0	85	Tan
29	739	A_3	4.1	4.9	4.5	3.2	3.7	3.5	0	50	Tan
30	744	A_3	5.1	5.6	5.4	4.0	4.3	4.1	0	80	Tan
31	745	A_3	5.1	4.8	4.9	3.8	3.5	3.6	0	50	Tan
32	746	A_3	5.2	3.7	4.5	4.3	2.8	3.6	0	35	Tan
33	747	A_3	5.9	4.4	5.2	4.9	3.5	4.2	0	85	Tan
34	749	A_3	5.3	5.1	5.2	4.3	3.9	4.1	0	75	Tan
35	751	A_3	5.0	4.8	4.9	3.9	3.7	3.8	90	50	Tan

Continued...

Trait No. →			46			47			48	49	50
Serial number	ICSB number	Trait	Panicle yield (t ha^{-1}) Postrainy E3	Panicle yield (t ha^{-1}) Postrainy E4	Panicle yield (t ha^{-1}) Postrainy Mean	Grain yield (t ha^{-1}) Postrainy E3	Grain yield (t ha^{-1}) Postrainy E4	Grain yield (t ha^{-1}) Postrainy Mean	Seed set % under high atmospheric temperature in A-line Summer	Seed set % in A-line under open pollination Postrainy	Plant color Postrainy
36	753	A_3	5.6	4.4	5.0	4.4	3.2	3.8	0	75	Tan
37	757	A_4	4.7	4.0	4.4	3.7	2.9	3.3	0	80	Tan
38	758	A_4	5.4	3.9	4.6	4.5	2.9	3.7	0	70	Tan
39	761	A_4	5.4	5.1	5.3	4.1	3.7	3.9	0	85	Tan
40	762	A_4	4.8	5.0	4.9	3.6	3.7	3.6	0	50	Tan
41	765	A_4	4.1	4.2	4.1	3.1	3.0	3.1	0	55	Tan
42	766	A_4	5.3	4.7	5.0	4.1	3.3	3.7	0	80	Tan
	Control										
43	296 B	High yield	4.3	3.3	3.8	2.7	2.1	2.4	-	30	Tan
	Mean		5.17	4.36	4.77	4.07	3.19	3.63	-	-	-
	SE±		0.42	0.39	0.29	0.30	0.32	0.22	-	-	-
	CV (%)		14.48	15.62	15.02	13.21	17.44	15.08	-	-	-
	CD (5%)		1.19	1.09	0.80	0.85	0.89	0.61	-	-	-

Continued...

Annexure III-8. Characteristics of insect pest resistant (medium maturity) sorghum B-lines evaluated during the rainy and postrainy seasons, 2004 at ICRISAT-Patancheru.

Trait No. →			1				2	3						4						5			6			7			8		
Serial number	ICSB number	Trait	Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: Extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: Yellow coloration of mid rib		
			Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E1	E3	E4	Mean	E4	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	422	SFR	2	2	2	2	3	2	2	2	2	2	2	69	71	70	68	79	73	1.3	1.1	1.2	1	1	1	2	2	2	1	1	1
2	432	SFR	2	1	2	1-2	3	2	2	2	2	2	2	68	70	69	65	75	70	1.3	1.0	1.1	1	1	1	2	2	2	1	1	1
3	440	SFPR	2	2	2	2	3	2	2	2	2	2	2	68	67	67	65	74	69	0.8	0.8	0.8	1	1	1	2	2	2	1	1	1
4	445	SFPR	2	2	2	2	3	2	2	2	2	2	2	70	71	71	64	73	69	1.0	0.9	0.9	1	1	1	2	2	2	1	1	1
5	446	SFPR	2	2	2	2	3	2	2	2	2	2	2	71	70	70	65	76	71	1.4	1.0	1.2	1	1	1	2	2	2	1	1	1
6	449	SFPR	1	1	1	1	1	2	2	2	2	2	2	64	67	66	60	70	65	1.4	1.2	1.3	1	3	1-3	2	0	0-2	1	1	1
7	451	SFPR	1	1	1	1	1	2	2	2	2	2	2	67	69	68	63	74	69	1.2	1.0	1.1	1	5	1-5	2	0	0-2	1	1	1
8	452	SFPR	1	2	2	1-2	1	2	2	2	2	2	2	70	69	70	66	77	71	1.2	1.1	1.1	1	1	1	2	2	2	1	1	1
9	460	SFPR	1	1	1	1	1	2	2	2	2	2	2	67	67	67	62	77	69	1.2	1.0	1.1	1	3	1-3	2	0	0-2	1	1	1
10	464	SBR	1	1	1	1	1	2	2	2	2	2	2	68	-	68	63	72	68	1.6	1.2	1.4	1	1	1	2	2	2	1	1	1
11	465	SBR	1	1	1	1	1	2	2	2	2	2	2	68	69	69	66	74	70	1.3	1.0	1.2	1	1	1	2	2	2	1	1	1
12	467	SBR	2	2	2	2	3	2	2	2	2	2	2	63	64	63	58	68	63	1.4	1.0	1.2	1	1	1	2	2	2	1	1	1
13	469	SBR	1	1	1	1	1	2	2	2	2	2	2	69	74	72	64	77	71	1.2	1.0	1.1	1	1	1	2	2	2	1	1	1
14	471	SBR	1	1	1	1	1	1	1	1	2	2	2	65	71	68	62	74	68	1.3	1.0	1.1	1	1	1	2	2	2	5	1	1
15	472	SBR	2	2	2	2	3	2	2	2	2	2	2	70	73	71	68	75	71	2.2	1.7	1.9	1	1	1	2	2	2	1	1	1
16	475	SBPR	2	2	2	2	3	2	2	2	2	2	2	66	65	65	61	73	67	1.8	1.4	1.6	1	1	1	2	2	2	1	1	1
17	478	SBPR	1	1	1	1	1	2	2	2	2	2	2	69	72	70	66	78	72	2.0	1.4	1.7	1	1	1	2	2	2	1	1	1
18	479	SBPR	2	2	2	2	3	2	2	2	2	2	2	67	72	69	61	74	68	1.9	1.4	1.6	1	1	1	2	2	2	1	1	1
19	484	SBPR	1	1	1	1	1	2	3	2-3	2	3	2-3	80	73	74	66	81	73	1.6	1.2	1.4	3	1	1-3	0	2	0-2	1	1	1
20	486	SBPR	2	2	2	2	3	2	2	2	2	2	2	63	67	65	64	75	69	1.4	1.0	1.2	1	1	1	2	2	2	1	1	1
21	488	MD	1	1	1	1	1	2	2	2	2	2	2	68	65	67	60	68	64	1.1	0.9	1.0	1	1	1	2	2	2	1	1	1
22	490	MD	1	1	1	1	1	2	2	2	2	2	2	69	71	70	66	80	73	1.2	1.0	1.1	5	5	5	0	0	0	1	1	1
23	491	MD	1	1	1	1	1	2	2	2	2	2	2	69	67	68	65	80	72	1.2	1.0	1.1	3	5	3-5	0	0	0	1	1	1
24	496	MD	1	1	1	1	1	2	2	2	2	2	2	-	65	65	62	74	68	1.1	0.8	1.0	1	3	1-3	2	0	0-2	1	1	1
25	499	MD	1	1	1	1	1	2	2	2	2	2	2	72	68	70	67	78	73	1.2	0.9	1.0	1	1	1	2	2	2	1	1	1
26	500	MD	1	1	1	1	1	2	2	2	2	2	2	73	70	72	69	79	74	1.2	1.0	1.1	1	1	1	2	2	2	1	1	1
27	501	MD	1	1	1	1	1	2	2	2	2	2	2	63	68	65	62	74	68	1.1	0.8	0.9	1	3	1-3	2	0	0-2	1	1	1
28	504	MD	1	1	1	1	1	2	2	2	2	2	2	68	66	66	63	75	69	1.3	1.0	1.1	3	1	1-3	0	2	0-2	1	1	1
29	505	MD	1	1	2	1-2	1	2	2	2	2	2	2	70	67	68	66	73	69	1.2	1.0	1.1	1	1	1	2	2	2	1	1	1
30	507	MD	1	1	1	1	1	2	2	2	2	2	2	65	69	66	64	77	71	1.1	0.9	1.0	1	1	1	2	2	2	1	1	1
31	512	MD	1	1	1	1	1	2	2	2	2	2	2	65	67	66	65	75	70	0.9	0.8	0.9	1	1	1	2	2	2	1	1	1
32	535	MD	1	1	1	1	1	2	2	2	2	2	2	67	69	68	65	75	70	1.0	0.9	0.9	3	3	3	0	0	0	1	1	1

Continued...

Trait No. →			1				2	3						4						5			6			7			8		
			Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: Extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: Yellow coloration of mid rib		
			Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E1	E3	E4	Mean	E4	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
33	537	MD	1	1	1	1	1	1	1	1	2	2	2	68	66	67	63	73	68	0.9	0.8	0.9	3	1	1-3	0	2	0-2	1	1	1
34	539	MD	1	1	1	1	1	2	2	2	2	2	2	63	69	67	65	78	72	0.9	0.8	0.9	1	1	1	2	2	2	1	1	1
35	540	MD	1	1	1	1	1	2	2	2	2	2	2	62	65	64	68	76	72	1.1	0.9	1.0	5	7	5-7	0	0	0	1	1	1
36	541	MD	2	2	2	2	3	2	2	2	2	2	2	64	66	65	62	76	69	1.7	1.4	1.5	1	3	1-3	2	0	0-2	1	1	1
37	547	HB	2	2	2	2	3	2	2	2	2	2	2	61	62	61	58	69	64	1.4	1.2	1.3	1	1	1	2	2	2	1	1	1
38	548	HB	2	2	2	2	3	2	2	2	2	2	2	62	64	63	60	74	67	1.5	1.3	1.4	1	1	1	2	2	2	1	1	1
39	554	HB	1	1	1	1	1	2	2	2	2	2	2	61	62	61	57	68	63	1.3	1.1	1.2	1	3	1-3	2	0	0-2	1	1	1
40	557	HB	1	1	1	1	1	2	2	2	2	2	2	62	65	64	60	74	67	1.5	1.2	1.4	1	3	1-3	2	0	0-2	1	1	1
41	558	HB	1	1	1	1	1	2	2	2	2	2	2	62	68	66	65	77	71	1.5	1.1	1.3	5	5	5	0	0	0	1	1	1
42	560	HB	1	1	1	1	1	2	2	2	2	2	2	61	61	61	59	74	66	1.0	0.9	0.9	1	3	1-3	2	0	0-2	1	1	1
43	561	HB	1	1	1	1	1	2	2	2	2	2	2	64	63	64	60	72	66	0.9	0.8	0.8	1	5	1-5	2	0	0-2	1	1	1
44	564	HB	1	1	1	1	1	2	2	2	2	2	2	63	68	66	61	75	68	1.3	1.1	1.2	1	3	1-3	2	0	0-2	1	1	1
	Control																														
45	296 B	High yield	1	2	2	1-2	1	2	3	2-3	2	2	2	71	70	71	68	80	74	1.0	0.8	0.9	5	5	5	0	0	0	1	1	1
	Mean		-	-	-	-	-	2	2	2	-	-	-	66	68	67	63	75	69	1.25	1.02	1.14	-	-	-	-	-	-	-	-	-
	SE±		-	-	-	-	-	0.17	0.17	0.17	-	-	-	1.00	1.17	1.11	0.97	1.27	0.80	0.04	0.03	0.03	-	-	-	-	-	-	-	-	-
	CV (%)		-	-	-	-	-	16.68	17.42	17.13	-	-	-	3.03	3.44	3.31	2.64	2.91	2.81	5.79	5.55	5.72	-	-	-	-	-	-	-	-	-
	CD (5%)		-	-	-	-	-	0.48	0.48	0.48	-	-	-	3.60	3.87	3.80	2.73	3.54	2.23	0.12	0.10	0.08	-	-	-	-	-	-	-	-	-

SF- Shoot fly (Kharif adaptation); SFP- Shoot fly (Rabi adaptation); SB- Stemborer (Kharif adaptation); SBP- Stemborer (rabi adaptation); MD- Midge; HB- Head bug; R- Resistant; S- Susceptible; MM- Medium maturing

E1- Black Manmool (BM)15, Rainy; E2- Red Campus East (RCE) 3, Rainy; E3- Black Precision (BP) 14, Postrainy; E4- BP 3, Postrainy

Range of notes whereever given indicates that the line shows variable expression

Zero in the trait no. 7 indicates absence of midrib green coloration due to midrib discoloration

Trait No. 1-41: Triats stipulated in the DUS-test guidelines (Trait no 38 was not recorded in the current trials)

Trait No. 42-48 : Ancillary traits recorded in the current trials

Trait No. 49-56 : Specific traits for which A-/B-lines were bred

Trait No. 57 : Monitored trait recorded in various trials conducted earlier at ICRISAT

Continued...

Annexure III-8. … Contd.

Trait No. →			9			10			11			12			13			14			15			16			17			18		
Serial number	ICSB number	Trait	Glume hair color			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicillate flower			Length of anther			Dried anther color			Glume color			Plant height (m)		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	422	SFR	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	5	6	5	5	5	5	4	4	4	2	2	2	1.5	1.3	1.4
2	432	SFR	1	1	1	1	1	1	1	1	1	1	1	1	5	6	6	3	5	4	5	4	5	4	4	4	2	2	2	1.6	1.4	1.5
3	440	SFPR	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	6	5	6	5	5	6	4	4-6	2	2	2	1.1	1.1	1.1
4	445	SFPR	1	1	1	1	1	1	1	1	1	1	1	1	5	4	4	4	6	5	6	5	5	6	4	4-6	2	2	2	1.3	1.2	1.2
5	446	SFPR	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	5	4	6	5	5	4	4	4	6	7	6-7	1.7	1.3	1.5
6	449	SFPR	1	1	1	1	1	1	1	1	1	7	5	5-7	5	5	5	4	5	4	7	5	6	4	7	4-7	4	4	4	1.7	1.5	1.6
7	451	SFPR	1	1	1	1	1	1	1	1	1	5	5	5	3	4	3	4	5	4	6	5	6	4	4	4	2	2	2	1.7	1.5	1.6
8	452	SFPR	1	1	1	1	1	1	1	1	1	5	5	5	5	6	6	4	5	4	5	5	5	4	4	4	6	6	6	1.6	1.5	1.6
9	460	SFPR	1	1	1	1	1	1	1	1	1	1	1	1	5	6	6	4	5	5	5	5	5	4	4	4	2	2	2	1.5	1.3	1.4
10	464	SBR	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	7	6	6	6	5	6	6	6	6	2	4	2-4	1.8	1.5	1.7
11	465	SBR	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	5	5	5	6	6	6	4	4	4	2	6	2-6	1.6	1.4	1.5
12	467	SBR	1	1	1	1	1	1	1	1	1	1	1	1	5	6	6	4	5	4	6	6	6	4	6	4-6	4	4	4	1.8	1.4	1.6
13	469	SBR	1	1	1	1	1	1	1	1	1	5	1	1-5	5	8	6	3	6	4	5	5	5	4	4	4	2	2	2	1.5	1.3	1.4
14	471	SBR	1	1	1	5	9	7	1	1	1	5	5	5	9	5	7	4	5	4	6	5	5	7	7	7	2	2	2	1.6	1.3	1.4
15	472	SBR	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	6	5	6	5	6	4	4	4	2	4	2-4	2.3	1.9	2.1
16	475	SBPR	1	1	1	1	5	3	1	1	1	1	1	1	9	6	8	4	5	4	5	5	5	4	4	4	2	4	2-4	2.1	1.7	1.9
17	478	SBPR	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	5	6	5	5	5	5	4	4	4	2	4	2-4	2.2	1.6	1.9
18	479	SBPR	1	1	1	5	5	5	1	1	1	1	1	1	5	5	5	4	5	4	6	5	5	4	4	4	4	4	4	2.2	1.6	1.9
19	484	SBPR	1	1	1	5	5	5	1	1	1	1	1	1	5	9	7	4	5	5	6	6	6	4	4	4	2	2	2	1.9	1.5	1.7
20	486	SBPR	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	4	5	5	6	5	5	4	4	4	2	2	2	1.6	1.3	1.4
21	488	MD	1	1	1	1	1	1	1	1	1	1	1	1	5	3	4	5	5	5	5	5	5	4	4	4	4	2	2-4	1.4	1.1	1.2
22	490	MD	1	1	1	1	1	1	1	1	1	1	1	1	5	6	5	5	5	5	6	5	5	4	4	4	4	4	4	1.5	1.3	1.4
23	491	MD	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	6	6	6	6	5	5	4	4	4	4	4	4	1.5	1.3	1.4
24	496	MD	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	5	5	6	5	5	6	4	4-6	2	6	2-6	1.3	1.1	1.2
25	499	MD	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	4	5	5	5	5	5	4	4	4	5	5	5	1.4	1.2	1.3
26	500	MD	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	5	4	5	5	5	4	4	4	4	5	4-5	1.5	1.3	1.4
27	501	MD	1	1	1	1	1	1	1	1	1	1	1	1	4	6	5	4	5	4	5	4	5	4	4	4	2	6	2-6	1.4	1.1	1.3
28	504	MD	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	4	4	5	4	5	4	4	4	4	5	4-5	1.6	1.3	1.4
29	505	MD	1	1	1	1	1	1	1	1	1	1	1	1	4	6	5	5	4	5	5	5	5	4	4	4	4	4	4	1.6	1.3	1.5
30	507	MD	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	4	3	4	5	4	4	4	4	4	2	2	2	1.4	1.2	1.3
31	512	MD	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	3	3	3	5	4	5	4	4	4	2	6	2-6	1.2	1.1	1.1
32	535	MD	1	1	1	1	1	1	1	1	1	1	1	1	5	8	6	5	4	5	6	5	5	4	4	4	7	7	7	1.3	1.1	1.2

Continued...

Trait No. →			9			10			11			12			13			14			15			16			17			18		
			Glume hair color			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicillate flower			Length of anther			Dried anther color			Glume color			Plant height (m)		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
33	537	MD	1	1	1	1	1	1	1	1	1	1	1	1	5	6	6	4	6	5	7	6	6	6	6	6	2	2	2	1.2	1.1	1.2
34	539	MD	1	1	1	1	1	1	1	1	1	5	7	5-7	5	4	5	5	5	5	5	5	5	7	4	4-7	4	4	4	1.3	1.1	1.2
35	540	MD	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	5	5	4	4	4	4	4	4	4	4	4	1.5	1.4	1.4
36	541	MD	1	1	1	1	1	1	1	1	1	5	5	5	4	5	4	3	3	3	4	4	4	4	4	4	6	2	2-6	1.8	1.6	1.7
37	547	HB	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	6	7	7	7	6	6	4	4	4	6	6	6	1.7	1.5	1.6
38	548	HB	1	1	1	1	1	1	1	1	1	1	5	1-5	5	6	6	7	6	7	7	6	7	4	4	4	5	5	5	1.8	1.6	1.7
39	554	HB	1	1	1	1	1	1	1	1	1	1	1	1	5	6	6	6	7	7	7	6	7	6	6	6	6	6	6	1.7	1.4	1.5
40	557	HB	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	6	7	6	7	6	6	4	4	4	6	4	4-6	1.8	1.6	1.7
41	558	HB	1	1	1	1	1	1	1	1	1	1	1	1	4	5	4	4	5	5	5	5	5	4	4	4	5	4	4-5	1.8	1.4	1.6
42	560	HB	1	1	1	1	1	1	1	1	1	1	1	1	5	6	6	4	6	5	5	5	5	4	4	4	5	4	4-5	1.4	1.3	1.3
43	561	HB	1	1	1	1	1	1	1	1	1	1	1	1	9	8	8	5	6	5	5	5	5	4	4	4	6	6	6	1.2	1.1	1.1
44	564	HB	1	1	1	1	1	1	1	1	1	1	1	1	9	6	8	5	6	5	6	6	6	4	4	4	6	6	6	1.6	1.4	1.5
	Control																															
45	296 B	High yield	1	1	1	9	9	9	1	1	1	1	1	1	9	9	9	4	5	5	5	5	5	4	7	4-7	2	2	2	1.2	1.1	1.2
	Mean		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.58	1.35	1.46
	SE±		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.04	0.03	0.03
	CV (%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.82	4.40	4.66
	CD (5%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.12	0.10	0.08

Continued...

Annexure III-8. … Contd.

Trait No. →			19			20			21			22			23			24			25			26			27			28		
Serial number	ICSB number	Trait	Stem thickness (mm) Postrainy			Juicy score Postrainy			Brix reading (%) Postrainy			Leaf length (cm) Postrainy			Leaf width (cm) Postrainy			Panicle length (cm) Postrainy			Panicle branch length (cm) Postrainy			Panicle compactness Postrainy			Panicle shape Postrainy			Panicle exertion (cm) Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	422	SFR	19.0	13.7	16.3	1	2	2	7.3	7.3	7.3	70.3	54.7	62.5	7.2	6.0	6.6	24.3	20.7	22.5	8.7	6.0	7.3	7	5	6	3	3	3	0.0	0.0	0.0
2	432	SFR	15.7	12.4	14.0	1	1	1	7.7	7.3	7.5	67.0	49.0	58.0	8.0	6.0	7.0	23.7	19.3	21.5	8.3	5.7	7.0	7	5	6	3	3	3	13.0	16.3	14.7
3	440	SFPR	19.3	13.2	16.3	1	1	1	7.7	6.7	7.2	68.7	51.0	59.8	8.5	5.3	6.9	28.7	22.3	25.5	9.3	6.3	7.8	7	5	6	3	3	3	0.0	4.3	2.2
4	445	SFPR	15.0	13.8	14.4	2	1	1	4.7	7.0	5.8	67.3	54.3	60.8	7.3	6.7	7.0	27.7	25.3	26.5	8.3	7.7	8.0	6	5	6	3	3	3	4.7	6.0	5.3
5	446	SFPR	15.0	13.3	14.2	1	1	1	8.3	9.0	8.7	68.3	49.3	58.8	9.3	6.0	7.7	24.7	22.7	23.7	7.7	7.3	7.5	6	5	6	3	3	3	10.0	11.0	10.5
6	449	SFPR	17.7	14.4	16.0	1	2	2	8.3	8.3	8.3	64.7	53.7	59.2	7.0	6.0	6.5	27.0	22.3	24.7	7.0	4.7	5.8	6	5	6	3	3	3	7.3	12.7	10.0
7	451	SFPR	15.0	14.3	14.7	1	1	1	8.0	8.7	8.3	71.3	49.7	60.5	8.3	5.7	7.0	27.0	23.3	25.2	8.0	6.7	7.3	7	5	6	3	3	3	17.0	22.3	19.7
8	452	SFPR	15.7	14.9	15.3	1	1	1	8.7	7.0	7.8	69.0	47.0	58.0	6.7	5.0	5.8	22.3	21.3	21.8	7.3	6.3	6.8	7	5	6	3	3	3	20.0	19.0	19.5
9	460	SFPR	18.7	13.8	16.2	1	1	1	5.7	8.0	6.8	63.7	52.3	58.0	8.3	6.7	7.5	27.0	22.0	24.5	8.0	6.0	7.0	6	6	6	3	3	3	8.3	11.3	9.8
10	464	SBR	14.0	12.3	13.1	1	1	1	6.0	7.0	6.5	70.3	51.3	60.8	7.2	5.3	6.3	23.7	20.0	21.8	7.0	5.0	6.0	6	5	5	3	3	3	0.0	4.0	2.0
11	465	SBR	16.7	14.5	15.6	1	1	1	5.7	8.7	7.2	72.3	53.3	62.8	6.8	5.7	6.3	28.0	23.3	25.7	8.0	5.3	6.7	5	5	5	3	3	3	5.7	12.0	8.8
12	467	SBR	14.7	12.6	13.6	1	1	1	5.7	7.7	6.7	60.7	46.0	53.3	6.5	4.7	5.6	27.0	21.7	24.3	8.0	5.3	6.7	5	6	5	3	3	3	11.3	12.0	11.7
13	469	SBR	17.7	15.7	16.7	1	1	1	6.3	10.7	8.5	69.3	51.0	60.2	7.2	5.7	6.4	28.3	22.7	25.5	8.0	6.3	7.2	6	5	6	3	3	3	8.3	13.7	11.0
14	471	SBR	13.7	12.9	13.3	1	2	2	8.0	6.3	7.2	64.7	46.0	55.3	8.2	6.0	7.1	21.7	18.0	19.8	7.0	5.0	6.0	6	6	6	3	3	3	7.7	15.0	11.3
15	472	SBR	13.3	12.0	12.7	1	1	1	5.7	6.7	6.2	60.7	49.7	55.2	7.2	6.3	6.8	16.0	13.3	14.7	5.3	3.7	4.5	9	8	8	4	4	4	0.0	4.7	2.3
16	475	SBPR	14.7	11.9	13.3	1	1	1	12.3	11.0	11.7	56.7	52.0	54.3	8.0	6.7	7.3	18.7	15.7	17.2	6.7	4.7	5.7	7	5	6	3	4	4	6.0	10.0	8.0
17	478	SBPR	15.3	12.0	13.7	1	1	1	6.7	10.0	8.3	75.3	53.0	64.2	7.7	6.0	6.8	21.3	15.7	18.5	6.0	4.0	5.0	7	5	6	3	3	3	0.0	6.0	3.0
18	479	SBPR	13.3	12.1	12.7	1	1	1	14.0	12.7	13.3	58.7	45.3	52.0	7.3	5.7	6.5	19.3	14.7	17.0	6.3	5.0	5.7	7	6	7	3	3	3	6.3	10.7	8.5
19	484	SBPR	17.0	13.9	15.4	1	1	1	8.7	10.7	9.7	67.3	55.3	61.3	7.5	6.7	7.1	23.0	20.7	21.8	7.0	5.3	6.2	7	5	6	3	3	3	9.3	11.7	10.5
20	486	SBPR	13.7	12.6	13.1	1	1	1	8.7	8.7	8.7	57.3	42.3	49.8	7.7	6.3	7.0	18.3	15.3	16.8	5.7	3.7	4.7	7	7	7	3	3	3	8.7	10.0	9.3
21	488	MD	18.3	12.4	15.3	1	2	2	8.0	6.7	7.3	63.7	60.7	62.2	8.3	5.7	7.0	24.7	24.7	24.7	7.0	5.0	6.0	7	5	6	3	3	3	0.0	0.0	0.0
22	490	MD	18.0	13.3	15.7	1	2	2	6.3	6.0	6.2	87.3	67.7	77.5	8.0	6.3	7.2	25.7	24.0	24.8	7.3	6.0	6.7	6	5	5	3	3	3	0.0	6.7	3.3
23	491	MD	18.0	13.8	15.9	2	2	2	5.3	6.7	6.0	85.0	67.0	76.0	7.3	6.0	6.7	26.3	24.3	25.3	7.3	6.0	6.7	6	5	6	3	3	3	4.7	6.7	5.7
24	496	MD	16.0	13.6	14.8	2	1	2	7.0	7.0	7.0	75.7	61.0	68.3	8.7	7.0	7.8	20.3	19.0	19.7	4.3	4.0	4.2	7	6	7	3	3	3	0.0	6.3	3.2
25	499	MD	19.0	13.2	16.1	2	1	2	7.0	6.7	6.8	71.7	59.3	65.5	8.5	6.3	7.4	25.7	22.0	23.8	6.0	5.0	5.5	8	7	7	3	3	3	0.0	6.7	3.3
26	500	MD	19.0	13.9	16.5	2	1	1	7.0	6.7	6.8	79.0	60.7	69.8	8.8	6.7	7.8	28.0	24.0	26.0	6.3	5.0	5.7	7	7	7	3	3	3	0.0	4.0	2.0
27	501	MD	15.3	12.3	13.8	2	1	1	6.3	8.7	7.5	67.3	58.3	62.8	7.8	6.0	6.9	24.0	20.0	22.0	6.0	5.0	5.5	6	5	6	3	3	3	8.3	9.0	8.7
28	504	MD	16.0	12.3	14.1	1	1	1	5.3	6.7	6.0	76.3	60.7	68.5	7.7	5.7	6.7	22.0	18.3	20.2	4.3	4.0	4.2	7	7	7	3	3	3	9.7	13.7	11.7
29	505	MD	13.7	13.2	13.4	1	1	1	6.3	6.7	6.5	80.7	60.0	70.3	7.5	6.0	6.8	22.0	19.7	20.8	4.7	3.7	4.2	7	6	7	3	3	3	13.7	14.3	14.0
30	507	MD	16.3	13.4	14.9	1	1	1	6.7	7.0	6.8	78.3	62.3	70.3	9.7	6.7	8.2	26.0	21.3	23.7	7.7	6.0	6.8	7	6	7	3	3	3	4.7	11.7	8.2
31	512	MD	18.0	13.9	16.0	1	2	2	8.0	7.0	7.5	69.3	56.0	62.7	7.7	6.7	7.2	25.0	20.7	22.8	6.3	5.0	5.7	6	6	6	3	3	3	0.0	7.7	3.8
32	535	MD	15.7	14.2	14.9	2	2	2	5.7	6.3	6.0	63.7	57.0	60.3	7.7	6.7	7.2	26.0	20.3	23.2	5.0	4.0	4.5	7	7	7	3	3	3	8.3	7.7	8.0

Continued...

Trait No. →			19			20			21			22			23			24			25			26			27			28		
Serial number	ICSB number	Trait	Stem thickness (mm) Postrainy			Juicy score Postrainy			Brix reading (%) Postrainy			Leaf length (cm) Postrainy			Leaf width (cm) Postrainy			Panicle length (cm) Postrainy			Panicle branch length (cm) Postrainy			Panicle compactness Postrainy			Panicle shape Postrainy			Panicle exertion (cm) Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
33	537	MD	15.7	14.7	15.2	2	2	2	5.3	6.7	6.0	77.0	62.7	69.8	7.7	6.7	7.2	21.0	16.3	18.7	5.7	4.3	5.0	7	6	6	3	3	3	5.3	10.0	7.7
34	539	MD	17.0	13.4	15.2	1	1	1	6.3	7.0	6.7	72.0	58.0	65.0	9.5	7.3	8.4	27.0	22.0	24.5	7.7	5.3	6.5	7	6	6	3	3	3	6.7	10.0	8.3
35	540	MD	15.7	13.5	14.6	1	1	1	5.7	6.3	6.0	79.0	57.0	68.0	8.5	6.0	7.3	28.0	21.7	24.8	8.0	6.0	7.0	7	6	6	3	3	3	9.3	20.7	15.0
36	541	MD	13.0	10.8	11.9	1	1	1	6.0	7.0	6.5	66.7	52.0	59.3	8.7	6.3	7.5	17.7	17.0	17.3	5.7	5.0	5.3	8	8	8	3	3	3	0.0	10.7	5.3
37	547	HB	13.3	14.3	13.8	2	1	2	6.7	7.0	6.8	64.3	52.3	58.3	7.5	5.7	6.6	27.3	22.0	24.7	7.3	5.3	6.3	6	5	5	3	3	3	8.7	8.0	8.3
38	548	HB	15.0	12.4	13.7	1	1	1	5.7	7.0	6.3	74.3	55.7	65.0	8.7	6.7	7.7	26.7	22.7	24.7	7.3	5.7	6.5	5	5	5	3	3	3	3.7	5.7	4.7
39	554	HB	15.0	13.3	14.2	2	1	2	5.7	7.3	6.5	70.0	51.7	60.8	7.7	5.7	6.7	27.3	23.3	25.3	6.3	5.3	5.8	6	5	5	3	3	3	5.3	12.3	8.8
40	557	HB	15.0	12.1	13.5	2	1	1	5.3	6.7	6.0	65.7	58.0	61.8	7.3	6.0	6.7	27.7	22.3	25.0	6.7	5.0	5.8	6	6	6	3	3	3	6.3	13.0	9.7
41	558	HB	16.7	12.8	14.7	1	1	1	8.7	6.7	7.7	78.0	60.0	69.0	9.5	6.3	7.9	28.0	21.3	24.7	6.7	4.7	5.7	7	6	7	3	3	3	0.0	8.0	4.0
42	560	HB	14.0	12.4	13.2	1	1	1	8.7	7.3	8.0	72.3	55.3	63.8	7.0	5.3	6.2	25.0	21.3	23.2	5.0	5.0	5.0	6	5	5	3	3	3	16.7	14.0	15.3
43	561	HB	14.7	12.0	13.3	1	1	1	7.3	6.7	7.0	69.0	54.7	61.8	7.2	5.7	6.4	24.7	19.0	21.8	4.7	3.3	4.0	7	6	6	3	3	3	7.0	7.0	7.0
44	564	HB	15.3	12.1	13.7	1	1	1	6.3	7.0	6.7	66.7	55.0	60.8	7.0	5.3	6.2	27.0	20.7	23.8	5.7	4.3	5.0	7	6	7	3	3	3	6.3	13.0	9.7
	Control																															
45	296 B	High yield	18.3	13.9	16.1	1	2	2	8.7	8.7	8.7	72.3	61.7	67.0	8.5	6.7	7.6	28.0	25.0	26.5	7.0	5.0	6.0	7	6	7	3	3	3	0.0	5.3	2.7
	Mean		15.93	13.18	14.56	-	-	-	7.10	7.62	7.36	69.98	54.91	62.44	7.87	6.08	6.98	24.64	20.74	22.69	6.75	5.18	5.96	-	-	-	-	-	-	5.96	9.88	7.92
	SE±		1.08	0.95	0.72	-	-	-	1.11	0.89	0.71	2.75	2.37	1.81	0.44	0.40	0.30	0.80	0.78	0.56	0.54	0.41	0.34	-	-	-	-	-	-	0.57	1.32	0.72
	CV (%)		11.66	12.53	12.08	-	-	-	24.89	19.11	22.07	6.85	7.51	7.16	9.61	11.24	10.34	5.75	6.51	6.10	14.10	13.64	14.03	-	-	-	-	-	-	17.76	25.17	24.12
	CD (5%)		3.03	2.67	2.01	-	-	-	3.11	2.49	1.98	7.70	6.62	5.05	1.23	1.12	0.83	2.25	2.17	1.55	1.51	1.14	0.94	-	-	-	-	-	-	1.59	3.70	2.01

Continued...

