



Evaluation of Sorghum Germplasm for Resistance to Insect Pests



Citation: Sharma, H.C., Taneja, S.L., Kameswara Rao, N., and Prasada Rao, K.E. 2003. Evaluation of sorghum germplasm for resistance to insect pests. Information Bulletin no. 63. Patancheru 502 324, Andhra Pradesh, India: International Crops Research Institute for the Semi-Arid Tropics. 184 pp. ISBN 92-9066-458-4. Order code IBE 063.

Abstract

Sorghum is one of the most important cereal crops in the semi-arid tropics. Nearly 150 insect species have been reported to damage this crop worldwide, causing an estimated loss of more than US\$ 1,000 million annually. Of these, sorghum shoot fly [*Atherigona soccata*], stem borers (*Chilo partellus*, *Busseola fusca*, and *Diatraea* spp), sorghum midge [*Stenodiplosis sorghicola*], and head bugs (*Calocoris angustatus* and *Eurystylus oldi*) are the major pests worldwide. Host-plant resistance is one of the most effective means of controlling insect pests in sorghum. ICRISAT holds 36,700 accessions of the sorghum germplasm from all over the world. Therefore, extensive screening of the sorghum germplasm was undertaken, and several stable sources of resistance to the key insect pests have been identified. This information bulletin lists the reactions of the sorghum germplasm accessions to the key pests. This list can be made use of while selecting lines with resistance to the target pests for use in sorghum improvement.

Evaluation of Sorghum Germplasm for Resistance to Insect Pests

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Information Bulletin no. 63



ICRISAT

International Crops Research Institute for the Semi-Arid Tropics
Patancheru 502 324, Andhra Pradesh, India

2003

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Acknowledgments

We are thankful to Messrs. P Vidyasagar, V F Lopez, V K Henry, Y V R Reddy, G Pampapathy, V Venkateshwara Rao, K Hareendranath, J G Krishna, J Chari, J Raja Rao, S V Narayanchandra M V R Naidu, A Narasimha and other staff of entomology and the gerrnplasm units for their help in field experiments. We also thank Mr Ravi Prakash, Mr V Venkateshwara Rao, Mr V Gopal Reddy, and Mr M Thimma Reddy for compilation of the data; and Dr P J Bramel, Dr C L L Gowda, and Dr J H Crouch for their encouragement for preparation of this manuscript. We thank Dr J C Da vies, Dr K Leuschner, Dr K F Nwanze, and Dr M H Mengesha for their encouragement during the course of this work. Finally, we thank Dr Roelfs Folkerstma, ICRISAT, Patancheru and Dr G V Subaratnam, Acharya N G Ranga Agricultural University, Rajendranagar, Hyderabad, India for critical review of the manuscript and Ms V K Sheila for editing the manuscript.

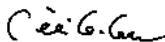
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Foreword

Sorghum is one of the most important cereal crops in the semi-arid tropics. It is damaged by over 150 insect species, of which sorghum shoot fly (*Atherigona soccata*), stem borers (*Chilo partellus*, *Busseola fusca*, and *Diatraea* spp), greenbug (*Schizaphis graminum*), sorghum midge (*Stenodiplosis sorghicola*), and head bugs (*Calocoris angustatus* and *Eurystylus oldi*) are the most important pests worldwide. Avoidable losses due to insects have been estimated to be over 32% in India, 9% in USA, and 20% in Africa. In monetary terms, the losses due to insect pests have been estimated to be over US\$ 1,000 million annually. Cultural practices such as early and uniform sowing of cultivars with similar maturity, biological control (particularly the use of larval parasitoids such as *Cotesia flavipes* and *Sturmioptis inferens* for the control of stem borers), insect-resistant cultivars, and need based application of insecticides are the principal methods of insect control in sorghum. In rainfed agriculture, it is difficult to plant at times when insect damage can be avoided. The technology to utilize natural enemies for insect control in the classical sense needs to be standardized, and the effective natural enemies need to be either introduced into different sorghum growing regions or be made available to the farmers in time for releasing in the field. Insecticides are costly, and beyond the reach of resource-poor farmers in the semi-arid tropics. Therefore, host-plant resistance, which does not involve any cost input by the farmers, can form an important component of pest management in sorghum. Insect-resistant cultivars are not only compatible with other methods of pest control, but are also environment-friendly.

ICRISAT has over 36,700 sorghum germplasm accessions in the genebank, which serves as a global repository of the sorghum germplasm. These materials will serve as a source of genes for resistance to biotic and abiotic stresses that limit the production and productivity of this crop worldwide. Therefore, an extensive exercise was undertaken at ICRISAT to screen the sorghum germplasm collection for resistance to the key sorghum insect pests such as sorghum shoot fly, stem borer, sorghum midge, and head bugs. Several germplasm accessions with moderate to high levels of resistance have been identified against the target pests. I am sure that the information on the reactions of various germplasm accessions will be of immense value to scientists worldwide for use in sorghum improvement. I hope that this information bulletin will serve as a useful source of information for utilization of sorghum germplasm, particularly for developing insect-resistant cultivars, for sustainable sorghum production in future.



William D Dar
Director General
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Introduction

Sorghum (*Sorghum bicolor*) is an important cereal crop in Asia, Africa, Americas, and Australia. Grain yields in farmers' fields in Asia and Africa are generally low (500 to 800 kg ha⁻¹) mainly due to insect pest damage. Nearly 150 insect species have been reported as pests on sorghum (Jotwani et al. 1980, Sharma 1993), of which sorghum shoot fly (*Atherigona soccata*), stem borers (*Chilo partellus*, *Busseola fusca*, *Eldana saccharina*, and *Diatraea* spp), armyworms (*Mythimna separata*, *Spodoptera frugiperda*, and *S. exempta*), shoot bug (*Peregrinus maidis*), aphids (*Schizaphis graminum* and *Melanaphis sacchari*), spider mites (*Oligonychus* spp), grasshoppers and locusts (*Hieroglyphus*, *Oedaleus*, *Aliopus*, *Schistocerca*, and *Locusta*), sorghum midge (*Stenodiplosis sorghicola*), head bugs (*Calocoris angustatus* and *Eurystylus oldi*), and head caterpillars (*Helicoverpa*, *Eublemma*, *Cryptoblabes*, *Pyroderces*, and *Nola*) are the major pests worldwide. Amongst these, sorghum shoot fly, spotted stem borer, midge, and head bugs are the key pests worldwide. Annual losses due to insect pests differ in magnitude on a regional basis and have been estimated at US\$ 1,089 million in the semi-arid tropics (SAT), US\$ 250 million in USA, and US\$ 80 million in Australia (ICRISAT 1992). In India, nearly 32% of sorghum crop is lost due to insect pests (Borad and Mittal 1983), and sorghum midge and head bugs result in 4.6 to 84% losses in sorghum grain, which at the minimum infestation level of 4.6% is equivalent to US\$ 100 million annually (Leuschner and Sharma 1983).

Host-plant resistance is one of the most effective means of pest management in sorghum. It is compatible with other methods of pest control, does not involve extra cost for the farmers, and is environment-friendly. There are over 36,700 germplasm accessions of sorghum in the genebank at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, India, which serves as a global repository of the sorghum germplasm. We have undertaken an extensive exercise to screen the sorghum germplasm collection for resistance to the key sorghum pests, viz., sorghum shoot fly (*A. soccata*), spotted stem borer (*C. partellus*), sorghum midge (*S. sorghicola*), and head bugs (*C. angustatus* and *E. oldi*). The biology, nature of damage, and the techniques followed to evaluate the germplasm accessions for resistance to these insect species have been described below.

Sorghum Shoot Fly

Biology and nature of damage

Sorghum shoot fly (*A. soccata*) is a key pest of sorghum in Asia, Africa, and the Mediterranean Europe. Shoot fly females lay cigar-shaped eggs singly on the lower surface of the leaves at 1- to 7-leaf stage, i.e., 5 to 25 days after seedling emergence. Eggs hatch in 1 to 2 days, and the larvae move along the shoot to the growing point. The first-instar larva cuts the growing point, which results in wilting and drying of the central leaf, known as a deadheart (Fig. 1a). The deadheart produces a bad smell and can be pulled out easily. Normally, the damage occurs at one week to four weeks after seedling emergence. The damaged plants produce side tillers, which may also be attacked. Larval development is completed in 8 to 10 days and pupation takes place mostly in the soil. The pupal period lasts for 8 days. The entire life cycle is completed in 17 to 21 days. The sorghum shoot fly population increases in July, peaks in August to September, and declines thereafter. Infestations are high when sorghum plantings are staggered due to erratic rainfall. Shoot fly infestations are normally high in the post-rainy season crop planted in September to October. Temperatures above 35°C and below 18°C, and continuous rainfall reduce shoot fly survival. During the off-season, the insect survives on alternate hosts such as *Echinochloa colonum*, *E. procer*, *Cymbopogon* sp, *Paspalum scrobiculatum*, and *Pennisetum glaucum* as well as on volunteer/fodder sorghum.

Resistance-screening techniques

Interlard fish meal technique

Adequate levels of shoot fly infestation for resistance screening can be achieved by manipulating the sowing date, using infester rows, and spreading fish meal (which attracts the shoot flies) in the field (Fig. 1b). Shoot fly populations can be monitored through fish meal-baited traps to determine the peak periods of activity. This information can be used for planting the test material so that the susceptible stage of the crop (7- to 25-day-old seedlings) coincides with the optimum shoot fly pressure. This results in considerable differences in infestation between the resistant and susceptible lines. Late-sown crops are subjected to high shoot fly infestation. At ICRISAT, Patancheru, sowing the test material in mid-July in the rainy season, and during October in the post-rainy season is effective to screen for resistance to shoot fly. The interlard fish meal technique, which is useful for increasing shoot fly abundance under field conditions, involves planting four rows of a susceptible sorghum cultivar (CSH 1 or CSH 5), sown 20 days before the sowing of test material. Fish meal is spread uniformly one week after seedling emergence or kept in plastic bags in interlards to attract shoot flies from the surrounding areas. One generation of the shoot fly is completed on interlards, and the emerging flies then infest the test material (Taneja and Leuschner 1985a, Sharma et al. 1992).

Cage-screening techniques

To confirm the resistance observed under field conditions, and to study the resistance mechanisms, the cage-screening technique developed by Soto (1972) has been modified to simulate field conditions. The shoot fly females are fed on yeast + glucose mixture (1:1). For a multi-choice test, the test genotypes are sown in the field in 3.4 m x 2 m beds, with a row spacing of 15 cm. Ten days after seedling emergence, the plants are covered with a screened cage (3.4 m x 2 m x 1 m) and 100 shoot flies are introduced into the cage. The shoot flies are collected from fishmeal-baited trap in the field in the morning, and the females of *A. soccata* are separated from other diptera flies (Sharma et al. 1992). The shoot fly females are confined in a wire-mesh screened cage (30 x 30 x 30 cm), and fed on a 1:1 mixture of brewer's yeast and glucose. The cage-screening technique can be used for multi-choice or no-choice tests. The numbers of eggs and deadhearts are recorded after a week. For no-choice tests, only one genotype is sown in each bed. Screening for resistance to shoot fly can also be carried out by using a small cage (Fig. 1c). This system consists of two plastic trays (40 cm x 30 cm x 14 cm), one for sowing the test material and the other one fitted with fine wire-mesh, which is clamped over the lower tray, thus forming a cage. Ten days after seedling emergence, 20 shoot flies are released into each cage through an opening, and observations are recorded on egg laying and deadheart formation. This cage can be used both for multi-choice and no-choice screening.