Annexure III-8. … Contd.

Trait No. →			29			30			31			32			33			34			35			36			37			39		
			Glume coverage (%)			Shattering			Threshability			Grain form			Grain color			1000-grain mass (g)			Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm texture		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	422	SFR	42	58	50	3	3	3	1	1	1	1	1	1	4	4	4	24.71	25.46	25.09	3	3	3	3	3	3	5	5	5	3	3	3
2	432	SFR	33	33	33	3	3	3	1	1	1	1	1	1	4	4	4	25.74	21.56	23.65	3	3	3	3	3	3	4	4	4	4	4	4
3	440	SFPR	25	33	29	3	3	3	1	1	1	1	1	1	3	4	4	25.95	29.15	27.55	3	3	3	3	3	3	5	5	5	5	5	5
4	445	SFPR	33	33	33	3	3	3	1	1	1	1	1	1	4	4	4	30.03	28.63	29.33	3	3	3	3	3	3	5	5	5	4	5	5
5	446	SFPR	33	50	42	3	3	3	1	1	1	1	1	1	4	4	4	33.41	35.49	34.45	3	3	3	3	3	3	5	5	5	4	4	4
6	449	SFPR	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	38.48	35.95	37.22	3	3	3	3	3	3	5	5	5	5	5	5
7	451	SFPR	33	42	38	3	3	3	1	1	1	1	1	1	4	4	4	25.83	25.07	25.45	3	3	3	3	3	3	4	4	4	3	3	3
8	452	SFPR	33	42	38	3	3	3	1	1	1	1	1	1	4	4	4	26.06	26.99	26.52	3	3	3	3	3	3	5	5	5	4	4	4
9	460	SFPR	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	31.14	32.24	31.69	3	3	3	3	3	3	5	5	5	5	5	5
10	464	SBR	42	42	42	3	3	3	1	1	1	1	1	1	4	4	4	28.31	24.62	26.46	3	3	3	3	3	3	5	5	5	5	5	5
11	465	SBR	33	50	42	3	3	3	1	1	1	1	1	1	4	4	4	25.61	27.15	26.38	3	3	3	3	3	3	5	5	5	5	5	5
12	467	SBR	42	50	46	3	3	3	1	1	1	1	1	1	3	4	4	29.30	26.33	27.81	3	3	3	3	3	3	5	5	5	4	3	4
13	469	SBR	50	58	54	3	3	3	5	1	1-5	1	1	1	4	4	4	23.83	22.62	23.23	3	3	3	3	3	3	5	5	5	4	3	3
14	471	SBR	42	33	38	3	3	3	1	1	1	1	1	1	4	4	4	32.96	31.11	32.03	3	3	3	3	3	3	5	5	5	5	5	5
15	472	SBR	50	67	58	3	3	3	1	1	1	1	1	1	4	4	4	32.18	32.29	32.24	3	3	3	3	3	3	5	5	5	4	5	5
16	475	SBPR	42	33	38	3	3	3	1	1	1	1	1	1	4	4	4	29.23	30.12	29.68	3	3	3	3	3	3	5	5	5	4	4	4
17	478	SBPR	75	67	71	3	3	3	1	1	1	1	1	1	4	4	4	27.13	26.15	26.64	3	3	3	3	3	3	5	5	5	5	5	5
18	479	SBPR	42	33	38	3	3	3	1	1	1	1	1	1	4	4	4	27.45	26.38	26.91	3	3	3	3	3	3	5	5	5	4	4	4
19	484	SBPR	67	58	63	3	3	3	1	1	1	1	1	1	4	4	4	27.55	24.54	26.04	3	3	3	3	3	3	5	5	5	4	4	4
20	486	SBPR	50	42	46	3	3	3	1	1	1	1	1	1	4	4	4	28.79	25.99	27.39	3	3	3	3	3	3	5	5	5	5	4	4
21	488	MD	25	42	33	3	3	3	1	1	1	1	1	1	3	4	4	25.37	26.82	26.09	3	3	3	3	3	3	5	5	5	4	4	4
22	490	MD	42	42	42	3	3	3	5	1	1-5	1	1	1	4	4	4	23.85	21.47	22.66	3	3	3	3	3	3	5	5	5	3	4	4
23	491	MD	33	58	46	3	3	3	5	1	1-5	1	1	1	4	4	4	23.99	25.44	24.71	3	3	3	3	3	3	5	5	5	4	4	4
24	496	MD	33	58	46	3	3	3	1	1	1	1	1	1	4	4	4	26.32	26.80	26.56	3	3	3	3	3	3	5	5	5	4	4	4
25	499	MD	25	42	33	3	3	3	1	1	1	1	1	1	3	4	4	28.07	26.55	27.31	3	3	3	3	3	3	5	5	5	4	5	5
26	500	MD	33	25	29	3	3	3	1	1	1	1	1	1	4	4	4	28.53	27.62	28.08	3	3	3	3	3	3	5	5	5	5	5	5
27	501	MD	25	50	38	3	3	3	1	1	1	1	1	1	4	4	4	23.54	24.84	24.19	3	3	3	3	3	3	5	5	5	5	4	5
28	504	MD	25	33	29	3	3	3	1	1	1	1	1	1	4	4	4	29.85	26.65	28.25	3	3	3	3	3	3	5	5	5	4	5	5
29	505	MD	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	28.39	26.54	27.46	3	3	3	3	3	3	5	5	5	5	4	5
30	507	MD	25	42	33	3	3	3	1	1	1	1	1	1	3	4	4	23.01	20.86	21.93	3	3	3	3	3	3	5	5	5	5	5	5
31	512	MD	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	23.28	25.21	24.25	3	3	3	3	3	3	5	5	5	4	4	4
32	535	MD	25	50	38	3	3	3	1	1	1	1	1	1	4	4	4	23.08	24.06	23.57	3	3	3	3	3	3	5	5	5	5	5	5

Continued...

Trait No. →			29			30			31			32			33			34			35			36			37			39		
			Glume coverage (%)			Shattering			Threshability			Grain form			Grain color			1000-grain mass (g)			Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm texture		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
33	537	MD	25	33	29	3	3	3	5	1	1-5	1	1	1	4	4	4	22.68	24.04	23.36	3	3	3	3	3	3	5	5	5	5	5	5
34	539	MD	33	42	38	3	3	3	1	1	1	1	1	1	4	4	4	28.38	29.25	28.81	3	3	3	3	3	3	5	5	5	5	5	5
35	540	MD	25	42	33	3	3	3	1	1	1	1	1	1	4	4	4	22.77	24.53	23.65	3	3	3	3	3	3	5	5	5	4	4	4
36	541	MD	25	42	33	3	3	3	1	1	1	1	1	1	3	4	4	22.95	21.25	22.10	3	3	3	3	3	3	5	5	5	3	3	3
37	547	HB	58	75	67	3	3	3	5	1	1-5	1	1	1	4	3	4	24.10	27.20	25.65	3	3	3	3	3	3	5	5	5	3	3	3
38	548	HB	75	75	75	3	3	3	5	1	1-5	1	1	1	1	2	2	28.16	28.11	28.13	3	3	3	3	3	3	5	5	5	4	3	3
39	554	HB	58	83	71	3	3	3	5	1	1-5	1	1	1	4	4	4	31.52	31.26	31.39	3	3	3	3	3	3	5	5	5	4	4	4
40	557	HB	50	42	46	3	3	3	1	1	1	1	1	1	4	4	4	32.28	32.70	32.49	3	3	3	3	3	3	5	5	5	4	4	4
41	558	HB	25	42	33	3	3	3	5	1	1-5	1	1	1	4	4	4	28.98	28.01	28.50	3	3	3	3	3	3	5	5	5	4	4	4
42	560	HB	67	67	67	3	3	3	5	5	5	1	1	1	4	4	4	26.49	26.81	26.65	3	3	3	3	3	3	5	5	5	4	4	4
43	561	HB	67	67	67	3	3	3	1	1	1	1	1	1	3	4	4	23.24	26.86	25.05	3	3	3	3	3	3	5	5	5	3	4	3
44	564	HB	58	50	54	3	3	3	1	1	1	1	1	1	4	4	4	28.10	30.18	29.14	3	3	3	3	3	3	5	5	5	4	4	4
	Control																															
45	296 B	High yield	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	24.85	30.03	27.44	3	3	3	3	3	3	5	5	5	6	5	5
	Mean		38.89	45.56	42.22	-	-	-	-	-	-	-	-	-	4	4	4	27.23	27.13	27.18	-	-	-	-	-	-	-	-	-	-	-	-
	SE±		6.66	7.81	5.13	-	-	-	-	-	-	-	-	-	0.38	0.22	0.22	1.29	1.03	0.83	-	-	-	-	-	-	-	-	-	-	-	-
	CV (%)		28.90	29.72	29.44	-	-	-	-	-	-	-	-	-	17.61	10.03	14.24	8.25	6.61	7.47	-	-	-	-	-	-	-	-	-	-	-	-
	CD (5%)		18.65	21.86	14.30	-	-	-	-	-	-	-	-	-	1.06	0.62	0.61	3.61	2.90	2.30	-	-	-	-	-	-	-	-	-	-	-	-

Continued...

Annexure III-8. … Contd.

Trait No. →			40			41			42				43						44						45			46		
			Albumen color			Grain lustre			Days to emergence				Leaf glossy score						Seedling vigor score						Plant agronomic aspect score			Panicle yield (t ha^{-1})		
			Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	422	SFR	2	2	2	7	7	7	4	5	5	5	1.5	1.8	1.6	1.7	2.0	1.8	1.5	2.3	1.9	1.3	1.7	1.5	1.3	1.7	1.5	6.4	3.5	5.0
2	432	SFR	2	2	2	7	6	6	4	5	6	5	1.5	1.8	1.6	1.7	2.0	1.8	2.5	2.5	2.5	1.7	1.7	1.7	2.0	2.3	2.2	4.6	2.7	3.7
3	440	SFPR	2	2	2	5	5	5	4	5	6	5	1.0	2.0	1.5	2.0	1.7	1.8	2.5	2.0	2.3	2.0	1.7	1.8	2.0	1.7	1.8	5.2	3.7	4.5
4	445	SFPR	2	2	2	5	5	5	4	5	6	5	1.5	1.8	1.6	1.7	1.7	1.7	2.8	2.3	2.5	1.7	1.7	1.7	2.0	2.0	2.0	4.5	4.1	4.3
5	446	SFPR	2	2	2	5	5	5	4	5	5	5	2.0	1.8	1.9	2.3	2.0	2.2	2.8	2.3	2.5	1.7	1.3	1.5	1.7	2.0	1.8	5.5	3.4	4.4
6	449	SFPR	2	2	2	4	4	4	4	5	6	5	1.5	1.5	1.5	1.7	1.7	1.7	2.8	1.8	2.3	1.3	1.3	1.3	2.3	1.7	2.0	5.1	4.6	4.8
7	451	SFPR	2	2	2	6	6	6	4	4	5	5	1.5	1.8	1.6	1.7	2.0	1.8	1.3	1.3	1.3	2.0	1.0	1.5	1.7	1.7	1.7	5.5	3.5	4.5
8	452	SFPR	2	2	2	5	5	5	5	5	6	5	1.5	2.3	1.9	1.7	1.7	1.7	2.3	1.5	1.9	1.7	2.3	2.0	2.3	2.3	2.3	5.0	3.2	4.1
9	460	SFPR	2	2	2	4	5	4	5	6	6	6	3.0	2.5	2.8	1.7	3.0	2.3	2.8	2.3	2.5	2.0	2.7	2.3	1.7	2.0	1.8	5.3	3.1	4.2
10	464	SBR	2	2	2	5	4	4	4	6	6	6	2.3	1.3	1.8	1.7	1.7	1.7	3.3	2.8	3.0	2.0	2.0	2.0	2.0	2.0	2.0	6.3	4.7	5.5
11	465	SBR	2	2	2	5	5	5	4	5	5	5	1.0	1.8	1.4	2.0	1.3	1.7	1.5	1.3	1.4	1.0	1.3	1.2	1.7	1.7	1.7	5.0	3.1	4.0
12	467	SBR	2	2	2	5	5	5	4	5	6	5	1.3	1.3	1.3	1.0	1.3	1.2	1.3	2.0	1.6	1.3	1.0	1.2	2.0	2.0	2.0	5.1	3.1	4.1
13	469	SBR	2	2	2	6	6	6	4	5	5	5	1.0	1.3	1.1	1.3	1.0	1.2	1.3	1.8	1.5	1.3	1.3	1.3	2.0	2.0	2.0	4.8	3.4	4.1
14	471	SBR	2	2	2	5	5	5	4	5	6	5	2.0	2.5	2.3	1.7	3.0	2.3	1.5	2.5	2.0	2.0	1.7	1.8	2.0	2.0	2.0	5.8	4.4	5.1
15	472	SBR	2	2	2	5	5	5	4	5	5	5	1.3	1.8	1.5	1.7	1.3	1.5	1.5	1.5	1.5	1.7	1.3	1.5	1.7	2.0	1.8	5.9	4.5	5.2
16	475	SBPR	2	2	2	5	5	5	4	4	5	5	1.0	1.5	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	2.0	1.7	2.0	1.7	1.8	5.0	3.8	4.4
17	478	SBPR	2	2	2	6	5	5	5	6	6	6	1.8	1.8	1.8	1.7	1.3	1.5	2.8	2.3	2.5	2.3	2.7	2.5	2.3	2.0	2.2	6.9	4.7	5.8
18	479	SBPR	2	2	2	5	5	5	3	4	5	5	1.3	1.5	1.4	1.0	2.0	1.5	1.0	1.3	1.1	2.0	1.0	1.5	1.7	2.0	1.8	5.4	4.2	4.8
19	484	SBPR	2	2	2	6	5	6	4	5	6	6	2.3	2.5	2.4	2.3	3.0	2.7	2.5	1.8	2.1	1.7	1.7	1.7	2.0	2.0	2.0	4.9	3.8	4.4
20	486	SBPR	2	2	2	7	6	6	4	5	5	5	2.0	1.5	1.8	1.0	1.0	1.0	1.0	1.8	1.4	1.7	1.3	1.5	2.0	2.0	2.0	4.9	3.3	4.1
21	488	MD	2	2	2	5	5	5	4	5	5	5	1.8	2.0	1.9	1.7	2.7	2.2	1.3	1.3	1.3	1.0	1.0	1.0	2.0	2.0	2.0	5.5	4.4	5.0
22	490	MD	2	2	2	5	5	5	4	5	6	5	2.0	2.5	2.3	2.0	3.0	2.5	1.5	1.8	1.6	1.3	2.7	2.0	1.7	1.0	1.3	6.8	5.1	5.9
23	491	MD	2	2	2	5	6	5	4	5	5	5	2.0	2.3	2.1	1.7	2.7	2.2	1.8	1.3	1.5	1.0	2.7	1.8	1.3	1.0	1.2	7.1	4.2	5.6
24	496	MD	2	2	2	6	6	6	5	5	6	6	1.5	2.3	1.9	2.7	2.7	2.7	1.3	2.0	1.6	1.7	2.3	2.0	2.0	1.7	1.8	5.7	4.0	4.8
25	499	MD	2	2	2	5	5	5	3	4	5	5	1.3	2.0	1.6	1.3	2.3	1.8	1.3	1.8	1.5	1.7	1.0	1.3	1.3	1.7	1.5	5.8	4.3	5.0
26	500	MD	2	2	2	5	5	5	7	6	7	6	2.0	2.3	2.1	2.7	3.3	3.0	2.5	3.0	2.8	2.3	2.7	2.5	1.3	1.0	1.2	7.7	4.9	6.3
27	501	MD	2	2	2	5	5	5	4	5	5	5	1.3	2.3	1.8	1.3	3.0	2.2	1.3	1.5	1.4	1.7	1.7	1.7	2.0	2.0	2.0	5.0	3.9	4.5
28	504	MD	2	2	2	5	5	5	4	5	5	5	1.3	1.8	1.5	1.3	2.3	1.8	1.5	1.5	1.5	1.3	1.3	1.3	1.7	1.3	1.5	6.6	4.8	5.7
29	505	MD	2	2	2	5	5	5	4	5	6	5	1.5	1.8	1.6	2.0	3.0	2.5	2.3	2.0	2.1	1.3	1.0	1.2	1.7	1.7	1.7	5.9	4.4	5.2
30	507	MD	2	2	2	5	5	5	4	5	6	6	2.3	2.3	2.3	2.0	3.0	2.5	1.5	1.8	1.6	2.0	1.7	1.8	1.0	1.0	1.0	6.2	4.3	5.3
31	512	MD	2	2	2	6	5	5	4	5	6	5	2.0	2.3	2.1	1.7	3.3	2.5	2.5	1.8	2.1	1.7	1.7	1.7	1.0	1.0	1.0	6.3	4.4	5.4
32	535	MD	2	2	2	5	5	5	4	5	5	5	1.3	2.5	1.9	1.7	3.0	2.3	1.5	2.3	1.9	1.0	1.0	1.0	2.0	2.0	2.0	5.1	3.6	4.4

Continued...

Trait No. →			40			41			42				43						44						45			46		
			Albumen color			Grain lustre			Days to emergence				Leaf glossy score						Seedling vigor score						Plant agronomic aspect score			Panicle yield (t ha^{-1})		
			Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
33	537	MD	2	2	2	2	5	4	4	5	5	5	1.8	2.3	2.0	2.3	3.0	2.7	3.0	1.3	2.1	1.3	1.7	1.5	2.0	2.0	2.0	5.8	4.2	5.0
34	539	MD	2	2	2	4	5	4	4	5	6	6	1.3	2.5	1.9	1.3	2.7	2.0	2.0	2.5	2.3	2.0	2.3	2.2	1.7	1.3	1.5	5.9	4.6	5.3
35	540	MD	2	2	2	5	5	5	4	4	5	5	1.0	2.0	1.5	1.7	2.3	2.0	1.3	1.8	1.5	1.7	1.7	1.7	1.7	2.0	1.8	6.0	4.5	5.2
36	541	MD	2	2	2	6	5	6	4	5	6	5	1.8	2.5	2.1	2.0	3.0	2.5	1.8	1.8	1.8	2.0	1.7	1.8	2.0	1.7	1.8	5.7	4.5	5.1
37	547	HB	2	2	2	5	5	5	3	4	5	5	2.0	2.8	2.4	1.7	3.3	2.5	1.3	1.3	1.3	1.3	1.0	1.2	2.0	2.0	2.0	5.1	4.7	4.9
38	548	HB	2	2	2	5	5	5	4	4	5	5	1.5	2.5	2.0	2.3	3.0	2.7	1.5	1.8	1.6	1.3	1.0	1.2	3.0	2.0	2.5	5.9	4.6	5.3
39	554	HB	2	2	2	5	5	5	4	5	5	5	2.0	2.3	2.1	2.7	3.0	2.8	1.8	1.8	1.8	1.3	1.3	1.3	1.7	2.0	1.8	6.1	4.3	5.2
40	557	HB	2	2	2	5	5	5	4	5	5	5	1.3	2.8	2.0	2.0	3.0	2.5	1.8	1.8	1.8	1.3	1.3	1.3	2.3	1.7	2.0	6.3	4.3	5.3
41	558	HB	2	2	2	5	5	5	4	5	6	5	2.0	2.3	2.1	1.3	2.7	2.0	1.8	2.5	2.1	1.3	1.3	1.3	2.0	1.7	1.8	6.7	5.0	5.8
42	560	HB	2	2	2	5	5	5	4	5	5	5	2.3	2.3	2.3	2.3	4.0	3.2	2.5	2.3	2.4	2.0	1.3	1.7	3.0	2.0	2.5	4.5	3.9	4.2
43	561	HB	2	2	2	5	5	5	4	5	5	5	1.8	2.3	2.0	1.7	2.7	2.2	2.3	1.8	2.0	1.3	1.0	1.2	2.3	2.0	2.2	4.2	3.9	4.0
44	564	HB	2	2	2	5	5	5	4	5	5	5	2.5	2.5	2.5	2.0	3.0	2.5	2.0	2.0	2.0	1.0	1.3	1.2	2.0	2.0	2.0	4.8	4.3	4.5
	Control																													
45	296 B	High yield	2	2	2	1	3	2	5	6	6	6	3.3	2.3	2.8	3.0	4.0	3.5	3.5	2.5	3.0	1.7	2.7	2.2	2.0	2.0	2.0	5.5	4.5	5.0
	Mean		-	-	-	-	-	-	4	5	5	5	1.78	2.04	1.91	1.80	2.44	2.12	2.07	1.88	1.98	1.58	1.62	1.60	1.89	1.79	1.84	5.63	4.09	4.86
	SE±		-	-	-	-	-	-	0.29	0.25	0.23	0.17	0.26	0.21	0.24	0.27	0.31	0.20	0.29	0.23	0.27	0.28	0.28	0.20	0.22	0.21	0.15	0.42	0.34	0.27
	CV (%)		-	-	-	-	-	-	14.02	8.71	7.28	7.97	29.24	20.63	24.99	25.22	21.51	23.15	28.12	24.26	26.90	29.95	29.24	29.59	18.88	19.53	19.19	13.16	14.37	13.75
	CD (5%)		-	-	-	-	-	-	0.80	0.70	0.65	0.48	0.73	0.59	0.67	0.75	0.86	0.57	0.81	0.64	0.74	0.77	0.78	0.55	0.61	0.59	0.42	1.17	0.95	0.75

Continued...

Annexure III-8. … Contd.

Trait No. →			47			48	49	50	51	52	53	54	55	56	57
Serial number	ICSB number	Trait	Grain yield (t ha^{-1}) Postrainy E3	E4	Mean	Seed set % under high atmospheric temperature in A-line Summer	Shoot fly dead hearts% Rainy	Shoot fly dead hearts% Postrainy	Stem borer leaf feeding score Rainy	Stem borer dead hearts% Rainy	Stem borer dead hearts% Postrainy	Midge score Postrainy	Midge score under cage Postrainy	Head bug score Rainy	Seed set % in A-line under open pollination Postrainy
1	422	SFR	5.1	2.7	3.9	0	42.9	-	-	-	-	-	-	-	70
2	432	SFR	3.7	2.1	2.9	0	55.0	-	-	-	-	-	-	-	85
3	440	SFPR	4.0	2.9	3.5	0	-	18	-	-	-	-	-	-	40
4	445	SFPR	3.6	3.3	3.4	0	-	22	-	-	-	-	-	-	35
5	446	SFPR	4.3	2.3	3.3	0	-	23	-	-	-	-	-	-	40
6	449	SFPR	4.0	3.5	3.8	0	-	32	-	-	-	-	-	-	55
7	451	SFPR	4.5	2.7	3.6	30	-	28	-	-	-	-	-	-	60
8	452	SFPR	4.1	2.4	3.3	30	-	10	-	-	-	-	-	-	90
9	460	SFPR	4.1	2.3	3.2	0	-	29	-	-	-	-	-	-	35
10	464	SBR	5.2	3.9	4.5	0	-	-	3.4	37.5	-	-	-	-	20
11	465	SBR	4.0	2.2	3.1	0	-	-	4.9	52.8	-	-	-	-	35
12	467	SBR	4.2	2.5	3.3	0	-	-	4.1	48.1	-	-	-	-	40
13	469	SBR	3.8	2.6	3.2	0	-	-	4.1	46.2	-	-	-	-	60
14	471	SBR	4.3	3.5	3.9	0	-	-	5.3	55.9	-	-	-	-	55
15	472	SBR	4.7	3.6	4.2	10	-	-	4.6	40.2	-	-	-	-	25
16	475	SBPR	3.9	2.9	3.4	0	-	-	-	-	34.4	-	-	-	90
17	478	SBPR	5.6	3.7	4.7	0	-	-	-	-	39.5	-	-	-	40
18	479	SBPR	4.5	3.2	3.9	0	-	-	-	-	32.4	-	-	-	90
19	484	SBPR	3.9	2.9	3.4	0	-	-	-	-	37.5	-	-	-	45
20	486	SBPR	4.0	2.6	3.3	90	-	-	-	-	28.5	-	-	-	50
21	488	MD	4.3	3.6	3.9	0	-	-	-	-	-	2.7	3.3	-	60
22	490	MD	5.6	3.8	4.7	0	-	-	-	-	-	3.9	5.0	-	55
23	491	MD	5.8	3.2	4.5	15	-	-	-	-	-	3.4	3.6	-	65
24	496	MD	4.8	3.2	4.0	0	-	-	-	-	-	3.6	3.8	-	55
25	499	MD	4.6	3.3	4.0	10	-	-	-	-	-	3.2	4.0	-	60
26	500	MD	6.0	3.8	4.9	10	-	-	-	-	-	2.7	2.7	-	65
27	501	MD	4.1	2.9	3.5	10	-	-	-	-	-	3.2	4.4	-	35
28	504	MD	5.4	3.8	4.6	0	-	-	-	-	-	3.2	2.9	-	75
29	505	MD	5.0	3.6	4.3	0	-	-	-	-	-	2.6	2.0	-	70
30	507	MD	5.1	3.3	4.2	0	-	-	-	-	-	2.6	3.4	-	20
31	512	MD	5.0	3.2	4.1	0	-	-	-	-	-	2.7	2.2	-	50
32	535	MD	4.2	2.9	3.6	0	-	-	-	-	-	2.7	2.7	-	95

Continued...

Trait No. →			47			48	49	50	51	52	53	54	55	56	57
			Grain yield (t ha^{-1})			Seed set % under high atmospheric temperature in A-line	Shoot fly dead hearts%	Shoot fly dead hearts%	Stem borer leaf feeding score	Stem borer dead hearts%	Stem borer dead hearts%	Midge score	Midge score under cage	Head bug score	Seed set % in A-line under open pollination
			Postrainy			Summer	Rainy	Postrainy	Rainy	Rainy	Postrainy	Postrainy	Postrainy	Rainy	Postrainy
Serial number	ICSB number	Trait	E3	E4	Mean										
33	537	MD	4.3	3.1	3.7	0	-	-	-	-	-	3.1	2.6	-	95
34	539	MD	4.7	3.5	4.1	0	-	-	-	-	-	3.7	2.9	-	50
35	540	MD	4.8	3.6	4.2	30	-	-	-	-	-	3.2	2.1	-	65
36	541	MD	4.7	3.6	4.1	0	-	-	-	-	-	2.4	1.1	-	40
37	547	HB	4.1	3.7	3.9	90	-	-	-	-	-	-	-	4.7	80
38	548	HB	4.8	3.7	4.2	40	-	-	-	-	-	-	-	4.7	75
39	554	HB	4.8	3.4	4.1	0	-	-	-	-	-	-	-	4.7	65
40	557	HB	5.0	3.3	4.2	0	-	-	-	-	-	-	-	4.7	70
41	558	HB	5.4	4.0	4.7	50	-	-	-	-	-	-	-	5.0	60
42	560	HB	3.8	3.0	3.4	20	-	-	-	-	-	-	-	5.0	85
43	561	HB	3.2	2.9	3.1	0	-	-	-	-	-	-	-	5.1	35
44	564	HB	3.9	3.5	3.7	0	-	-	-	-	-	-	-	5.3	80
	Control						-	-	-	-	-				
45	296 B	High yield	4.0	3.2	3.6	-	91	60	2.7	84.6	67	5.8	8	6.3	30
	Mean		4.50	3.18	3.84	-	-	-	-	-	-	-	-	-	-
	SE±		0.35	0.26	0.22	-	-	-	-	-	-	-	-	-	-
	CV (%)		13.96	14.60	14.37	-	-	-	-	-	-	-	-	-	-
	CD (5%)		0.99	0.74	0.62	-	-	-	-	-	-	-	-	-	-

Continued...

Annexure III-9. Characteristics of insect pest resistant (late maturity) sorghum B-lines evaluated during the rainy and postrainy seasons, 2004 at ICRISAT-Patancheru.

Trait No.→			1				2	3						4						5			6			7			
			Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: Extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			
			Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			
Serial number	ICSB number	Trait	E1	E3	E4	Mean	E4	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	Serial number
1	415	SFR	1	1	2	1-2	3	2	2	2	2	2	2	71	70	70	65	77	71	0.9	0.8	0.8	1	1	1	2	2	2	1
2	418	SFR	1	1	1	1	1	2	2	2	2	2	2	70	68	69	66	74	70	0.8	0.7	0.7	1	1	1	2	2	2	2
3	419	SFR	2	1	2	1-2	1	2	2	2	2	2	2	71	70	70	69	80	75	1.0	0.7	0.9	1	1	1	2	2	2	3
4	425	SFR	1	1	2	1-2	1	2	2	2	2	2	2	72	70	71	67	78	73	1.2	0.9	1.0	1	1	1	2	2	2	4
5	444	SFPR	1	2	2	1-2	3	2	2	2	2	2	2	71	71	71	66	77	71	1.0	0.9	1.0	1	1	1	2	2	2	5
6	457	SFPR	1	1	1	1	1	3	3	3	2	2	2	70	71	70	68	85	77	1.5	1.2	1.4	1	1	1	2	2	2	6
7	508	MD	1	1	1	1	1	2	2	2	2	2	2	69	67	68	68	79	73	1.2	0.9	1.0	1	1	1	2	2	2	7
8	514	MD	1	1	1	1	1	2	2	2	2	2	2	69	68	69	68	78	73	1.0	0.8	0.9	1	1	1	2	2	2	8
9	515	MD	1	1	1	1	1	2	2	2	2	2	2	68	69	68	69	79	74	1.0	0.8	0.9	1	3	1-3	2	0	0-2	9
10	529	MD	1	1	1	1	1	3	3	3	2	1	1-2	67	69	68	68	79	74	1.1	0.9	1.0	5	7	5-7	0	0	0	10
11	531	MD	1	1	1	1	1	2	2	2	2	2	2	69	70	69	67	79	73	0.9	0.8	0.9	3	3	3	0	0	0	11
12	532	MD	1	1	1	1	1	3	3	3	2	2	2	70	70	70	68	81	75	1.0	0.8	0.9	7	7	7	0	0	0	12
13	555	HB	1	1	1	1	1	2	2	2	2	2	2	66	62	64	63	69	66	1.3	1.0	1.1	1	1	1	2	2	2	13
	Control																												
14	296 B	High yield	1	2	2	1-2	3	3	3	3	2	2	2	72	69	71	68	80	74	1.0	0.8	0.9	5	3	3-5	0	0	0	14
	Mean		-	-	-	-	-	2	2	2	-	-	-	69	69	69	67	78	73	1.09	0.89	0.99	-	-	-	-	-	-	
	SE±		-	-	-	-	-	0.16	0.22	0.19	-	-	-	0.94	1.10	1.02	0.95	1.02	0.70	0.07	0.07	0.05	-	-	-	-	-	-	
	CV (%)		-	-	-	-	-	14.04	19.85	16.97	-	-	-	2.73	3.17	2.94	2.46	2.26	2.36	9.71	12.46	10.92	-	-	-	-	-	-	
	CD (5%)		-	-	-	-	-	0.46	0.63	0.54	-	-	-	3.10	3.27	3.14	2.70	2.90	1.96	0.19	0.19	0.14	-	-	-	-	-	-	

SFR- Shoot fly (Kharif adaptation); SFPR- Shoot fly (Rabi adaptation); SBPR- Stemborer (rabi adaptation); MD- Midge; HB- Head bug; R- Resistant; S- Susceptible; MM- Medium maturing

E1- Black Manmool (BM)15, Rainy; E2- Red Campus East (RCE) 3, Rainy; E3- Black Precision (BP) 14, Postrainy; E4- BP 3, Postrainy

Range of notes whereever given indicates that the line shows variable expression

Zero in the trait no. 7 indicates absence of midrib green coloration due to midrib discoloration

Trait No. 1-41: Triats stipulated in the DUS-test guidelines (Trait no 38 was not recorded in the current trials)
Trait No. 42-48 : Ancillary traits recorded in the current trials

Trait No. 49-54 : Specific traits for which A-/B-lines were bred

Trait No. 55 : Monitored trait recorded in various trials conducted earlier at ICRISAT

Continued...

Annexure III-9. … Contd.

Trait No.→			8			9			10			11			12			13			14			15			16			17		
Serial number	ICSB number	Trait	Flag leaf: Yellow coloration of mid rib			Glume hair color			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicillate flower			Length of anther			Dried anther color			Glume color		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
			E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	415	SFR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	5	5	6	5	5	4	4	4	2	2	2
2	418	SFR	1	1	1	1	1	1	5	5	5	1	1	1	1	1	1	5	4	4	3	6	4	6	5	6	4	4	4	2	2	2
3	419	SFR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9	6	8	3	6	4	5	6	5	6	4	4-6	4	4	4
4	425	SFR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	5	4	6	5	6	4	4	4	2	4	2-4
5	444	SFPR	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	5	5	5	5	5	6	4	4-6	2	2	2
6	457	SFPR	1	1	1	1	1	1	1	1	1	1	1	1	5	1	1-5	4	5	5	4	5	5	4	3	4	6	4	4-6	2	6	2-6
7	508	MD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	8	6	3	5	4	6	5	5	4	4	4	4	2	2-4
8	514	MD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	4	3	4	4	5	4	5	4	4	4	4	4	4
9	515	MD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	5	4	4	4	4	4	4	4	4	6	4-6
10	529	MD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	5	4	6	5	5	4	4	4	2	2	2
11	531	MD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	6	6	4	5	4	5	5	5	6	4	4-6	6	6	6
12	532	MD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	4	5	5	6	5	6	4	4	4	6	4	4-6
13	555	HB	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	5	4	6	7	7	6	6	6	6	4	4-6	6	6	6
	Control																															
14	296 B	High yield	1	1	1	1	1	1	9	9	9	1	1	1	1	1	1	9	9	9	4	5	4	5	5	5	4	7	4-7	2	2	2
	Mean		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SE±		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CV (%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CD (5%)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Continued...

Annexure III-9. … Contd.

Trait No.→			18			19			20			21			22			23			24			25			26			27		
			Plant height (m)			Stem thickness (mm)			Juicy score			Brix reading (%)			Leaf length (cm)			Leaf width (cm)			Panicle length (cm)			Panicle branch length (cm)			Panicle compactness			Panicle shape		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	415	SFR	1.2	1.1	1.1	19.7	14.0	16.8	1	1	1	7.0	8.3	7.7	67.3	52.0	59.7	8.0	6.7	7.3	28.3	23.0	25.7	8.3	6.0	7.2	6	5	5	3	3	3
2	418	SFR	1.1	0.9	1.0	19.3	20.3	19.8	2	1	2	10.0	11.3	10.7	56.0	47.0	51.5	8.7	7.7	8.2	27.7	24.0	25.8	10.3	8.0	9.2	6	5	6	3	3	3
3	419	SFR	1.3	1.1	1.2	18.7	14.7	16.7	2	1	2	5.3	7.7	6.5	68.7	51.0	59.8	7.7	5.3	6.5	29.7	24.0	26.8	8.3	5.7	7.0	5	5	5	3	3	3
4	425	SFR	1.4	1.2	1.3	14.7	13.3	14.0	1	1	1	12.7	10.0	11.3	60.7	46.3	53.5	7.3	6.3	6.8	24.3	18.7	21.5	7.3	4.7	6.0	6	5	5	3	3	3
5	444	SFPR	1.4	1.2	1.3	16.7	15.3	16.0	1	1	1	6.7	8.0	7.3	63.0	44.7	53.8	7.3	5.7	6.5	27.7	26.0	26.8	8.3	7.3	7.8	6	5	6	3	3	3
6	457	SFPR	1.8	1.5	1.7	18.3	16.0	17.2	1	1	1	7.7	8.3	8.0	63.3	55.7	59.5	8.0	7.0	7.5	23.3	20.0	21.7	7.0	5.0	6.0	7	6	6	3	3	3
7	508	MD	1.4	1.2	1.3	19.0	20.3	19.7	1	2	2	9.3	8.3	8.8	73.7	58.0	65.8	7.8	7.3	7.6	25.3	24.0	24.7	8.7	6.3	7.5	7	5	6	3	3	3
8	514	MD	1.3	1.1	1.2	17.3	14.3	15.8	1	1	1	10.0	7.0	8.5	70.7	54.7	62.7	8.2	6.0	7.1	22.7	21.3	22.0	5.7	5.3	5.5	7	7	7	3	3	3
9	515	MD	1.3	1.0	1.1	16.7	13.7	15.2	1	1	1	9.3	7.0	8.2	69.0	56.0	62.5	8.2	7.0	7.6	24.0	22.0	23.0	6.3	5.3	5.8	7	6	6	3	3	3
10	529	MD	1.4	1.2	1.3	20.3	17.3	18.8	1	1	1	10.7	7.0	8.8	84.0	67.0	75.5	9.0	8.0	8.5	27.0	23.7	25.3	6.7	5.3	6.0	7	7	7	3	3	3
11	531	MD	1.1	1.1	1.1	18.0	9.3	13.7	1	2	2	7.7	6.0	6.8	67.3	51.0	59.2	6.5	5.3	5.9	22.0	17.3	19.7	6.0	4.7	5.3	8	6	7	3	3	3
12	532	MD	1.3	1.1	1.2	18.0	14.0	16.0	2	1	2	7.0	9.0	8.0	86.0	67.0	76.5	9.3	7.3	8.3	28.7	23.3	26.0	7.3	5.3	6.3	6	5	6	3	3	3
13	555	HB	1.6	1.4	1.5	14.7	12.3	13.5	1	1	1	6.7	9.0	7.8	75.7	56.3	66.0	7.8	6.7	7.3	24.7	22.0	23.3	6.3	4.3	5.3	7	5	6	3	3	3
	Control																															
14	296 B	High yield	1.2	1.1	1.2	17.7	15.3	16.5	2	1	1	10.0	9.3	9.7	71.7	56.0	63.8	8.3	7.0	7.7	27.7	25.7	26.7	6.3	5.3	5.8	7	6	6	3	3	3
	Mean		1.34	1.16	1.25	17.79	15.02	16.41	-	-	-	8.57	8.31	8.44	69.79	54.48	62.13	8.01	6.67	7.34	25.93	22.50	24.21	7.36	5.62	6.49	-	-	-	-	-	-
	SE±		0.07	0.07	0.05	1.04	1.14	0.77	-	-	-	1.47	0.80	0.84	3.32	2.58	2.10	0.48	0.32	0.29	1.25	0.90	0.77	0.73	0.47	0.44	-	-	-	-	-	-
	CV (%)		8.59	9.50	9.01	10.51	13.73	11.99	-	-	-	27.42	15.64	22.53	8.20	8.24	8.28	10.52	8.66	9.86	8.69	7.35	8.18	18.62	15.82	17.79	-	-	-	-	-	-
	CD (5%)		0.21	0.19	0.14	2.95	3.25	2.17	-	-	-	4.19	2.28	2.35	9.43	7.33	5.89	1.36	0.91	0.80	3.55	2.56	2.16	2.07	1.35	1.22	-	-	-	-	-	-

Continued...

Annexure III-9. … Contd.

Trait No.→			28			29			30			31			32			33			34			35			36			37		
			Panicle exertion (cm)			Glume coverage (%)			Shattering			Threshability			Grain form			Grain color			1000-grain mass (g)			Grain shape-dorsal view			Grain shape-profile view			Grain germ size		
			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	415	SFR	5.3	6.0	5.7	25	33	29	3	3	3	1	1	1	1	1	1	4	4	4	27.73	26.71	27.22	3	3	3	3	3	3	5	5	5
2	418	SFR	0.0	0.0	0.0	42	50	46	3	3	3	5	1	1-5	1	1	1	3	4	3-4	22.69	25.68	24.19	3	3	3	3	3	3	5	5	5
3	419	SFR	5.7	10.3	8.0	25	25	25	3	3	3	5	1	1-5	1	1	1	4	4	4	24.3	25.76	25.03	3	3	3	3	3	3	5	5	5
4	425	SFR	0.0	8.3	4.2	50	50	50	3	3	3	1	1	1	1	1	1	4	4	4	21.75	24.68	23.22	3	3	3	3	3	3	5	5	5
5	444	SFPR	6.0	0.0	3.0	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	28.56	29.17	28.87	3	3	3	3	3	3	4	5	5
6	457	SFPR	8.0	11.3	9.7	42	50	46	3	3	3	1	1	1	1	1	1	4	4	4	27.86	26.61	27.23	3	3	3	3	3	3	5	5	5
7	508	MD	2.7	8.3	5.5	25	50	38	3	3	3	5	1	1-5	1	1	1	3	3	3	21.05	23.39	22.22	3	3	3	3	3	3	5	5	5
8	514	MD	5.3	5.3	5.3	25	25	25	3	3	3	1	1	1	1	1	1	4	3	3-4	21.77	24.07	22.92	3	3	3	3	3	3	5	5	5
9	515	MD	6.7	0.0	3.3	25	33	29	3	3	3	1	1	1	1	1	1	4	4	4	25.24	24.23	24.74	3	3	3	3	3	3	5	4	5
10	529	MD	4.7	8.0	6.3	25	25	25	3	3	3	5	1	1-5	1	1	1	4	4	4	29.03	29.39	29.21	3	3	3	3	3	3	5	5	5
11	531	MD	0.0	9.3	4.7	42	25	33	3	3	3	5	1	1-5	1	1	1	4	4	4	29.6	32.14	30.87	3	3	3	3	3	3	5	5	5
12	532	MD	0.0	8.0	4.0	33	42	38	3	3	3	5	1	1-5	1	1	1	4	4	4	22.28	25.12	23.7	3	3	3	3	3	3	5	5	5
13	555	HB	6.7	15.0	10.8	50	67	58	3	3	3	5	1	1-5	1	1	1	1	1	1	29.06	32.44	30.75	3	3	3	3	3	3	5	5	5
	Control																															
14	296 B	High yield	0.0	0.0	0.0	25	33	29	3	3	3	1	1	1	1	1	1	4	4	4	24.09	31.17	27.63	3	3	3	3	3	3	5	5	5
	Mean		3.64	6.43	5.04	32.74	38.10	35.42	-	-	-	-	-	-	-	-	-	4	4	-	25.36	27.18	26.27	-	-	-	-	-	-	-	-	-
	SE±		0.53	0.70	0.44	5.12	6.33	4.08	-	-	-	-	-	-	-	-	-	-	-	-	0.85	0.55	0.5	-	-	-	-	-	-	-	-	-
	CV (%)		24.38	16.09	19.02	22.64	25.69	24.38	-	-	-	-	-	-	-	-	-	-	-	-	6.02	3.59	4.85	-	-	-	-	-	-	-	-	-
	CD (5%)		1.49	2.00	1.23	14.57	17.99	11.44	-	-	-	-	-	-	-	-	-	-	-	-	2.43	1.55	1.42	-	-	-	-	-	-	-	-	-

Continued...

Annexure III-9. … Contd.

Trait No. →			39			40			41			42				43						44						45			46		
			Endosperm texture			Albumen color			Grain lustre			Days to emergence				Leaf glossy score						Seedling vigor score						Plant agronomic aspect score			Panicle yield (t ha^{-1})		
			Postrainy			Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSB number	Trait	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	415	SFR	5	5	5	2	2	2	5	5	5	5	6	6	6	1.3	1.5	1.4	2.0	1.3	1.7	1.8	1.8	1.8	2.0	1.7	1.8	1.7	1.7	1.7	6.6	4.1	5.3
2	418	SFR	4	5	5	2	2	2	5	5	5	7	6	6	6	2.3	2.3	2.3	2.5	2.3	2.4	4.7	3.0	3.7	2.3	1.0	1.7	2.0	1.7	1.8	8.0	8.3	8.1
3	419	SFR	4	4	4	2	2	2	5	6	6	4	5	6	6	2.3	2.5	2.4	1.7	2.3	2.0	1.5	1.5	1.5	2.0	2.3	2.2	1.7	1.7	1.7	5.6	4.2	4.9
4	425	SFR	4	5	5	2	2	2	6	6	6	6	5	6	6	1.0	2.7	1.7	1.0	1.0	1.0	2.0	2.0	2.0	2.0	3.0	2.5	2.7	2.0	2.3	4.2	3.3	3.8
5	444	SFPR	5	5	5	2	2	2	6	5	6	5	5	6	6	1.3	1.5	1.4	2.0	1.3	1.7	2.5	2.8	2.6	1.7	1.7	1.7	2.0	1.7	1.8	5.3	4.8	5.1
6	457	SFPR	5	5	5	2	2	2	7	7	7	4	5	6	6	1.8	1.3	1.5	1.0	1.3	1.2	1.0	2.0	1.5	1.7	2.7	2.2	1.7	1.0	1.3	5.4	4.7	5.0
7	508	MD	3	4	4	2	2	2	5	5	5	4	5	6	6	1.3	2.3	1.8	2.3	3.3	2.8	1.5	1.5	1.5	1.3	2.0	1.7	2.0	1.3	1.7	6.1	5.9	6.0
8	514	MD	4	4	4	2	2	2	6	5	5	4	5	6	6	1.8	2.8	2.3	2.0	3.0	2.5	1.3	1.0	1.1	1.7	1.3	1.5	1.0	1.0	1.0	5.3	4.6	5.0
9	515	MD	4	4	4	2	2	2	7	6	6	4	5	6	6	2.5	2.5	2.5	2.0	2.7	2.3	1.3	2.3	1.8	1.7	1.0	1.3	1.0	1.0	1.0	7.4	5.2	6.3
10	529	MD	5	4	5	2	2	2	4	6	5	4	5	6	6	1.8	1.8	1.8	1.3	2.0	1.7	2.8	2.3	2.5	1.0	1.7	1.3	1.0	1.0	1.0	9.1	7.0	8.0
11	531	MD	4	4	4	2	2	2	4	5	4	4	5	5	5	1.8	2.0	1.9	1.7	2.7	2.2	1.5	1.5	1.5	2.0	1.3	1.7	1.7	2.0	1.8	5.5	4.2	4.8
12	532	MD	4	4	4	2	2	2	2	2	2	4	5	6	5	2.0	2.0	2.0	2.0	2.7	2.3	1.8	1.3	1.5	1.7	1.0	1.3	1.7	1.0	1.3	6.4	5.1	5.8
13	555	HB	2	3	3	2	2	2	5	5	5	4	5	6	5	1.3	2.5	1.9	1.7	2.7	2.2	1.3	1.8	1.5	1.7	1.0	1.3	2.7	2.0	2.3	5.3	5.0	5.2
	Control																																
14	296 B	High yield	5	5	5	2	2	2	1	2	2	5	6	6	6	2.3	2.3	2.3	2.3	3.0	2.7	3.3	2.3	2.8	1.7	2.0	1.8	2.0	1.7	1.8	5.2	4.6	4.9
	Mean		-	-	-	-	-	-	-	-	-	4	5	6	6	1.66	2.05	1.86	1.82	2.26	2.04	1.94	1.82	1.88	1.74	1.69	1.71	1.76	1.48	1.62	6.10	5.07	5.58
	SE±		-	-	-	-	-	-	-	-	-	0.31	0.17	0.25	0.15	0.22	0.24	0.24	0.21	0.28	0.18	0.27	0.23	0.25	0.28	0.25	0.19	0.25	0.21	0.16	0.5	0.5	0.35
	CV (%)		-	-	-	-	-	-	-	-	-	15.02	6.02	7.67	7.02	26.52	23.66	25.80	21.21	21.52	21.62	28.07	25.01	26.72	28.47	26.38	27.52	20.05	20.31	20.22	15.4	18.56	16.85
	CD (5%)		-	-	-	-	-	-	-	-	-	0.88	0.49	0.72	0.43	0.63	0.69	0.68	0.60	0.80	0.50	0.78	0.64	0.71	0.80	0.70	0.53	0.7	0.6	0.45	1.42	1.41	0.99

Continued...

Annexure III-9. … Contd.

Trait No. →			47			48	49	50	51	52	53	54	55
			Grain yield (t ha^{-1})			Seed set % under high atmospheric temperature in A-line	Shoot fly dead hearts%	Shoot fly dead hearts%	Stem borer dead hearts%	Midge score	Midge score under cage	Head bug score	Seed set % in A-line under open pollination
			Postrainy			Summer	Rainy	Postrainy	Postrainy	Postrainy	Postrainy	Rainy	Postrainy
Serial number	ICSB number	Trait	E3	E4	Mean								
1	415	SFR	5.2	3.0	4.1	0	52.1	-	-	-	-	-	35
2	418	SFR	6.3	5.7	6.0	0	-	-	-	-	-	-	-
3	419	SFR	4.5	3.1	3.8	0	51.7	-	-	-	-	-	40
4	425	SFR	3.3	2.4	2.8	0	36.1	-	-	-	-	-	80
5	444	SFPR	4.4	3.5	3.9	0	-	13	-	-	-	-	40
6	457	SFPR	4.3	3.3	3.8	90	-	22	-	-	-	-	50
7	508	MD	5.1	4.4	4.7	70	-	-	-	2.4	2.2	-	65
8	514	MD	4.3	3.5	3.9	0	-	-	-	4.7	6.4	-	20
9	515	MD	5.9	3.8	4.9	0	-	-	-	3.1	1.3	-	-
10	529	MD	6.8	5.1	6.0	60	-	-	-	3.4	2.5	-	65
11	531	MD	4.2	3.1	3.6	10	-	-	-	4.5	4.4	-	95
12	532	MD	5.1	3.8	4.5	0	-	-	-	3.2	3.1	-	30
13	555	HB	4.5	3.8	4.1	0	-	-	-	-	-	4.0	60
	Control						-	-	-				
14	296 B	High yield	3.9	3.3	3.6	-	91	60	67	5.8	8	6.3	30
	Mean		4.84	3.69	4.26	-	-	-	-	-	-	-	`
	SE±		0.37	0.38	0.27	-	-	-	-	-	-	-	-
	CV (%)		14.72	19.34	16.75	-	-	-	-	-	-	-	-
	CD (5%)		1.07	1.07	0.75	-	-	-	-	-	-	-	-

Continued...

Annexure III-10. Characteristics of high yielding (early maturity) sorghum R-lines evaluated during the rainy and postrainy seasons, 2004 at ICRISAT-Patancheru

Triat No. →		1				2	3						4						5			6			7			8		
Serial number	ICSR number	Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: yellow coloration of mid rib		
		Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
		BM 15	BP 14	BP 3	Mean	Mean	BM 15	RCE 2	Mean	BP 14	BP 3	Mean	BM 15	RCE 2	Mean	BP 14	BP 3	Mean	E3	E4	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean
1	1	1	1	2	1-2	3	3	3	3	3	3	3	68	70	69	64	73	68	0.9	0.8	0.9	5	5	5	0	0	0	1	1	1
2	4	1	1	2	1-2	3	2	2	2	2	2	2	58	65	62	55	60	58	1.0	0.8	0.9	1	1	1	2	2	2	1	1	1
3	6	1	1	1	1	1	2	2	2	2	2	2	65	70	68	64	73	69	0.9	0.9	0.9	3	1	1-3	0	2	0-2	1	1	1
4	7	1	1	1	1	1	2	2	2	2	2	2	65	69	67	62	76	69	1.1	0.9	1.0	1	3	1-3	2	0	0-2	1	1	1
5	9	1	1	1	1	1	2	3	2-3	2	2	2	68	70	69	63	73	68	1.1	0.9	1.0	1	5	1-5	2	0	0-2	1	1	1
6	10	1	2	2	1-2	3	2	2	2	2	2	2	68	67	67	64	73	68	1.1	0.9	1.0	1	1	1	2	2	2	1	1	1
7	13	2	2	2	2	3	2	2	2	2	2	2	70	71	71	66	75	71	1.2	1.0	1.1	5	3	3-5	0	0	0	1	1	1
8	17	1	1	1	1	1	2	3	2-3	2	2	2	63	68	65	63	74	68	1.0	0.9	1.0	5	5	5	0	0	0	1	1	1
9	19	1	1	1	1	1	2	3	2-3	2	2	2	65	69	67	62	72	67	1.1	1.0	1.1	3	3	3	0	0	0	1	1	1
10	26	1	1	1	1	1	1	3	1-3	2	2	2	62	67	64	61	73	67	1.3	1.1	1.2	3	5	3-5	0	0	0	1	1	1
11	29	1	1	1	1	1	2	2	2	2	2	2	68	71	69	66	77	72	1.1	0.9	1.0	3	1	1-3	0	2	0-2	1	1	1
12	30	2	2	2	2	3	2	2	2	2	1	1-2	63	69	66	61	73	67	1.4	1.0	1.2	1	3	1-3	2	0	0-2	1	1	1
13	36	2	2	2	2	3	2	2	2	2	2	2	69	71	70	64	73	69	1.2	0.9	1.1	1	3	1-3	2	0	0-2	1	1	1
14	39	1	1	1	1	1	2	2	2	2	2	2	66	68	67	66	76	71	1.0	1.0	1.0	1	1	1	2	2	2	1	1	1
15	42	1	1	1	1	1	2	2	2	2	2	2	68	71	70	68	78	73	1.1	1.1	1.1	5	1	1-5	0	2	0-2	1	1	1
16	43	2	2	2	2	3	2	2	2	2	2	2	68	69	68	67	77	72	1.2	1.0	1.1	1	1	1	2	2	2	1	1	1
17	52	1	1	1	1	1	3	3	3	2	2	2	70	70	70	66	80	73	0.9	0.8	0.9	7	5	5-7	0	0	0	1	1	1
18	53	1	1	1	1	1	2	2	2	2	2	2	68	72	70	65	78	72	1.2	1.3	1.2	3	5	3-5	0	0	0	1	1	1
19	56	2	2	2	2	3	2	2	2	2	2	2	67	69	68	62	70	66	1.3	1.2	1.2	1	3	1-3	2	0	0-2	1	1	1
20	65	2	2	2	2	3	2	2	2	2	2	2	62	64	63	59	68	64	0.9	0.8	0.9	1	3	1-3	2	0	0-2	1	1	1
21	66	1	1	1	1	1	2	2	2	2	2	2	68	71	69	65	74	69	1.4	1.1	1.3	3	5	3-5	0	0	0	1	1	1
22	67	2	1	2	1-2	3	2	2	2	2	2	2	65	69	67	63	75	69	1.1	0.9	1.0	3	5	3-5	0	0	0	1	1	1
23	70	1	1	1	1	1	2	2	2	2	2	2	71	75	73	67	80	74	1.3	1.0	1.2	1	1	1	2	2	2	1	1	1
24	71	2	2	2	2	3	2	2	2	2	2	2	69	73	71	64	77	71	0.8	0.8	0.8	3	1	1-3	0	2	0-2	1	1	1
25	77	1	1	1	1	1	2	2	2	2	2	2	66	71	68	64	73	69	1.4	1.1	1.2	1	1	1	2	2	2	1	1	1
26	86	1	1	1	1	1	2	2	2	2	2	2	63	68	65	64	75	70	1.1	0.9	1.0	3	5	3-5	0	0	0	1	1	1
27	89	2	2	2	2	3	2	3	2-3	2	2	2	68	73	71	70	77	74	1.4	1.1	1.2	7	7	7	0	0	0	1	1	1
28	90	1	1	1	1	1	2	2	2	2	2	2	63	67	65	64	73	69	0.9	0.9	0.9	5	5	5	0	0	0	1	1	1
29	104	1	1	2	1-2	3	2	2	2	2	2	2	68	71	70	64	74	69	1.2	0.9	1.0	5	7	5-7	0	0	0	1	1	1
30	108	1	1	1	1	1	2	3	2-3	2	2	2	68	70	69	63	73	68	1.1	0.9	1.0	3	1	1-3	0	2	0-2	1	1	1
31	111	1	1	1	1	1	1	1	1	1	1	1	69	69	69	64	74	69	1.1	0.9	1.0	5	5	5	0	0	0	9	9	9
32	120	2	2	2	2	3	2	2	2	2	2	2	68	71	69	64	79	71	0.9	0.7	0.8	1	1	1	2	2	2	1	1	1
33	161	1	1	2	1-2	1	3	1	1-3	2	2	2	65	70	68	63	74	69	1.2	1.0	1.1	5	7	5-7	0	0	0	1	1	1
34	162	2	2	2	2	3	2	2	2	2	2	2	67	73	70	67	79	73	1.7	1.3	1.5	5	5	5	0	0	0	1	1	1
35	89009	2	2	2	2	3	3	3	3	3	2	2-3	61	68	65	62	74	68	1.3	1.1	1.2	7	7	7	0	0	0	1	1	1
36	89012	1	1	1	1	1	2	2	2	2	2	2	71	76	74	65	75	70	1.2	1.0	1.1	3	5	3-5	0	0	0	1	1	1
37	89013	2	2	2	2	3	2	2	2	2	2	2	60	65	63	60	70	65	0.9	0.8	0.9	1	1	1	2	2	2	1	1	1
38	89014	2	2	2	2	3	1	2	1-2	2	2	2	64	67	65	63	74	68	1.3	1.2	1.2	3	5	3-5	0	0	0	1	1	1

Continued...

Triat No. →		1				2	3						4						5			6			7			8		
		Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: yellow coloration of mid rib		
		Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSR number	BM 15	BP 14	BP 3	Mean	Mean	BM 15	RCE 2	Mean	BP 14	BP 3	Mean	BM 15	RCE 2	Mean	BP 14	BP 3	Mean	E3	E4	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean
39	89018	1	2	2	1-2	3	2	2	2	2	2	2	58	61	59	59	71	65	1.0	0.8	0.9	1	1	1	2	2	2	1	1	1
40	89028	1	2	2	1-2	3	2	2	2	2	2	2	70	70	70	63	76	70	1.1	0.9	1.0	1	1	1	2	2	2	1	1	1
41	89034	2	1	2	1-2	3	2	2	2	2	2	2	59	70	64	59	69	64	1.0	0.9	1.0	1	1	1	2	2	2	1	1	1
42	89041	1	1	1	1	1	2	2	2	2	2	2	61	66	63	59	75	67	0.9	0.9	0.9	1	1	1	2	2	2	1	1	1
43	89042	1	1	1	1	1	2	1	1-2	2	2	2	65	66	65	61	75	68	0.9	0.7	0.8	1	1	1	2	2	2	1	1	1
44	89043	1	1	1	1	1	2	2	2	2	2	2	57	66	61	57	74	66	1.0	0.9	1.0	1	1	1	2	2	2	1	1	1
45	89058	2	2	2	2	3	2	2	2	2	2	2	64	69	67	61	72	66	1.2	1.1	1.1	3	3	3	0	0	0	1	1	1
46	89065	1	2	1	1-2	1	2	1	1-2	2	2	2	66	73	69	62	74	68	0.8	0.8	0.8	1	5	1-5	2	0	0-2	1	1	1
47	89068	1	1	1	1	1	3	3	3	3	2	2-3	59	63	61	58	67	62	1.1	1.1	1.1	7	5	5-7	0	0	0	1	1	1
48	90003	2	2	2	2	3	1	3	1-3	2	2	2	59	67	63	64	74	69	1.3	1.2	1.3	7	7	7	0	0	0	1	1	1
49	90004	1	1	1	1	1	2	2	2	2	2	2	62	71	66	60	70	65	1.4	1.1	1.2	1	1	1	2	2	2	1	1	1
50	90006	2	2	2	2	3	2	2	2	2	2	2	63	67	65	59	69	64	1.2	0.9	1.0	1	1	1	2	2	2	1	1	1
51	90007	1	1	2	1-2	1	2	2	2	2	2	2	58	64	61	56	65	61	0.9	1.0	0.9	1	1	1	2	2	2	1	1	1
52	93004	2	2	2	2	3	2	2	2	2	2	2	73	70	72	70	78	74	2.4	2.0	2.2	1	1	1	2	2	2	1	1	1
53	94035	2	2	2	2	3	2	2	2	2	2	2	70	72	71	65	74	70	1.0	0.9	0.9	1	1	1	2	2	2	1	1	1
	Control																													
54	CSV 4	1	1	2	1-2	3	2	2	2	2	2	2	66	70	68	62	71	67	1.0	0.8	0.9	1	5	1-5	2	0	0-2	1	1	1
55	RS 29	2	1	2	1-2	3	2	3	2-3	2	2	2	69	73	71	67	78	73	1.4	1.2	1.3	5	5	5	0	0	0	1	1	1
	Mean	-	-	-	-	-	2	2	2	-	-	-	65	69	67	63	74	68	1.15	0.99	1.07	-	-	-	-	-	-	-	-	-
	SE±	-	-	-	-	-	0.22	0.26	0.24	-	-	-	0.93	1.45	1.21	1.05	0.80	0.66	0.04	0.04	0.03	-	-	-	-	-	-	-	-	-
	CV (%)	-	-	-	-	-	22.93	23.56	23.69	-	-	-	2.86	4.21	3.63	2.89	1.88	2.37	6.43	6.60	6.52	-	-	-	-	-	-	-	-	-
	CD (5%)	-	-	-	-	-	0.64	0.74	0.70	-	-	-	2.74	4.22	3.54	2.94	2.24	1.84	0.12	0.11	0.08	-	-	-	-	-	-	-	-	-

E1- Black Manmool (BM)15, Rainy; E2- Red Campus East (RCE) 3, Rainy; E3- Black Precision (BP) 14, Postrainy; E4- BP 3, Postrainy

Range of notes whereever given indicates that the line shows variable expression

Zero in the trait no. 7 indicates absence of midrib green coloration due to midrib discoloration

Trait No. 1-41 : Triats stipulated in the DUS-test guidelines (Trait no 38 was not recorded in the current trials)
Trait No. 42-47 : Ancillary traits recorded in the current trials

Trait No. 48-50 : Monitored traits recorded in various trials conducted earlier at ICRISAT

Continued...

Annexure III-10. … Contd.

Triat No. →		9			10			11			12			13			14			15			16			17			18		
Serial number	ICSR number	Glume hair color			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicellate flower			Length of anther			Dried anther color			Glume color			Plant height (m)		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
		BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean
1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	3	5	4	3	4	4	4	4	4	1	6	1-6	1.3	1.2	1.2
2	4	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	4	4	5	5	5	7	4	4-7	2	6	2-6	1.3	1.2	1.2
3	6	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	7	6	6	5	5	4	4	4	2	4	2-4	1.2	1.2	1.2
4	7	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	4	4	4	4	5	5	4	4	4	2	4	2-4	1.4	1.2	1.3
5	9	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	6	6	6	6	5	5	4	4	4	2	6	2-6	1.4	1.2	1.3
6	10	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	6	5	6	5	5	4	4	4	2	4	2-4	1.3	1.2	1.3
7	13	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	3	4	3	6	6	6	4	4	4	4	5	4-5	1.5	1.4	1.4
8	17	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	4	4	5	6	5	4	6	4-6	6	6	6	1.3	1.3	1.3
9	19	1	1	1	1	1	1	1	1	1	1	5	1-5	5	5	5	4	5	5	5	4	4	7	4	4-7	2	4	2-4	1.5	1.4	1.5
10	26	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	5	4	6	6	6	6	6	6	2	6	2-6	1.7	1.6	1.6
11	29	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	5	5	5	5	5	5	4	4	4	4	5	4-5	1.4	1.2	1.3
12	30	1	1	1	1	1	1	1	1	1	1	1	1	8	6	7	6	4	5	3	4	4	4	4	4	2	6	2-6	1.7	1.4	1.5
13	36	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	4	5	5	4	5	4	4	4	4	2	4	2-4	1.6	1.3	1.4
14	39	1	1	1	1	1	1	1	1	1	1	1	1	4	6	5	5	6	5	6	5	5	4	4	4	4	4	4	1.3	1.3	1.3
15	42	1	1	1	1	1	1	1	1	1	1	1	1	3	4	4	5	4	5	5	4	5	4	4	4	2	2	2	1.5	1.4	1.4
16	43	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	5	4	5	5	4	5	4	4	4	4	4	4	1.6	1.4	1.5
17	52	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	5	4	4	6	4	5	4	4	4	4	4	4	1.2	1.2	1.2
18	53	1	1	1	1	1	1	1	1	1	1	5	1-5	9	8	8	5	6	5	4	5	5	4	6	4-6	2	4	2-4	1.6	1.6	1.6
19	56	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	4	4	6	4	5	4	4	4	6	6	6	1.6	1.5	1.5
20	65	1	1	1	1	1	1	1	1	1	1	1	1	6	4	5	3	4	4	5	5	5	4	7	4-7	4	4	4	1.3	1.1	1.2
21	66	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	5	5	5	4	5	5	4	6	4-6	4	4	4	1.6	1.5	1.5
22	67	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	4	6	5	5	4	5	4	4	4	6	6	6	1.3	1.2	1.3
23	70	1	1	1	1	1	1	1	1	1	1	5	1-5	9	6	8	6	4	5	5	4	5	4	4	4	2	6	2-6	1.6	1.3	1.4
24	71	1	1	1	1	1	1	1	1	1	1	1	1	6	5	5	7	3	5	6	4	5	4	4	4	4	7	4-7	1.1	1.1	1.1
25	77	1	1	1	5	1	3	1	1	1	5	5	5	9	5	7	5	5	5	6	5	6	4	4	4	4	4	4	1.7	1.5	1.6
26	86	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	4	4	4	5	5	5	4	4	4	4	4	4	1.4	1.2	1.3
27	89	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	4	4	3	3	3	6	6	6	4	4	4	1.8	1.4	1.6
28	90	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	4	4	4	5	4	4	4	4	4	6	4	4-6	1.1	1.1	1.1
29	104	1	1	1	1	1	1	1	1	1	5	1	1-5	3	4	4	5	5	5	5	5	5	4	4	4	2	4	2-4	1.5	1.3	1.4
30	108	1	1	1	1	1	1	1	1	1	5	1	1-5	4	4	4	5	4	4	4	5	5	4	4	4	5	5	5	1.5	1.2	1.4
31	111	1	1	1	1	1	1	1	1	1	5	1	1-5	4	5	5	6	4	5	5	4	5	7	4	4-7	2	4	2-4	1.5	1.3	1.4
32	120	1	1	1	1	1	1	1	1	1	1	5	1-5	8	8	8	4	4	4	6	5	5	4	4	4	2	6	2-6	1.1	1.0	1.1
33	161	1	1	1	1	1	1	1	1	1	1	1	1	3	4	4	5	7	6	7	6	6	4	6	4-6	6	6	6	1.6	1.4	1.5
34	162	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	5	6	5	6	5	5	6	4	4-6	2	2	2	2.1	1.7	1.9
35	89009	1	1	1	1	1	1	1	1	1	1	1	1	6	5	6	5	5	5	6	4	5	4	4	4	4	4	4	1.6	1.5	1.5
36	89012	1	1	1	1	1	1	1	1	1	1	1	1	3	4	3	4	4	4	6	6	6	4	6	4-6	4	6	4-6	1.6	1.3	1.5
37	89013	1	1	1	1	1	1	1	1	1	1	1	1	6	4	5	3	6	4	5	4	5	7	4	4-7	5	7	5-7	1.3	1.1	1.2
38	89014	1	1	1	1	1	1	1	1	1	5	5	5	6	6	6	5	7	6	5	4	5	7	4	4-7	6	6	6	1.7	1.6	1.6

Continued...