Damage evaluation for resistance screening

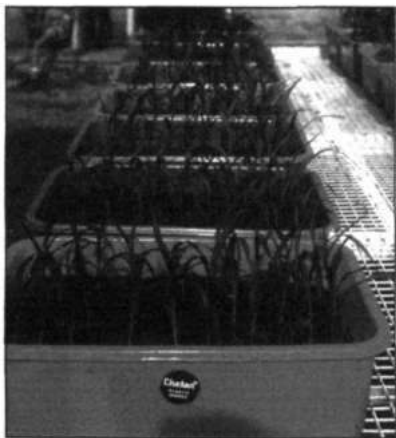
To evaluate the damage caused by sorghum shoot fly, the number of eggs, plants with eggs, and plants with deadhearts (Fig. 1d), and total number of plants at 14 and 21 days after seedling emergence are recorded. The total number of tillers, and number of tillers with productive panicles at maturity as a measure of the genotype recovery resistance are also recorded. Grain yield under protected and unprotected conditions can also be used as a measure of resistance to sorghum shoot fly.



a. Deadheart (inset: shoot fly)



b. Interlard fish meal technique



c. No-choice cage technique



d. CSH 1 (susceptible) (left) and IS 18551 (resistant) (right)

Figure 1. Screening for resistance to sorghum shoot fly *Atherigona soccata*.



a. Leaf feeding by stem borer



b. Larvae in artificial diet



c. Oviposition cage



d. Field infestation with bazooka applicator

Figure 2. Screening for resistance to spotted stem borer *Chilo partellus* using artificial infestation.

Spotted Stem Borer

Biology and nature of damage

Spotted stem borer (*C. partellus*) is widely distributed in Asia and eastern and southern Africa. The first indication of stem borer infestation is the appearance of small, elongated windows in whorl leaves (Fig. 2a). The young larvae scratch the upper surface of the leaves, and the plant presents a ragged appearance as the severity of damage increases. The third-instar larvae migrate to the base of the plant, bore into the shoot, and damage the growing point, resulting in the production of a deadheart. Normally, two leaves dry up as a result of stem borer damage. Larvae continue to feed inside the stem throughout the crop growth. Extensive tunneling of the stem and peduncle leads to drying up of the panicle, production of partially chaffy panicles, or peduncle breakage. Stem borer infestation starts about 20 days after seedling emergence, and deadhearts appear on 30- to 40-day-old plants. A female lays up to 500 eggs in batches of 10 to 80 near the midrib on the undersurface of the leaves. Eggs hatch in 4 to 5 days, and the larval development is completed in 19 to 27 days. Pupation takes place inside the stem and the adults emerge in 7 to 10 days. During the off-season, the larvae diapause in plant stalks and stubbles. With the onset of rainy season, the larvae pupate and the adults emerge in 7 days. In northern India, moth catch in light traps begins to increase during the last week of July and peaks during August to September, while in southern India, the peak in moth catches has been recorded during January to February.

Resistance-screening techniques

Techniques to screen for resistance to spotted stem borer have been described by several workers (Jotwani 1978, Taneja and Leuschner 1985b, Sharma et al. 1992). The following techniques may be used to screen for resistance to spotted stem borer under natural and artificial infestation.

Screening under natural infestation

Hot-spots. Hot-spot locations, where the pest populations are known to occur naturally and regularly at levels that often result in severe damage, are ideal to test a large number of germplasm accessions. Hot-spot locations for *C. partellus* are Hisar in Haryana and Warangal in Andhra Pradesh, India; Agfoi and Baidoa in Somalia; Panmure and Mezarbani in Zimbabwe; Kiboko in Kenya; Golden Valley in Zambia; and Potchefstroom in South Africa.

Sowing date. To screen for resistance to the spotted stem borer under natural infestation, especially at hot-spot locations, the sowing date of the crop is adjusted such that the crop is at a susceptible stage (15- to 25-day-old seedlings) when the stem borer abundance is at its peak. The period of maximum borer abundance is determined through pheromone traps and light traps, or by monitoring borer infestation in the crop planted at regular intervals. In northern India, *C. partellus* is most abundant in August to September, and the crop sown between the 1st and 3rd week of July suffers maximum stem borer damage. At ICRISAT, Patancheru, maximum numbers of moths in the light traps have been recorded during September, followed by smaller peaks during November and February.

Mass rearing and artificial infestation

Mass rearing. Artificial infestation with laboratory-reared insects has been successfully used for several pest species, including *C. partellus*. Several diets have been developed for mass rearing of *C. partellus* (Dang et al. 1970, Siddiqui et al. 1977). An artificial diet to rear *C. partellus* has been standardized at ICRISAT (Taneja and Leuschner 1985b). Most of the ingredients of this diet [Fraction A: water 2 L, kabuli chickpea flour 438.4 g, brewer's yeast 32.0 g, sorbic acid 4.0 g, vitamin E (Viteolin capsules) 4.6 g, methyl parahydroxy benzoate 6.4 g, ascorbic acid 10.4 g, and sorghum leaf powder 160.0 g; Fraction B: agar-agar 40.8 g, water 1.6 L, and formaldehyde (40%) 3.2 ml] are locally available. For preparing sorghum leaf powder, the leaves from 35- to 40-day-old plants of a susceptible cultivar (such as CSH 1) are collected. The leaves are washed, dried in sunshine or in an oven at 65°C, ground into a fine powder, and autoclaved for 15 min at 120°C at 5 kg cm⁻² pressure. The leaf powder is stored in a sealed container in a cool dry place. The ingredients of fraction A (except the sorghum leaf powder) are blended for 1 min. The sorghum leaf powder is soaked in warm water (70°C) and blended with fraction A for 2 min. Agar-agar (fraction B) is boiled in 1.6 L of water, cooled to 40°C, combined with formaldehyde and fraction A, and then blended for 3 min. This diet (300 g) is poured in a 1-L plastic jar, and allowed to cool to room temperature. About 100 eggs at the black-head stage are placed in each jar, and the jars are kept in a dark room for 2 days. This discourages the photopositive behavior of the first-instar larvae, and they settle on the diet for feeding. After 2 days, the jars are transferred to the rearing room maintained at 28±1°C, 60 to 70% relative humidity (RH), and 12 h photoperiod (Fig. 2b). On artificial diet, the larval period lasts for 22 to 28 days and the pupal period for 5 to 6 days. Moth emergence begins 30 days after larval inoculation, and continues up to the 40th day. Females emerge 2 to 3 days later than the males. The sex ratio is close to 1:1. Average moth emergence from this diet is 70 to 75%, with a maximum of up to 90%. Most of the moths emerge in 30 to 40 days after larval inoculation.

The moths are collected with aspirators attached to a vacuum cleaner or with hand-held aspirators. The male and female moths are collected separately (males are smaller in size with dark forewings and pointed abdomen), and transferred to the egg-laying cages. The oviposition cage is a wire-framed (36 mm holes) cylindrical cage (25 cm high and 25 cm in diameter) (Fig. 2c). A fine georgette cloth with 6 mm x 6 mm holes at regular intervals is fitted on the outer side of the cage. A sheet of white glycine paper (25 cm x 80 cm) is wrapped around the cage to serve as an oviposition site. Two plastic saucers covered with a mosquito net are placed at the bottom and the top of the cage. About 50 pairs of moths are released in an oviposition cage. A female lays 10 to 12 egg masses (500 to 600 eggs) over a period of 4 days. Maximum eggs are laid on the 2nd and 3rd day after emergence. The glycine paper is replaced daily. Moths are fed with water using a cotton swab. Egg hatching is drastically reduced when RH falls below 50%. To maintain high humidity, the glycine paper containing egg masses is hung on a rod in a plastic bucket containing water. The plastic bucket is covered with a lid. The eggs are stored at 26±1°C. Under these conditions, the embryo matures to the black-head stage within 4 days. For long-term storage, black-head stage eggs are kept at 10°C. This delays egg hatching up to 15 days, and is very helpful for adjusting the planting and infestation of the test material.

Field infestation. For field infestation, the bazooka applicator developed for infesting maize (*Zea mays*) plants with stem borer, *Diatraea* spp and corn earworm, *Helicoverpa zea* (CIMMYT 1977), has been modified to suit the requirements for infesting sorghum (Fig. 2d). About 500 black-head stage egg masses along with 85 g of poppy (*Papaver* sp) seeds or maize cob grits (used as carrier) are kept overnight in a plastic jar with a tightly fitted lid. Next morning, the first-instar larvae are mixed

with the carrier and transferred to the plastic bottle of the bazooka applicator. About 15- to 20-day-old plants in the field are infested individually by placing the nozzle of the bazooka close to the leaf whorl. With a single stroke, 5 to 7 larvae are released into each plant whorl, which are sufficient to cause appreciable leaf feeding and >90% deadhearts in the susceptible genotypes. Deadheart formation decreases progressively as the infestation is delayed. For stem and peduncle tunneling, plants may be infested at 25 to 35 days after seedling emergence. The crop is infested in the morning between 0800 and 1100 h, when the temperatures are low (<25°C) and RH is high (>60%), to avoid larval mortality. The bazooka applicator is rotated after every 10 plants to ensure uniformity in larval distribution. The number of larvae per plant can be regulated by varying the number of egg masses mixed with the carrier in each applicator. A second infestation may be required if it rains immediately after first infestation. Shoot fly infestation interferes with screening for resistance to stem borer. Fenvalerate or endosulfan is sprayed one week before artificial infestation with spotted stem borer to suppress shoot fly infestation. It is also helpful to sow the test material early in the season when shoot fly infestation is negligible.

Damage evaluation for resistance screening

Spotted stem borer attack in sorghum causes leaf damage, deadheart formation, stem and peduncle tunneling, and production of chaffy panicles. Leaf injury is the first symptom of stem borer damage, and is related to yield loss only under severe infestation. Stem tunneling adversely affects the quantity and quality of fodder, but is poorly correlated with reduction in grain yield under many situations. Peduncle damage could be critical if there are high velocity winds that result in peduncle breakage. Deadheart formation is the most important criterion for differentiating degrees of resistance, and is directly related to loss in grain yield. The following observations are recorded to evaluate for resistance to stem borer.

Leaf feeding. The extent of leaf feeding is recorded 2 weeks after artificial infestation, and 4 to 5 weeks after crop emergence under natural infestation. The total number of plants, number of plants showing leaf-feeding symptoms, and the leaf-feeding score on a 1 to 9 scale (1 = ≤10% leaf area damaged, 2 = 11-20%, 3 = 21-30%, 4 = 31-40%, 5 = 41-50%, 6 = 51-60%, 7 = 61-70%, 8 = 71-80%, and 9 = >80% leaf area damaged) are recorded.

Deadhearts. The number of plants with deadhearts is recorded 3 weeks after artificial infestation, and 4 to 6 weeks after crop emergence under natural infestation. The total number of plants, number of plants showing borer deadhearts, and the visual score (1 to 9 scale) as described for leaf feeding score (1 = ≤10% plants with deadhearts, and 9 = >80% plants with deadhearts) are recorded.

Chaffy panicles. At crop harvest, the number of partial and completely chaffy panicles, number of broken panicles, the visual score (1 to 9 scale) for chaffy/broken panicles (1 = ≤10% chaffy panicles, and 9 = >80% chaffy panicles), and 100-grain mass are recorded.

Recovery resistance. The number of plants with tillers and the number of tillers with productive panicles are recorded. Recovery resistance is evaluated on a 1 to 9 scale (1 = >80% plants with 2 or 3 uniform and productive tillers, 2 = 71-80% plants with 2 or 3 uniform and productive tillers, 3 = 61-70% plants with 2 or 3 uniform and productive tillers, 4 = 51-60% plants with 2 or 3 uniform and productive tillers, 5 = 41-50% plants with 1 or 2 productive tillers, 6 = 31-40% plants with 1 or 2 productive tillers, 7 = 21-30% plants with 1 or 2 productive tillers, 8 = 11-20% plants with 1 or 2 productive tillers, and 9 = <10% plants with 1 or 2 productive tillers).

Stem tunneling. At maturity, length of stalk and peduncle of five plants is recorded at random in each plot. The stem and peduncle tunneling are measured separately and expressed as percentages of stem length and peduncle length, respectively.

Sorghum Midge

Biology and nature of damage

The sorghum midge, *S. sorghicola* is one of the most damaging pests of grain sorghum. It is widely distributed in Asia, Africa, Americas, Mediterranean Europe, and Australia. The larvae feed on the developing grain, resulting in production of chaffy spikelets. Females lay eggs in panicles at flowering during the morning hours. The damaged panicles present a blasted appearance (Fig. 3a). Midge damaged spikelets have a pupal case attached to the tip of the glumes or have a small exit hole of the midge parasite on the upper glume. Adults emerge between 0600 and 1100 h. Mating takes place within one hour after emergence. Generally, the males emerge one hour earlier than the females, and hover around the spikelets where the females are about to emerge. The males die after mating while the females proceed in search of sorghum panicles at flowering for oviposition. Females lay 30 to 100 eggs singly in the spikelets at anthesis during the morning hours, and die by the afternoon. Eggs hatch within 1 to 4 days. The larvae suck the sap from the developing ovaries and complete the development in 7 to 12 days. Larvae pupate inside the glumes, and the pupal period lasts for 3 to 8 days. Adults live for 4 to 48 h. The population builds up 2 to 3 months after the onset of monsoon rains, and maximum density occurs during September to October. A small proportion of the larvae enter diapause in the spikelets in each generation, which may last as long as 3 to 4 years. The larval diapause is terminated by warm and humid weather (25 to 30°C, and >65% RH).

It is difficult to identify stable sources of resistance against the sorghum midge because of: (1) variation in flowering of sorghum cultivars in relation to midge abundance; (2) day-to-day variation in midge populations; (3) competition with other insects such as head bugs; (4) parasitization and predation by natural enemies; and (5) sensitivity of midge flies to temperature and RH. A large proportion of lines selected as less susceptible under natural conditions comprise of early- and late-flowering escapes. Hence, genotypes rated as resistant in one season often are susceptible in the following seasons or at other locations. Techniques to screen for midge resistance have been described by Jotwani (1978), Page (1979), Sharma (1985), and Sharma et al. (1988a, 1988b, 1992).

Resistance-screening techniques

Field screening techniques (multi-choice conditions)

Hot-spots. Hot-spot locations are useful to screen large numbers of germplasm lines for resistance to sorghum midge. Hot-spot locations for sorghum midge are Dharwad, Bhavanisagar, and Pantnagar in India, Sotuba in Mali, Farako Ba in Burkina Faso, Alupe in Kenya, and Kano in Nigeria. Midge infestations are also high at several locations in Australia, USA, and Latin America.

Sowing date. To screen the test material for resistance to sorghum midge under natural conditions, it is necessary to determine the appropriate time for sowing at different locations. The periods of maximum midge density are determined through fortnightly sowings of a susceptible cultivar. Sowing dates are adjusted so that the flowering of the test material coincides with greatest insect density. At

ICRISAT, Patancheru, maximum midge damage has been observed in the crop planted during the 3rd week of July. The peak in midge density occurs during October. A second but smaller peak has been observed during March in the post-rainy season crop planted in mid-December.

Infester row technique. Midge abundance can be increased through infester rows and spreading sorghum panicles containing diapausing midge larvae in the infester rows (Sharma et al. 1988a) (Fig. 3b). Infester rows of susceptible cultivars CSH 1 and CSH 5 (1:1 mixture) are sown 20 days before sowing the test material. Alternatively, early-flowering (40 to 45 days) susceptible lines (IS 802, IS 13249, and IS 24439) can be sown along with the test material. Four infester rows of the susceptible cultivar are planted after every 16 rows of the test material. Midge-infested chaffy panicles containing diapausing midge larvae are collected at the end of the cropping season, and stored in gunny bags or in bins under dry conditions until the next season. The panicles are moistened for 10 to 15 days to stimulate the termination of larval diapause. Midge-infested panicles containing diapausing midge larvae are spread at the flag leaf stage of the infester rows. Adults emerging from the diapausing larvae serve as a starter infestation in the infester rows to supplement the natural population. The sorghum midge population multiplies for 1 to 2 generations on the infester rows before infesting the test material. This technique increases the midge damage 3 to 5 times. Infester rows alone are also effective in increasing midge infestation.

Sprinkler irrigation. High RH is important for adult emergence, oviposition, and subsequent damage. Overhead sprinkler irrigation is used to increase RH in midge-screening trials during the dry season. Sprinkler irrigation is carried out daily between 1500 and 1600 h from panicle emergence to the grain-filling stage of the crop. Sprinkler irrigation between 1500 and 1600 h does not affect the oviposition by midge females because peak midge activity and oviposition occur between 0730 and 1100 h. Midge damage increases significantly with the use of sprinkler irrigation.

Selective use of insecticides to control other insects. Head bug *C. angustatus* and the midge parasitoid *Tetrastichus diplosidis* limit midge abundance in resistance-screening trials. Head bugs damage the sorghum panicles from emergence to hard-dough stage and compete for food with sorghum midge. They also prey on the ovipositing midge females at flowering, while *T. diplosidis* is an efficient parasite of sorghum midge at some locations. Less persistent and contact insecticides such as carbaryl and endosulfan are sprayed to control head bugs at complete anthesis to milk stage (Sharma and Leuschner 1987). The sorghum midge larvae feeding inside the glumes are not affected by the contact insecticides sprayed after flowering.

Split sowings and grouping the material according to maturity and height. The test material is grouped according to maturity (early, medium, and late) and height (dwarf, medium, and tall) for proper comparisons, avoiding shading effect from tall genotypes. The test material is sown twice at 15-day intervals to minimize the chances of escape from midge damage. Late-flowering genotypes in the 1st planting and early-flowering genotypes in the 2nd planting are exposed to high midge infestations, and this increases the efficiency of selection for midge resistance. Maintaining low planting densities also increases midge infestation as midge damage has been observed to be greater at lower planting densities than at high planting densities (80,000 plants ha⁻¹ as against 120,000 plants ha⁻¹).

No-choice headcage technique

Caging midge flies with sorghum panicles permits screening of the test material under uniform insect pressure. A headcage technique has been developed at ICRISAT, Patancheru. It consists of a cylindrical wire frame made of 1.5-mm diameter galvanized iron (GI) wire. The loop attached to the

top ring rests around the tip of the panicle, and the extension of the vertical bars at the lower ring are tied around the peduncle with a piece of GI wire or electric wiring clips (Fig. 3c). Sorghum panicles at 25 to 50% anthesis stage are selected. Spikelets with dried-up anthers at the top and immature ones at the bottom of the panicle are removed so that only the spikelets at anthesis are exposed to the midge flies for oviposition. The wire-framed cage is placed around the sorghum panicle and covered with a blue cloth bag (20 cm wide and 40 cm long). The cloth bag at the top has an extension (5 cm in diameter and 10 cm long) to release the midges inside the cage. Twenty adult female midges are collected in a plastic bottle (200 ml aspirator) between 0800 and 1100 h from flowering sorghum panicles (only female midges visit the flowering sorghum panicles and these are collected for infestation). Forty midges are released into each cage, and the operation is repeated the next day. About 5 to 10 panicles in each genotype are infested, depending upon the stage of material and the resources available. Midge damage decreases as the time of collection and release advances from 0830 to 1230 h. The cages are examined 5 to 7 days after infestation and any other insects such as head bugs, panicle-feeding caterpillars, and predatory spiders are removed from inside the cage. The cages are removed 15 days after infestation. Midge damage is evaluated and the panicle is covered with a muslin cloth bag. The headcage technique is quite simple, easy to operate, and can be used on a fairly large scale to confirm the field resistance of selected genotypes. Changing weather conditions influence midge activity and can affect midge damage under the headcage. In general, it is a thorough test for use in resistance screening, and is particularly useful in identifying stable and durable resistance.

Damage evaluation for resistance screening

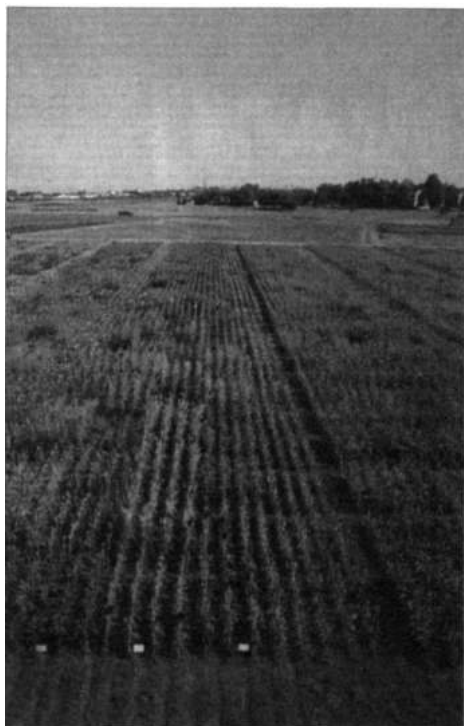
Feeding by the midge larva inside the glumes leads to sterile or chaffy spikelets (Fig. 3d). However, the symptoms of natural sterility and extensive grain damage by sucking insects are superficially similar to the damage caused by sorghum midge. The midge-infested panicles have either small white pupal cases attached to the tip of damaged spikelets or have small parasite exit holes in the glumes. Genotypes flowering on different dates should be tagged with different colored labels or marked with paint along with the panicles of resistant and susceptible checks for proper comparison. Selection for resistance should be based in relation to the reaction of resistant and susceptible checks flowering at the same time.