Triat No. →		9			10			11			12			13			14			15			16			17			18		
Serial number	ICSR number	Glume hair color			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicellate flower			Length of anther			Dried anther color			Glume color			Plant height (m)		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
		BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean
39	89018	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	3	5	4	5	5	5	7	4	4-7	8	8	8	1.4	1.1	1.3
40	89028	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	4	4	4	4	5	4	4	4	4	5	5	5	1.5	1.2	1.4
41	89034	1	1	1	1	1	1	1	1	1	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	1	6	1-6	1.4	1.2	1.3
42	89041	1	1	1	1	1	1	1	1	1	5	7	5-7	4	5	5	5	6	6	5	6	5	7	7	7	2	6	2-6	1.4	1.3	1.3
43	89042	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	5	5	5	5	5	5	4	4	4	4	4	4	1.2	1.1	1.1
44	89043	1	1	1	1	1	1	1	1	1	5	5	5	4	4	4	3	4	3	5	5	5	7	7	7	3	7	3-7	1.5	1.4	1.4
45	89058	1	1	1	1	1	1	1	1	1	1	5	1-5	4	4	4	3	4	4	4	5	5	4	4	4	2	2	2	1.6	1.4	1.5
46	89065	1	1	1	1	1	1	1	1	1	1	5	1-5	4	5	4	3	5	4	5	5	5	4	4	4	6	3	3-6	1.1	1.1	1.1
47	89068	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	3	4	4	5	4	4	7	4	4-7	4	4	4	1.4	1.4	1.4
48	90003	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	5	5	5	5	5	4	4	4	2	2	2	1.7	1.5	1.6
49	90004	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	6	6	6	6	6	6	4	6	4-6	2	4	2-4	1.8	1.6	1.7
50	90006	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	3	5	4	5	5	5	7	4	4-7	2	4	2-4	1.5	1.2	1.3
51	90007	1	1	1	4	5	4	1	1	1	1	1	1	4	9	7	4	4	4	5	4	4	7	4	4-7	1	2	1-2	1.3	1.4	1.3
52	93004	1	1	1	9	5	7	1	1	1	1	1	1	9	9	9	6	6	6	7	5	6	7	4	4-7	4	4	4	2.6	2.2	2.4
53	94035	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	3	3	3	4	3	6	4	4-6	4	4	4	1.3	1.2	1.2
	Control																														
54	CSV 4	1	1	1	1	1	1	1	1	1	1	1	1	4	3	3	4	5	5	3	4	4	4	4	4	2	6	2-6	1.2	1.1	1.2
55	RS 29	1	1	1	1	1	1	1	1	1	5	1	1-5	3	4	3	7	4	6	5	5	5	4	4	4	2	4	2-4	1.7	1.5	1.6
	Mean	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.48	1.32	1.40
	SE±	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.04	0.03	0.03
	CV (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.01	4.27	4.71
	CD (5%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.12	0.09	0.08

Continued...

Annexure III-10. … Contd.

Triat No. ⟶		19			20			21			22			23			24			25			26			27			28		
Serial number	ICSR number	Stem thickness (mm)			Juicy score			Brix reading (%)			Leaf length (cm)			Leaf width (cm)			Panicle length (cm)			Panicle branch length (cm)			Panicle compactness			Panicle shape			Panicle exertion (cm)		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
		BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean
1	1	18.6	12.9	15.8	1	1	1	6.0	7.3	6.7	65.7	55.0	60.3	7.3	6.7	7.0	25.7	24.0	24.8	8.0	6.0	7.0	7	6	6	3	3	3	7.0	12.0	9.5
2	4	19.7	14.7	17.2	1	1	1	11.7	11.0	11.3	75.7	66.3	71.0	7.8	6.3	7.1	30.3	27.3	28.8	9.3	7.3	8.3	6	5	6	3	3	3	0.0	9.0	4.5
3	6	19.3	14.9	17.1	2	2	2	6.0	6.3	6.2	62.3	56.0	59.2	7.8	7.7	7.8	27.3	22.3	24.8	7.0	6.0	6.5	6	6	6	3	3	3	0.0	4.3	2.2
4	7	17.5	16.6	17.1	1	1	1	10.0	9.0	9.5	73.3	61.3	67.3	8.7	7.3	8.0	27.3	22.7	25.0	7.7	6.3	7.0	7	6	6	3	3	3	6.3	6.7	6.5
5	9	19.7	12.9	16.3	1	1	1	6.3	6.7	6.5	74.0	59.0	66.5	9.2	7.7	8.4	27.7	23.7	25.7	8.7	6.0	7.3	7	5	6	3	3	3	0.0	4.7	2.3
6	10	19.9	16.5	18.2	1	1	1	12.0	7.0	9.5	62.3	53.0	57.7	6.3	6.0	6.2	23.7	19.3	21.5	6.7	5.0	5.8	9	7	8	3	3	3	0.0	4.0	2.0
7	13	21.6	13.0	17.3	1	2	1	18.3	7.3	12.8	71.3	53.3	62.3	9.0	6.3	7.7	23.7	20.7	22.2	8.7	5.7	7.2	6	6	6	3	3	3	7.0	14.0	10.5
8	17	20.3	15.5	17.9	1	2	2	17.7	6.3	12.0	69.3	57.0	63.2	8.2	6.7	7.4	28.7	26.3	27.5	10.3	7.0	8.7	5	6	5	3	3	3	0.0	4.7	2.3
9	19	16.8	17.7	17.3	1	1	1	9.0	8.0	8.5	72.0	55.3	63.7	7.3	6.7	7.0	25.7	23.7	24.7	8.0	6.7	7.3	7	5	6	3	3	3	13.7	15.7	14.7
10	26	15.8	15.5	15.7	2	2	2	5.7	7.3	6.5	86.3	61.3	73.8	8.3	6.7	7.5	27.7	24.7	26.2	9.3	6.3	7.8	5	6	5	3	3	3	13.7	17.0	15.3
11	29	19.2	13.8	16.5	1	1	1	9.0	9.7	9.3	75.7	59.3	67.5	8.8	6.7	7.8	29.0	23.7	26.3	7.7	7.0	7.3	7	5	6	3	3	3	0.0	0.0	0.0
12	30	15.5	15.5	15.5	1	2	1	12.3	7.0	9.7	61.3	49.3	55.3	6.7	6.0	6.3	20.3	21.3	20.8	5.7	6.0	5.8	8	6	7	3	3	3	10.3	14.0	12.2
13	36	16.2	18.3	17.3	1	1	1	8.0	6.3	7.2	64.0	51.0	57.5	7.5	5.7	6.6	25.7	23.7	24.7	6.7	5.7	6.2	7	6	6	3	3	3	8.0	13.0	10.5
14	39	20.2	15.9	18.1	1	1	1	6.0	6.7	6.3	66.3	52.3	59.3	7.8	6.3	7.1	28.0	23.7	25.8	8.7	6.0	7.3	7	5	6	3	3	3	0.0	3.7	1.8
15	42	22.4	15.3	18.9	1	1	1	14.7	6.7	10.7	72.7	57.0	64.8	8.8	7.0	7.9	29.7	21.3	25.5	10.0	5.7	7.8	5	6	5	3	3	3	5.0	7.3	6.2
16	43	20.1	14.8	17.4	1	1	1	14.0	6.3	10.2	75.3	59.3	67.3	8.0	6.7	7.3	32.0	29.0	30.5	9.0	8.3	8.7	5	6	5	3	3	3	5.7	7.3	6.5
17	52	26.2	20.1	23.2	1	1	1	15.7	9.3	12.5	75.0	59.0	67.0	10.7	8.0	9.3	28.7	25.3	27.0	8.7	7.0	7.8	7	6	6	3	3	3	5.3	12.0	8.7
18	53	20.1	18.6	19.3	1	1	1	15.3	7.0	11.2	79.7	58.0	68.8	9.8	6.0	7.9	27.7	24.7	26.2	10.7	7.3	9.0	5	5	5	3	3	3	11.7	14.3	13.0
19	56	18.4	14.6	16.5	1	1	1	18.0	7.3	12.7	67.7	57.7	62.7	8.2	6.3	7.3	25.3	21.0	23.2	7.7	6.7	7.2	7	5	6	3	3	3	6.0	9.3	7.7
20	65	16.6	15.8	16.2	1	1	1	6.7	9.7	8.2	75.0	59.0	67.0	9.2	7.3	8.3	27.0	22.3	24.7	9.3	6.3	7.8	7	5	6	3	3	3	7.7	9.3	8.5
21	66	20.0	16.6	18.3	1	1	1	10.0	7.7	8.8	63.7	51.3	57.5	8.8	6.7	7.8	22.7	19.0	20.8	9.0	6.3	7.7	8	6	7	3	3	3	0.0	13.3	6.7
22	67	18.7	15.4	17.1	1	2	1	7.0	6.0	6.5	64.7	50.3	57.5	8.2	6.3	7.3	28.7	21.7	25.2	9.3	5.7	7.5	6	6	6	3	3	3	0.0	4.7	2.3
23	70	19.8	14.1	16.9	2	1	1	5.7	7.3	6.5	81.7	71.0	76.3	9.3	6.3	7.8	23.3	20.0	21.7	7.7	5.7	6.7	6	5	6	3	3	3	6.0	6.7	6.3
24	71	21.0	17.0	19.0	1	1	1	7.7	8.0	7.8	76.0	69.7	72.8	8.3	7.0	7.7	28.7	25.0	26.8	8.7	6.7	7.7	7	5	6	3	3	3	0.0	6.0	3.0
25	77	18.2	16.3	17.3	1	1	1	6.0	6.3	6.2	66.3	54.7	60.5	6.8	5.7	6.3	24.7	24.3	24.5	9.0	6.7	7.8	8	5	6	3	3	3	9.3	17.0	13.2
26	86	21.7	16.6	19.2	1	1	1	7.3	8.7	8.0	80.0	60.0	70.0	10.0	7.7	8.8	28.7	23.0	25.8	7.7	5.7	6.7	7	5	6	3	3	3	5.0	6.0	5.5
27	89	21.1	17.8	19.4	1	1	1	7.0	7.7	7.3	81.0	58.7	69.8	8.2	6.0	7.1	30.0	24.3	27.2	8.7	6.0	7.3	5	6	5	3	3	3	11.0	14.3	12.7
28	90	18.5	17.7	18.1	1	1	1	7.7	6.7	7.2	57.3	50.3	53.8	7.0	7.0	7.0	24.7	22.0	23.3	6.7	5.7	6.2	7	6	7	3	3	3	0.0	0.0	0.0
29	104	18.7	12.9	15.8	1	1	1	7.7	7.3	7.5	81.3	62.3	71.8	8.2	7.3	7.8	31.3	25.3	28.3	8.3	6.7	7.5	6	5	6	3	3	3	6.3	9.3	7.8
30	108	17.4	14.2	15.8	1	2	2	7.3	6.7	7.0	64.7	52.0	58.3	8.3	6.3	7.3	26.7	20.7	23.7	8.3	5.7	7.0	6	5	5	3	3	3	12.0	11.0	11.5
31	111	20.4	16.1	18.3	1	1	1	16.0	9.3	12.7	69.3	64.0	66.7	9.3	8.7	9.0	28.7	25.8	27.2	9.3	6.6	8.0	7	6	6	3	3	3	10.7	11.0	10.8
32	120	20.6	15.0	17.8	1	1	1	5.3	7.3	6.3	68.7	51.3	60.0	9.0	5.3	7.2	22.3	18.0	20.2	7.3	4.7	6.0	7	5	6	3	3	3	0.0	9.0	4.5
33	161	19.7	16.9	18.3	1	1	1	11.7	9.0	10.3	78.7	59.0	68.8	9.7	7.7	8.7	31.0	25.7	28.3	9.3	6.7	8.0	6	5	5	3	3	3	6.7	12.7	9.7
34	162	18.5	15.1	16.8	1	1	1	8.0	7.0	7.5	82.0	65.7	73.8	10.5	7.3	8.9	30.7	26.7	28.7	11.0	8.3	9.7	5	5	5	3	3	3	5.7	16.0	10.8
35	89009	17.6	13.5	15.6	1	1	1	10.0	10.3	10.2	63.7	55.0	59.3	9.7	7.0	8.3	27.3	23.7	25.5	7.7	4.7	6.2	7	6	7	3	3	3	0.0	8.7	4.3
36	89012	17.9	13.2	15.5	1	2	1	7.0	6.3	6.7	72.7	58.7	65.7	8.5	6.0	7.3	31.7	24.7	28.2	9.0	5.7	7.3	7	6	6	3	3	3	5.7	9.0	7.3
37	89013	15.2	15.6	15.4	1	1	1	13.3	13.0	13.2	71.7	47.3	59.5	8.3	5.3	6.8	23.3	22.7	23.0	6.0	6.3	6.2	7	6	7	3	3	3	11.3	8.0	9.7
38	89014	17.9	15.9	16.9	2	2	2	8.0	8.3	8.2	76.0	53.7	64.8	7.5	6.0	6.8	27.0	23.3	25.2	7.3	6.3	6.8	5	6	5	3	3	3	12.3	16.7	14.5

Continued...

Triat No. →		19			20			21			22			23			24			25			26			27			28		
		Stem thickness (mm)			Juicy score			Brix reading (%)			Leaf length (cm)			Leaf width (cm)			Panicle length (cm)			Panicle branch length (cm)			Panicle compactness			Panicle shape			Panicle exertion (cm)		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSR number	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean
39	89018	17.2	14.6	15.9	1	1	1	15.0	14.0	14.5	71.3	50.7	61.0	8.5	6.7	7.6	25.3	20.7	23.0	7.0	5.7	6.3	7	7	7	3	3	3	11.7	12.3	12.0
40	89028	20.2	16.0	18.1	2	1	2	6.3	6.7	6.5	73.0	55.7	64.3	8.5	6.7	7.6	30.0	23.0	26.5	10.7	6.0	8.3	7	5	6	3	3	3	7.3	8.3	7.8
41	89034	15.6	13.1	14.4	1	1	1	8.3	7.7	8.0	67.7	50.0	58.8	6.3	5.0	5.7	30.0	22.7	26.3	10.0	5.7	7.8	6	6	6	3	3	3	7.0	7.0	7.0
42	89041	16.2	15.6	15.9	2	2	2	5.7	7.0	6.3	76.7	63.3	70.0	9.2	7.3	8.3	33.7	25.0	29.3	12.7	6.3	9.5	5	5	5	3	3	3	11.7	8.3	10.0
43	89042	18.6	15.9	17.3	1	1	1	7.0	9.0	8.0	82.0	65.7	73.8	10.2	7.7	8.9	33.7	27.7	30.7	12.7	8.7	10.7	5	6	5	3	3	3	0.0	7.0	3.5
44	89043	14.7	14.5	14.6	1	1	1	12.0	7.0	9.5	76.7	63.3	70.0	7.7	6.7	7.2	35.0	29.7	32.3	11.7	8.7	10.2	6	5	5	3	3	3	17.3	13.0	15.2
45	89058	17.6	14.3	15.9	1	2	2	6.7	7.0	6.8	70.7	53.3	62.0	8.0	5.7	6.8	31.7	24.3	28.0	9.7	6.3	8.0	6	5	6	3	3	3	3.3	8.3	5.8
46	89065	23.0	16.2	19.6	1	1	1	11.7	6.7	9.2	83.0	69.0	76.0	10.0	8.3	9.2	31.3	26.3	28.8	11.3	8.0	9.7	7	5	6	3	3	3	0.0	8.0	4.0
47	89068	17.9	13.0	15.5	1	1	1	13.3	8.3	10.8	73.7	58.3	66.0	8.8	6.3	7.6	25.7	20.7	23.2	8.0	5.3	6.7	7	5	6	3	3	3	6.3	8.0	7.2
48	90003	17.1	14.0	15.6	1	2	2	7.0	14.3	10.7	68.7	56.0	62.3	9.7	7.3	8.5	27.3	21.7	24.5	7.0	4.7	5.8	7	5	6	3	3	3	5.3	11.0	8.2
49	90004	16.6	13.1	14.8	1	1	1	7.3	6.7	7.0	79.3	59.3	69.3	9.0	7.0	8.0	36.0	29.3	32.7	11.3	8.0	9.7	6	6	6	3	3	3	6.7	15.0	10.8
50	90006	18.0	16.1	17.1	2	2	2	6.3	6.0	6.2	65.7	51.7	58.7	8.5	5.0	6.8	30.0	26.0	28.0	8.7	6.0	7.3	6	5	5	3	3	3	0.0	3.0	1.5
51	90007	15.9	13.3	14.6	1	1	1	9.0	8.7	8.8	64.3	54.3	59.3	7.5	6.7	7.1	27.3	23.0	25.2	10.7	6.0	8.3	6	6	6	3	3	3	12.0	16.3	14.2
52	93004	17.4	13.8	15.6	1	1	1	14.3	9.3	11.8	64.0	44.3	54.2	8.5	6.0	7.3	19.3	18.0	18.7	7.3	5.7	6.5	7	6	7	4	4	4	0.0	4.3	2.2
53	94035	17.6	13.4	15.5	2	2	2	5.3	6.3	5.8	70.7	54.7	62.7	7.7	6.3	7.0	27.0	21.7	24.3	8.3	6.0	7.2	7	6	7	3	3	3	6.0	6.7	6.3
	Control																														
54	CSV 4	17.1	13.3	15.2	1	1	1	8.0	7.3	7.7	65.7	54.0	59.8	8.0	5.3	6.7	25.3	22.0	23.7	7.7	6.0	6.8	7	6	6	3	3	3	0.0	8.7	4.3
55	RS 29	16.7	15.3	16.0	1	1	1	8.7	7.0	7.8	73.0	58.0	65.5	10.0	7.7	8.8	27.0	23.3	25.2	8.7	6.3	7.5	5	5	5	3	3	3	0.0	3.7	1.8
	Mean	18.63	15.25	16.94	-	-	-	9.58	7.90	8.74	71.82	57.02	64.42	8.49	6.64	7.57	27.78	23.48	25.63	8.75	6.32	7.54	-	-	-	-	-	-	5.53	9.28	7.41
	SE±	1.23	1.27	0.88	-	-	-	0.82	0.86	0.59	2.82	2.29	1.81	0.53	0.43	0.34	0.78	1.38	0.79	0.65	0.56	0.43	-	-	-	-	-	-	0.57	0.87	0.52
	CV (%)	11.42	14.49	12.80	-	-	-	14.94	18.94	16.76	6.79	6.93	6.89	10.71	11.09	10.94	4.83	10.19	7.55	12.74	15.25	13.83	-	-	-	-	-	-	17.94	16.05	17.10
	CD (5%)	3.43	3.56	2.46	-	-	-	2.29	2.42	1.66	7.89	6.41	5.05	1.47	1.20	0.94	2.17	3.87	2.20	1.81	1.56	1.19	-	-	-	-	-	-	1.60	2.45	1.45

Continued...

Annexure III-10. … Contd.

Triat No. ⟶		29			30			31			32			33			34			35			36			37			39			40		
		Glume coverage (%)			Shattering			Threshability			Grain form			Grain color			1000-grain mass (g)			Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm texture			Albumen color		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSR number	BP 14	BP 3	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean
1	1	33	42	38	3	3	3	1	1	1	1	1	1	4	4	4	23.68	25.16	24.42	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2
2	4	42	33	38	3	3	3	1	1	1	1	1	1	4	4	4	27.54	28.64	28.09	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
3	6	33	42	38	3	3	3	1	1	1	1	1	1	3	3	3	27.17	28.03	27.60	3	3	3	3	3	3	5	6	5	4	3	3	2	2	2
4	7	25	33	29	3	3	3	1	1	1	1	1	1	3	3	3	26.30	27.16	26.73	3	3	3	3	3	3	5	5	5	4	3	3	2	2	2
5	9	25	33	29	3	3	3	1	1	1	1	1	1	3	3	3	26.42	28.26	27.34	3	3	3	3	3	3	5	6	6	4	4	4	2	2	2
6	10	25	58	42	3	3	3	1	1	1	1	1	1	4	4	4	38.28	37.93	38.10	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
7	13	25	42	33	3	3	3	1	1	1	1	1	1	4	4	4	27.30	27.95	27.62	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2
8	17	33	33	33	3	3	3	1	1	1	1	1	1	4	3	3-4	30.35	27.71	29.03	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
9	19	25	25	25	3	3	3	1	1	1	1	1	1	3	3	3	28.31	28.00	28.16	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
10	26	50	25	38	3	3	3	1	1	1	1	1	1	3	4	3-4	27.99	31.81	29.90	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
11	29	33	25	29	3	3	3	1	1	1	1	1	1	3	3	3	28.35	27.34	27.85	3	3	3	3	3	3	5	5	5	3	3	3	2	2	2
12	30	33	33	33	3	3	3	1	1	1	1	1	1	4	4	4	30.16	28.09	29.13	3	3	3	3	3	3	5	5	5	3	4	4	2	2	2
13	36	25	33	29	3	3	3	1	1	1	1	1	1	4	4	4	30.22	29.78	30.00	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
14	39	33	42	38	3	3	3	1	1	1	1	1	1	4	4	4	24.91	26.39	25.65	3	3	3	3	3	3	5	5	5	5	4	4	2	2	2
15	42	33	33	33	3	3	3	1	1	1	1	1	1	4	3	3-4	26.19	26.57	26.38	3	3	3	3	3	3	5	5	5	3	3	3	2	2	2
16	43	25	25	25	3	3	3	1	1	1	1	1	1	3	3	3	25.01	25.88	25.45	3	3	3	3	3	3	5	5	5	3	3	3	2	2	2
17	52	25	42	33	3	3	3	1	1	1	1	1	1	4	4	4	31.83	31.56	31.70	3	3	3	3	3	3	5	6	5	4	5	5	2	2	2
18	53	42	50	46	3	3	3	1	1	1	1	1	1	4	4	4	33.08	35.15	34.12	3	3	3	3	3	3	5	5	5	5	4	4	2	2	2
19	56	25	33	29	3	3	3	1	1	1	1	1	1	4	4	4	32.59	32.11	32.35	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
20	65	25	42	33	3	3	3	1	1	1	1	1	1	4	4	4	26.03	25.05	25.54	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
21	66	25	25	25	3	3	3	1	1	1	1	1	1	4	3	3-4	34.01	35.13	34.57	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
22	67	50	25	38	3	3	3	1	1	1	1	1	1	3	3	3	21.27	24.24	22.76	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
23	70	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	25.69	28.31	27.00	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
24	71	25	33	29	3	3	3	1	1	1	1	1	1	4	3	3-4	28.45	27.26	27.86	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
25	77	25	33	29	3	3	3	1	1	1	1	1	1	4	4	4	27.99	30.12	29.05	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2
26	86	25	33	29	3	3	3	5	1	1-5	1	1	1	4	3	3-4	25.85	27.42	26.64	3	3	3	3	3	3	5	5	5	2	3	3	2	2	2
27	89	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	33.74	34.53	34.14	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2
28	90	33	50	42	3	3	3	1	1	1	1	1	1	4	3	3-4	30.18	28.73	29.45	3	3	3	3	3	3	5	5	5	3	4	3	2	2	2
29	104	42	33	38	3	3	3	1	1	1	1	1	1	4	3	3-4	29.42	29.26	29.34	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2
30	108	33	42	38	3	3	3	5	1	1-5	1	1	1	1	3	1-3	21.81	24.70	23.26	3	3	3	3	3	3	5	5	5	3	3	3	2	2	2
31	111	25	25	25	3	3	3	1	1	1	1	1	1	3	3	3	31.45	34.32	32.89	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2
32	120	33	33	33	3	3	3	1	1	1	1	1	1	4	4	4	26.73	28.66	27.70	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2
33	161	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	31.91	33.95	32.93	3	3	3	3	3	3	5	5	5	5	4	4	2	2	2
34	162	42	42	42	3	3	3	1	1	1	1	1	1	4	4	4	29.20	29.17	29.18	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
35	89009	42	33	38	3	3	3	1	1	1	1	1	1	3	3	3	31.98	36.89	34.44	3	3	3	3	3	3	5	6	5	5	5	5	2	2	2
36	89012	25	42	33	3	3	3	1	1	1	1	1	1	4	3	3-4	32.77	32.47	32.62	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
37	89013	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	34.37	35.00	34.68	3	3	3	3	3	3	5	5	5	4	5	5	2	2	2
38	89014	33	50	42	3	3	3	1	1	1	1	1	1	4	4	4	29.58	30.24	29.91	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2

Continued...

Triat No. →		29			30			31			32			33			34			35			36			37			39			40		
		Glume coverage (%)			Shattering			Threshability			Grain form			Grain color			1000-grain mass (g)			Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm texture			Albumen color		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSR number	BP 14	BP 3	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean
39	89018	25	33	29	3	3	3	1	1	1	1	1	1	4	4	4	35.23	36.34	35.79	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
40	89028	25	25	25	3	3	3	1	1	1	1	1	1	3	4	3-4	28.32	29.04	28.68	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2
41	89034	25	25	25	3	3	3	1	1	1	1	1	1	4	3	3-4	26.80	26.41	26.61	3	3	3	3	3	3	5	5	5	3	3	3	2	2	2
42	89041	50	67	58	3	3	3	1	1	1	1	1	1	4	4	4	24.78	26.63	25.71	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
43	89042	42	42	42	3	3	3	1	1	1	1	1	1	4	4	4	23.55	27.09	25.32	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2
44	89043	33	33	33	3	3	3	1	1	1	1	1	1	4	4	4	24.10	23.90	24.00	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2
45	89058	25	33	29	3	3	3	1	1	1	1	1	1	4	4	4	24.38	23.21	23.80	3	3	3	3	3	3	4	4	4	4	4	4	2	2	2
46	89065	25	42	33	3	3	3	1	1	1	1	1	1	4	4	4	34.37	33.23	33.80	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
47	89068	33	25	29	3	3	3	1	1	1	1	1	1	4	3	3-4	25.93	26.38	26.16	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
48	90003	25	33	29	3	3	3	1	1	1	1	1	1	3	4	3-4	30.82	33.41	32.12	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2
49	90004	25	33	29	3	3	3	1	1	1	1	1	1	4	4	4	37.07	36.47	36.77	3	3	3	3	3	3	5	6	5	4	4	4	2	2	2
50	90006	33	33	33	3	3	3	1	1	1	1	1	1	3	3	3	25.13	25.95	25.54	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
51	90007	33	25	29	3	3	3	1	1	1	1	1	1	4	4	4	27.87	27.83	27.85	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
52	93004	58	50	54	3	3	3	1	1	1	1	1	1	3	3	3	31.73	31.58	31.66	3	3	3	3	3	3	5	5	5	3	4	4	2	2	2
53	94035	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	21.15	22.78	21.96	3	3	3	3	3	3	5	5	5	3	4	4	2	2	2
	Control																																	
54	CSV 4	33	42	38	3	3	3	1	1	1	1	1	1	4	4	4	26.84	24.84	25.84	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2
55	RS 29	25	50	38	3	3	3	1	1	1	1	1	1	4	3	3-4	26.75	25.51	26.13	3	3	3	3	3	3	5	5	5	3	4	3	2	2	2
	Mean	31	35	33	-	-	-	-	-	-	-	-	-	-	-	-	28.60	29.26	28.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SE±	5.46	6.33	4.18	-	-	-	-	-	-	-	-	-	-	-	-	0.93	1.29	0.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CV (%)	29.76	30.70	30.34	-	-	-	-	-	-	-	-	-	-	-	-	5.64	7.63	6.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CD (5%)	15.28	17.73	11.64	-	-	-	-	-	-	-	-	-	-	-	-	2.61	3.60	2.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Continued...

Annexure III-10. … Contd.