Chaffy spikelets. The most appropriate criterion to evaluate sorghum lines for midge resistance is chaffy spikelets. Five panicles in each genotype are tagged at half-anthesis stage. Midge damage is recorded in 250 spikelets at 15 days after flowering or at maturity. Five primary branches each from the top, middle, and bottom portions of each panicle are collected. The samples from all the 5 tagged panicles in a genotype are bulked, then the secondary branches are removed from the primary branches, and the sample is mixed thoroughly. The secondary branches are picked up at random and the number of chaffy spikelets in a sample of 250 spikelets is counted. In samples collected at the milk stage, the chaffy spikelets are squeezed between the thumb and first finger or with forceps, and the number of spikelets producing a red ooze (this indicates the presence of midge larva) is recorded. Chaffy spikelets with early-instar larvae at times may not produce a red ooze. The number of chaffy or midge-damaged spikelets is expressed as percentage of the total number of spikelets examined.

Visual damage rating. At crop maturity, midge damage is evaluated on a 1 to 9 scale, where 1 = $\leq 10\%$, 2 = 11-20%, 3 = 21-30%, 4 = 31-40%, 5 = 41-50%, 6 = 51-60%, 7 = 61-70%, 8 = 71-80%, and 9 = $> 81\%$ midge-damaged spikelets.



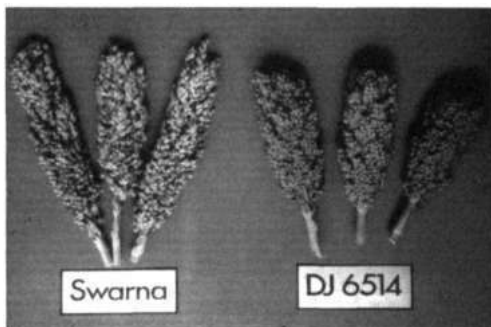
a. Sorghum midge damage



b. Infester row technique



c. No-choice cage technique



d. Susceptible (left) and resistant (right) genotypes

Figure 3. Screening for resistance to sorghum midge *Stenodiplosis sorghicola*.



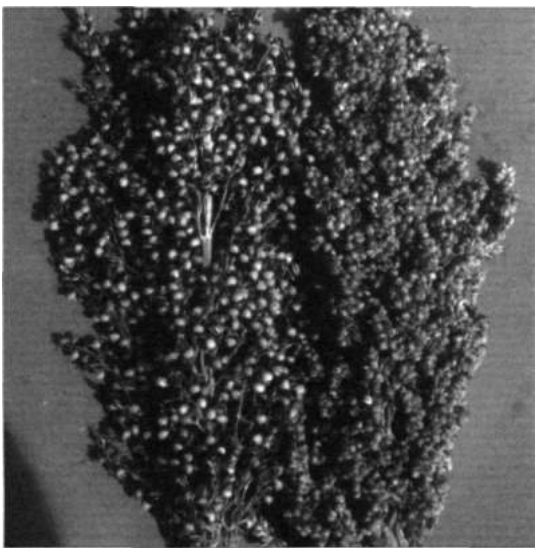
a. Head bug damage



b. Infester row technique



c. No-choice headcage technique



d. CSM 388 (resistant) (left) and S 35 (susceptible) (right)

Figure 4. Screening for resistance to sorghum head bug *Calocoris angustatus*.

Grain yield. Grain yield of the test genotypes is recorded at harvest. The test material can also be maintained under infested and non-infested conditions by using cloth bags or sprayed with appropriate insecticides at flowering to control the sorghum midge in the protected plots. All panicles from the middle row(s) are harvested at maturity and panicle mass and grain mass are recorded. The loss in grain yield in the infested plots or panicles is expressed as percentage of the grain yield in non-infested plots or panicles.

Head Bugs

Biology and nature of damage

The head bugs, *C. angustatus* in India and *E. oldi* in West and Central Africa, are serious pests of grain sorghum. The nymphs and adults suck the sap from the developing grain. The damage starts as soon as the panicle emerges from the boot leaf. High levels of head bug damage lead to tanning and shriveling of the grain (Fig. 4a). Head bug damage leads to both qualitative and quantitative losses in grain yield. Head bug damage spoils the grain quality, and renders the food unfit for human consumption. Such grain also shows poor seed germination. Head bug damage also increases the severity of grain molds. Head bug females lay eggs inside the spikelets from panicle emergence to post-anthesis. A head bug (*C. angustatus*) female lays 150 to 200 eggs, and the eggs hatch in 5 to 7 days. Nymphal development is completed in 15 to 17 days. Nymphs feed on milk and soft-dough grains, and result in tanning and shriveling of the grain. Head bug infestations are high during August to September in the rainy season. During the off-season, the bugs feed on fodder sorghum. Techniques to screen for resistance to head bugs have been discussed by Sharma and Lopez (1992a, 1992b) and Sharma et al. (1992).

Resistance-screening techniques

Field screening

Screening for head bug resistance can be carried out under field conditions during periods of maximum bug density. Screening for head bug resistance under field conditions is influenced by: (1) variation in flowering; (2) fluctuations in bug density; and (3) the effect of weather conditions on the bug population buildup and damage. Early- and late-flowering cultivars normally escape head bug damage, while those flowering in mid-season are exposed to very high bug infestation. The following techniques can be used to increase the screening efficiency for head bug resistance under field conditions.

Hot-spots. ICR1SAT (Patancheru), Bhavanisagar, Kovilpatti, Coimbatore, Palem, and Dharwad in India; Kamboinse in Burkina Faso; Sotuba and Samanko in Mali; and Bagauda and Samaru in Nigeria are the hot-spot locations to screen for resistance to head bugs. Head bug density is very high during September to October, and therefore, the test material should be planted in first week of July for effective screening.

Sowing date. The sowing dates are adjusted such that flowering of the test material coincides with maximum head bug density. The periods of maximum head bug abundance are determined by undertaking sowing at 2-week intervals. Maximum bug numbers at ICRISAT, Patancheru have been recorded during September, and a second but smaller peak has been recorded during March. Crops sown during the 2nd week of July suffer maximum head bug damage. At Bhavanisagar, the peak in head

bug density occurs during May to June, and the optimum time to sow the test material for resistance screening is during the 2nd fortnight of February.

Infester-row technique. Infester rows of susceptible cultivars are sown 20 days earlier than the test material. Alternatively, early-flowering (40 to 45 days) sorghum (IS 802, IS 13249, and IS 24439) is sown as infester rows along with the test material (Fig. 4b). Four rows of a susceptible cultivar are sown after every 16 rows of the test material. Head bugs are collected from other fields and spread in the infester rows at panicle emergence to augment the bug density. The test material is sown in two sets, at an interval of 10 to 15 days to reduce the chances of escape in the early- and late-flowering lines. For better results, the test material is grouped according to maturity and height. The sowing date of each maturity group can also be suitably adjusted so that flowering occurs during peak activity period of the head bugs.

No-choice headcage technique

To overcome the problem of variation in flowering among the test cultivars and fluctuations in insect abundance, the headcage technique developed for sorghum midge has been found to be useful to screen for resistance to head bugs as well (Fig. 4c). This technique also permits to monitor the increase in head bug population in the infested panicles under no-choice conditions in relation to different infestation levels, and stages of panicle development. Five to ten panicles at the top-anthesis stage are selected in each plot or genotype, and the headcage is tied around the sorghum panicle and covered with a white muslin cloth bag. Bugs are collected in muslin cloth bags from sorghum panicles at the milk stage, and the adult males and females are separated. Males are smaller and darker in color than the females. Ten head bug pairs are collected in a 200-ml plastic bottle aspirator and released inside the cage. The infested panicles are examined after 1 week and panicle-feeding caterpillars or predatory spiders, if any, are removed. The muslin cloth bag along with the bugs is removed 20 days after infestation. The bugs are killed with ethyl acetate or benzene (2 ml bag⁻¹), or the bags are kept in a freezer for 30 min. The total number of bugs in each cage is counted. The panicles are evaluated at maturity for head bug damage as described below.

Damage evaluation for resistance screening

Head bugs suck the sap from the developing sorghum ovary causing shriveling and tanning of the grains (Fig. 4d). Some grains may also remain underdeveloped. Damage symptoms are normally evident on some or all the grains. Head bug damage is generally high inside the panicle. In some cases, a portion of the panicle may be more damaged than the rest, and some grains may be normal, while others show damage symptoms. Head bug damage can be evaluated by the following criteria.

Head bug counts. Five panicles are tagged at random in each genotype at the half-anthesis stage. The panicles are sampled for head bugs at 20 days after flowering or infestation in a polyethylene or muslin cloth bag containing a cotton swab soaked in 2 ml of ethyl acetate or benzene to kill the bugs. The total number of adults and nymphs is counted.

Grain damage rating. Head bug damage is evaluated at maturity on a 1 to 9 scale (1 = all grains fully developed with a few feeding punctures, 2 = grain fully developed and with feeding punctures, 3 = grains slightly tanned or brown, 4 = most grains with feeding punctures and a few slightly shriveled, 5 = grains slightly shriveled and brown, 6 = grains more than 50% shriveled and tanned, 7 = most of the grains highly shriveled and dark brown, 8 = grain highly shriveled and slightly visible

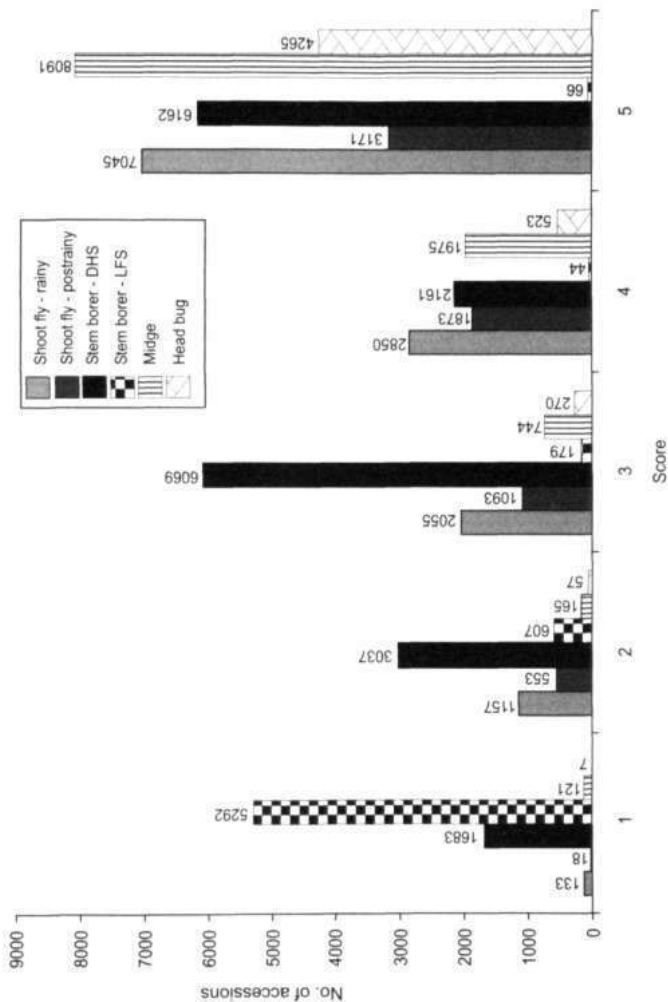


Figure 5. Reaction of sorghum germplasm accessions for resistance to insect pests. (Note: Score 1 = highly resistant, 2 = resistant, 3 = moderately resistant, 4 = susceptible, and 5 = highly susceptible; DHS = Deadheart score; LFS = Leaf feeding score.)