Triat No. ⟶		41			42				43						44						45			46			47			48	49
		Grain lustre			Days to emergence				Leaf glossy score						Seedling vigor score						Plant agronomic aspect score			Panicle yield (t ha^{-1})			Grain yield (t ha^{-1})			Plant color	Grain pericarp thickness
		Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy	Postrainy
Serial number	ICSR number	BP 14	BP 3	Mean	RCE 2	BP 14	BP 3	Mean	BM 15	RCE 3 3	Mean	BP 14	BP 3	Mean	BM 15	RCE 2	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean		
1	1	5.0	5.0	5.0	6	5	5	5	2.5	3.3	2.9	2.7	2.3	2.5	2.5	2.3	2.4	3.3	2.7	3.0	2.7	2.0	2.3	4.3	4.7	4.5	3.3	3.7	3.5	Tan	Thin
2	4	5.0	3.7	4.3	5	4	5	5	2.0	2.8	2.4	1.0	2.7	1.8	1.0	1.5	1.3	1.7	1.7	1.7	2.0	3.3	2.7	5.1	3.1	4.1	4.1	2.1	3.1	Tan	Thin
3	6	5.0	5.0	5.0	4	4	4	4	2.3	2.3	2.3	1.3	3.0	2.2	1.0	1.5	1.3	1.7	1.7	1.7	1.3	1.7	1.5	6.7	5.0	5.9	5.0	3.8	4.4	Tan	Thin
4	7	5.0	5.0	5.0	5	5	5	5	1.5	2.5	2.0	1.3	3.0	2.2	1.3	1.0	1.1	1.7	2.7	2.2	1.3	1.0	1.2	5.3	5.0	5.2	3.7	4.0	3.9	Tan	Thin
5	9	5.0	5.0	5.0	5	4	5	5	2.3	2.5	2.4	1.7	2.7	2.2	1.5	1.5	1.5	1.7	2.3	2.0	1.3	1.0	1.2	7.1	5.8	6.4	5.6	4.5	5.0	Tan	Thin
6	10	5.0	5.0	5.0	5	5	5	5	2.3	2.8	2.5	2.0	3.0	2.5	2.0	1.5	1.8	2.7	3.7	3.2	1.7	1.7	1.7	5.4	5.1	5.2	4.3	3.7	4.0	Tan	Thick
7	13	5.0	5.0	5.0	4	5	5	5	2.5	2.5	2.5	2.3	2.7	2.5	1.5	2.5	2.0	3.0	2.0	2.5	1.0	1.3	1.2	8.9	4.7	6.8	7.2	3.7	5.4	Tan	Thin
8	17	5.0	5.0	5.0	4	5	5	5	1.8	3.0	2.4	2.3	2.3	2.3	1.8	1.5	1.6	3.7	1.7	2.7	2.0	1.7	1.8	6.4	4.6	5.5	5.2	3.7	4.4	Tan	Thick
9	19	5.0	5.0	5.0	4	5	5	5	1.5	2.8	2.1	2.3	2.0	2.2	1.5	2.0	1.8	3.3	2.7	3.0	1.3	1.3	1.3	5.6	5.3	5.4	4.5	4.1	4.3	Tan	Thick
10	26	5.0	5.0	5.0	5	5	5	5	2.3	3.0	2.6	2.3	3.0	2.7	2.0	1.8	1.9	3.3	3.0	3.2	2.3	1.7	2.0	5.4	4.7	5.1	4.6	3.9	4.2	Tan	Thick
11	29	5.0	5.0	5.0	5	5	5	5	2.8	2.8	2.8	1.7	3.0	2.3	1.5	1.5	1.5	2.3	3.0	2.7	1.0	1.7	1.3	7.6	5.3	6.4	6.0	4.0	5.0	Tan	Thick
12	30	5.0	3.7	4.3	4	5	5	5	3.3	2.8	3.0	2.7	3.3	3.0	1.5	2.5	2.0	2.7	3.3	3.0	2.0	2.0	2.0	5.5	3.9	4.7	4.4	3.0	3.7	Tan	Thin
13	36	5.0	5.0	5.0	5	5	5	5	2.3	3.0	2.6	2.7	3.0	2.8	1.5	2.8	2.1	2.7	3.3	3.0	1.0	1.7	1.3	6.3	5.6	6.0	4.8	4.6	4.7	Tan	Thick
14	39	5.0	5.0	5.0	5	5	5	5	2.8	2.5	2.6	2.7	3.3	3.0	1.8	1.5	1.6	3.3	3.0	3.2	1.7	1.7	1.7	6.5	5.0	5.7	5.1	4.0	4.5	Tan	White
15	42	5.0	5.0	5.0	4	5	5	5	2.5	3.3	2.9	2.0	2.3	2.2	2.8	2.8	2.8	3.3	3.0	3.2	1.0	1.3	1.2	6.6	4.7	5.7	5.1	3.9	4.5	Tan	Thin
16	43	5.0	5.0	5.0	4	5	5	5	2.5	2.3	2.4	2.3	2.7	2.5	2.8	1.8	2.3	2.7	2.7	2.7	1.0	1.3	1.2	6.6	5.3	5.9	5.4	4.1	4.7	Tan	Thick
17	52	5.0	5.0	5.0	4	5	5	5	2.5	3.0	2.8	2.3	3.0	2.7	1.8	1.8	1.8	3.3	2.0	2.7	1.0	1.7	1.3	7.2	5.3	6.3	5.6	4.2	4.9	Tan	Thin
18	53	5.0	5.7	5.3	4	5	5	5	3.0	2.3	2.6	1.7	3.3	2.5	3.3	3.3	3.3	3.3	2.7	3.0	2.0	1.0	1.5	6.3	5.8	6.1	4.6	4.1	4.3	Tan	Thin
19	56	5.0	5.0	5.0	5	5	5	5	2.8	2.8	2.8	1.7	3.0	2.3	3.3	3.3	3.3	2.7	1.3	2.0	1.7	2.3	2.0	5.9	3.7	4.8	4.8	2.9	3.9	Tan	Thick
20	65	5.0	5.0	5.0	6	5	5	5	2.5	3.0	2.8	2.3	3.0	2.7	2.8	3.5	3.1	3.3	2.7	3.0	2.3	2.0	2.2	4.6	4.0	4.3	3.4	3.3	3.3	Tan	Thin
21	66	5.0	5.0	5.0	4	5	5	5	2.5	2.5	2.5	3.0	3.7	3.3	3.5	1.5	2.5	2.7	3.7	3.2	1.7	1.7	1.7	6.1	4.8	5.4	4.8	3.4	4.1	Tan	Thin
22	67	5.0	5.0	5.0	5	6	5	6	2.8	2.5	2.6	2.7	3.3	3.0	2.3	1.8	2.0	2.3	3.0	2.7	2.0	1.3	1.7	7.4	5.6	6.5	5.8	4.4	5.1	Tan	Thin
23	70	5.0	5.0	5.0	5	5	5	5	3.3	2.8	3.0	2.0	3.3	2.7	3.0	2.3	2.6	2.7	1.7	2.2	1.3	1.7	1.5	6.4	4.7	5.6	5.3	3.7	4.5	Tan	Thin
24	71	5.0	5.0	5.0	4	6	6	6	3.0	3.0	3.0	3.3	3.0	3.2	4.3	2.0	3.1	3.3	2.7	3.0	2.0	2.0	2.0	5.6	5.2	5.4	4.5	4.3	4.4	Tan	Thin
25	77	5.0	5.0	5.0	5	5	6	6	3.5	3.0	3.3	2.7	2.7	2.7	3.5	1.8	2.6	2.7	3.0	2.8	2.0	1.7	1.8	5.3	4.3	4.8	4.1	3.2	3.6	Tan	Thin
26	86	5.0	5.0	5.0	5	5	5	5	2.3	2.8	2.5	1.3	3.0	2.2	1.8	1.5	1.6	2.0	2.7	2.3	1.3	1.3	1.3	7.0	5.6	6.3	5.6	4.4	5.0	Tan	Thick
27	89	5.0	6.3	5.7	5	5	5	5	2.8	2.8	2.8	2.3	3.0	2.7	2.5	1.5	2.0	3.0	3.0	3.0	1.3	2.0	1.7	5.9	4.6	5.2	4.5	3.7	4.1	Tan	Thin
28	90	5.0	5.0	5.0	4	5	5	5	2.3	3.0	2.6	2.7	3.3	3.0	2.3	1.5	1.9	2.3	2.7	2.5	1.7	2.0	1.8	6.5	4.6	5.6	5.3	3.5	4.4	Tan	Thick
29	104	5.0	5.0	5.0	5	5	6	5	2.8	2.8	2.8	2.3	4.0	3.2	4.3	3.8	4.0	1.3	4.5	2.9	1.3	1.7	1.5	6.5	5.9	6.2	5.1	4.5	4.8	Tan	Thin
30	108	5.0	5.0	5.0	5	5	5	5	2.0	2.5	2.3	2.7	3.0	2.8	1.5	2.5	2.0	2.7	1.7	2.2	1.0	1.3	1.2	6.2	4.7	5.4	5.0	3.7	4.3	Tan	Thick
31	111	5.0	5.0	5.0	5	5	5	5	2.0	2.8	2.4	2.3	3.3	2.8	1.5	2.5	2.0	2.7	3.3	3.0	1.3	1.0	1.2	7.0	6.5	6.7	5.2	5.1	5.1	Tan	Thin
32	120	5.0	5.0	5.0	5	5	5	5	2.8	2.5	2.6	2.3	3.3	2.8	3.3	3.0	3.1	2.7	3.0	2.8	2.0	2.0	2.0	5.5	3.8	4.6	4.6	3.0	3.8	Tan	Thin
33	161	5.0	5.0	5.0	5	5	5	5	2.5	2.8	2.6	2.3	3.0	2.7	1.8	1.8	1.8	2.3	2.3	2.3	1.7	2.0	1.8	6.5	4.9	5.7	5.3	3.5	4.4	Tan	Thin
34	162	5.0	5.0	5.0	4	5	5	5	2.8	2.5	2.6	2.3	3.3	2.8	3.3	2.8	3.0	2.7	3.3	3.0	1.3	1.0	1.2	9.4	7.3	8.4	7.2	5.6	6.4	Tan	Thin
35	89009	5.0	5.0	5.0	4	4	5	5	2.3	2.8	2.5	2.7	3.0	2.8	2.8	2.0	2.4	3.0	2.7	2.8	1.7	2.0	1.8	6.7	4.3	5.5	4.8	3.0	3.9	Tan	Thick
36	89012	5.0	5.0	5.0	4	5	5	5	2.3	2.3	2.3	2.0	2.7	2.3	1.5	1.8	1.6	1.7	1.3	1.5	1.3	1.7	1.5	7.3	4.6	6.0	5.6	3.6	4.6	Tan	Thin
37	89013	5.0	5.0	5.0	5	5	5	5	2.3	3.0	2.6	1.3	2.7	2.0	1.3	1.8	1.5	2.0	1.3	1.7	2.0	2.3	2.2	5.2	3.7	4.4	3.7	2.5	3.1	Tan	Thin
38	89014	1.0	3.7	2.3	5	5	5	5	1.8	2.0	1.9	2.0	2.7	2.3	2.5	2.5	2.5	2.7	3.0	2.8	1.7	1.7	1.7	5.3	5.2	5.3	4.1	4.0	4.1	Tan	Thin

Continued...

Triat No. →		41			42				43						44						45			46			47			48	49
Serial number	ICSR number	Grain lustre			Days to emergence				Leaf glossy score						Seedling vigor score						Plant agronomic aspect score			Panicle yield (t ha^{-1})			Grain yield (t ha^{-1})			Plant color	Grain pericarp thickness
		Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy	Postrainy
		BP 14	BP 3	Mean	RCE 2	BP 14	BP 3	Mean	BM 15	RCE 3 3	Mean	BP 14	BP 3	Mean	BM 15	RCE 2	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean	BP 14	BP 3	Mean		
39	89018	5.0	5.0	5.0	5	5	5	5	2.8	2.5	2.6	1.7	2.0	1.8	2.5	1.3	1.9	1.7	3.3	2.5	2.0	2.0	2.0	5.0	3.2	4.1	3.5	2.2	2.9	Tan	Thin
40	89028	5.0	5.0	5.0	4	5	4	5	3.0	1.3	2.1	1.7	2.3	2.0	2.8	1.0	1.9	1.3	1.7	1.5	1.0	1.0	1.0	6.7	5.1	5.9	5.2	3.9	4.5	Tan	Thick
41	89034	5.0	5.0	5.0	4	5	5	5	2.3	2.5	2.4	1.7	2.3	2.0	1.8	2.8	2.3	2.0	3.0	2.5	2.3	2.3	2.3	5.2	3.7	4.5	4.1	2.8	3.5	Tan	Thin
42	89041	5.0	5.0	5.0	5	5	5	5	2.3	3.0	2.6	2.0	3.0	2.5	3.0	1.8	2.4	2.3	3.0	2.7	2.0	1.3	1.7	5.3	5.2	5.2	4.2	4.0	4.1	Tan	Thin
43	89042	5.0	5.0	5.0	5	5	5	5	3.8	2.5	3.1	2.3	3.3	2.8	4.5	3.3	3.9	1.7	1.7	1.7	2.3	2.0	2.2	5.6	5.0	5.3	4.0	4.0	4.0	Tan	Thin
44	89043	5.0	5.0	5.0	5	5	5	5	2.8	2.5	2.6	2.7	3.0	2.8	2.3	2.8	2.5	2.7	3.0	2.8	2.3	2.0	2.2	5.4	4.7	5.0	4.3	3.6	4.0	Tan	Thin
45	89058	5.7	5.0	5.3	4	5	4	5	2.5	2.8	2.6	3.0	2.3	2.7	1.3	2.5	1.9	2.3	1.3	1.8	1.3	1.7	1.5	5.9	5.2	5.5	4.8	4.0	4.4	Tan	Thick
46	89065	5.0	5.0	5.0	5	5	6	6	3.3	2.8	3.0	3.3	3.0	3.2	3.5	3.5	3.5	3.3	3.7	3.5	1.3	2.0	1.7	8.8	6.1	7.5	6.8	4.6	5.7	Tan	Thick
47	89068	5.0	5.0	5.0	4	5	5	5	1.5	2.8	2.1	2.7	3.0	2.8	1.0	1.8	1.4	1.7	1.7	1.7	1.7	2.3	2.0	5.3	4.0	4.7	4.6	3.1	3.9	Tan	Thick
48	90003	5.0	5.0	5.0	5	6	4	5	2.0	2.5	2.3	1.7	3.0	2.3	1.8	1.5	1.6	3.3	2.3	2.8	2.0	1.7	1.8	5.6	4.6	5.1	4.4	3.3	3.8	Tan	Thin
49	90004	5.0	5.0	5.0	4	5	4	4	1.8	2.5	2.1	1.3	3.3	2.3	1.3	1.5	1.4	2.0	1.7	1.8	2.0	1.3	1.7	6.1	4.2	5.1	4.9	3.3	4.1	Tan	Thin
50	90006	5.0	5.0	5.0	4	5	4	5	1.5	2.5	2.0	1.0	3.3	2.2	1.3	1.5	1.4	1.3	1.0	1.2	2.0	2.0	2.0	5.9	4.5	5.2	4.5	3.6	4.1	Tan	Thin
51	90007	2.3	2.3	2.3	6	5	5	5	3.5	3.0	3.3	2.7	3.0	2.8	3.5	4.0	3.8	3.0	3.3	3.2	2.7	2.3	2.5	4.7	4.5	4.6	3.8	3.3	3.6	Tan	Thin
52	93004	5.0	5.0	5.0	6	6	5	5	1.5	1.8	1.6	1.0	1.7	1.3	2.3	3.3	2.8	2.7	3.0	2.8	2.3	2.0	2.2	5.8	5.4	5.6	4.3	4.4	4.4	-	-
53	94035	5.0	5.0	5.0	4	5	6	6	1.5	2.8	2.1	2.7	3.3	3.0	2.8	2.3	2.5	2.7	3.0	2.8	1.7	1.3	1.5	6.0	4.8	5.4	4.9	3.6	4.2	-	-
	Control																														
54	CSV 4	5.0	5.0	5.0	5	5	6	5	2.5	2.8	2.6	2.7	2.3	2.5	2.0	3.3	2.6	3.0	3.0	3.0	2.0	2.3	2.2	4.9	3.8	4.4	3.8	3.0	3.4	-	-
55	RS 29	5.7	5.0	5.3	4	5	5	5	1.8	3.0	2.4	2.7	3.0	2.8	1.0	1.5	1.3	3.0	2.3	2.7	1.3	1.3	1.3	10.0	6.3	8.1	8.2	5.2	6.7	-	-
	Mean	-	-	-	5	5.0	5.0	5.0	2.41	2.66	2.53	2.19	2.91	2.55	2.25	2.13	2.19	2.55	2.58	2.57	1.68	1.72	1.70	6.20	4.85	5.53	4.86	3.74	4.30	-	-
	SE±	-	-	-	0.48	0.27	0.27	0.19	0.24	0.25	0.25	0.26	0.29	0.19	0.25	0.26	0.26	0.29	0.32	0.22	0.27	0.27	0.19	0.44	0.38	0.29	0.40	0.32	0.26	-	-
	CV (%)	-	-	-	21.34	9.41	9.16	9.28	20.18	18.83	19.78	20.27	17.46	18.71	22.10	24.44	23.39	19.46	21.89	20.72	27.66	27.33	27.49	12.38	13.56	12.93	14.25	14.83	14.60	-	-
	CD (5%)	-	-	-	1.34	0.76	0.75	0.53	0.68	0.70	0.70	0.72	0.82	0.54	0.69	0.73	0.71	0.80	0.91	0.60	0.76	0.77	0.54	1.24	1.06	0.81	1.12	0.89	0.71	-	-

Continued...

Annexure III-10. … Contd.

Triat No. ⟶		50
Serial number	ICSR number	Grain hardness in kg by Kiya's hardness tester Postrainy
1	1	6.6
2	4	8.7
3	6	11.2
4	7	9.6
5	9	8.3
6	10	9.7
7	13	7.8
8	17	10.5
9	19	8
10	26	8.7
11	29	11.8
12	30	9.6
13	36	11
14	39	10
15	42	8.8
16	43	11
17	52	8.2
18	53	7.5
19	56	9
20	65	7.2
21	66	10.6
22	67	7.4
23	70	7.7
24	71	7.2
25	77	6.1
26	86	10.7
27	89	8.9
28	90	9.7
29	104	10.4
30	108	15.4
31	111	13.4
32	120	7.1
33	161	14.1
34	162	12.7
35	89009	9
36	89012	9.8
37	89013	9.2
38	89014	9

Continued...

Triat No. →		50
Serial number	ICSR number	Grain hardness in kg by Kiya's hardness tester Postrainy
39	89018	8.5
40	89028	7.9
41	89034	10.2
42	89041	8.2
43	89042	7.6
44	89043	8.8
45	89058	8.6
46	89065	10.1
47	89068	7.9
48	90003	11.6
49	90004	15.2
50	90006	11.4
51	90007	9.2
52	93004	-
53	94035	-
	Control	
54	CSV 4	-
55	RS 29	-
	Mean	-
	SE±	-
	CV (%)	-
	CD (5%)	-

Continued...

Annexure III-11. Characteristics of high yielding (medium maturity) sorghum R-lines evaluated during the rainy and postrainy seasons, 2004 at ICRISAT-Patancheru.

Triat No. →		1				2	3						4						5			6			7		
		Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade		
		Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSR number	E1	E3	E4	Mean	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	3	2	2	2	2	3	2	2	2	2	2	2	64	69	66	62	71	67	1.3	1.1	1.2	1	1	1	2	2	2
2	11	1	1	1	1	1	2	2	2	2	2	2	69	70	70	64	78	71	1.1	1.0	1.1	5	5	5	0	0	0
3	12	1	1	1	1	1	2	2	2	2	2	2	71	71	71	65	79	72	1.5	1.2	1.3	1	1	1	2	2	2
4	15	1	1	1	1	1	2	2	2	2	2	2	70	69	69	64	74	69	1.2	0.9	1.1	5	1	1-5	0	2	0-2
5	16	1	1	1	1	1	1	3	1-3	3	1	1-3	69	69	69	64	74	69	1.1	0.9	1.0	7	7	7	0	0	0
6	23	1	1	1	1	1	3	3	3	3	2	2-3	67	69	68	64	75	70	1.4	1.0	1.2	7	7	7	0	0	0
7	24	1	1	1	1	1	3	1	1-3	3	2	2-3	-	75	75	70	81	76	1.0	1.0	1.0	7	7	7	0	0	0
8	28	1	1	1	1	1	3	1	1-3	2	2	2	62	66	64	58	74	66	1.1	1.1	1.1	7	5	5-7	0	0	0
9	33	2	1	2	1-2	3	2	2	2	2	2	2	72	72	72	65	74	69	1.2	1.0	1.1	7	5	5-7	0	0	0
10	34	1	1	1	1	1	2	3	2-3	2	2	2	70	69	69	64	75	70	1.2	1.0	1.1	1	5	1-5	2	0	0-2
11	35	1	1	1	1	1	2	1	1-2	2	2	2	70	75	73	66	80	73	1.4	1.1	1.3	1	1	1	2	2	2
12	37	1	1	1	1	1	2	2	2	2	2	2	63	67	65	62	71	66	1.1	0.8	1.0	1	5	1-5	2	0	0-2
13	38	2	2	2	2	3	2	2	2	2	2	2	66	68	67	63	71	67	1.2	1.1	1.2	1	3	1-3	2	0	0-2
14	40	1	1	1	1	1	2	2	2	2	2	2	70	71	70	55	64	60	1.0	0.9	0.9	3	5	3-5	0	0	0
15	41	1	1	1	1	1	2	2	2	2	2	2	67	70	68	65	76	71	1.3	1.1	1.2	1	1	1	2	2	2
16	49	1	1	1	1	1	2	2	2	3	2	2-3	-	78	78	57	65	61	1.3	1.0	1.1	3	5	3-5	0	0	0
17	51	1	1	1	1	1	3	3	3	3	3	3	-	75	75	59	69	64	1.3	1.1	1.2	7	7	7	0	0	0
18	57	1	1	1	1	1	1	1	1	2	2	2	70	69	70	63	73	68	1.1	1.0	1.1	5	3	3-5	0	0	0
19	62	2	1	2	1-2	3	2	2	2	2	2	2	-	76	76	65	76	70	1.4	1.2	1.3	5	5	5	0	0	0
20	63	1	1	1	1	1	2	2	2	2	2	2	69	69	69	62	68	65	1.3	1.1	1.2	3	1	1-3	0	2	0-2
21	68	2	2	2	2	3	2	2	2	2	2	2	62	66	64	60	65	63	1.1	0.9	1.0	1	1	1	2	2	2
22	72	1	1	1	1	1	2	2	2	2	2	2	68	69	69	57	62	60	1.2	1.0	1.1	1	1	1	2	2	2
23	73	1	1	1	1	1	2	1	1-2	2	2	2	-	80	80	71	82	76	1.0	0.8	0.9	5	7	5-7	0	0	0
24	76	2	1	2	1-2	3	3	3	3	3	2	2-3	-	73	73	64	74	69	0.9	0.9	0.9	5	5	5	0	0	0
25	87	1	1	2	1-2	1	2	2	2	3	2	2-3	62	68	65	62	74	68	0.9	0.9	0.9	3	3	3	0	0	0
26	95	2	2	2	2	3	2	2	2	2	2	2	70	72	71	65	78	72	1.2	1.0	1.1	3	5	3-5	0	0	0
27	96	2	2	2	2	3	1	2	1-2	2	2	2	69	70	70	65	74	69	1.1	1.0	1.1	5	5	5	0	0	0
28	101	1	1	1	1	1	2	2	2	2	2	2	66	69	68	62	74	68	1.3	1.0	1.1	3	1	1-3	0	2	0-2
29	103	2	1	1	1-2	1	2	2	2	3	2	2-3	72	70	71	62	74	68	1.2	0.9	1.1	5	5	5	0	0	0
30	106	1	1	1	1	1	2	2	2	2	2	2	66	70	68	65	78	71	1.3	1.2	1.2	1	5	1-5	2	0	0-2
31	107	1	1	1	1	1	2	2	2	2	2	2	67	69	68	61	73	67	1.2	1.0	1.1	1	3	1-3	2	0	0-2
32	109	1	1	2	1-2	1	2	3	2-3	3	2	2-3	67	73	69	65	78	72	0.9	0.9	0.9	5	1	1-5	0	2	0-2
33	110	1	1	1	1	1	2	3	2-3	3	2	2-3	68	70	69	62	70	66	1.2	1.0	1.1	1	3	1-3	2	0	0-2

Continued...

Triat No. →		1				2	3						4						5			6			7		
		Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade		
		Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSR number	E1	E3	E4	Mean	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
34	112	1	1	1	1	1	2	2	2	2	2	2	70	69	69	64	75	70	1.2	1.0	1.1	1	5	1-5	2	0	0-2
35	114	2	2	2	2	3	2	2	2	2	2	2	66	68	67	61	70	65	1.3	1.1	1.2	3	5	3-5	0	0	0
36	116	2	2	2	2	3	1	2	1-2	3	2	2-3	66	68	67	62	69	66	1.2	1.0	1.1	3	5	3-5	0	0	0
37	125	1	1	1	1	1	1	1	1	2	2	2	70	69	69	65	76	70	1.4	1.0	1.2	5	5	5	0	0	0
38	126	2	1	2	1-2	1	1	2	1-2	2	2	2	68	68	68	65	75	70	1.2	1.1	1.1	3	1	1-3	0	2	0-2
39	128	1	1	1	1	1	2	3	2-3	3	2	2-3	68	69	69	64	75	69	1.3	1.1	1.2	3	7	3-7	0	0	0
40	130	1	1	1	1	1	2	1	1-2	3	2	2-3	72	75	74	69	83	76	1.4	1.1	1.2	5	7	5-7	0	0	0
41	134	1	1	1	1	1	1	1	1	1	1	1	-	70	70	64	76	70	1.1	1.0	1.1	3	5	3-5	0	0	0
42	140	1	1	1	1	1	2	1	1-2	2	1	1-2	65	67	66	62	74	68	1.1	1.0	1.0	1	1	1	2	2	2
43	143	2	1	1	1-2	1	3	3	3	3	3	3	72	74	73	67	79	73	1.3	1.1	1.2	7	7	7	0	0	0
44	149	1	1	1	1	1	2	2	2	2	2	2	66	69	67	63	76	70	1.5	1.2	1.3	1	1	1	2	2	2
45	150	2	1	2	1-2	3	2	2	2	2	2	2	67	69	68	63	73	68	1.2	1.0	1.1	1	3	1-3	2	0	0-2
46	152	1	1	1	1	1	2	2	2	2	2	2	72	73	72	65	78	72	1.2	1.0	1.1	1	1	1	2	2	2
47	153	2	2	2	2	3	2	2	2	3	2	2-3	70	69	70	67	75	71	1.4	1.2	1.3	5	5	5	0	0	0
48	160	1	1	1	1	1	2	3	2-3	3	2	2-3	69	69	69	64	73	68	1.4	1.2	1.3	3	5	3-5	0	0	0
49	170	2	2	2	2	3	2	2	2	2	2	2	71	74	72	66	79	73	1.4	1.2	1.3	5	1	1-5	0	2	0-2
50	172	2	2	2	2	3	2	2	2	2	2	2	67	72	69	65	75	70	1.2	1.0	1.1	1	5	1-5	2	0	0-2
51	174	1	2	2	1-2	1	2	2	2	2	2	2	63	69	66	64	77	70	1.6	1.2	1.4	1	1	1	2	2	2
52	194	2	1	2	1-2	3	2	2	2	2	2	2	69	72	70	65	78	71	2.1	1.5	1.8	5	5	5	0	0	0
53	196	1	1	1	1	1	3	3	3	2	1	1-2	64	74	68	65	78	72	1.4	1.1	1.2	7	7	7	0	0	0
54	89001	2	2	2	2	3	2	2	2	2	2	2	-	74	74	66	76	71	1.2	0.9	1.1	1	1	1	2	2	2
55	89004	1	1	2	1-2	1	2	1	1-2	2	2	2	69	73	71	62	75	69	1.3	1.1	1.2	1	1	1	2	2	2
56	89005	1	1	1	1	1	2	3	2-3	2	2	2	72	74	73	64	79	71	1.3	0.9	1.1	3	5	3-5	0	0	0
57	89006	1	1	1	1	1	2	2	2	2	2	2	64	70	67	62	74	68	1.2	1.0	1.1	1	1	1	2	2	2
58	89008	2	2	2	2	3	3	1	1-3	3	2	2-3	62	67	65	61	72	66	1.3	1.1	1.2	7	7	7	0	0	0
59	89010	2	2	2	2	3	3	2	2-3	3	1	1-3	64	69	67	56	61	58	1.3	1.1	1.2	1	7	1-7	1	0	0-1
60	89015	2	2	2	2	3	3	3	3	3	2	2-3	66	70	67	63	77	70	1.5	1.1	1.3	7	7	7	0	0	0
61	89017	1	1	1	1	1	3	3	3	3	2	2-3	70	74	72	64	78	71	1.2	1.1	1.1	5	5	5	0	0	0
62	89019	1	1	1	1	1	2	2	2	2	2	2	-	73	73	66	77	72	1.1	1.0	1.0	1	1	1	2	2	2
63	89020	1	1	2	1-2	1	1	3	1-3	3	2	2-3	-	70	70	63	76	70	1.2	1.0	1.1	5	5	5	0	0	0
64	89022	1	1	1	1	1	1	1	1	2	2	2	71	74	72	64	78	71	1.2	1.0	1.1	1	1	1	2	2	2
65	89024	1	1	1	1	1	2	2	2	2	2	2	66	70	68	64	76	70	1.3	1.1	1.2	1	1	1	2	2	2
66	89025	1	1	1	1	1	2	2	2	1	2	1-2	-	78	78	66	79	73	1.3	1.0	1.2	1	1	1	2	2	2
67	89030	1	1	1	1	1	2	2	2	2	2	2	70	75	73	66	79	73	1.2	1.0	1.1	1	1	1	2	2	2
68	89031	1	1	1	1	1	2	2	2	2	2	2	63	70	69	62	74	68	1.2	1.0	1.1	1	1	1	2	2	2

Continued...

Triat No. →		1				2	3						4						5			6			7		
		Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade		
		Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSR number	E1	E3	E4	Mean	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
69	89032	1	1	1	1	1	2	3	2-3	2	2	2	68	71	69	64	78	71	1.3	1.0	1.2	1	5	1-5	2	0	0-2
70	89045	1	2	2	1-2	1	2	2	2	2	2	2	71	73	72	65	74	70	2.1	1.9	2.0	1	1	1	2	2	2
71	89053	2	1	1	1-2	1	2	2	2	2	2	2	70	70	70	64	76	70	1.4	1.1	1.2	5	5	5	0	0	0
72	89064	2	1	2	1-2	3	2	2	2	2	2	2	70	76	73	65	77	71	1.1	1.0	1.1	1	1	1	2	2	2
73	89075	2	1	2	1-2	3	2	1	1-2	2	2	2	70	69	69	62	74	68	1.3	1.1	1.2	1	1	1	2	2	2
74	89076	2	1	2	1-2	1	2	1	1-2	2	2	2	73	72	73	66	78	72	1.4	1.0	1.2	5	3	3-5	0	0	0
75	90017	2	2	2	2	3	2	2	2	2	2	2	72	77	75	68	75	71	2.6	2.1	2.4	1	1	1	2	2	2
76	91008	1	1	1	1	1	3	3	3	3	3	3	66	71	69	62	73	68	1.5	1.2	1.3	7	7	7	0	0	0
77	91011	1	1	1	1	1	3	3	3	3	2	2-3	68	69	69	63	74	68	1.4	1.0	1.2	7	7	7	0	0	0
78	91027	1	2	1	1-2	1	2	2	2	3	2	2-3	69	67	68	57	64	61	1.4	1.2	1.3	7	7	7	0	0	0
79	91034	2	2	2	2	3	2	2	2	2	2	2	65	80	70	57	65	61	1.6	1.1	1.3	1	3	1-3	2	0	0-2
80	92003	1	1	1	1	1	2	2	2	2	2	2	71	71	71	63	74	69	1.4	1.1	1.3	1	1	1	2	2	2
81	93001	1	1	1	1	1	2	2	2	2	2	2	67	68	68	62	73	68	1.3	1.1	1.2	1	1	1	2	2	2
82	93009	2	2	2	2	3	2	2	2	2	2	2	71	69	70	64	75	70	2.3	1.9	2.1	1	1	1	2	2	2
83	93031	2	1	2	1-2	3	2	2	2	2	2	2	66	69	67	62	74	68	2.3	2.0	2.2	1	1	1	2	2	2
84	94034	1	2	2	1-2	3	2	2	2	2	2	2	70	80	73	60	67	64	2.0	1.5	1.7	1	5	1-5	2	0	0-2
85	94489	1	2	2	1-2	3	2	2	2	2	2	2	71	70	70	64	75	70	2.3	1.9	2.1	1	1	1	2	2	2
	Control																										
86	CSV 4	2	2	2	2	3	2	2	2	2	2	2	66	69	68	64	70	67	0.9	0.9	0.9	1	3	1-3	2	0	0-2
87	RS 29	2	2	2	2	3	2	2	2	2	2		71	70	71	69	78	74	1.5	1.2	1.4	3	5	3-5	0	0	0
	Mean	-	-	-	-	-	2	2	2	-	-	-	68	71	69	63	74	69	1.33	1.10	1.22	-	-	-	-	-	-
	SE±	-	-	-	-	-	0.22	0.22	0.22	-	-	-	1.01	1.24	1.14	0.57	0.97	0.56	0.05	0.05	0.03	-	-	-	-	-	-
	CV (%)	-	-	-	-	-	20.81	21.90	21.38	-	-	-	2.99	3.50	3.28	1.56	2.27	2.00	6.18	7.39	6.73	-	-	-	-	-	-
	CD (5%)	-	-	-	-	-	0.61	0.62	0.61	-	-	-	3.18	3.63	3.44	1.59	2.72	1.56	0.13	0.13	0.09	-	-	-	-	-	-

E1- Black Manmool (BM)15, Rainy; E2- Red Campus East (RCE) 3, Rainy; E3- Black Precision (BP) 14, Postrainy; E4- BP 3, Postrainy

Range of notes whereever given indicates that the line shows variable expression

Zero in the trait no. 7 indicates absence of midrib green coloration due to midrib discoloration

Trait No. 1-41 : Triats stipulated in the DUS-test guidelines (Trait no 38 was not recorded in the current trials)
Trait No. 42-47 : Ancillary traits recorded in the current trials

Trait No. 48-50 : Monitored traits recorded in various trials conducted earlier at ICRISAT

Continued...

Annexure III-11. … Contd.

Triat No.→		8			9			10			11			12			13			14			15			16		
Serial number	ICSR number	Flag leaf: yellow coloration of mid rib			Glume hair color			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of flower			Length of anther			Dried anther color		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
		E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	3	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	5	5	3	4	4	4	5	5	4	4	4
2	11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	3	3	4	4	4	4	5	5	4	4	4
3	12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	6	6	4	6	5	5	5	5	7	4	4-7
4	15	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	4	4	4	6	5	6	7	6	4	7	4-7
5	16	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	5	6	6	6	5	5	4	4	4
6	23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	4	3	5	6	5	6	4	5	4	4	4
7	24	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	5	6	6	3	6	4	5	6	5	6	4	4-6
8	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	6	6	4	4	4	5	5	5	6	6	6
9	33	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	4	5	4	5	5	4	5	4	4	4	4
10	34	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	3	5	4	6	6	6	4	4	4
11	35	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	8	9	8	5	4	5	5	5	5	4	4	4
12	37	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	4	6	5	5	5	5	4	4	4
13	38	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1-5	5	6	6	4	5	4	5	5	5	4	4	4
14	40	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1-5	4	4	4	3	6	5	5	6	5	4	4	4
15	41	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	4	3	5	6	5	6	5	5	4	4	4
16	49	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	6	5	6	5	6	4	4	4
17	51	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	4	5	4	6	5	5	6	5	4	4	4
18	57	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9	5	7	3	5	4	6	5	5	4	4	4
19	62	1	1	1	1	1	1	1	1	1	1	1	1	5	1	1-5	3	6	4	4	4	4	3	5	4	4	4	4
20	63	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	3	3	6	7	7	6	5	6	4	4	4
21	68	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	4	6	5	6	6	6	4	4	4
22	72	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	4	3	3	8	5	6	5	5	4	4	4
23	73	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	5	4	4	5	5	5	5	5	6	4	4-6
24	76	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	5	6	6	5	6	5	4	4	4
25	87	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	3	3	3	5	4	6	5	6	4	4	4
26	95	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	7	5	5	8	6	7	6	7	4	4	4
27	96	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	4	4	6	5	5	5	5	4	4	4
28	101	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	5	5	5	6	5	5	4	7	4-7
29	103	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	5	4	4	6	5	6	5	5	4	4	4
30	106	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	4	4	5	6	5	6	6	6	4	4	4
31	107	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	5	6	6	6	5	5	4	7	4-7
32	109	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	5	4	4	5	5	4	4	4
33	110	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	4	4	6	5	5	4	4	4

Continued...

Triat No.→		8			9			10			11			12			13			14			15			16		
Serial number	ICSR number	Flag leaf: yellow coloration of mid rib			Glume hair color			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of flower			Length of anther			Dried anther color		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
		E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
34	112	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	5	4	4	4	4	4	5	4	4	4	4
35	114	1	1	1	1	1	1	1	1	1	1	1	1	5	1	1-5	4	4	4	4	6	5	6	5	5	4	7	4-7
36	116	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1-5	4	4	4	5	5	5	6	5	5	4	4	4
37	125	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	3	4	4	4	6	5	5	6	6	7	4	4-7
38	126	1	1	1	1	1	1	1	1	1	1	1	1	5	7	5-7	4	5	4	4	6	5	5	5	5	4	4	4
39	128	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	5	4	4	6	5	6	5	5	4	4	4
40	130	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	4	4	5	4	6	5	5	4	4	4
41	134	9	9	9	1	1	1	1	1	1	1	1	1	1	1	1	3	5	4	4	4	4	6	5	5	4	4	4
42	140	5	1	1-5	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	3	4	4	7	6	6	4	4	4
43	143	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	5	4	5	5	5	4	4	4
44	149	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	5	5	5	4	5	5	5	5	5	4	4	4
45	150	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	4	4	4	4	6	5	5	4	4	4
46	152	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	4	4	6	6	6	4	4	4
47	153	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	4	5	5	5	6	5	4	4	4
48	160	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	4	5	6	5	5	5	5	4	4	4
49	170	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	7	6	4	8	6	5	7	6	4	4	4
50	172	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	4	6	5	6	5	5	4	4	4
51	174	1	1	1	1	1	1	5	5	5	1	1	1	1	1	1	6	6	6	4	6	5	6	5	5	6	4	4-6
52	194	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	4	6	5	5	6	6	4	4	4
53	196	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	3	4	4	7	6	6	6	6	4	4	4
54	89001	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	4	5	4	6	5	5	7	4	4-7
55	89004	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1-5	5	4	5	5	5	5	7	5	6	4	7	4-7
56	89005	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1-5	4	4	4	6	7	7	7	6	7	4	4	4
57	89006	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	4	6	5	6	5	6	4	4	4
58	89008	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	3	6	5	7	5	6	4	4	4
59	89010	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	6	5	4	7	6	6	6	6	4	7	4-7
60	89015	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	7	6	7	6	7	4	4	4
61	89017	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	4	5	5	6	5	5	4	4	4
62	89019	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	5	5	5	6	5	5	4	4	4
63	89020	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	5	4	4	5	4	5	6	6	6	4	7	4-7
64	89022	1	1	1	1	1	1	1	1	1	1	1	1	5	1	1-5	4	3	4	7	6	6	7	5	6	4	4	4
65	89024	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	4	4	4	5	4	4	5	5	4	4	4
66	89025	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	5	4	4	5	5	5	5	6	5	4	4	4
67	89030	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	4	4	4	6	5	6	6	6	4	4	4
68	89031	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	4	4	4	5	5	6	5	5	4	7	4-7

Continued...

Triat No.→		8			9			10			11			12			13			14			15			16		
Serial number	ICSR number	Flag leaf: yellow coloration of mid rib			Glume hair color			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of flower			Length of anther			Dried anther color		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
		E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
69	89032	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	4	5	4	5	5	5	5	5	4	4	4
70	89045	1	1	1	1	1	1	9	9	9	1	1	1	1	1	1	5	8	6	4	7	5	6	7	7	4	4	4
71	89053	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	4	4	4	5	4	5	6	6	6	4	7	4-7
72	89064	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	5	5	5	5	5	5	4	4	4
73	89075	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	6	6	6	6	5	5	4	4	4
74	89076	1	1	1	1	1	1	1	1	1	1	1	1	5	1	1-5	4	5	4	6	6	6	5	5	5	4	4	4
75	90017	1	1	1	1	1	1	9	5	7	1	1	1	1	1	1	8	9	8	6	6	6	6	5	6	4	4	4
76	91008	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	4	4	4	6	5	6	5	5	4	4	4
77	91011	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	4	4	7	6	6	6	6	4	4	4
78	91027	1	1	1	1	1	1	1	1	1	1	1	1	5	5	5	5	4	5	3	6	4	6	6	6	4	4	4
79	91034	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	4	4	5	5	5	5	5	4	4	4
80	92003	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	5	4	4	6	5	6	7	7	4	4	4
81	93001	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	6	6	6	7	6	6	4	4	4
82	93009	1	1	1	1	1	1	5	5	5	1	1	1	1	1	1	5	8	6	3	7	5	6	7	6	4	4	4
83	93031	1	1	1	1	1	1	9	9	9	1	1	1	1	1	1	4	7	6	5	8	6	7	7	7	4	4	4
84	94034	1	1	1	1	1	1	1	1	1	1	1	1	5	1	1-5	4	4	4	4	5	4	6	5	5	4	4	4
85	94489	1	1	1	1	1	1	9	9	9	1	1	1	1	1	1	4	6	5	4	7	5	7	6	7	4	4	4
	Control																											
86	CSV 4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	3	3	4	5	5	4	5	4	4	4	4
87	RS 29	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1-5	3	4	3	6	5	5	6	5	5	4	4	4
	Mean	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SE±	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CV (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CD (5%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Continued...

Annexure III-11. … Contd.

Triat No.→		17			18			19			20			21			22			23			24			25		
Serial number	ICSR number	Glume color			Plant height (m)			Stem thickness (mm)			Juicy score			Brix reading (%)			Leaf length (cm)			Leaf width (cm)			Panicle length (cm)			Panicle branch length (cm)		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
		E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	3	5	4	4-5	1.6	1.4	1.5	17.7	15.3	16.5	1	1	1	9.7	6.7	8.2	60.7	49.7	55.2	7.2	5.5	6.4	25.0	22.7	23.8	6.7	5.7	6.2
2	11	4	6	4-6	1.4	1.3	1.3	18.7	18.4	18.5	1	1	1	7.0	8.0	7.5	70.3	56.0	63.2	8.8	6.3	7.6	22.3	24.7	23.5	7.7	6.3	7.0
3	12	2	2	2	1.8	1.4	1.6	16.7	14.5	15.6	1	1	1	6.3	10.3	8.3	77.3	60.7	69.0	7.3	6.0	6.7	24.7	21.3	23.0	8.3	6.3	7.3
4	15	2	6	2-6	1.5	1.2	1.3	16.0	13.8	14.9	1	1	1	9.0	7.3	8.2	75.3	62.3	68.8	7.7	7.4	7.5	23.3	20.7	22.0	7.7	6.3	7.0
5	16	6	6	6	1.4	1.2	1.3	19.6	16.7	18.1	1	2	2	10.7	7.0	8.8	77.3	59.7	68.5	8.7	7.1	7.9	25.7	20.7	23.2	6.7	5.3	6.0
6	23	2	4	2-4	1.7	1.4	1.6	17.9	15.5	16.7	1	2	2	6.7	6.0	6.3	77.7	60.0	68.8	8.2	6.6	7.4	24.3	21.7	23.0	5.3	6.0	5.7
7	24	6	4	4-6	1.4	1.3	1.3	23.6	19.0	21.3	1	1	1	9.3	9.3	9.3	91.3	67.0	79.2	9.2	6.5	7.8	27.0	24.3	25.7	8.3	6.3	7.3
8	28	2	2	2	1.5	1.4	1.5	18.2	14.2	16.2	1	1	1	7.7	7.3	7.5	83.3	64.7	74.0	8.5	6.8	7.7	25.0	20.7	22.8	7.0	5.7	6.3
9	33	6	6	6	1.5	1.3	1.4	20.2	17.0	18.6	1	1	1	7.0	6.0	6.5	62.7	55.3	59.0	7.8	6.2	7.0	27.3	24.0	25.7	7.3	6.0	6.7
10	34	4	4	4	1.5	1.3	1.4	21.2	21.5	21.4	1	1	1	12.3	10.3	11.3	76.3	67.7	72.0	9.0	8.3	8.7	28.7	26.3	27.5	8.0	7.3	7.7
11	35	2	2	2	1.7	1.4	1.5	17.5	15.5	16.5	1	1	1	7.3	8.0	7.7	88.7	66.7	77.7	9.0	6.8	7.9	21.3	19.0	20.2	6.7	5.7	6.2
12	37	6	6	6	1.3	1.1	1.2	18.2	14.3	16.2	1	2	2	10.0	7.0	8.5	71.3	57.3	64.3	9.3	7.3	8.3	24.7	19.0	21.8	6.3	5.0	5.7
13	38	5	4	4-5	1.5	1.4	1.5	16.3	15.2	15.7	1	2	2	6.0	6.0	6.0	73.7	58.7	66.2	7.3	5.9	6.6	29.3	26.0	27.7	10.0	6.7	8.3
14	40	2	6	2-6	1.3	1.3	1.3	16.5	13.7	15.1	1	1	1	13.0	13.3	13.2	68.3	61.7	65.0	8.2	7.3	7.8	27.3	22.7	25.0	8.0	5.7	6.8
15	41	2	4	2-4	1.6	1.4	1.5	19.8	16.4	18.1	1	2	1	8.7	6.0	7.3	75.3	56.7	66.0	8.3	6.9	7.6	26.7	23.3	25.0	8.0	6.0	7.0
16	49	4	6	4-6	1.6	1.3	1.4	16.8	14.8	15.8	1	1	1	14.3	13.3	13.8	75.7	71.0	73.3	7.8	6.9	7.4	29.7	29.7	29.7	8.0	6.0	7.0
17	51	5	5	5	1.6	1.4	1.5	16.4	14.5	15.5	1	1	1	14.7	8.3	11.5	74.3	68.3	71.3	10.0	8.1	9.1	26.7	27.3	27.0	7.0	6.3	6.7
18	57	4	4	4	1.4	1.3	1.4	20.3	15.4	17.9	1	1	1	10.7	8.7	9.7	73.0	58.3	65.7	8.5	6.8	7.7	25.3	22.3	23.8	7.0	5.3	6.2
19	62	2	4	2-4	1.7	1.5	1.6	16.9	14.8	15.9	1	1	1	13.0	8.0	10.5	71.7	62.7	67.2	7.8	7.6	7.7	22.0	20.0	21.0	6.0	5.3	5.7
20	63	6	4	4-6	1.6	1.3	1.5	16.1	15.2	15.7	1	1	1	12.7	7.7	10.2	70.3	58.0	64.2	8.2	7.4	7.8	21.7	19.7	20.7	5.3	5.3	5.3
21	68	5	4	4-5	1.5	1.3	1.4	16.8	15.7	16.3	2	1	2	8.7	9.0	8.8	72.0	58.7	65.3	7.5	6.8	7.2	27.7	27.3	27.5	9.7	10.3	10.0
22	72	4	4	4	1.5	1.4	1.5	15.4	15.5	15.4	1	1	1	13.7	16.3	15.0	75.3	62.7	69.0	7.3	6.6	7.0	31.0	28.3	29.7	9.3	8.3	8.8
23	73	4	4	4	1.3	1.1	1.2	21.5	19.4	20.5	1	1	1	9.0	6.7	7.8	64.3	62.3	63.3	8.8	7.2	8.0	25.7	24.0	24.8	7.0	5.7	6.3
24	76	2	2	2	1.2	1.2	1.2	21.4	16.9	19.1	1	1	1	9.3	6.7	8.0	75.0	58.7	66.8	9.3	6.2	7.8	27.3	23.3	25.3	10.0	6.7	8.3
25	87	4	4	4	1.3	1.2	1.2	20.4	17.2	18.8	1	2	2	11.0	8.3	9.7	71.7	61.7	66.7	9.5	7.6	8.5	27.3	21.7	24.5	7.7	5.7	6.7
26	95	2	4	2-4	1.5	1.4	1.4	15.6	14.8	15.2	1	1	1	7.0	5.0	6.0	73.3	63.0	68.2	6.8	6.6	6.7	28.7	26.7	27.7	9.0	7.0	8.0
27	96	6	4	4-6	1.4	1.2	1.3	19.1	20.3	19.7	1	1	1	12.7	7.3	10.0	69.3	58.3	63.8	7.7	7.4	7.5	26.0	23.3	24.7	6.7	5.7	6.2
28	101	2	2	2	1.5	1.3	1.4	20.2	18.9	19.6	1	1	1	8.3	6.7	7.5	71.7	60.7	66.2	8.5	7.5	8.0	28.0	24.7	26.3	7.0	5.7	6.3
29	103	2	4	2-4	1.6	1.3	1.4	16.3	19.4	17.9	1	1	1	8.7	6.3	7.5	73.7	65.0	69.3	8.0	7.9	8.0	29.0	26.0	27.5	7.3	6.7	7.0
30	106	2	4	2-4	1.7	1.5	1.6	19.3	16.7	18.0	1	1	1	8.0	6.0	7.0	65.0	58.7	61.8	8.0	7.2	7.6	32.7	26.7	29.7	9.7	7.7	8.7
31	107	2	6	2-6	1.5	1.4	1.5	19.3	16.8	18.0	1	2	1	11.7	6.7	9.2	71.0	59.7	65.3	8.0	6.4	7.2	28.3	23.3	25.8	8.3	6.0	7.2
32	109	2	6	2-6	1.3	1.3	1.3	17.4	17.0	17.2	1	2	1	13.7	5.7	9.7	77.0	61.3	69.2	9.5	7.5	8.5	28.3	26.3	27.3	8.0	7.7	7.8
33	110	5	5	5	1.5	1.3	1.4	17.2	14.2	15.7	1	2	2	8.3	6.3	7.3	64.3	55.0	59.7	8.3	7.1	7.7	24.0	22.0	23.0	6.3	6.3	6.3

Continued...

Triat No.→		17			18			19			20			21			22			23			24			25		
		Glume color			Plant height (m)			Stem thickness (mm)			Juicy score			Brix reading (%)			Leaf length (cm)			Leaf width (cm)			Panicle length (cm)			Panicle branch length (cm)		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSR number	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
34	112	1	5	1-5	1.5	1.3	1.4	19.2	16.1	17.7	1	2	1	7.0	6.0	6.5	80.0	62.3	71.2	9.8	7.4	8.6	24.3	22.3	23.3	6.7	5.7	6.2
35	114	2	2	2	1.6	1.4	1.5	17.0	14.8	15.9	2	2	2	7.0	6.7	6.8	73.3	61.7	67.5	8.0	7.0	7.5	26.7	23.3	25.0	7.7	6.3	7.0
36	116	2	4	2-4	1.5	1.3	1.4	15.2	14.6	14.9	1	2	2	8.3	6.0	7.2	69.3	57.7	63.5	7.2	6.7	6.9	26.0	24.3	25.2	7.7	7.7	7.7
37	125	6	6	6	1.7	1.4	1.6	18.1	15.6	16.8	1	1	1	8.0	7.0	7.5	83.0	68.7	75.8	9.0	7.0	8.0	31.0	30.3	30.7	7.7	7.0	7.3
38	126	4	4	4	1.5	1.4	1.5	21.6	15.3	18.5	1	1	1	7.0	7.7	7.3	76.7	59.7	68.2	7.7	6.8	7.2	29.7	23.3	26.5	9.3	6.0	7.7
39	128	4	4	4	1.8	1.5	1.6	17.2	16.0	16.6	1	1	1	9.3	7.0	8.2	80.0	63.7	71.8	8.0	7.1	7.6	29.3	26.3	27.8	7.3	6.0	6.7
40	130	2	4	2-4	1.8	1.5	1.6	17.0	18.8	17.9	1	1	1	9.7	8.0	8.8	73.3	63.3	68.3	10.5	8.0	9.3	30.0	26.0	28.0	7.3	7.3	7.3
41	134	4	4	4	1.4	1.4	1.4	20.4	17.2	18.8	1	1	1	9.7	8.0	8.8	76.7	64.7	70.7	9.2	7.7	8.4	28.3	23.3	25.8	8.7	6.0	7.3
42	140	4	3	3-4	1.4	1.4	1.4	18.3	20.0	19.1	1	1	1	5.7	6.0	5.8	80.7	64.3	72.5	8.7	7.3	8.0	30.7	28.3	29.5	7.7	6.7	7.2
43	143	5	5	5	1.6	1.4	1.5	17.8	15.0	16.4	1	1	1	8.7	7.0	7.8	74.7	61.3	68.0	8.5	7.1	7.8	23.7	19.7	21.7	5.7	5.0	5.3
44	149	2	6	2-6	1.8	1.6	1.7	19.1	18.1	18.6	1	1	1	9.0	7.7	8.3	77.0	62.3	69.7	8.5	7.2	7.8	24.7	23.3	24.0	6.3	7.0	6.7
45	150	5	5	5	1.5	1.4	1.5	18.2	16.0	17.1	2	1	2	6.0	6.3	6.2	69.7	58.0	63.8	7.2	6.7	7.0	26.3	24.7	25.5	7.3	6.3	6.8
46	152	2	2	2	1.5	1.4	1.5	16.9	16.0	16.4	1	1	1	5.7	5.7	5.7	77.0	60.7	68.8	8.0	6.7	7.4	21.0	19.7	20.3	6.3	5.3	5.8
47	153	1	4	1-4	1.8	1.6	1.7	19.9	17.0	18.4	1	1	1	7.0	6.7	6.8	71.3	52.3	61.8	8.2	6.0	7.1	34.0	29.0	31.5	11.0	7.3	9.2
48	160	2	6	2-6	1.7	1.5	1.6	15.6	13.9	14.8	1	1	1	10.7	6.7	8.7	75.7	60.3	68.0	8.0	7.0	7.5	29.0	25.0	27.0	8.7	7.0	7.8
49	170	2	2	2	1.8	1.6	1.7	18.3	18.8	18.6	1	1	1	11.7	14.0	12.8	75.7	60.0	67.8	8.5	6.1	7.3	27.3	24.3	25.8	8.7	6.7	7.7
50	172	2	4	2-4	1.5	1.3	1.4	20.5	14.0	17.2	1	1	1	8.3	9.0	8.7	75.0	60.7	67.8	9.2	7.4	8.3	28.7	23.3	26.0	9.7	6.3	8.0
51	174	2	4	2-4	2.0	1.6	1.8	18.3	15.2	16.7	1	1	1	10.7	7.3	9.0	75.0	54.0	64.5	7.7	6.1	6.9	27.0	21.3	24.2	8.7	5.7	7.2
52	194	2	2	2	2.4	1.8	2.1	15.0	15.9	15.4	1	1	1	8.0	6.3	7.2	79.3	71.3	75.3	8.8	7.8	8.3	29.7	26.0	27.8	8.7	7.7	8.2
53	196	6	6	6	1.7	1.5	1.6	16.1	16.9	16.5	1	1	1	8.7	10.0	9.3	83.0	70.7	76.8	9.5	8.1	8.8	27.3	27.0	27.2	7.7	6.3	7.0
54	89001	4	5	4-5	1.5	1.2	1.4	19.4	17.7	18.5	1	1	1	8.7	6.7	7.7	74.3	62.0	68.2	8.0	7.1	7.6	29.0	24.7	26.8	9.0	7.0	8.0
55	89004	6	6	6	1.7	1.4	1.5	15.9	14.9	15.4	1	1	1	8.0	6.3	7.2	78.0	64.3	71.2	8.3	7.2	7.8	30.7	25.0	27.8	9.7	6.3	8.0
56	89005	4	4	4	1.7	1.4	1.6	16.7	14.5	15.6	1	1	1	6.3	7.0	6.7	77.7	66.3	72.0	8.3	8.2	8.3	34.0	29.0	31.5	11.0	9.7	10.3
57	89006	6	6	6	1.6	1.3	1.5	19.2	16.3	17.8	1	1	1	9.7	6.0	7.8	73.0	63.0	68.0	8.7	8.4	8.5	31.3	27.7	29.5	10.7	7.7	9.2
58	89008	2	2	2	1.6	1.4	1.5	16.8	14.8	15.8	1	2	2	9.0	7.3	8.2	63.0	57.3	60.2	10.3	8.1	9.2	26.7	23.7	25.2	6.3	4.3	5.3
59	89010	5	4	4-5	1.7	1.5	1.6	16.0	15.0	15.5	1	1	1	13.7	14.7	14.2	70.0	58.7	64.3	7.7	5.6	6.6	29.7	26.3	28.0	8.0	7.0	7.5
60	89015	2	3	2-3	1.8	1.5	1.6	17.3	17.8	17.5	1	2	1	9.3	8.7	9.0	67.0	53.0	60.0	9.5	8.7	9.1	28.0	24.3	26.2	6.7	6.0	6.3
61	89017	6	4	4-6	1.6	1.4	1.5	18.7	18.4	18.5	2	1	2	5.3	7.3	6.3	80.7	61.7	71.2	9.2	6.8	8.0	27.0	24.3	25.7	8.0	5.7	6.8
62	89019	4	4	4	1.5	1.4	1.4	18.8	19.1	18.9	1	1	1	9.0	7.0	8.0	80.0	69.3	74.7	7.8	7.3	7.6	29.0	29.0	29.0	8.0	7.0	7.5
63	89020	4	4	4	1.6	1.4	1.5	17.3	15.1	16.2	1	1	1	8.0	6.3	7.2	74.7	67.0	70.8	8.3	7.6	8.0	29.7	26.7	28.2	10.0	7.7	8.8
64	89022	4	5	4-5	1.6	1.4	1.5	17.6	13.8	15.7	1	1	1	6.7	6.0	6.3	78.7	64.3	71.5	8.2	7.2	7.7	35.3	30.0	32.7	12.7	8.7	10.7
65	89024	4	5	4-5	1.6	1.4	1.5	18.2	15.8	17.0	1	1	1	8.7	7.0	7.8	64.0	59.3	61.7	8.0	7.9	8.0	25.3	23.3	24.3	6.3	5.7	6.0
66	89025	4	4	4	1.7	1.4	1.5	18.7	16.5	17.6	1	1	1	10.0	7.3	8.7	70.7	61.3	66.0	8.3	7.2	7.8	24.3	24.0	24.2	6.3	6.0	6.2
67	89030	4	4	4	1.5	1.3	1.4	16.4	16.2	16.3	1	1	1	8.3	5.3	6.8	86.3	71.3	78.8	9.0	7.6	8.3	30.3	27.7	29.0	8.7	7.7	8.2
68	89031	4	4	4	1.5	1.3	1.4	16.7	14.5	15.6	1	1	1	11.3	7.3	9.3	83.7	65.3	74.5	8.2	7.0	7.6	31.3	24.7	28.0	11.0	6.7	8.8

Continued...

Triat No.→		17			18			19			20			21			22			23			24			25		
Serial number	ICSR number	Glume color			Plant height (m)			Stem thickness (mm)			Juicy score			Brix reading (%)			Leaf length (cm)			Leaf width (cm)			Panicle length (cm)			Panicle branch length (cm)		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
		E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
69	89032	4	4	4	1.7	1.4	1.6	16.8	16.5	16.6	1	1	1	11.0	6.3	8.7	83.7	67.3	75.5	7.2	6.7	7.0	31.3	26.3	28.8	8.0	7.0	7.5
70	89045	1	5	1-5	2.4	2.1	2.2	14.5	16.3	15.4	1	1	1	14.0	10.7	12.3	66.0	52.0	59.0	9.3	7.6	8.5	17.7	15.0	16.3	5.3	4.3	4.8
71	89053	2	3	2-3	1.7	1.4	1.6	18.4	15.8	17.1	1	1	1	8.3	6.0	7.2	60.7	59.3	60.0	7.5	7.0	7.3	32.3	27.7	30.0	11.3	7.0	9.2
72	89064	2	4	2-4	1.5	1.3	1.4	18.0	18.4	18.2	1	1	1	7.7	6.3	7.0	75.3	65.3	70.3	8.0	7.2	7.6	29.0	25.3	27.2	9.3	7.7	8.5
73	89075	5	4	4-5	1.7	1.5	1.6	16.9	18.3	17.6	1	1	1	9.0	8.0	8.5	78.7	62.3	70.5	7.5	7.1	7.3	28.7	27.0	27.8	8.7	7.0	7.8
74	89076	4	4	4	1.7	1.3	1.5	18.0	17.6	17.8	1	1	1	7.7	6.7	7.2	77.7	62.7	70.2	8.2	6.8	7.5	26.0	24.7	25.3	6.3	5.7	6.0
75	90017	4	4	4	2.9	2.3	2.6	18.4	13.6	16.0	1	1	1	10.0	9.0	9.5	59.0	47.0	53.0	7.7	6.0	6.8	20.0	15.0	17.5	7.3	4.3	5.8
76	91008	5	4	4-5	1.8	1.5	1.7	16.7	15.5	16.1	2	2	2	8.7	6.7	7.7	72.7	58.3	65.5	8.8	7.4	8.1	24.7	22.3	23.5	8.0	6.3	7.2
77	91011	2	4	2-4	1.8	1.4	1.6	16.9	18.1	17.5	1	1	1	6.7	6.3	6.5	87.0	74.0	80.5	7.8	8.1	8.0	32.0	28.3	30.2	10.3	7.7	9.0
78	91027	2	2	2	1.7	1.6	1.6	14.0	15.5	14.8	1	2	2	8.0	7.7	7.8	75.7	65.3	70.5	7.7	7.2	7.4	24.3	24.3	24.3	7.3	6.0	6.7
79	91034	5	8	5-8	1.9	1.4	1.6	15.5	16.0	15.8	1	1	1	14.7	7.3	11.0	70.7	68.7	69.7	8.7	8.2	8.4	24.7	23.0	23.8	7.3	6.7	7.0
80	92003	4	5	4-5	1.8	1.5	1.6	16.5	14.5	15.5	1	1	1	6.7	6.0	6.3	69.0	58.3	63.7	8.5	7.1	7.8	28.3	24.3	26.3	8.0	6.0	7.0
81	93001	2	5	2-5	1.6	1.4	1.5	17.8	15.5	16.7	1	1	1	8.7	6.3	7.5	73.0	59.0	66.0	9.3	7.2	8.3	26.0	25.3	25.7	7.3	7.7	7.5
82	93009	2	2	2	2.6	2.1	2.3	17.4	19.3	18.4	1	1	1	17.0	11.7	14.3	64.0	49.0	56.5	9.5	7.9	8.7	17.3	16.3	16.8	5.3	5.3	5.3
83	93031	2	5	2-5	2.5	2.2	2.4	15.7	13.2	14.5	1	1	1	16.7	12.3	14.5	60.7	47.7	54.2	8.3	6.5	7.4	17.7	15.3	16.5	5.3	5.0	5.2
84	94034	4	4	4	2.3	1.8	2.1	14.2	12.5	13.4	1	1	1	11.7	9.0	10.3	80.0	68.7	74.3	8.3	14.6	11.5	23.3	23.7	23.5	6.3	4.7	5.5
85	94489	2	2	2	2.5	2.1	2.3	14.3	13.3	13.8	1	1	1	16.7	11.3	14.0	63.3	50.7	57.0	9.2	7.2	8.2	17.0	15.7	16.3	5.0	4.7	4.8
	Control																											
86	CSV 4	6	2	2-6	1.2	1.1	1.2	18.0	16.4	17.2	1	1	1	8.7	6.7	7.7	66.0	52.3	59.2	7.3	5.8	6.6	22.7	21.7	22.2	6.0	6.0	6.0
87	RS 29	4	4	4	1.8	1.5	1.6	15.8	17.6	16.7	1	1	1	8.0	8.3	8.2	72.7	59.3	66.0	10.2	8.2	9.2	24.7	23.7	24.2	7.0	7.3	7.2
	Mean	-	-	-	1.65	1.43	1.54	17.73	16.18	16.95	-	-	-	9.47	7.74	8.61	73.82	61.12	67.47	8.40	7.20	7.80	26.85	23.98	25.41	7.84	6.40	7.12
	SE±	-	-	-	0.05	0.05	0.03	1.03	1.36	0.85	-	-	-	1.62	0.88	0.92	3.13	2.50	2.00	0.53	0.91	0.53	0.94	1.08	0.71	0.63	0.57	0.42
	CV (%)	-	-	-	4.74	5.81	5.24	10.10	14.55	12.34	-	-	-	29.82	19.71	26.36	7.35	7.08	7.27	10.94	21.88	16.53	6.03	7.75	6.86	13.87	15.30	14.53
	CD (5%)	-	-	-	0.13	0.13	0.09	2.89	3.80	2.38	-	-	-	4.53	2.45	2.57	8.75	6.97	5.57	1.48	2.54	1.46	2.61	3.00	1.98	1.76	1.58	1.18

Continued...

Annexure III-11. … Contd.

Triat No.→		26			27			28			29			30			31			32			33			34		
		Panicle compactness			Panicle shape			Panicle exertion (cm)			Glume coverage (%)			Grain color			Shattering			Threshability			Grain form			1000-grain mass (g)		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSR number	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	3	7	5	6	3	3	3	2.7	8.3	5.5	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	35.73	34.39	35.06
2	11	7	5	6	3	3	3	0.0	0.0	0.0	25	25	25	3	3	3	3	3	3	1	1	1	1	1	1	28.53	29.53	29.03
3	12	5	5	5	3	3	3	4.3	7.7	6.0	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	31.68	33.56	32.62
4	15	6	5	5	3	3	3	4.3	5.0	4.7	25	25	25	3	3	3	3	3	3	1	1	1	1	1	1	28.36	31.64	30.00
5	16	7	5	6	3	3	3	1.7	9.0	5.3	25	25	25	3	3	3	3	3	3	1	1	1	1	1	1	32.59	28.89	30.74
6	23	7	5	6	3	3	3	10.3	14.0	12.2	25	42	33	4	3	3-4	3	3	3	1	1	1	1	1	1	22.80	22.74	22.77
7	24	6	6	6	3	3	3	8.7	7.7	8.2	33	25	29	4	3	3-4	3	3	3	1	1	1	1	1	1	29.08	30.40	29.74
8	28	7	6	7	3	3	3	13.7	15.7	14.7	33	42	38	3	4	3-4	3	3	3	1	1	1	1	1	1	29.71	32.30	31.00
9	33	7	5	6	3	3	3	0.0	3.7	1.8	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	34.36	32.33	33.35
10	34	7	5	6	3	3	3	0.0	0.0	0.0	25	25	25	4	3	3-4	3	3	3	1	1	1	1	1	1	30.21	29.82	30.01
11	35	5	5	5	3	3	3	5.7	6.0	5.8	33	25	29	4	3	3-4	3	3	3	1	1	1	1	1	1	28.82	29.09	28.95
12	37	7	6	6	3	3	3	0.0	8.3	4.2	42	42	42	3	3	3	3	3	3	1	1	1	1	1	1	28.69	29.58	29.13
13	38	5	4	5	3	3	3	0.0	9.0	4.5	58	42	50	3	4	3-4	3	3	3	1	1	1	1	1	1	20.70	27.37	24.04
14	40	7	5	6	3	3	3	3.0	13.3	8.2	25	42	33	4	4	4	3	3	3	1	1	1	1	1	1	31.75	32.21	31.98
15	41	5	5	5	3	3	3	3.0	9.7	6.3	25	25	25	3	4	3-4	3	3	3	1	1	1	1	1	1	27.57	26.24	26.91
16	49	5	3	4	3	3	3	0.0	3.0	1.5	25	42	33	3	4	3-4	3	3	3	1	1	1	1	1	1	35.08	35.01	35.04
17	51	5	4	5	3	3	3	2.7	6.0	4.3	33	25	29	3	3	3	3	3	3	1	1	1	1	1	1	37.71	35.94	36.82
18	57	6	6	6	3	3	3	0.0	7.0	3.5	25	25	25	4	3	3-4	3	3	3	1	1	1	1	1	1	43.32	40.16	41.74
19	62	8	7	7	3	3	3	5.7	9.7	7.7	25	33	29	4	4	4	3	3	3	1	1	1	1	1	1	26.69	28.61	27.65
20	63	7	6	7	3	3	3	0.0	6.0	3.0	25	25	25	3	3	3	3	3	3	1	1	1	1	1	1	32.39	31.49	31.94
21	68	5	4	4	3	3	3	4.0	9.3	6.7	42	33	38	4	4	4	3	3	3	1	1	1	1	1	1	26.49	28.37	27.43
22	72	5	4	5	3	3	3	5.3	11.3	8.3	42	25	33	4	4	4	3	3	3	1	1	1	1	1	1	33.30	34.59	33.95
23	73	7	6	7	3	3	3	0.0	6.7	3.3	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	29.48	30.91	30.19
24	76	5	4	4	3	3	3	0.0	6.7	3.3	42	33	38	4	3	3-4	3	3	3	1	1	1	1	1	1	26.08	30.47	28.27
25	87	7	5	6	3	3	3	5.3	6.0	5.7	33	33	33	3	4	3-4	3	3	3	1	1	1	1	1	1	26.13	27.00	26.56
26	95	6	5	5	3	3	3	0.0	5.3	2.7	67	67	67	4	4	4	3	3	3	1	1	1	1	1	1	28.40	29.09	28.75
27	96	7	6	6	3	3	3	0.0	0.0	0.0	25	42	33	4	4	4	3	3	3	1	1	1	1	1	1	37.88	38.10	37.99
28	101	5	3	4	2	2	2	0.0	8.0	4.0	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	32.00	29.95	30.97
29	103	7	5	6	3	3	3	5.3	10.7	8.0	33	33	33	4	4	4	3	3	3	1	1	1	1	1	1	29.52	30.01	29.77
30	106	3	4	4	3	3	3	11.7	9.7	10.7	33	25	29	3	3	3	3	3	3	1	1	1	1	1	1	31.03	35.26	33.15
31	107	5	3	4	3	3	3	4.3	9.0	6.7	33	25	29	3	3	3	3	3	3	1	1	1	1	1	1	32.67	28.97	30.82
32	109	6	5	5	3	3	3	11.7	14.0	12.8	33	25	29	4	4	4	3	3	3	1	1	1	1	1	1	21.66	23.32	22.49
33	110	5	5	5	3	3	3	10.3	11.0	10.7	33	33	33	1	1	1	3	3	3	1	1	1	1	1	1	23.58	24.44	24.01

Continued...