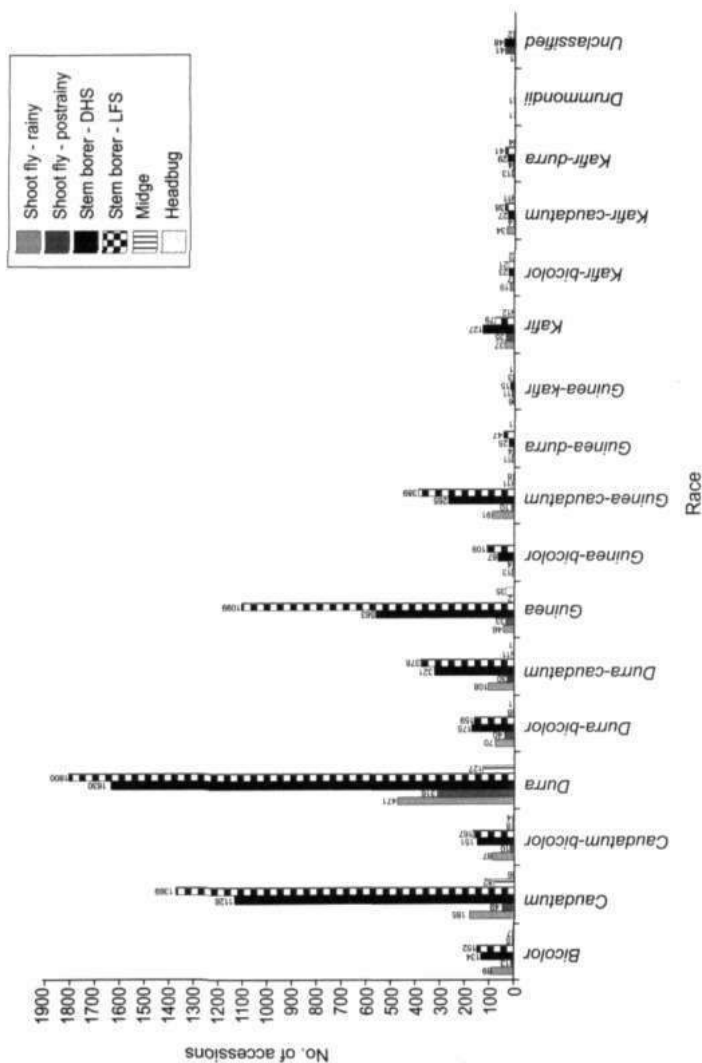


Figure 6. Taxonomic distribution of sorghum germplasm accessions showing resistance to different insect pests. (Note: DHS = Deadheart score; LFS = Leaf feeding score.)

outside the glumes, and 9 = most of the grains highly shriveled and almost invisible outside the glumes).

Grain yield. All panicles from the middle row(s) of each plot or genotype are harvested at maturity. The panicle mass and grain mass in each plot or genotype are recorded. Plots or panicles of lines being tested can also be maintained under infested and non-infested conditions by using cloth bags to exclude the head bugs. Measuring grain yield and grain quality parameters under insecticide protected and unprotected conditions can also be used as a measure of genotypic resistance to head bugs. The loss in grain yield in infested plots or panicles is expressed as a percentage of the grain yield in protected plots or panicles.

Grain mass and floaters. A sample of 1,000 grains is taken at random from each replication or panicle. The moisture content (24 h at 37°C) is equilibrated, and the grain mass is recorded. Sodium nitrate solution of a specific density of 1.31 is prepared in a beaker (Hallgren and Murty 1983). The 1,000-grain sample is placed in the beaker containing sodium nitrate solution. The number of grains floating on the surface is counted and the value is expressed as a percentage of the total number of grains.

Germination test. About 100 grains are taken at random from each replication or panicle and placed between the folds of a water-soaked filter paper in a petri dish. The petri dishes are kept in an incubator at $27 \pm 1^\circ\text{C}$ or at room temperature in the laboratory. The percentage of grains with radical and plumule emergence is recorded after 72 h. Data on grain hardness, 1,000-grain mass, percentage floaters, and percentage germination should be recorded only when the researcher intends to collect more data for in-depth studies on head bug resistance.

Evaluation of Sorghum Germplasm Accessions for Resistance to Insect Pests

Damage evaluation

Of the 36,700 germplasm accessions assembled at ICRISAT, 16694 accessions were evaluated for resistance to sorghum shoot fly, 19116 accessions for resistance to spotted stem borer, 11096 for resistance to sorghum midge, and 5122 accessions for resistance to head bug (Appendix 1). Each genotype was assigned a resistance score, based on insect damage in a test entry in relation to the reaction of resistant and susceptible checks in a particular season/trial. The germplasm accessions were categorized as: (1) highly resistant, (2) resistant, (3) moderately resistant, (4) susceptible, and (5) highly susceptible.

For shoot fly and stem borer, lines showing deadheart percentage equivalent to or less than the resistant check (R) were rated as 1 (highly resistant), entries with deadheart percentage equivalent to $R + X$ were rated as 2 (resistant), $R + 2X$ as 3 (moderately resistant), $R + 3X$ as 4 (susceptible), and $R + 4X$ as 5 (highly susceptible) [$X = (A - B)/4$, where A = deadhearts (%) in the susceptible check or most susceptible line, and B = deadhearts (%) in the resistant check or least susceptible line in the trial]. Leaf feeding scores for stem borer damage or visual damage rating scores for sorghum midge and head bugs recorded on a 1 to 9 scale (as explained under resistance-screening techniques) were converted into 5 categories as follows: (1) 0 to 1 = highly resistant; (2) 2 to 3 = resistant; (3) 4 to 5 = moderately resistant; (4) 6 to 7 = susceptible; and (5) 8 to 9 = highly susceptible. Based on the reaction of test material in different seasons and locations, an average score was entered in Appendix 1.

Table 1. Sources of resistance to sorghum shoot fly *Atherigona soccata* identified at ICRISAT, Patancheru, India.

Genotype	Plant height (cm)	Days to 50% flowering	Deadhearts (%)
IS 923	325	75	42
IS 1034	315	73	27
IS 1096	265	66	37
IS 2122	305	80	33
IS 2146	280	80	23
IS 2195	260	75	44
IS 2205	300	89	33
IS 2265	430	112	43
IS 2269	270	69	20
IS 2291	255	79	18
IS 2309	285	89	34
IS 2312	290	75	26
IS 2394	265	71	42
IS 4646	450	98	32
IS 4663	295	73	38
IS 4664	300	82	31
IS 5210	315	75	38
IS 5470	310	77	32
IS 5480	290	82	17
IS 5484	305	70	28
IS 5511	390	98	26
IS 5538	365	98	29
IS 5566	310	87	46
IS 5604	355	86	38
IS 5613	325	80	27
IS 5622	350	87	38
IS 5636	305	71	29
IS 5648	270	69	28
IS 6566	300	81	39
IS 18366	305	72	20
IS 18368	300	67	47
IS 18369	305	72	24
IS 18371	305	69	37
IS 22114	370	84	37
IS 22121	380	73	19
IS 22144	350	74	29
IS 22145	350	73	39
IS 22148	345	79	34
IS 22149	390	89	28
IS 22196	300	70	31
IS 18551 (Resistant)	330	71	28
CSH 1 (Susceptible)	155	58	72

Table 2. Sources of resistance to spotted stem borer *Chilo partellus* identified at ICRISAT, Patancheru, India.

Genotype	Plant height (cm)	Days to 50% flowering	Deadhearts (%)	
			Artificial infestation	Natural infestation
IS 923	325	75	11	
IS 1044	375	93	3	23
IS 1057	340	71	37	31
IS 1082	260	82	16	25
IS 1096	265	66	7	30
IS 1104	315	73	16	25
IS 2122	305	80	5	12
IS 2123	300	80	15	14
IS 2195	260	75	14	12
IS 2263	305	80	13	24
IS 2265	430	112	16	18
IS 2269	270	69	28	22
IS 2291	255	79	17	35
IS 2312	290	75	11	10
IS 2375	180	53	17	23
IS 2376	180	61	8	10
IS 3962	400	100	1	14
IS 4546	295	79	14	34
IS 4637	290	66	22	39
IS 4646	450	98	22	24
IS 4663	295	73	17	19
IS 4756	345	82	4	13
IS 4757	275	71	16	14
IS 4776	325	84	7	21
IS 4995	420	108	2	21
IS 5072	285	89	5	16
IS 5210	315	75	23	40
IS 5268	300	91	8	26
IS 5469	295	71	13	14
IS 5470	310	77	6	12
IS 5480	290	82	6	11
IS 5484	305	70	8	16
IS 5490	290	67	1	7
IS 5511	390	98	46	17
IS 5571	370	96	10	14
IS 5579	360	82	3	23
IS 5585	295	66	17	26
IS 5604	355	86	25	24
IS 5613	325	80	8	17
IS 5619	360	73	30	14
IS 5648	270	69	8	17
IS 5658	335	89	9	11
IS 6566	300	81	11	18
IS 7224	465	125	4	23
IS 8549	280	131	8	21

continued

Table 2. *continued.*

Genotype	Plant height (cm)	Days to 50% flowering	Deadhearts (%)	
			Artificial infestation	Natural infestation
IS 8811	240	68	36	29
IS 12308	180	50	5	24
IS 13100	240	58	11	20
IS 17742	320	89	16	29
IS 17745	390	98	7	22
IS 17948	340	88	9	14
IS 18551	330	71	8	24
IS 18573	400	87	10	13
IS 18577	400	89	6	14
IS 18578	395	89	24	25
IS 18579	290	75	10	9
IS 18581	330	135	8	10
IS 18584	310	72	18	17
IS 18585	305	72	20	10
IS 18662	230	64	20	28
IS 18677	210	58	33	32
IS 22039	340	71	9	26
IS 22091	305	70	43	26
IS 22113	365	77	18	36
IS 22114	370	84	14	29
IS 22121	380	73	20	28
IS 22129	380	92	13	17
IS 22144	350	74	21	22
IS 22148	345	79	17	14
IS 22196	300	70	24	17
IS 23962	390	50	8	32
IS 2205 (Resistant)	300	89	15	19
ICSV 1 (Susceptible)	155	58	62	70

Table 3. Sources of resistance to sorghum midge *Stenodiplosis sorghicola* identified at ICRISAT, Patancheru, India.

Genotype	Plant height (cm)	Days to 50% flowering	Damage rating ¹	Midge damage (%)
IS 2687	245	83	5.1	44.6
IS 3461	385	71	3.8	26.9
IS 7005	300	75	2.4	18.0
IS 8100	360	123	-	28.7
IS 8196	260	85	5.7	43.3
IS 8198	250	85	5.1	39.0
IS 8204	255	88	4.4	35.4
IS 8577	225	90	5.1	42.5
IS 8671	185	75	4.0	16.0
IS 8721	270	93	0.0	45.0
IS 8751	390	60	2.8	22.0
IS 8884	275	112	3.5	22.0

continued

Table 3. *continued.*

Genotype	Plant height (cm)	Days to 50% flowering	Damage rating ¹	Midge damage (%)
IS 8887	290	112	3.2	27.2
IS 8891	320	109	3.7	27.4
IS 8918	290	111	2.0	18.0
IS 8922	225	88	5.2	45.5
IS 8946	235	88	4.2	37.9
IS 8988	295	77	4.1	37.9
IS 9045	250	88	6.1	49.0
IS 9107	300	86	3.9	41.0
IS 9807	370	75	2.6	26.0
IS 10712	195	78	3.0	31.0
IS 15107	260	84	4.1	37.5
IS 18563	240	74	4.9	29.4
IS 18695	75	65	3.6	32.7
IS 18696	130	61	3.2	28.2
IS 18698	315	70	2.8	23.0
IS 18733	160	61	-	28.0
IS 19474	365	76	1.9	24.0
IS 19476	370	72	3.4	28.4
IS 21006	390	130	6.3	51.5
IS 21031	440	128	5.4	42.3
IS 21871	90	71	1.4	46.0
IS 21879	100	70	4.3	31.6
IS 21881	90	68	4.3	34.6
IS 21883	110	69	4.0	27.0
IS 21883-1	115	61	-	54.0
IS 22806	330	71	3.2	26.9
IS 26789	230	69	3.2	23.0
IS 27103	195	71	1.6	17.0
IS 31626	340	90	4.8	43.4
IS 31635	300	89	5.1	43.3
IS 31636	300	89	3.9	38.0
ICSV 197 (Resistant)	278	80	1.4	18.0
ICSV 745 (Resistant)	215	71	2.5	22.0
ICSV 88032 (Resistant)	201	61	2.1	12.0
DJ 6514 (Resistant)	230	71	1.8	20.0
TAM 2566 (Resistant)	85	64	3.3	17.0
AF 28 (Resistant)	320	71	1.0	18.0
Swarna (Susceptible)	155	61	8.0	60.4
SE			±0.8	±8.5

1. Scored on 1 to 9 rating scale, where 1 = ≤10% midge damage, and 9 = >80% midge damage.

Table 4. Sources of resistance to sorghum head bug *Calocoris angustatus* identified at ICRISAT, Patancheru, India.

Genotype	Plant height (cm)	Days to 50% flowering	Damage rating ¹ (natural infestation)	Grain damage rating ² (10 pairs panicle ¹)
IS 8064	380	68	3.1 ± 0.50	-
IS 14108	218	54	3.4 ± 0.63	5.0
IS 14317	308	74	4.3 ± 0.41	6.5
IS 14334	245	65	4.3 ± 0.34	-
IS 14380	290	65	4.3 ± 0.70	-
IS 16357	214	68	4.0 ± 0.55	5.8
IS 19455	267	71	4.3 ± 0.39	6.5
IS 19945	310	83	3.1 ± 0.68	-
IS 19948	305	76	4.1 ± 0.63	5.8
IS 19949	285	81	3.2 ± 0.64	5.2
IS 19950	329	78	3.8 ± 0.54	5.0
IS 19951	370	82	4.5 ± 0.36	-
IS 19955	410	82	4.1 ± 0.61	-
IS 19957	308	78	3.2 ± 0.54	4.0
IS 20024	320	82	4.3 ± 0.52	-
IS 20059	348	72	3.8 ± 0.54	5.9
IS 20068	329	73	3.4 ± 0.50	5.6
IS 20664	300	77	5.0 ± 0.36	6.7
IS 20740	255	75	4.1 ± 0.54	6.8
IS 21443	268	72	4.3 ± 0.41	7.0
IS 21444	258	71	4.3 ± 0.50	5.9
IS 21485	390	83	5.2 ± 0.45	-
IS 21574	384	75	4.5 ± 0.52	6.5
IS 22284	252	88	5.0 ± 0.31	6.1
IS 23627	390	84	4.3 ± 0.45	-
IS 23748	287	73	3.1 ± 0.45	-
IS 25069	350	71	4.7 ± 0.88	-
IS 25098	310	73	3.8 ± 0.48	-
IS 25760	296	72	4.0 ± 0.58	4.7
IS 27329	326	74	3.6 ± 1.42	5.0
IS 27452	332	85	4.0 ± 1.58	4.5
IS 27477	332	82	3.4 ± 0.90	3.8
IS 17610	425	110	3.8 ± 0.59	2.7
IS 17618	392	110	4.0 ± 0.68	5.0
IS 17645 (Resistant)	425	110	3.1 ± 0.45	-
CSH 1 (Susceptible)	120	66	7.4 ± 0.31	9.0
CSH 5 (Susceptible)	165	74	8.3 ± 0.28	9.0
CSH 9 (Susceptible)	129	76	7.2 ± 0.55	9.0
SE	±11.9	±1.9		±0.30

1. Based on 7 seasons and scored on 1 to 9 scale, where 1 = grains with a few feeding punctures and no apparent shriveling of the grains, and 9 = grains showing extensive feeding and >80% shriveling, and slightly visible outside the glumes.

2. Panicles infested with 10 pairs of head bugs at the pre-anthesis stage under no-choice headcage conditions.

Screening for resistance to sorghum shoot fly was carried out at ICRISAT, Patancheru, both during the rainy and postrainy seasons. Since the reaction of the test entries varied considerably between the rainy and postrainy seasons, the two data sets were analyzed separately, and have been entered as such in Appendix 1. Screening for resistance to the spotted stem borer was carried out under natural infestation at Hisar, Haryana. Genotypes showing less susceptibility to the stem borer damage under natural infestation were evaluated for 2 to 3 seasons under artificial infestation at ICRISAT, Patancheru. For sorghum midge, the accessions were screened under natural infestation at ICRISAT (Patancheru), Dharwad, and Bhavanisagar. Accessions showing resistance to sorghum midge under natural infestation were evaluated under no-choice headcage technique at ICRISAT, Patancheru for 2 to 3 seasons. Screening for resistance to head bugs was carried out under natural infestation at ICRISAT (Patancheru) and at Bhavanisagar. Accessions showing less susceptibility to head bugs under natural infestation were screened for resistance for 2 to 3 seasons using the no-choice headcage technique.

Identification of stable sources of resistance to insect pests in sorghum

Genotypes showing less susceptibility to the target insect pests in the initial screening nurseries were subjected to rigorous testing in the multilocal and international insect pest nurseries, and under no-choice cage screening tests. Lines showing resistance to the target insect pests across seasons and locations were identified as the donor parents for use in sorghum improvement programs, and are listed in Tables 1 to 4. Forty lines have been identified as resistant to sorghum shoot fly (Table 1), of which IS 1054, IS 1071, IS 2394, IS 5484, IS 18368, IS 2123, IS 2195, IS 4664, and IS 18551 have shown stable resistance to shoot fly damage. Seventy-one lines have been identified as resistant to spotted stem borer (Table 2), of which IS 2205, IS 1044, IS 5470, IS 5604, IS 8320, and IS 1853 are stable across seasons and locations. Of the 50 lines identified as resistant to sorghum midge, DJ 6514, TAM 2566, AF 28, IS 10712, IS 8891, and IS 7005 are stable and diverse sources of resistance (Table 3). Thirty-five lines have been identified as resistant to head bugs, of which IS 17610, IS 17618, IS 17645, IS 20740, and IS 20664 are highly resistant to this pest (Table 4). Accessions showing high and stable resistance can be used in sorghum programs to develop cultivars with resistance to the target pests.

Frequency distribution of sorghum germplasm accessions for susceptibility to insect pests

For sorghum shoot fly, 133 accessions showed high levels (damage rating 1) of resistance in the rainy season, and 18 accessions in the postrainy season (Fig. 5), while 1,157 accessions in the rainy season, and 553 accessions in the postrainy season were categorized as resistant (score 2). A large proportion of accessions showed either a susceptible (2,850) or highly susceptible (7,045) reaction. Of the 19,112 accessions evaluated for deadheart induction by the spotted stem borer, 4720 accessions (1683 had score 1, and 3,037 had a damage rating of 2) showed low incidence of deadheart symptoms, while 6,162 accessions showed high susceptibility. A large number of accessions (5,292) also showed low levels of leaf feeding (score <2). Of the 11,066 accessions screened for resistance to sorghum midge, 121 showed highly resistant reaction, and 165 showed resistant reaction, while 8,091 accessions were graded as highly susceptible. For head bug, only 7 accessions showed a highly resistant reaction, while 57 accessions showed resistant reaction, and 4,265 accessions were graded as highly susceptible.

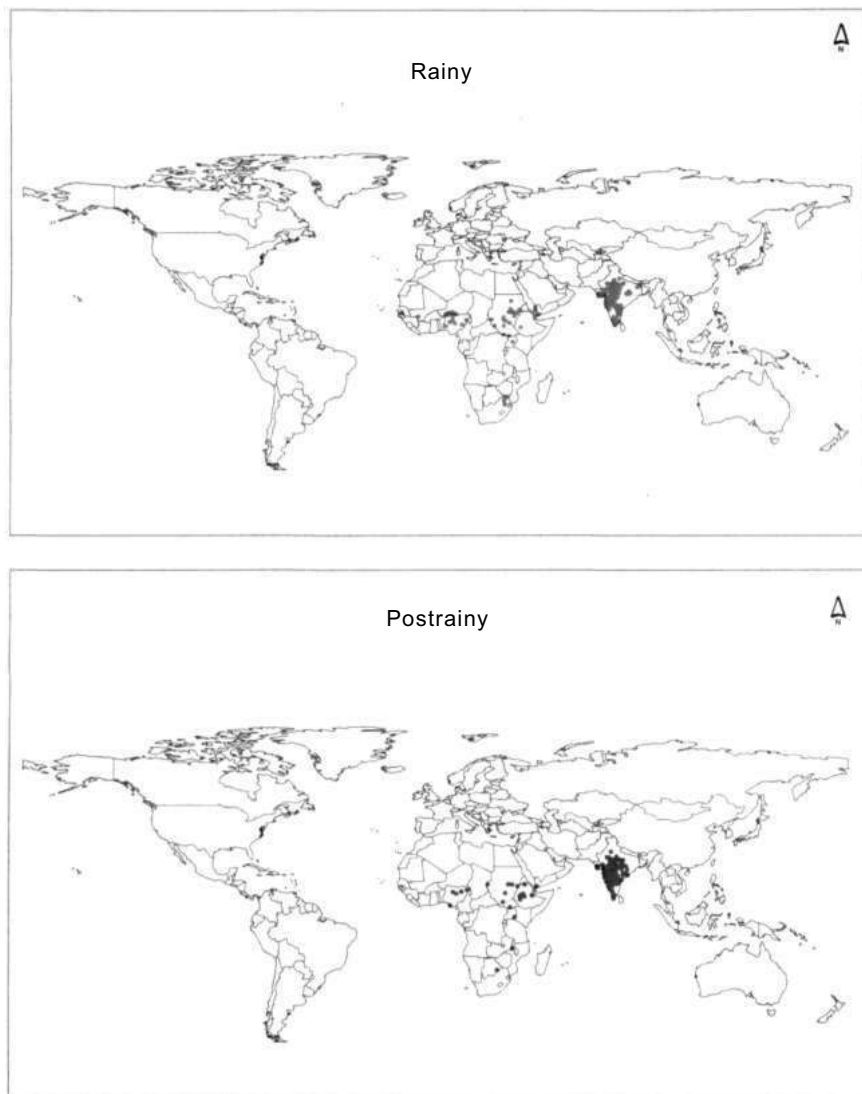


Figure 7. Geographic distribution of sorghum germplasm accessions showing resistance to shoot fly in rainy and postrainy seasons.