Triat No.→		26			27			28			29			30			31			32			33			34		
		Panicle compactness			Panicle shape			Panicle exertion (cm)			Glume coverage (%)			Grain color			Shattering			Threshability			Grain form			1000-grain mass (g)		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSR number	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
34	112	7	5	6	3	3	3	4.0	10.3	7.2	25	25	25	3	3	3	3	3	3	1	1	1	1	1	1	23.10	22.36	22.73
35	114	5	5	5	3	3	3	0.0	6.7	3.3	33	25	29	3	4	3-4	3	3	3	1	1	1	1	1	1	28.48	30.21	29.35
36	116	5	4	4	3	3	3	6.0	7.7	6.8	33	33	33	4	3	3-4	3	3	3	1	1	1	1	1	1	25.15	27.00	26.07
37	125	6	5	6	3	3	3	0.0	9.0	4.5	33	33	33	4	4	4	3	3	3	1	1	1	1	1	1	27.68	30.28	28.98
38	126	5	5	5	3	3	3	4.7	11.0	7.8	33	25	29	4	3	3-4	3	3	3	1	1	1	1	1	1	33.94	37.14	35.54
39	128	7	5	6	3	3	3	13.3	13.7	13.5	42	33	38	4	3	3-4	3	3	3	1	1	1	1	1	1	28.08	25.46	26.77
40	130	5	4	5	3	3	3	14.0	15.0	14.5	25	25	25	3	3	3	3	3	3	1	1	1	1	1	1	31.98	34.28	33.13
41	134	6	5	5	3	3	3	0.0	14.3	7.2	25	25	25	3	4	3-4	3	3	3	1	1	1	1	1	1	29.46	29.27	29.36
42	140	7	6	7	3	3	3	0.0	6.0	3.0	33	25	29	3	3	3	3	3	3	1	1	1	1	1	1	31.10	35.08	33.09
43	143	7	5	6	3	3	3	9.0	12.3	10.7	25	33	29	4	3	3-4	3	3	3	1	1	1	1	1	1	29.74	28.12	28.93
44	149	6	5	6	3	3	3	5.7	12.7	9.2	42	25	33	3	3	3	3	3	3	1	1	1	1	1	1	31.36	33.49	32.43
45	150	7	4	6	3	3	3	5.7	12.3	9.0	25	33	29	3	4	3-4	3	3	3	1	1	1	1	1	1	27.30	26.22	26.76
46	152	7	7	7	3	3	3	10.0	15.7	12.8	42	33	38	4	4	4	3	3	3	1	1	1	1	1	1	21.60	22.28	21.94
47	153	6	5	6	3	3	3	7.0	11.0	9.0	42	33	38	4	4	4	3	3	3	1	1	1	1	1	1	23.76	26.41	25.08
48	160	5	5	5	3	3	3	5.3	6.7	6.0	25	42	33	3	3	3	3	3	3	1	1	1	1	1	1	26.97	26.29	26.63
49	170	6	5	6	3	3	3	12.3	18.0	15.2	50	25	38	4	4	4	3	3	3	1	1	1	1	1	1	40.46	41.75	41.10
50	172	7	6	6	3	3	3	0.0	6.3	3.2	33	25	29	4	4	4	3	3	3	1	1	1	1	1	1	29.42	30.59	30.00
51	174	5	5	5	3	3	3	11.7	13.3	12.5	25	42	33	4	4	4	3	3	3	1	1	1	1	1	1	34.11	34.09	34.10
52	194	6	4	5	3	3	3	8.3	12.0	10.2	50	42	46	3	4	3-4	3	3	3	1	1	1	1	1	1	26.62	29.29	27.95
53	196	6	5	5	3	3	3	7.7	10.3	9.0	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	34.72	36.49	35.60
54	89001	5	5	5	3	3	3	8.3	5.7	7.0	33	25	29	4	4	4	3	3	3	1	1	1	1	1	1	28.90	28.46	28.68
55	89004	5	5	5	3	3	3	6.3	8.3	7.3	33	33	33	3	4	3-4	3	3	3	1	1	1	1	1	1	25.62	24.48	25.05
56	89005	5	5	5	3	3	3	10.0	20.0	15.0	33	42	38	4	4	4	3	3	3	1	1	1	1	1	1	23.00	21.75	22.37
57	89006	6	5	5	3	3	3	5.0	5.3	5.2	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	29.81	30.29	30.05
58	89008	7	6	7	3	3	3	3.7	11.7	7.7	33	25	29	4	4	4	3	3	3	1	1	1	1	1	1	33.02	36.92	34.97
59	89010	5	5	5	3	3	3	11.7	15.0	13.3	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	40.56	43.89	42.22
60	89015	7	6	6	3	3	3	0.0	10.7	5.3	42	25	33	4	4	4	3	3	3	1	1	1	1	1	1	31.40	33.86	32.63
61	89017	5	5	5	3	3	3	6.3	8.0	7.2	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	25.02	27.96	26.49
62	89019	7	5	6	3	3	3	4.3	11.0	7.7	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	25.10	24.55	24.82
63	89020	5	5	5	3	3	3	9.3	11.0	10.2	33	50	42	4	3	3-4	3	3	3	1	1	1	1	1	1	23.67	22.26	22.96
64	89022	5	4	5	3	3	3	11.3	14.7	13.0	25	42	33	4	3	3-4	3	3	3	1	1	1	1	1	1	22.54	22.91	22.72
65	89024	7	6	7	3	3	3	9.3	8.7	9.0	25	25	25	4	3	3-4	3	3	3	1	1	1	1	1	1	26.30	26.61	26.45
66	89025	8	6	7	3	4	4	11.0	12.0	11.5	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	27.82	26.89	27.35
67	89030	5	4	5	3	3	3	0.0	7.0	3.5	25	42	33	4	4	4	3	3	3	1	1	1	1	1	1	23.53	21.92	22.73
68	89031	5	5	5	3	3	3	3.3	7.3	5.3	33	58	46	4	3	3-4	3	3	3	1	1	1	1	1	1	23.19	25.09	24.14

Continued...

Triat No.→		26			27			28			29			30			31			32			33			34		
		Panicle compactness			Panicle shape			Panicle exertion (cm)			Glume coverage (%)			Grain color			Shattering			Threshability			Grain form			1000-grain mass (g)		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSR number	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
69	89032	5	5	5	3	3	3	7.0	11.3	9.2	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	25.10	24.20	24.65
70	89045	9	9	9	4	4	4	7.3	0.0	3.7	50	25	38	4	4	4	3	3	3	1	1	1	1	1	1	38.23	41.70	39.97
71	89053	5	4	4	3	3	3	3.0	5.0	4.0	33	25	29	3	4	3-4	3	3	3	1	1	1	1	1	1	30.35	30.85	30.60
72	89064	6	5	5	3	3	3	6.7	8.3	7.5	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	29.03	29.14	29.09
73	89075	6	5	5	3	3	3	9.3	14.7	12.0	25	50	38	4	4	4	3	3	3	1	1	1	1	1	1	27.19	24.03	25.61
74	89076	7	6	7	3	3	3	8.0	8.3	8.2	33	25	29	4	4	4	3	3	3	1	1	1	1	1	1	28.54	26.03	27.28
75	90017	7	6	7	4	4	4	6.0	6.3	6.2	67	67	67	3	3	3	3	3	3	1	1	1	1	1	1	32.86	32.75	32.80
76	91008	6	5	6	3	3	3	7.0	11.7	9.3	50	50	50	3	3	3	3	3	3	1	1	1	1	1	1	21.88	22.81	22.35
77	91011	6	5	5	3	3	3	9.3	9.3	9.3	25	50	38	4	4	4	3	3	3	1	1	1	1	1	1	27.67	28.55	28.11
78	91027	6	5	6	3	3	3	8.3	14.3	11.3	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	28.68	30.44	29.56
79	91034	5	5	5	3	3	3	6.0	6.0	6.0	33	25	29	4	4	4	3	3	3	1	1	1	1	1	1	37.27	38.31	37.79
80	92003	5	5	5	3	3	3	7.3	9.0	8.2	33	25	29	1	1	1	3	3	3	1	1	1	1	1	1	33.12	34.53	33.82
81	93001	6	5	5	3	3	3	6.3	6.3	6.3	33	25	29	3	3	3	3	3	3	1	1	1	1	1	1	34.12	28.80	31.46
82	93009	8	7	8	4	4	4	8.7	0.0	4.3	50	25	38	4	4	4	3	3	3	1	1	1	1	1	1	37.49	41.23	39.36
83	93031	7	6	7	4	4	4	0.0	0.0	0.0	50	25	38	4	4	4	3	3	3	1	1	1	1	1	1	42.35	43.78	43.06
84	94034	6	5	5	3	3	3	10.3	11.3	10.8	33	25	29	3	3	3	3	3	3	1	1	1	1	1	1	40.14	39.20	39.67
85	94489	8	7	8	4	4	4	0.0	0.0	0.0	50	25	38	4	4	4	3	3	3	1	1	1	1	1	1	36.83	38.50	37.66
	Control																											
86	CSV 4	7	5	6	3	3	3	0.0	5.7	2.8	25	25	25	4	4	4	3	3	3	1	1	1	1	1	1	26.07	25.83	25.95
87	RS 29	5	5	5	3	3	3	0.0	1.7	0.8	25	58	42	4	3	3-4	3	3	3	1	1	1	1	1	1	27.31	24.99	26.15
	Mean	-	-	-	-	-	-	5.28	8.81	7.04	33	32	32	-	-	-	-	-	-	-	-	-	-	-	-	29.80	30.36	30.08
	SE±	-	-	-	-	-	-	0.77	0.86	0.58	5.60	4.95	3.74	-	-	-	-	-	-	-	-	-	-	-	-	1.02	1.53	0.92
	CV (%)	-	-	-	-	-	-	25.62	16.94	20.20	29.28	26.64	28.03	-	-	-	-	-	-	-	-	-	-	-	-	5.92	8.69	7.46
	CD (5%)	-	-	-	-	-	-	2.15	2.40	1.61	15.64	13.82	10.40	-	-	-	-	-	-	-	-	-	-	-	-	2.84	4.26	2.55

Continued...

Annexure III-11. … Contd.

Triat No.→		35			36			37			39			40			41			42				43					
		Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm texture			Albumen color			Grain lustre			Days to emergence				Leaf glossy score					
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy		
Serial number	ICSR number	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	RCE 3 3	Mean	E3	E4	Mean
1	3	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	4	4	5	5	2.0	2.8	2.4	3.0	3.0	3.0
2	11	3	3	3	3	3	3	5	5	5	3	3	3	2	2	2	5	5	5	4	4	5	5	2.3	2.8	2.5	3.0	2.3	2.7
3	12	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	4	4	5	5	1.3	3.3	2.3	3.0	2.0	2.5
4	15	3	3	3	3	3	3	5	5	5	4	3	4	2	2	2	5	5	5	5	5	4	5	1.5	2.8	2.1	2.3	2.0	2.2
5	16	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	4	5	5	5	2.0	2.5	2.3	3.0	3.0	3.0
6	23	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	4	5	5	5	2.0	3.0	2.5	2.7	3.3	3.0
7	24	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	5	5	5	5	3.0	3.0	3.0	2.7	3.0	2.8
8	28	3	3	3	3	3	3	5	5	5	5	4	4	2	2	2	5	5	5	4	5	5	5	2.0	2.8	2.4	3.0	3.0	3.0
9	33	3	3	3	3	3	3	5	5	5	4	5	5	2	2	2	5	5	5	5	5	5	5	2.5	2.5	2.5	3.0	2.7	2.8
10	34	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	4	5	5	5	2.5	3.0	2.8	3.0	3.3	3.2
11	35	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	5	5	5	5	2.5	3.3	2.9	2.7	3.0	2.8
12	37	3	3	3	3	3	3	5	5	5	4	3	3	2	2	2	5	5	5	4	4	4	4	1.8	2.5	2.1	3.0	2.7	2.8
13	38	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	4	5	5	5	2.0	2.5	2.3	2.7	2.7	2.7
14	40	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	5	5	5	5	2.5	2.5	2.5	2.3	2.7	2.5
15	41	3	3	3	3	3	3	5	5	5	4	3	4	2	2	2	4	5	4	5	5	5	5	2.0	2.8	2.4	3.0	2.0	2.5
16	49	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	4	4	4	4	2.0	2.3	2.1	2.7	2.7	2.7
17	51	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	4	4	5	5	1.8	2.8	2.3	2.0	3.0	2.5
18	57	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	6	6	6	4	5	6	6	3.0	3.3	3.1	3.0	3.0	3.0
19	62	3	3	3	3	3	3	5	4	5	5	5	5	2	2	2	5	5	5	4	5	5	5	2.5	3.0	2.8	3.0	2.3	2.7
20	63	3	3	3	3	3	3	5	5	5	3	4	4	2	2	2	5	5	5	4	4	5	4	2.3	2.5	2.4	2.7	2.7	2.7
21	68	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	4	5	5	5	2.5	3.0	2.8	2.7	2.7	2.7
22	72	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	4	5	5	5	2.0	2.8	2.4	2.7	3.0	2.8
23	73	3	3	3	3	3	3	5	5	5	4	5	5	2	2	2	5	4	4	5	6	5	5	3.5	3.5	3.5	3.0	3.0	3.0
24	76	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	4	5	5	5	2.5	2.8	2.6	3.3	3.0	3.2
25	87	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	4	4	5	5	3.0	2.8	2.9	2.3	3.3	2.8
26	95	3	3	3	3	3	3	5	5	5	5	4	4	2	2	2	6	5	5	5	5	5	5	2.0	2.8	2.4	3.0	2.7	2.8
27	96	3	3	3	3	3	3	4	5	5	5	5	5	2	2	2	4	5	4	4	5	5	5	2.0	2.5	2.3	3.0	3.0	3.0
28	101	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	5	5	5	5	2.5	2.5	2.5	2.7	2.7	2.7
29	103	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	6	4	6	5	2.8	3.0	2.9	2.3	2.0	2.2
30	106	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	6	5	4	5	5	5	2.3	3.3	2.8	3.3	3.3	3.3
31	107	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	4	5	5	5	2.0	2.8	2.4	2.7	3.0	2.8
32	109	3	3	3	3	3	3	4	5	5	5	5	5	2	2	2	5	5	5	5	5	5	5	2.8	2.8	2.8	3.0	2.3	2.7
33	110	3	3	3	3	3	3	5	5	5	4	3	3	2	2	2	5	5	5	4	5	5	5	2.3	2.8	2.5	3.0	3.0	3.0

Continued...

Triat No.→		35			36			37			39			40			41			42				43					
		Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm texture			Albumen color			Grain lustre			Days to emergence				Leaf glossy score					
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy		
Serial number	ICSR number	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	RCE 3 3	Mean	E3	E4	Mean
34	112	3	3	3	3	3	3	4	4	4	5	5	5	2	2	2	5	5	5	5	5	5	5	2.0	3.0	2.5	2.7	2.7	2.7
35	114	3	3	3	3	3	3	5	5	5	3	4	3	2	2	2	5	5	5	5	5	5	5	2.5	2.5	2.5	2.3	2.3	2.3
36	116	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	4	5	5	5	3.0	2.8	2.9	2.7	3.0	2.8
37	125	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	5	5	5	5	3.0	3.0	3.0	3.0	3.0	3.0
38	126	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	4	5	5	5	3.0	2.5	2.8	2.7	2.3	2.5
39	128	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	4	4	5	5	3.3	2.8	3.0	3.0	3.0	3.0
40	130	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	4	5	5	5	2.8	2.5	2.6	2.7	3.0	2.8
41	134	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	4	5	5	5	2.0	2.5	2.3	2.0	2.3	2.2
42	140	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	4	5	5	5	2.5	3.0	2.8	3.0	3.0	3.0
43	143	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	4	5	5	5	3.0	3.0	3.0	3.0	2.7	2.8
44	149	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	4	4	5	5	2.5	2.8	2.6	2.0	3.0	2.5
45	150	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	4	5	5	5	2.3	2.3	2.3	3.0	2.3	2.7
46	152	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	5	5	5	5	2.8	2.8	2.8	3.7	2.7	3.2
47	153	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	4	4	4	4	5	5	2.0	2.5	2.3	3.0	2.3	2.7
48	160	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	4	4	4	4	2.0	2.3	2.1	3.0	3.0	3.0
49	170	3	3	3	3	3	3	5	6	5	5	4	5	2	2	2	2	4	3	4	5	7	6	2.3	3.0	2.6	3.0	3.0	3.0
50	172	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	4	5	5	5	2.8	2.5	2.6	3.0	2.7	2.8
51	174	3	3	3	3	3	3	5	5	5	4	5	5	2	2	2	6	6	6	4	4	5	5	2.5	2.8	2.6	2.7	2.0	2.3
52	194	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	6	5	4	5	5	5	2.3	2.5	2.4	2.3	3.0	2.7
53	196	3	3	3	3	3	3	5	6	5	4	5	5	2	2	2	5	5	5	4	4	4	4	2.8	2.8	2.8	2.3	3.0	2.7
54	89001	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	5	5	6	6	3.0	3.0	3.0	3.0	2.7	2.8
55	89004	3	3	3	3	3	3	5	5	5	4	3	3	2	2	2	5	5	5	4	5	5	5	2.0	3.0	2.5	2.7	3.0	2.8
56	89005	3	3	3	3	3	3	4	4	4	5	4	5	2	2	2	5	5	5	4	5	6	5	2.5	3.0	2.8	2.7	3.0	2.8
57	89006	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	4	5	5	5	3.0	2.8	2.9	2.0	3.3	2.7
58	89008	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	4	5	5	5	3.0	3.0	3.0	2.7	3.3	3.0
59	89010	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	4	5	5	5	3.0	2.8	2.9	3.0	3.0	3.0
60	89015	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	6	5	5	5	5	5	5	3.0	2.3	2.6	3.0	3.0	3.0
61	89017	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	5	5	5	5	3.0	2.8	2.9	3.0	3.3	3.2
62	89019	3	3	3	3	3	3	5	5	5	5	4	4	2	2	2	5	5	5	4	5	6	5	2.0	3.0	2.5	3.0	2.3	2.7
63	89020	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	4	4	5	5	2.3	2.8	2.5	3.0	3.0	3.0
64	89022	3	3	3	3	3	3	4	4	4	4	4	4	2	2	2	6	5	5	5	5	5	5	2.5	2.8	2.6	2.3	3.0	2.7
65	89024	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	4	5	5	5	1.5	2.3	1.9	2.7	2.7	2.7
66	89025	3	3	3	3	3	3	5	5	5	5	3	4	2	2	2	5	5	5	4	5	5	5	2.5	2.8	2.6	3.0	3.0	3.0
67	89030	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	4	5	5	5	2.0	2.8	2.4	3.0	2.0	2.5
68	89031	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	5	5	5	5	2.8	3.3	3.0	2.7	3.0	2.8

Continued...

Triat No.→		35			36			37			39			40			41			42				43					
		Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm texture			Albumen color			Grain lustre			Days to emergence				Leaf glossy score					
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy		
Serial number	ICSR number	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	RCE 3 3	Mean	E3	E4	Mean
69	89032	3	3	3	3	3	3	4	4	4	4	4	4	2	2	2	5	5	5	4	5	5	5	2.3	3.0	2.6	3.0	3.0	3.0
70	89045	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	7	6	7	5	5	5	5	1.0	1.3	1.1	3.0	1.0	2.0
71	89053	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	5	5	5	5	1.8	2.5	2.1	3.0	3.0	3.0
72	89064	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	6	5	4	6	5	5	3.0	2.8	2.9	2.7	2.7	2.7
73	89075	3	3	3	3	3	3	5	5	5	5	4	5	2	2	2	5	5	5	5	5	5	5	2.3	3.0	2.6	3.0	2.7	2.8
74	89076	3	3	3	3	3	3	5	5	5	5	4	4	2	2	2	5	5	5	5	5	5	5	2.5	3.0	2.8	3.0	2.3	2.7
75	90017	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	5	5	5	5	1.0	1.8	1.4	1.3	1.0	1.2
76	91008	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	4	5	5	5	2.0	2.5	2.3	2.7	2.7	2.7
77	91011	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	4	5	5	5	2.3	3.0	2.6	2.7	3.0	2.8
78	91027	3	3	3	3	3	3	5	5	5	4	5	5	2	2	2	5	5	5	5	4	4	4	2.5	3.0	2.8	2.7	3.0	2.8
79	91034	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	4	5	5	5	2.5	2.5	2.5	1.3	3.0	2.2
80	92003	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	5	5	5	3	4	4	4	1.8	2.5	2.1	3.0	3.3	3.2
81	93001	3	3	3	3	3	3	5	5	5	3	3	3	2	2	2	5	5	5	3	4	5	4	1.8	2.0	1.9	2.7	3.7	3.2
82	93009	3	3	3	3	3	3	5	5	5	4	4	4	2	2	2	7	6	7	5	5	5	5	1.8	2.0	1.9	2.7	1.0	1.8
83	93031	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	7	6	7	4	4	4	4	1.0	2.0	1.5	2.0	1.3	1.7
84	94034	3	3	3	3	3	3	5	4	5	4	5	5	2	2	2	5	5	5	3	4	4	4	1.5	2.5	2.0	2.0	3.0	2.5
85	94489	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	7	5	6	4	4	5	5	3.0	2.3	2.6	3.0	1.0	2.0
	Control																												
86	CSV 4	3	3	3	3	3	3	5	5	5	5	5	5	2	2	2	5	5	5	5	5	5	5	2.5	3.0	2.8	3.0	2.3	2.7
87	RS 29	3	3	3	3	3	3	5	5	5	4	3	3	2	2	2	5	5	5	4	5	5	5	2.0	2.8	2.4	2.0	3.0	2.5
	Mean	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	5	5	5	2.33	2.70	2.51	2.74	2.71	2.72
	SE±	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.39	0.21	0.26	0.17	0.29	0.25	0.27	0.25	0.26	0.18
	CV (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.99	7.75	9.16	8.52	24.73	18.88	21.65	15.93	16.43	16.18
	CD (5%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.08	0.60	0.74	0.47	0.80	0.71	0.76	0.70	0.72	0.50

Continued...

Annexure III-11. … Contd.

Triat No.→		44						45			46			47			48	49	50
Serial number	ICSR number	Seedling vigor score						Plant agronomic aspect score			Panicle yield (t ha^{-1})			Grain yield (t ha^{-1})			Plant color	Grain pericarp thickness	Grain hardness in kg by Kiya's hardness tester
		Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy	Postrainy	Postrainy
		E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean			
1	3	1.3	2.5	1.9	2.3	1.7	2.0	1.0	2.0	1.5	6.6	4.9	5.7	4.9	3.7	4.3	Tan	Thin	9
2	11	2.3	1.5	1.9	2.0	2.7	2.3	2.0	1.3	1.7	7.8	5.5	6.7	4.5	4.3	4.4	Tan	Thick	8.8
3	12	1.5	1.8	1.6	2.0	2.7	2.3	1.3	1.3	1.3	6.0	4.7	5.3	4.3	3.4	3.8	Tan	Thin	8.9
4	15	1.3	1.3	1.3	2.3	1.7	2.0	1.3	1.3	1.3	7.2	5.1	6.2	5.4	3.9	4.6	Tan	Thin	9.2
5	16	1.8	1.5	1.6	2.7	1.0	1.8	1.0	1.7	1.3	6.8	5.8	6.3	4.9	4.4	4.7	Tan	Thick	8.1
6	23	2.0	1.5	1.8	3.0	2.0	2.5	1.7	2.0	1.8	6.1	5.3	5.7	4.4	4.1	4.3	Tan	Thick	8.7
7	24	2.3	1.5	1.9	3.0	2.3	2.7	1.7	1.0	1.3	6.0	5.1	5.6	4.4	3.6	4.0	Tan	Thick	6.8
8	28	2.5	2.8	2.6	2.7	1.7	2.2	1.0	2.0	1.5	7.8	4.4	6.1	5.7	3.4	4.5	Tan	Thick	8.5
9	33	1.8	1.8	1.8	2.7	2.7	2.7	1.0	1.3	1.2	7.7	5.5	6.6	5.4	4.3	4.9	Tan	Thick	8.2
10	34	2.8	1.5	2.1	2.3	2.7	2.5	1.0	1.3	1.2	7.3	6.8	7.0	5.4	4.9	5.2	Tan	Thick	11.8
11	35	2.8	2.5	2.6	2.7	2.7	2.7	1.7	2.0	1.8	7.3	6.3	6.8	5.4	5.0	5.2	Tan	Thick	8.2
12	37	1.3	1.3	1.3	2.0	1.3	1.7	1.3	2.0	1.7	7.7	4.3	6.0	5.5	3.3	4.4	Tan	Thick	10.2
13	38	2.3	1.5	1.9	2.3	1.3	1.8	1.7	2.0	1.8	6.8	5.2	6.0	4.9	3.9	4.4	Tan	Thick	8.8
14	40	2.5	2.3	2.4	2.3	2.3	2.3	1.0	2.7	1.8	7.7	3.7	5.7	5.8	2.8	4.3	Tan	Thick	8.1
15	41	2.3	2.3	2.3	3.0	1.7	2.3	1.7	1.0	1.3	6.0	6.4	6.2	4.2	4.8	4.5	Tan	Thick	8.5
16	49	1.3	1.8	1.5	1.3	1.0	1.2	1.3	2.0	1.7	8.4	4.0	6.2	5.9	2.9	4.4	Tan	Thin	5.7
17	51	1.3	1.0	1.1	1.0	2.0	1.5	1.0	2.0	1.5	8.1	6.1	7.1	5.9	4.8	5.4	Tan	Thin	8.6
18	57	3.3	1.8	2.5	3.0	2.7	2.8	2.0	1.7	1.8	6.6	5.2	5.9	4.7	3.9	4.3	Tan	Thin	8.2
19	62	3.5	2.5	3.0	3.3	3.7	3.5	2.0	1.0	1.5	7.9	5.5	6.7	5.7	4.2	5.0	Tan	Thin	8.1
20	63	1.8	1.3	1.5	2.0	2.7	2.3	1.7	1.7	1.7	7.7	5.4	6.6	6.0	4.3	5.2	Tan	Thin	13.6
21	68	2.3	1.5	1.9	2.3	3.0	2.7	1.0	2.7	1.8	7.2	4.2	5.7	5.2	3.0	4.1	Tan	Thin	11.4
22	72	1.8	1.3	1.5	2.3	3.0	2.7	1.3	2.7	2.0	7.9	3.1	5.5	5.9	2.1	4.0	Tan	Thick	12.6
23	73	4.0	2.8	3.4	3.3	5.0	4.2	1.3	1.7	1.5	7.8	5.0	6.4	6.0	3.5	4.7	Tan	Thick	7.5
24	76	2.0	1.3	1.6	2.7	3.0	2.8	2.0	2.0	2.0	7.3	4.9	6.1	5.5	3.6	4.5	Tan	Thin	10.1
25	87	2.0	1.5	1.8	2.7	2.7	2.7	1.7	1.7	1.7	6.7	5.4	6.0	5.0	4.0	4.5	Tan	Thin	11.7
26	95	1.3	1.8	1.5	2.7	2.3	2.5	2.0	2.0	2.0	6.7	5.1	5.9	4.9	3.7	4.3	Tan	Thin	7.5
27	96	1.5	1.5	1.5	3.0	2.3	2.7	1.7	1.7	1.7	6.3	5.3	5.8	4.5	3.9	4.2	Tan	Thick	9
28	101	1.8	1.3	1.5	2.7	1.7	2.2	1.3	1.7	1.5	6.7	6.2	6.4	4.7	4.9	4.8	Tan	Thick	12.7
29	103	4.0	3.5	3.8	1.7	4.6	3.1	1.7	1.7	1.7	6.2	5.0	5.6	4.5	3.8	4.2	Tan	Thin	13.4
30	106	3.0	2.8	2.9	3.0	2.7	2.8	1.0	1.0	1.0	5.7	6.4	6.1	3.8	4.7	4.3	Tan	Thin	11.3
31	107	1.5	1.5	1.5	2.7	1.7	2.2	1.3	2.0	1.7	7.1	5.7	6.4	5.2	4.4	4.8	Tan	Thick	7.1
32	109	2.5	2.5	2.5	3.0	2.3	2.7	1.7	1.7	1.7	8.0	4.6	6.3	6.1	2.5	4.3	Tan	Thin	9.2
33	110	2.0	1.5	1.8	2.3	1.3	1.8	1.3	1.7	1.5	7.3	5.0	6.1	5.2	3.9	4.6	Tan	Thin	14

Continued...

Triat No.→		44						45			46			47			48	49	50
Serial number	ICSR number	Seedling vigor score						Plant agronomic aspect score			Panicle yield (t ha^{-1})			Grain yield (t ha^{-1})			Plant color	Grain pericarp thickness	Grain hardness in kg by Kiya's hardness tester
		Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy	Postrainy	Postrainy
		E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean			
34	112	2.3	1.8	2.0	2.7	2.7	2.7	2.0	1.0	1.5	6.6	6.3	6.5	4.8	4.7	4.8	Tan	Thin	7.2
35	114	1.8	1.8	1.8	2.7	1.7	2.2	1.0	2.0	1.5	7.6	5.9	6.7	6.0	4.4	5.2	Tan	Thin	15
36	116	2.8	2.0	2.4	3.0	3.0	3.0	1.7	1.3	1.5	6.8	5.4	6.1	5.0	4.3	4.7	Tan	Thin	9.6
37	125	2.5	1.3	1.9	2.0	3.0	2.5	1.7	1.3	1.5	7.8	6.4	7.1	5.6	4.8	5.2	Tan	Thin	11
38	126	2.8	1.0	1.9	2.7	2.3	2.5	1.3	1.3	1.3	6.8	5.6	6.2	4.8	4.2	4.5	Tan	Thin	7.6
39	128	3.5	1.5	2.5	2.3	1.0	1.7	1.3	1.7	1.5	8.5	6.3	7.4	6.5	4.8	5.6	Tan	Thin	7.4
40	130	2.8	1.5	2.1	3.0	3.3	3.2	1.7	1.7	1.7	7.3	5.5	6.4	5.6	3.8	4.7	Tan	Thin	10.2
41	134	2.3	1.5	1.9	2.3	2.7	2.5	1.0	2.0	1.5	6.6	6.1	6.4	4.8	4.7	4.7	Tan	Thin	10.2
42	140	2.3	1.0	1.6	2.3	3.0	2.7	1.3	1.0	1.2	7.8	6.8	7.3	5.7	5.2	5.4	Tan	Thin	14.3
43	143	2.5	1.5	2.0	2.3	2.7	2.5	1.0	1.3	1.2	5.8	5.8	5.8	4.2	4.6	4.4	Tan	Thin	8.9
44	149	2.3	1.5	1.9	2.0	2.7	2.3	2.0	1.0	1.5	6.4	7.0	6.7	4.6	5.0	4.8	Tan	Thin	7.1
45	150	2.5	2.3	2.4	3.0	1.3	2.2	1.0	1.7	1.3	8.6	5.5	7.1	6.5	4.2	5.4	Tan	Thin	11.1
46	152	3.5	3.5	3.5	3.3	3.0	3.2	1.3	1.7	1.5	8.7	5.3	7.0	6.6	3.9	5.2	Tan	Thin	7.6
47	153	1.3	1.0	1.1	2.3	1.7	2.0	1.7	1.3	1.5	8.1	6.1	7.1	5.9	4.4	5.2	Tan	Thin	8.3
48	160	1.0	1.0	1.0	2.3	1.3	1.8	1.7	1.7	1.7	8.2	6.0	7.1	6.2	4.4	5.3	Tan	Thin	18.1
49	170	1.8	2.3	2.0	2.3	4.3	3.3	2.0	2.7	2.3	6.5	4.2	5.3	4.7	2.4	3.5	Tan	Thin	8.1
50	172	2.5	1.8	2.1	2.3	1.7	2.0	1.0	1.7	1.3	7.0	5.5	6.3	5.1	4.2	4.7	Tan	Thin	11
51	174	2.0	1.8	1.9	2.0	2.3	2.2	2.0	1.3	1.7	6.5	5.1	5.8	4.7	3.6	4.2	Purple	Thick	4.9
52	194	2.0	1.5	1.8	2.0	2.3	2.2	1.3	1.0	1.2	6.9	6.6	6.8	5.1	5.1	5.1	Tan	Thin	10.6
53	196	2.3	1.5	1.9	2.0	2.0	2.0	1.7	2.0	1.8	7.3	5.8	6.5	5.3	4.2	4.8	Tan	Thin	18.4
54	89001	3.5	3.3	3.4	2.3	3.3	2.8	2.0	1.3	1.7	7.1	6.4	6.7	5.4	4.7	5.1	Tan	Thin	7.9
55	89004	1.8	2.8	2.3	2.3	2.7	2.5	1.0	1.3	1.2	7.7	5.5	6.6	5.6	4.0	4.8	Tan	Thin	7
56	89005	1.8	2.3	2.0	2.3	2.7	2.5	2.7	2.0	2.3	5.7	5.4	5.5	4.0	3.9	3.9	Tan	Thick	7.6
57	89006	1.5	1.8	1.6	2.0	3.0	2.5	2.0	1.3	1.7	6.1	7.2	6.6	4.5	5.0	4.8	Tan	Thin	7
58	89008	2.8	2.3	2.5	3.0	3.3	3.2	1.0	1.7	1.3	7.6	5.5	6.5	5.4	4.2	4.8	Tan	Thin	8.9
59	89010	1.8	1.8	1.8	2.3	2.7	2.5	1.3	3.0	2.2	6.6	2.5	4.6	4.8	1.3	3.0	Tan	Thin	8.2
60	89015	3.3	3.8	3.5	3.0	3.0	3.0	1.0	1.0	1.0	8.2	5.8	7.0	6.2	4.4	5.3	Tan	Thick	10
61	89017	3.0	3.5	3.3	2.7	2.7	2.7	2.0	2.0	2.0	7.3	5.7	6.5	5.6	4.4	5.0	Tan	Thin	7.8
62	89019	2.8	2.3	2.5	2.7	2.3	2.5	1.0	1.0	1.0	6.3	6.5	6.4	4.5	4.9	4.7	Tan	Thin	9
63	89020	2.3	1.8	2.0	2.7	2.3	2.5	2.0	1.3	1.7	7.5	5.9	6.7	5.7	4.3	5.0	Tan	Thick	8.1
64	89022	2.0	2.5	2.3	3.0	2.7	2.8	2.0	2.0	2.0	8.1	5.2	6.6	5.7	3.7	4.7	Tan	Thin	8
65	89024	1.5	2.5	2.0	3.0	1.7	2.3	2.0	1.0	1.5	5.9	5.5	5.7	4.2	4.3	4.3	Tan	Thick	9.1
66	89025	2.5	1.5	2.0	2.7	2.3	2.5	1.7	1.0	1.3	7.3	5.5	6.4	5.6	4.1	4.9	Tan	Thin	8.2
67	89030	2.0	1.8	1.9	2.7	2.3	2.5	2.0	1.0	1.5	5.5	7.2	6.3	4.1	5.3	4.7	Tan	Thick	8.7
68	89031	3.0	2.5	2.8	3.0	2.7	2.8	1.7	1.7	1.7	5.3	6.1	5.7	3.5	4.7	4.1	Tan	Thin	8

Continued...

Triat No.→		44						45			46			47			48	49	50
Serial number	ICSR number	Seedling vigor score						Plant agronomic aspect score			Panicle yield (t ha^{-1})			Grain yield (t ha^{-1})			Plant color	Grain pericarp thickness	Grain hardness in kg by Kiya's hardness tester
		Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy	Postrainy	Postrainy
		E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean			
69	89032	1.8	2.0	1.9	3.0	1.7	2.3	1.7	1.3	1.5	7.3	6.6	7.0	5.4	4.9	5.1	Tan	Thin	7.6
70	89045	3.0	2.8	2.9	2.7	2.7	2.7	1.3	2.0	1.7	6.8	4.8	5.8	4.9	3.4	4.2	Tan	Thin	8.8
71	89053	1.8	1.8	1.8	2.3	1.7	2.0	1.3	1.3	1.3	7.4	6.2	6.8	5.4	4.6	5.0	Tan	Thin	7
72	89064	3.5	2.5	3.0	2.7	2.7	2.7	1.3	2.0	1.7	8.1	6.1	7.1	5.7	4.6	5.2	Tan	Thin	8.4
73	89075	2.5	2.3	2.4	2.3	2.3	2.3	1.7	2.0	1.8	7.3	6.9	7.1	5.5	5.1	5.3	Tan	Thin	6.8
74	89076	3.3	1.8	2.5	3.0	2.7	2.8	1.7	1.0	1.3	8.2	6.2	7.2	5.7	4.5	5.1	Tan	Thin	8.6
75	90017	1.0	2.3	1.6	2.0	2.3	2.2	2.0	2.0	2.0	5.9	5.0	5.4	4.0	3.7	3.9	Tan	Thin	5.8
76	91008	2.0	1.5	1.8	3.0	2.7	2.8	2.0	1.7	1.8	7.2	5.3	6.2	5.2	4.0	4.6	-	-	-
77	91011	1.8	1.8	1.8	2.7	3.3	3.0	2.0	1.7	1.8	6.0	7.5	6.7	4.2	5.6	4.9	-	-	-
78	91027	2.8	2.3	2.5	2.0	1.3	1.7	1.3	2.7	2.0	6.4	4.8	5.6	4.5	3.4	3.9	-	-	-
79	91034	2.3	1.5	1.9	2.3	3.0	2.7	1.3	2.0	1.7	6.5	5.6	6.1	4.9	4.2	4.5	-	-	-
80	92003	1.3	1.3	1.3	1.7	1.0	1.3	1.3	1.0	1.2	5.4	6.5	5.9	3.9	5.0	4.4	-	-	-
81	93001	1.0	1.3	1.1	1.7	1.3	1.5	1.7	1.0	1.3	6.9	6.2	6.5	4.7	4.8	4.8	-	-	-
82	93009	4.3	3.5	3.9	2.3	2.3	2.3	1.0	2.3	1.7	7.0	3.4	5.2	5.3	2.0	3.7	-	-	-
83	93031	1.8	1.5	1.6	1.7	1.3	1.5	1.0	2.0	1.5	5.9	4.1	5.0	4.2	2.7	3.4	-	-	-
84	94034	2.0	1.0	1.5	1.0	1.0	1.0	1.7	2.0	1.8	6.6	5.2	5.9	4.9	3.9	4.4	-	-	-
85	94489	5.0	2.0	3.5	1.7	1.0	1.3	1.3	2.7	2.0	7.6	4.4	6.0	5.4	3.3	4.3	-	-	-
	Control																		
86	CSV 4	1.8	3.3	2.5	3.0	3.3	3.2	1.7	2.0	1.8	6.6	4.3	5.5	4.5	3.3	3.9	-	-	-
87	RS 29	1.5	1.0	1.3	2.3	2.7	2.5	2.0	2.0	2.0	6.3	8.1	7.2	4.5	6.3	5.4	-	-	-
	Mean	2.26	1.89	2.07	2.46	2.37	2.42	1.52	1.67	1.59	7.02	5.53	6.27	5.11	4.10	4.60	-	-	-
	SE±	0.32	0.27	0.30	0.30	0.30	0.21	0.25	0.25	0.17	0.79	0.45	0.46	0.66	0.38	0.38	-	-	-
	CV (%)	28.03	29.08	28.64	20.75	22.40	21.55	28.21	25.55	26.82	19.57	14.23	17.84	22.22	16.08	20.16	-	-	-
	CD (5%)	0.88	0.77	0.83	0.82	0.85	0.59	0.69	0.69	0.49	2.22	1.27	1.27	1.83	1.06	1.06	-	-	-

Continued...

Annexure III-12. Characteristics of high yielding (late maturity) sorghum R-lines evaluated during the rainy and postrainy seasons, 2004 at ICRISAT-Patancheru.

Triat No. →		1				2	3						4						5			6			7			8		
Serial number	ICSR number	Coleoptile color				Fifth leaf sheath color	Leaf midrib color						Days to 50% flowering						Plant height up to flag leaf (m)			Flag leaf: extension of discoloration of mid rib			Flag leag: intensity of green corolation of midrib compared to the blade			Flag leaf: yellow coloration of mid rib		
		Rainy	Postrainy			Postrainy	Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
		E1	E3	E4	Mean	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	18	1	1	1	1	1	2	2	2	2	2	2	62	76	73	65	74	69	1.4	1.1	1.2	1	1	1	2	2	2	1	1	1
2	20	1	1	1	1	1	2	3	2-3	2	2	2	70	70	70	65	74	70	1.2	1.0	1.1	5	3	3-5	0	0	0	1	1	1
3	165	1	1	1	1	1	2-3	-	2-3	3	2	2-3	70	80	73	63	72	68	1.8	1.5	1.6	5	3	3-5	0	0	0	1	1	1
4	176	1	1	2	1-2	1	2	2	2	2	2	2	67	74	74	70	79	74	1.7	1.3	1.5	1	1	1	2	2	2	1	1	1
5	89016	1	2	1	1-2	3	2	1	1-2	2	2	2	68	74	74	69	77	73	1.4	1.0	1.2	5	3	3-5	0	0	0	1	1	1
6	89027	2	2	2	2	3	2	2	2	2	2	2	66	72	70	67	75	71	1.3	1.0	1.2	1	1	1	2	2	2	1	1	1
7	89052	1	1	1	1	1	2	2	2	2	2	2	70	78	75	67	74	71	1.1	1.0	1.0	5	5	5	0	0	0	1	1	1
8	89059	1	1	1	1	1	2	2	2	2	2	2	74	80	80	69	80	75	1.3	1.1	1.2	1	1	1	2	2	2	1	1	1
9	89071	1	1	2	1-2	1	2	2	2	2	2	2	74	80	80	72	81	77	1.2	1.0	1.1	1	1	1	2	2	2	1	1	1
10	91012	1	2	1	1-2	1	2	2	2	2	2	2	66	75	72	65	74	70	1.4	1.1	1.2	5	5	5	0	0	0	1	1	1
11	91014	1	1	1	1	1	2	-	2	2	2	2	69	75	72	70	79	74	1.6	1.0	1.3	7	7	7	0	0	0	1	1	1
12	91015	1	1	1	1	1	2	2	2	2	2	2	74	74	74	66	72	69	1.4	1.0	1.2	5	5	5	0	0	0	1	1	1
13	91016	2	2	2	2	3	2	2	2	2	2	2	70	74	72	65	74	70	1.0	0.8	0.9	1	1	1	2	2	2	1	1	1
14	91017	1	1	2	1-2	1	2	2	2	3	2	2-3	69	73	71	65	73	69	1.4	1.1	1.2	3	5	3-5	0	0	0	1	1	1
15	92013	1	1	1	1	1	2	2	2	2	2	2	65	69	67	62	72	67	1.3	1.0	1.1	3	5	3-5	0	0	0	1	1	1
16	93026	2	2	2	2	3	2	2	2	2	2	2	70	75	74	72	78	75	2.2	2.0	2.1	5	1	1-5	0	2	0-2	1	1	1
17	93034	2	1	2	1-2	1	2	2	2	2	2	2	64	75	73	66	77	71	1.4	1.0	1.2	1	1	1	2	2	2	1	1	1
18	94453	1	2	2	1-2	3	2	2	2	2	2	2	71	78	78	66	75	70	2.1	1.9	2.0	1	1	1	2	2	2	1	1	1
	Control																													
19	CSV 4	2	1	2	1-2	1	2	2	2	2	2	2	-	73	73	62	71	67	1.0	1.1	1.0	1	5	1-5	2	0	0-2	1	5	1-5
20	RS 29	2	2	2	2	1	2	2	2	2	2	2	70	76	75	67	77	72	1.5	1.1	1.3	3	5	3-5	0	0	0	1	1	1
	Mean	-	-	-	-	-	2	2	2	-	-	-	68	75	73	67	75	71	1.43	1.14	1.28	-	-	-	-	-	-	-	-	-
	SE±	-	-	-	-	-	0.16	0.21	0.20	-	-	-	0.43	1.59	1.16	0.80	0.95	0.62	0.05	0.08	0.05	-	-	-	-	-	-	-	-	-
	CV (%)	-	-	-	-	-	15.88	21.28	19.45	-	-	-	1.28	4.25	3.19	2.07	2.17	2.14	6.61	12.47	9.43	-	-	-	-	-	-	-	-	-
	CD (5%)	-	-	-	-	-	0.46	0.69	0.59	-	-	-	3.47	5.02	4.75	2.29	2.71	1.75	0.16	0.24	0.14	-	-	-	-	-	-	-	-	-

E1- Black Manmool (BM)15, Rainy; E2- Red Campus East (RCE) 3, Rainy; E3- Black Precision (BP) 14, Postrainy; E4- BP 3, Postrainy

Range of notes whereever given indicates that the line shows variable expression

Zero in the trait no. 7 indicates absence of midrib green coloration due to midrib discoloration

Trait No. 1-41 : Triats stipulated in the DUS-test guidelines (Trait no 38 was not recorded in the current trials)

Trait No. 42-47 : Ancillary traits recorded in the current trials

Trait No. 48-50 : Monitored traits recorded in various trials conducted earlier at ICRISAT

Continued...

Annexure III-12. … Contd.

Triat No.⟶		9			10			11			12			13			14			15			16			17			18		
Serial number	ICSR number	Glume hair color			Lemma: arista formation			Stigma: anthocyanin coloration			Stigma: yellow coloration			Stigma: length			Length of pedicellate flower			Length of anther			Dried anther color			Glume color			Plant height (m)		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
		E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	18	1	1	1	1	1	1	1	1	1	1	5	1-5	3	9	6	6	6	6	7	6	6	4	4	4	2	2	2	1.7	1.5	1.6
2	20	1	1	1	1	1	1	1	1	1	1	1	1	5	6	6	4	6	5	6	7	7	4	4	4	4	6	4-6	1.5	1.3	1.4
3	165	1	1	1	1	1	1	1	1	1	1	5	1-5	5	5	5	4	5	5	4	4	4	4	4	4	5	8	5-8	2.1	1.7	1.9
4	176	1	1	1	1	1	1	1	1	1	1	1	1	3	6	4	4	7	5	6	6	6	4	4	4	4	4	4	2.2	1.8	2.0
5	89016	1	1	1	1	1	1	1	1	1	5	1	1-5	5	4	5	4	6	5	5	5	5	4	4	4	4	4	4	1.9	1.5	1.7
6	89027	1	1	1	1	1	1	1	1	1	5	7	5-7	9	6	7	3	6	5	5	6	5	4	4	4	6	4	4-6	1.7	1.4	1.5
7	89052	1	1	1	1	1	1	1	1	1	1	1	1	4	5	4	4	6	5	6	5	5	4	4	4	6	2	2-6	1.3	1.2	1.3
8	89059	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	4	4	5	4	5	4	4	4	6	4	4-6	1.7	1.4	1.5
9	89071	1	1	1	1	1	1	1	1	1	1	1	1	4	5	5	3	4	3	5	4	5	6	4	4-6	6	4	4-6	1.6	1.4	1.5
10	91012	1	1	1	1	1	1	1	1	1	5	1	1-5	4	5	5	4	5	5	6	5	6	4	4	4	6	6	6	1.7	1.4	1.6
11	91014	1	1	1	1	1	1	1	1	1	5	5	5	5	4	4	4	5	4	5	5	5	4	4	4	5	4	4-5	2.0	1.4	1.7
12	91015	1	1	1	1	1	1	1	1	1	1	5	1-5	3	5	4	5	4	5	7	4	6	4	4	4	6	6	6	1.7	1.4	1.5
13	91016	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	3	3	5	4	4	4	4	4	1	4	1-4	1.3	1.1	1.2
14	91017	1	1	1	1	1	1	1	1	1	1	1	1	3	4	4	5	5	5	6	5	6	4	4	4	6	6	6	1.7	1.4	1.6
15	92013	1	1	1	1	1	1	1	1	1	1	1	1	3	5	4	4	4	4	5	5	5	4	4	4	4	4	4	1.6	1.3	1.4
16	93026	1	1	1	9	9	9	1	1	1	7	5	5-7	5	6	6	7	7	7	6	5	6	4	4	4	1	5	1-5	2.5	2.3	2.4
17	93034	1	1	1	5	1	3	1	1	1	1	1	1	5	5	5	4	6	5	5	5	5	4	4	4	2	2	2	1.8	1.4	1.6
18	94453	1	1	1	9	8	8	1	1	1	1	1	1	5	6	6	3	8	5	6	6	6	4	4	4	1	2	1-2	2.3	2.0	2.2
	Control																														
19	CSV 4	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	5	5	5	4	4	4	4	4	4	1	2	1-2	1.3	1.3	1.3
20	RS 29	1	1	1	1	1	1	1	1	1	5	1	1-5	3	4	3	5	5	5	5	5	5	4	4	4	4	4	4	1.7	1.4	1.6
	Mean	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.75	1.48	1.61
	SE±	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	0.08	0.05
	CV (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.19	9.60	7.40
	CD (5%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15	0.23	0.14

Continued...

Annexure III-12. … Contd.

Triat No.⟶		19			20			21			22			23			24			25			26			27			28		
Serial number	ICSR number	Stem thickness (mm) Postrainy			Juicy score Postrainy			Brix reading (%) Postrainy			Leaf length (cm) Postrainy			Leaf width (cm) Postrainy			Panicle length (cm) Postrainy			Panicle branch length (cm) Postrainy			Panicle compactness Postrainy			Panicle shape Postrainy			Panicle exertion (cm) Postrainy		
		E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	18	16.3	16.5	16.4	1	2	1	6.0	6.3	6.2	72.7	59.0	65.8	6.8	6.3	6.6	25.3	22.7	24.0	9.0	7.7	8.3	5	5	5	3	3	3	6.0	10.7	8.3
2	20	18.0	15.8	16.9	1	1	1	8.3	7.0	7.7	72.7	57.7	65.2	7.5	8.0	7.8	23.0	21.7	22.3	7.7	6.7	7.2	6	5	5	3	3	3	4.0	4.3	4.2
3	165	19.7	12.5	16.1	1	1	1	17.7	10.3	14.0	80.7	63.3	72.0	9.7	7.3	8.5	24.0	20.7	22.3	6.7	5.0	5.8	7	5	6	3	3	3	0.0	6.3	3.2
4	176	21.3	18.9	20.1	1	1	1	15.3	11.3	13.3	82.3	67.0	74.7	7.8	7.7	7.8	31.7	28.0	29.8	8.0	6.7	7.3	5	5	5	3	3	3	18.3	23.7	21.0
5	89016	20.0	16.5	18.2	1	1	1	13.7	7.0	10.3	79.0	69.3	74.2	7.7	8.0	7.8	31.3	29.0	30.2	9.3	7.3	8.3	5	5	5	3	3	3	13.7	20.7	17.2
6	89027	19.3	16.8	18.1	1	1	1	14.7	7.3	11.0	73.3	51.7	62.5	8.2	6.7	7.4	26.0	21.7	23.8	6.3	5.0	5.7	6	5	6	3	3	3	8.0	18.0	13.0
7	89052	18.0	17.6	17.8	1	2	2	14.7	6.3	10.5	72.3	56.3	64.3	8.0	7.3	7.7	24.7	24.0	24.3	8.0	7.0	7.5	6	5	6	3	3	3	0.0	0.0	0.0
8	89059	18.0	16.8	17.4	1	1	1	7.7	6.3	7.0	71.7	56.7	64.2	8.0	6.3	7.2	28.3	25.3	26.8	7.7	6.3	7.0	7	6	7	3	3	3	5.7	11.3	8.5
9	89071	17.7	15.5	16.6	1	1	1	10.7	7.3	9.0	82.0	66.0	74.0	9.2	7.3	8.3	27.0	26.7	26.8	6.3	5.0	5.7	7	5	6	3	3	3	14.0	12.0	13.0
10	91012	19.7	17.7	18.7	1	1	1	9.0	7.0	8.0	76.3	64.3	70.3	8.7	8.0	8.3	29.3	26.3	27.8	10.3	8.3	9.3	5	4	5	3	3	3	0.0	10.3	5.2
11	91014	23.7	17.6	20.6	1	1	1	10.7	13.7	15.2	67.4	62.0	64.7	10.1	8.7	9.4	29.3	25.0	27.2	8.6	8.0	8.3	7	6	7	3	3	3	9.1	15.3	12.2
12	91015	17.3	13.0	15.2	1	1	1	7.3	7.0	7.2	80.7	65.7	73.2	8.8	8.3	8.6	29.7	23.7	26.7	7.3	5.7	6.5	7	7	7	3	3	3	5.7	10.7	8.2
13	91016	18.3	13.7	16.0	2	1	1	6.7	5.7	6.2	69.0	51.3	60.2	6.2	6.3	6.3	26.7	21.7	24.2	7.7	5.3	6.5	6	5	6	3	3	3	4.3	10.3	7.3
14	91017	17.0	13.1	15.0	1	1	1	7.3	7.0	7.2	68.0	58.0	63.0	7.2	7.0	7.1	29.7	23.7	26.7	8.3	6.3	7.3	5	5	5	3	3	3	5.7	10.3	8.0
15	92013	19.0	15.4	17.2	1	2	1	10.0	6.0	8.0	66.7	63.7	65.2	7.8	8.7	8.3	26.0	24.3	25.2	7.7	5.7	6.7	5	4	4	3	3	3	0.0	8.3	4.2
16	93026	16.7	13.8	15.2	1	1	1	11.7	9.3	10.5	74.7	51.3	63.0	7.7	5.7	6.7	28.0	22.3	25.2	11.3	8.3	9.8	1	1	1	3	3	3	9.0	11.3	10.2
17	93034	17.7	18.6	18.1	2	2	2	6.7	7.0	6.8	81.3	56.0	68.7	9.7	7.0	8.3	28.7	23.0	25.8	7.3	5.3	6.3	5	5	5	3	3	3	7.3	12.0	9.7
18	94453	15.3	12.9	14.1	1	1	1	17.0	13.3	15.2	62.7	43.0	52.8	8.0	6.3	7.2	17.0	14.7	15.8	5.0	4.0	4.5	8	9	9	4	4	4	0.0	0.0	0.0
	Control																														
19	CSV 4	15.0	15.3	15.2	1	1	1	8.0	7.0	7.5	64.0	57.0	60.5	6.5	6.3	6.4	23.0	24.3	23.7	6.3	6.0	6.2	7	5	6	3	3	3	4.3	0.0	2.2
20	RS 29	16.0	17.1	16.6	1	1	1	11.0	7.7	9.3	72.0	57.7	64.8	9.8	8.3	9.1	24.3	26.3	25.3	7.0	8.0	7.5	6	5	5	3	3	3	0.0	0.0	0.0
	Mean	18.20	15.75	16.97	-	-	-	10.70	8.00	9.50	73.47	58.85	66.16	8.16	7.28	7.72	26.65	23.75	25.20	7.79	6.38	7.09	-	-	-	-	-	-	5.75	9.78	7.77
	SE±	1.07	1.58	0.96	-	-	-	0.68	1.26	0.72	3.57	1.83	2.00	0.53	0.42	0.34	0.62	1.05	0.61	0.61	0.65	0.45	-	-	-	-	-	-	0.61	1.49	0.81
	CV (%)	10.24	17.39	13.86	-	-	-	11.02	27.29	18.97	8.41	5.40	7.41	11.24	9.93	10.68	4.06	7.64	5.95	13.57	17.60	15.41	-	-	-	-	-	-	18.62	26.34	25.53
	CD (5%)	3.07	4.53	2.70	-	-	-	1.95	3.61	2.03	10.24	5.25	5.64	1.51	1.20	0.95	1.79	3.00	1.72	1.75	1.86	1.25	-	-	-	-	-	-	1.75	4.26	2.28

Continued...

Annexure III-12. … Contd.

Triat No.⟶		29			30			31			32			33			34			35			36			37			39		
		Glume coverage (%)			Shattering			Threshability			Grain form			Grain color			1000-grain mass (g)			Grain shape-dorsal view			Grain shape-profile view			Grain germ size			Endosperm texture		
		Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSR number	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	18	25	33	29	3	3	3	1	1	1	1	1	1	4	4	4	28.63	34.89	31.76	3	3	3	3	3	3	5	5	5	5	4	5
2	20	25	25	25	3	3	3	1	1	1	1	1	1	3	4	3-4	31.31	35.57	33.44	3	3	3	3	3	3	5	5	5	5	3	4
3	165	25	25	25	3	3	3	1	1	1	1	1	1	3	3	3	36.65	37.24	36.94	3	3	3	3	3	3	5	5	5	3	4	4
4	176	33	33	33	3	3	3	1	1	1	1	1	1	4	4	4	33.74	34.63	34.19	3	3	3	3	3	3	5	5	5	5	4	5
5	89016	33	33	33	3	3	3	5	1	1-5	1	1	1	3	3	3	29.83	29.02	29.43	3	3	3	3	3	3	5	5	5	5	3	4
6	89027	25	25	25	3	3	3	5	1	1-5	1	1	1	4	4	4	32.18	35.33	33.75	3	3	3	3	3	3	5	5	5	5	5	5
7	89052	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	29.55	29.25	29.40	3	3	3	3	3	3	5	5	5	4	4	4
8	89059	33	33	33	3	3	3	5	1	1-5	1	1	1	4	4	4	21.85	24.03	22.94	3	3	3	3	3	3	5	5	5	5	4	5
9	89071	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	27.30	27.01	27.15	3	3	3	3	3	3	5	5	5	5	4	5
10	91012	25	50	38	3	3	3	1	1	1	1	1	1	4	4	4	27.17	25.50	26.34	3	3	3	3	3	3	5	3	4	4	4	4
11	91014	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	32.10	29.07	30.59	3	3	3	3	3	3	5	5	5	5	4	5
12	91015	25	50	38	3	3	3	5	1	1-5	1	1	1	4	3	3-4	24.33	26.04	25.19	3	3	3	3	3	3	5	5	5	5	4	5
13	91016	25	25	25	3	3	3	1	1	1	1	1	1	4	4	4	22.43	23.28	22.85	3	3	3	3	3	3	5	5	5	4	4	4
14	91017	33	33	33	3	3	3	1	1	1	1	1	1	4	4	4	26.50	26.05	26.28	3	3	3	3	3	3	5	5	5	4	5	5
15	92013	25	33	29	3	3	3	1	1	1	1	1	1	4	3	3-4	27.33	29.92	28.62	3	3	3	3	3	3	5	5	5	5	5	5
16	93026	100	100	100	3	3	3	7	7	7	1	1	1	5	5	5	21.90	22.27	22.09	1	2	2	1	2	2	5	5	5	7	5	6
17	93034	50	42	46	3	3	3	1	1	1	1	1	1	4	4	4	26.95	25.13	26.04	3	3	3	3	3	3	5	5	5	4	4	4
18	94453	42	42	42	3	3	3	1	1	1	1	1	1	4	4	4	33.01	39.97	36.49	3	3	3	3	3	3	5	5	5	5	5	5
	Control																														
19	CSV 4	25	50	38	3	3	3	1	1	1	1	1	1	4	4	4	25.90	25.72	25.81	3	3	3	3	3	3	5	5	5	4	4	4
20	RS 29	25	42	33	3	3	3	1	1	1	1	1	1	3	3	3	27.41	27.18	27.30	3	3	3	3	3	3	5	5	5	4	4	4
	Mean	32	37	35	-	-	-	-	-	-	-	-	-	-	-	-	28.30	29.36	28.83	-	-	-	-	-	-	-	-	-	-	-	-
	SE±	5.43	5.59	3.90	-	-	-	-	-	-	-	-	-	-	-	-	1.15	0.65	0.66	-	-	-	-	-	-	-	-	-	-	-	-
	CV (%)	28.81	25.82	27.20	-	-	-	-	-	-	-	-	-	-	-	-	7.07	3.85	5.61	-	-	-	-	-	-	-	-	-	-	-	-
	CD (5%)	15.55	16.00	10.98	-	-	-	-	-	-	-	-	-	-	-	-	3.30	1.87	1.86	-	-	-	-	-	-	-	-	-	-	-	-

Continued...

Annexure III-12. … Contd.

Triat No.⟶		40			41			42				43						44						45			46		
		Albumen color			Grain lustre			Days to emergence				Leaf glossy score						Seedling vigor score						Plant agronomic aspect score			Panicle yield (t ha^{-1})		
		Postrainy			Postrainy			Rainy	Postrainy			Rainy			Postrainy			Rainy			Postrainy			Postrainy			Postrainy		
Serial number	ICSR number	E3	E4	Mean	E3	E4	Mean	E2	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E1	E2	Mean	E3	E4	Mean	E3	E4	Mean	E3	E4	Mean
1	18	2	2	2	6	5	6	6	5	5	5	1.5	3.0	2.3	3.0	2.0	2.5	3.0	2.8	2.9	3.0	2.0	2.5	1.7	1.7	1.7	5.3	5.4	5.3
2	20	2	2	2	5	5	5	5	4	5	5	2.0	2.8	2.4	2.0	2.7	2.3	1.5	1.3	1.4	2.3	2.0	2.2	1.0	1.3	1.2	6.8	5.5	6.2
3	165	2	2	2	6	5	6	5	5	4	5	1.8	2.5	2.1	2.7	3.0	2.8	1.8	1.8	1.8	3.0	1.3	2.2	1.0	1.7	1.3	7.6	5.2	6.4
4	176	2	2	2	6	5	6	6	5	5	5	2.5	2.5	2.5	3.0	2.7	2.8	3.5	3.0	3.3	3.0	3.0	3.0	1.7	2.0	1.8	5.5	3.7	4.6
5	89016	2	2	2	5	5	5	5	5	5	5	2.3	2.5	2.4	3.0	3.0	3.0	2.0	2.5	2.3	3.0	1.7	2.3	1.7	1.7	1.7	7.8	6.3	7.1
6	89027	2	2	2	4	5	4	5	5	5	5	3.0	2.5	2.8	2.3	2.7	2.5	1.8	2.3	2.0	2.7	2.7	2.7	1.3	1.7	1.5	7.0	5.8	6.4
7	89052	2	2	2	5	5	5	6	5	5	5	2.3	3.0	2.6	2.7	3.0	2.8	2.3	1.7	2.0	2.7	2.0	2.3	2.0	2.0	2.0	7.4	5.2	6.3
8	89059	2	2	2	5	5	5	5	5	5	5	2.8	2.3	2.5	2.7	1.0	1.8	4.8	2.8	3.8	2.0	2.0	2.0	1.0	1.3	1.2	7.8	6.2	7.0
9	89071	2	2	2	5	4	4	6	5	6	5	1.3	2.5	1.9	3.0	1.0	2.0	2.8	2.7	2.7	3.0	2.0	2.5	1.0	1.3	1.2	7.2	5.6	6.4
10	91012	2	2	2	5	5	5	5	4	4	4	2.0	2.5	2.3	2.7	3.0	2.8	1.5	1.5	1.5	2.3	1.0	1.7	1.0	2.0	1.5	7.1	5.8	6.4
11	91014	2	2	2	5	5	5	6	5	5	5	3.0	-	3.0	3.1	2.9	3.0	5.0	-	5.0	3.9	3.7	3.8	1.0	1.7	1.3	13.1	8.7	10.9
12	91015	2	2	2	5	5	5	6	4	5	5	2.0	3.0	2.5	2.7	3.0	2.8	1.5	2.0	1.8	2.7	1.3	2.0	1.3	1.7	1.5	6.6	5.2	5.9
13	91016	2	2	2	5	2	4	7	5	5	5	3.0	2.5	2.8	3.0	2.7	2.8	2.3	2.3	2.3	3.0	2.7	2.8	2.0	2.0	2.0	6.4	4.5	5.4
14	91017	2	2	2	5	5	5	7	5	5	5	2.0	2.8	2.4	3.0	3.0	3.0	1.0	2.5	1.8	2.0	2.3	2.2	1.0	2.0	1.5	6.9	4.8	5.9
15	92013	2	2	2	5	5	5	6	5	5	5	2.3	2.8	2.5	2.7	3.3	3.0	3.0	2.3	2.6	3.0	2.0	2.5	1.0	1.3	1.2	6.5	5.8	6.1
16	93026	2	2	2	1	5	3	6	5	5	5	2.3	2.5	2.4	2.3	2.0	2.2	2.5	3.5	3.0	3.0	1.0	2.0	3.0	3.0	3.0	5.3	3.5	4.4
17	93034	2	2	2	5	5	5	5	4	4	4	2.0	2.5	2.3	2.3	2.0	2.2	1.0	1.8	1.4	2.7	1.0	1.8	1.3	2.0	1.7	7.3	5.5	6.4
18	94453	2	2	2	7	6	7	6	5	5	5	1.8	2.5	2.1	2.7	1.3	2.0	1.0	2.8	1.9	2.0	1.7	1.8	2.0	3.0	2.5	3.4	3.5	3.5
	Control																												
19	CSV 4	2	2	2	5	5	5	5	5	5	5	2.5	2.5	2.5	1.7	2.0	1.8	2.0	2.8	2.4	3.0	2.7	2.8	2.3	2.0	2.2	4.7	4.3	4.5
20	RS 29	2	2	2	5	5	5	6	4	5	5	2.3	2.5	2.4	2.3	3.3	2.8	1.8	2.5	2.1	2.7	3.0	2.8	1.3	1.0	1.2	9.0	8.1	8.5
	Mean	-	-	-	-	-	-	6	5	5	5	2.21	2.61	2.42	2.64	2.48	2.56	2.29	2.34	2.31	2.75	2.05	2.40	1.48	1.82	1.65	6.93	5.42	6.18
	SE±	-	-	-	-	-	-	0.49	0.15	0.18	0.12	0.28	0.25	0.28	0.37	0.23	0.22	0.32	0.28	0.30	0.23	0.29	0.18	0.28	0.23	0.18	0.73	0.60	0.47
	CV (%)	-	-	-	-	-	-	17.69	5.58	6.51	6.07	25.69	18.93	23.26	24.67	16.28	21.16	27.90	23.96	25.82	14.42	24.13	18.76	32.11	22.11	26.67	18.55	19.24	18.94
	CD (5%)	-	-	-	-	-	-	1.37	0.44	0.53	0.34	0.80	0.72	0.80	1.07	0.67	0.62	0.90	0.85	0.86	0.65	0.82	0.51	0.79	0.66	0.51	2.09	1.73	1.33

Continued...

Annexure III-12. … Contd.

Triat No.⟶		47			48	49	50
		Grain yield (t ha^{-1})			Plant color	Grain pericarp thickness	Grain hardness in kg by Kiya's hardness tester
		Postrainy			Postrainy	Postrainy	Postrainy
Serial number	ICSR number	E3	E4	Mean			
1	18	4.3	4.1	4.2	Tan	Thin	7
2	20	5.7	4.2	4.9	Tan	Thick	9.1
3	165	6.2	3.9	5.0	Tan	Thin	13.5
4	176	3.9	2.3	3.1	Tan	Thin	6.1
5	89016	6.4	4.8	5.6	Tan	Thick	7.9
6	89027	5.7	4.2	4.9	Tan	Thin	10.8
7	89052	6.0	3.9	5.0	Tan	Thin	7.6
8	89059	6.5	4.5	5.5	Tan	Thin	7
9	89071	5.9	4.1	5.0	Tan	Thin	7.8
10	91012	5.8	4.3	5.0	-	-	-
11	91014	10.5	6.5	8.5	-	-	-
12	91015	5.5	3.8	4.7	-	-	-
13	91016	5.2	3.4	4.3	-	-	-
14	91017	5.8	3.6	4.7	-	-	-
15	92013	5.3	4.4	4.8	-	-	-
16	93026	4.7	2.7	3.7	-	-	-
17	93034	6.1	4.2	5.2	-	-	-
18	94453	2.1	2.4	2.3	-	-	-
	Control						
19	CSV 4	3.7	3.2	3.5	-	-	-
20	RS 29	7.4	6.3	6.8	-	-	-
	Mean	5.64	4.04	4.84	-	-	-
	SE±	0.61	0.52	0.40	-	-	-
	CV (%)	18.89	22.28	20.39	-	-	-
	CD (5%)	1.73	1.49	1.12	-	-	-

Continued...

About ICRISAT®

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is a nonprofit, non-political organization that does innovative agricultural research and capacity building for sustainable development with a wide array of partners across the globe. ICRISAT's mission is to help empower 600 million poor people to overcome hunger, poverty and a degraded environment in the dry tropics through better agriculture. ICRISAT belongs to the Alliance of Centers of the Consultative Group on International Agricultural Research (CGIAR).

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