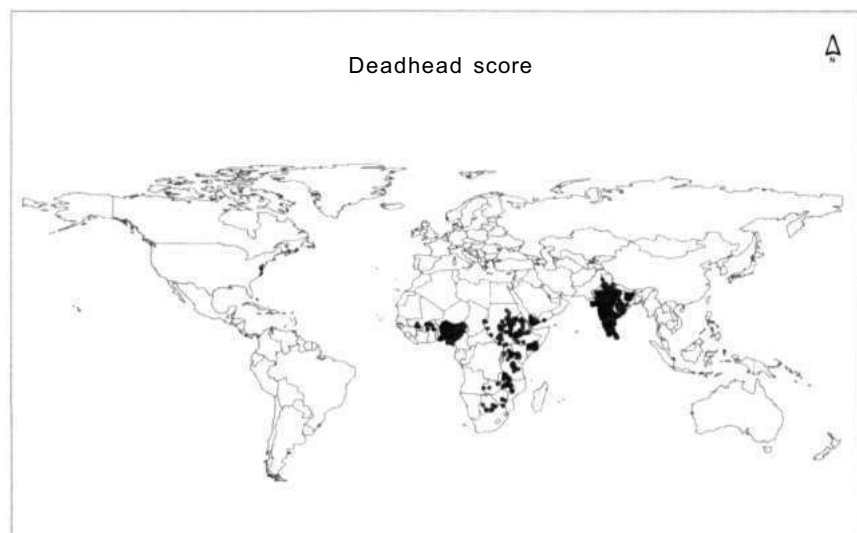


Figure 8. Geographic distribution of sorghum germplasm accessions showing resistance to spotted stem borer.

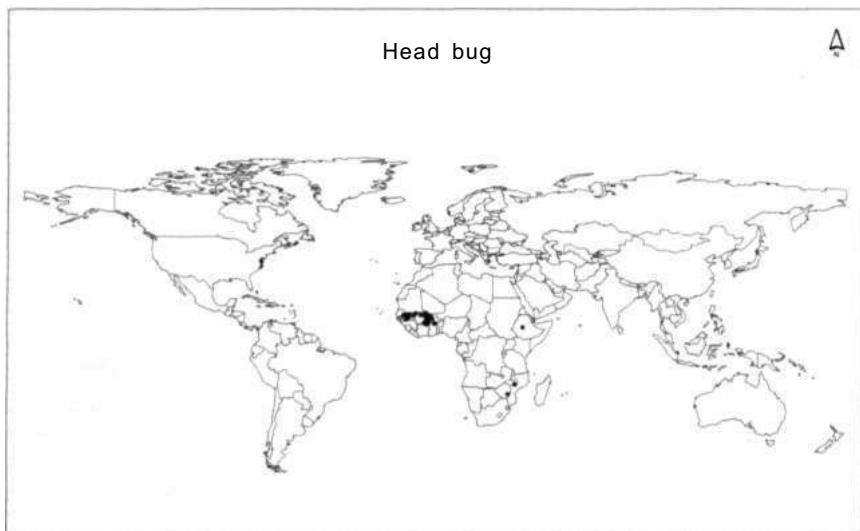
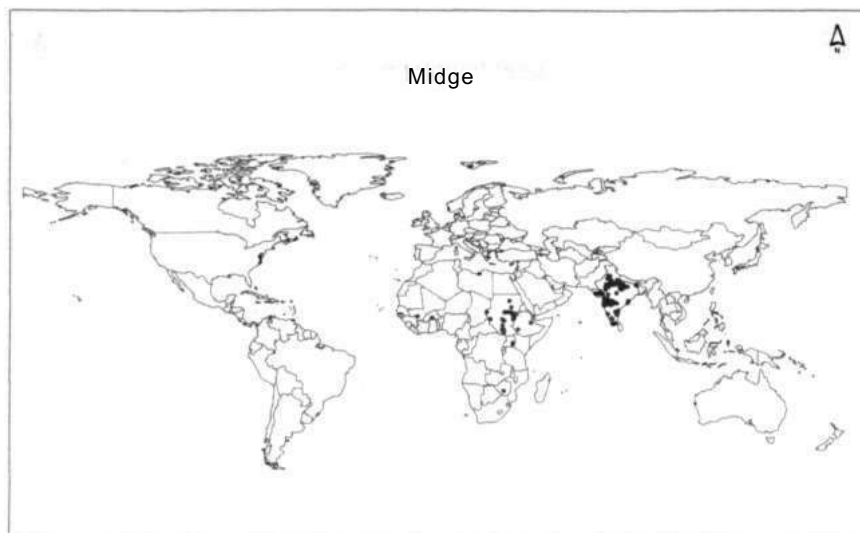


Figure 9. Geographic distribution of sorghum germplasm accessions showing resistance to sorghum midge and head bug.

Taxonomic distribution of sorghum germplasm accessions showing resistance to insect pests

Of the 1290 accessions showing highly resistant or resistant reaction to the shoot fly in the rainy season, most of the accessions (471) belonged to the race *Durra*, followed by *Caudatum* (185), *Durra-caudatum* (108), *Guinea-caudatum* (91), *Bicolor* (89), *Caudatum-bicolor* (87), *Durra-bicolor* (79), *Guinea* (46), *Kafir* (37), *Kafir-caudatum* (34), *Guinea-bicolor* (13), *Kafir-durra* (13), *Guinea-durra* (11), and *Guinea-kafir* (6) (Fig. 6). One accession was unclassified, while no accession belonged to *Drummondii*. A similar trend was observed in the distribution of accessions showing resistance to shoot fly in the postrainy season. In the postrainy season, most of the shoot fly resistant accessions belonged to *Durra* (310), and 30 to 49 accessions each were in *Caudatum*, *Durra-bicolor*, *Durra-caudatum*, *Guinea*, and *Kafir*.

Accessions showing low deadheart incidence due to spotted stem borer belonged to *Durra* (1,630), followed by *Caudatum* (1,126), *Guinea* (563), *Durra-caudatum* (321), *Guinea-caudatum* (265), *Caudatum-bicolor* (151), *Bicolor* (134), and *Kafir* (127). There were 15 to 67 accessions in *Guinea-bicolor*, *Guinea-durra*, *Guinea-kafir*, *Kafir-bicolor*, *Kafir-caudatum*, and *Kafir-durra* groups. One accession belonged to *Drummondii*, while 41 were not classified. A similar trend was also observed for leaf feeding symptoms. Most of the accessions with low leaf feeding belonged to *Durra*, *Caudatum*, *Guinea*, and *Guinea-caudatum*.

Of the 286 accessions showing resistance to sorghum midge, 127 accessions belonged to *Durra*, 82 to *Caudatum*, 12 to *Kafir*, 11 each to *Durra-caudatum*, *Guinea-caudatum*, and *Kafir-caudatum*, 8 each to *Caudatum-bicolor* and *Durra-bicolor*, 5 to *Bicolor*, 4 to *Kafir-durra*, 2 to *Guinea*, and 1 each to *Guinea-durra*, *Guinea-kafir*, and *Drummondii*. Two accessions were not classified.

For sorghum head bug, 64 accessions were placed in the resistant or highly resistant category, of which 35 belonged to *Guinea*, 8 to *Guinea-caudatum*, 7 to *Bicolor*, 6 to *Caudatum*, 4 to *Caudatum-bicolor*, 2 to *Kafir-bicolor*, and 1 each to *Durra-bicolor* and *Durra-caudatum*.

Overall, most of the accessions showing resistance to shoot fly and spotted stem borer belonged to *Durra*, *Caudatum*, and *Durra-caudatum* taxonomic groups. For sorghum midge, most of the resistance sources belonged to *Durra* and *Caudatum* groups, while accessions belonging to *Guinea* group showed high levels of resistance to head bugs.

Geographic distribution of sorghum germplasm accessions showing resistance to insect pests

Most of the accessions showing resistance to shoot fly originated from India, followed by Sudan, and Nigeria. A few accessions also originated from Yemen, Ethiopia, South Africa, Uganda, Niger, Mali, and Senegal (Fig. 7). For the postrainy season, most of the accessions originated from India, followed by Ethiopia, Sudan, and Nigeria. Accessions showing resistance to spotted stem borer largely originated from India, Sudan, Ethiopia, Kenya, Somalia, Yemen, Uganda, Tanzania, Zimbabwe, Zambia, Botswana, South Africa, Mali, and Burkina Faso (Fig. 8). Sorghum midge resistant sources originated from India and Sudan. A few accessions also originated from Ethiopia, Uganda, Zimbabwe, Burkina Faso, and Mali (Fig. 9). Resistance to head bugs was observed in accessions originating from Mali, Burkina Faso, Nigeria, and Senegal (Fig. 9). A few accessions also originated from Ethiopia, Mozambique, and Zimbabwe.

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Appendix 1

Reaction of sorghum germplasm accessions for resistance to sorghum shoot fly, spotted stem borer, sorghum midge, and head bugs (germplasm accessions have been rated on 1 to 5 scale, where, 1 = highly resistant, 2 = resistant, 3 = moderately susceptible, 4 = susceptible, and 5 = highly susceptible. Numbers in parentheses indicate the number of seasons an accession has been evaluated for resistance).

Note: SF = Shoot fly; SB = Stem borer; MD = Midge; HB = Head bug; R = Rainy; PR = Postrainy; DHS = Deadheart score; LFS = Leaf feeding score; and DR = Damage rating.

IS No	Alternate accession identifier	Source country	SF	PR	DWS	FS	MD	HB	IS No	Alternate accession identifier	Source country	SF	PR	DWS	FS	MD	HB
1061	Raila purpur	India	311	-	322	-	511	-	1182	Imraya mus	India	311	-	322	-	401	401
1064	CI 30-7	India	311	-	322	-	409	561	1183	NET m kno	Zambia	312	-	321	-	401	-
1065	O1 Kamikhef	India	402	312	311	111	311	501	1186	Alangata cholan	India	312	-	321	-	401	-
1066	Indore 3	India	402	312	111	111	-	513	1187	Pompa jama	India	411	311	321	-	401	-
1067	Iliriga 2	India	402	311	111	111	513	513	1191	Jenda tukukula	India	411	311	321	-	401	-
1068	Bhadra	India	402	311	111	111	513	513	1192	AS 4876	India	311	-	321	-	401	511
1069	Khandi	India	211	-	111	111	311	341	1193	Watercress	Zimbabwe	511	-	-	-	-	-
1070	Mandapuri	India	402	312	-	-	-	513	1194	Silphium	Myanmar	311	-	321	-	401	-
1071	Kamru local	India	402	312	301	411	321	513	1195	Parashu	India	311	-	311	-	341	-
1072	Alangata	India	411	311	321	-	411	513	1196	3-banded	Malawi	312	-	321	-	401	511
1073	Raj shahi	India	311	311	111	111	321	513	1197	Nalungu	India	311	311	321	-	401	-
1074	Ashwini	India	311	-	321	111	-	511	1198	Alangata cholan	India	311	-	321	-	401	-
1075	Chandev	India	311	311	341	-	-	513	1201	AS 9137	Tanzania	411	-	321	-	-	-
1077	PI 248386	India	401	311	341	-	-	511	1202	Albusa jati	India	411	311	321	-	401	-
1079	Mandoli 1-2-1	India	411	311	341	-	-	513	1207	Piyala muni	Malawi	211	311	321	-	401	511
1080	Koraput 2-2-1	India	411	311	341	-	-	513	1208	Hung tues	China	211	-	321	-	341	-
1081	WAZ 3-6-2	India	411	311	341	-	-	513	1209	Shuang Lu Kung	USA	311	311	321	-	341	311
1082	Bharhi 1-8-2	India	401	311	341	-	-	513	1210	AS 3144	China	211	-	321	-	341	311
1084	A 3	India	311	-	311	-	311	341	1211	Ghulistan kashgan	China	211	-	321	-	341	311
1085	A 3	India	311	-	311	-	311	341	1212	Shuang Lu Kung	China	211	-	321	-	341	311
1086	A 3	India	311	-	311	-	311	341	1213	AS 5280	China	211	-	321	-	341	311
1087	A 3	India	311	-	311	-	311	341	1214	Kashgan	China	211	-	321	-	341	311
1088	Kashgan	India	311	-	311	-	311	341	1215	Tung shen	China	311	-	321	-	341	311
1089	KPS 4	India	311	-	311	-	311	341	1216	Chang peng	China	311	-	321	-	341	311
1090	Yungu 2	India	401	311	341	-	-	513	1217	Chang peng	China	311	-	321	-	341	311
1091	Yungu 2-1-1	India	311	311	341	-	-	513	1218	Ghulistan white	China	311	-	321	-	341	311
1098	Mandoli	India	411	311	341	-	-	513	1219	AS 3284	China	311	-	321	-	341	311
1101	Yellu paryap 11-5	India	411	311	341	-	-	513	1220	Tamari	China	411	-	321	-	341	311
1104	Madadi	India	401	311	341	-	-	513	1221	Tung	China	411	-	321	-	341	311
1105	Kashgan	India	311	-	311	-	311	341	1222	Tung	China	411	-	321	-	341	311
1106	Kashgan	India	311	-	311	-	311	341	1223	Shuang Lu Kung	China	211	-	321	-	341	311
1107	Shang 3-5-1 Indore	India	211	311	341	-	-	513	1224	Shuang Lu Kung	USA	411	-	321	-	341	311
1108	Iliriga	India	211	311	341	-	-	513	1225	White drier	Russia & CIS	411	-	321	-	341	311
1109	Tadon bud rishan	India	311	-	311	-	311	341	1226	PI wagen for hager	USA	411	-	321	-	341	311
1110	Indore	India	311	-	311	-	311	341	1227	Shuang Lu Kung	India	311	-	321	-	341	311
1111	Bakung	India	311	-	311	-	311	341	1228	Chewang	India	311	-	321	-	341	311
1114	Shirga	India	311	-	311	-	311	341	1229	Kashgan	China	311	-	321	-	341	311
1115	Saraya	India	211	311	341	-	-	513	1230	Shuang Lu Kung	India	311	-	321	-	341	311
1116	Nashan	India	411	311	341	-	-	513	1231	Shuang Lu Kung	India	311	-	321	-	341	311
1117	Saraya	India	211	311	341	-	-	513	1232	Shuang Lu Kung	India	311	-	321	-	341	311
1118	Saraya	India	211	311	341	-	-	513	1233	Shuang Lu Kung	India	311	-	321	-	341	311
1119	Saraya	India	211	311	341	-	-	513	1234	Shuang Lu Kung	India	311	-	321	-	341	311
1120	Saraya	India	211	311	341	-	-	513	1235	Shuang Lu Kung	India	311	-	321	-	341	311
1121	Kand 2-7-11	India	411	311	341	-	-	513	1236	Shuang Lu Kung	India	311	-	321	-	341	311
1122	Kand 2-7-11	India	411	311	341	-	-	513	1237	Shuang Lu Kung	India	311	-	321	-	341	311
1123	Kand 2-7-11	India	411	311	341	-	-	513	1238	Shuang Lu Kung	India	311	-	321	-	341	311
1124	Kand 2-7-11	India	411	311	341	-	-	513	1239	Shuang Lu Kung	India	311	-	321	-	341	311
1125	PI 248322	India	411	311	341	-	-	513	1240	Shuang Lu Kung	India	311	-	321	-	341	311
1126	PI 248322	India	411	311	341	-	-	513	1241	Shuang Lu Kung	India	311	-	321	-	341	311
1127	A 35	India	311	-	311	-	311	341	1242	Shuang Lu Kung	India	311	-	321	-	341	311
1128	A 35	India	311	-	311	-	311	341	1243	Shuang Lu Kung	India	311	-	321	-	341	311
1129	PI 248322	India	411	311	341	-	-	513	1244	Shuang Lu Kung	India	311	-	321	-	341	311
1130	PI 248322	India	411	311	341	-	-	513	1245	Shuang Lu Kung	India	311	-	321	-	341	311
1131	PI 248322	India	411	311	341	-	-	513	1246	Shuang Lu Kung	India	311	-	321	-	341	311
1132	Shuang Lu Kung	India	211	-	311	-	311	341	1247	Shuang Lu Kung	India	311	-	321	-	341	311
1133	Shuang Lu Kung	India	211	-	311	-	311	341	1248	Shuang Lu Kung	India	311	-	321	-	341	311
1134	Shuang Lu Kung	India	211	-	311	-	311	341	1249	Shuang Lu Kung	India	311	-	321	-	341	311
1135	Shuang Lu Kung	India	211	-	311	-	311	341	1250	Shuang Lu Kung	India	311	-	321	-	341	311
1136	Shuang Lu Kung	India	211	-	311	-	311	341	1251	Shuang Lu Kung	India	311	-	321	-	341	311
1137	Shuang Lu Kung	India	211	-	311	-	311	341	1252	Shuang Lu Kung	India	311	-	321	-	341	311
1138	Shuang Lu Kung	India	211	-	311	-	311	341	1253	Shuang Lu Kung	India	311	-	321	-	341	311
1139	Shuang Lu Kung	India	211	-	311	-	311	341	1254	Shuang Lu Kung	India	311	-	321	-	341	311
1140	Shuang Lu Kung	India	211	-	311	-	311	341	1255	Shuang Lu Kung	India	311	-	321	-	341	311
1141	Shuang Lu Kung	India	211	-	311	-	311	341	1256	Shuang Lu Kung	India	311	-	321	-	341	311
1142	Shuang Lu Kung	India	211	-	311	-	311	341	1257	Shuang Lu Kung	India	311	-	321	-	341	311
1143	Shuang Lu Kung	India	211	-	311	-	311	341	1258	Shuang Lu Kung	India	311	-	321	-	341	311
1144	Shuang Lu Kung	India	211	-	311	-	311	341	1259	Shuang Lu Kung	India	311	-	321	-	341	311
1145	Shuang Lu Kung	India	211	-	311	-	311	341	1260	Shuang Lu Kung	India	311	-	321	-	341	311
1146	Shuang Lu Kung	India	211	-	311	-	311	341	1261	Shuang Lu Kung	India	311	-	321	-	341	311
1147	Shuang Lu Kung	India	211	-	311	-	311	341	1262	Shuang Lu Kung	India	311	-	321	-	341	311
1148	Shuang Lu Kung	India	211	-	311	-	311	341	1263	Shuang Lu Kung	India	311	-	321	-	341	311
1149	Shuang Lu Kung	India	211	-	311	-	311	341	1264	Shuang Lu Kung	India	311	-	321	-	341	311
1150	Type 26V	India	401	311	341	-	-	513	1265	Shuang Lu Kung	India	311	-	321	-	341	311
1151	Aspura	India	311	-	311	-	311	341	1266	Shuang Lu Kung	India	311	-	321	-	341	311
1152	Syria	India	401	311	341	-	-	513	1267	Shuang Lu Kung	India	311	-	321	-	341	311
1153	AS 4221	India	311	-	311	-	311	341	1268	Shuang Lu Kung	India	311	-	321	-	341	311
1154	Shuang Lu Kung	India	211	-	311	-	311	341	1269	Shuang Lu Kung	India	311	-	321	-	341	311
1155	Shuang Lu Kung	India	211	-	311	-	311	341	1270	Shuang Lu Kung	India	311	-	321	-	341	311
1156	Shuang Lu Kung	India	211	-	311	-	311	341	1271	Shuang Lu Kung	India	311	-	321	-	341	311
1157	Shuang Lu Kung	India	211	-	311	-	311	341	1272	Shuang Lu Kung	India	311	-	321	-	341	311
1158	Shuang Lu Kung	India	211	-	311	-	311	341	1273	Shuang Lu Kung	India	311	-	321	-	341	311
1159	Shuang Lu Kung	India	211	-	311	-	311	341	1274	Shuang Lu Kung	India	311	-	321	-	341	311
1160	Shuang Lu Kung	India	211	-	311	-	311	341	1275	Shuang Lu Kung	India	311	-	321	-	341	311
1161	Shuang Lu Kung	India	211	-	311	-	311	341	1276	Shuang Lu Kung	India	311	-	321	-	341	311
1162	Shuang Lu Kung	India	211	-	311	-	311	341	1277	Shuang Lu Kung	India	311	-	321	-	341	311
1163	Shuang Lu Kung	India	211	-	311	-	311	341	1278	Shuang Lu Kung	India	311	-	321	-	341	311
1164	Shuang Lu Kung	India	211	-	311	-	311	341	1279	Shuang Lu Kung	India	311	-	321	-	341	311
1165	Shuang Lu Kung	India	211	-	311	-	311	341	1280	Shuang Lu Kung	India	311					

IS No	Alternative accession identifier	Source country	SF						IS No	Alternative accession identifier	Source country	SF					
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1310	Helioc	Zaire	211	943	-	-	-	-	1493	White & yellow	India	311	-	-	-	-	-
1311	Helioc	Zaire	211	-	955	433	-	-	1492	Palla jama	India	411	-	312	103	-	-
1314	Dwarf lettuce	USA	525	233	213	413	413	413	1491	Yellow	India	311	-	103	103	-	-
1315	Standard lettuce	USA	311	-	213	103	413	413	1490	Yellow cholan	India	311	211	323	-	413	523
1317	Hongkong	Tanzania	311	311	511	-	511	511	1489	Yellow cholan	India	311	-	323	-	-	-
1318	Mikondia	Zambia	311	-	-	-	-	-	1488	Yellow cholan	India	211	-	211	-	443	513
1319	Namora	Nigeria	311	-	413	103	511	-	1487	Yellow cholan	India	211	-	103	103	413	513
1323	Bajaga cholan	Nigeria	311	-	413	213	511	-	1486	Yellow cholan	India	311	103	311	-	443	513
1324	Cholan	Nigeria	311	-	513	511	443	-	1485	Yellow cholan	India	243	-	213	111	443	513
1325	Cholan	Nigeria	211	-	413	323	513	513	1484	Yellow cholan	India	311	323	413	-	443	513
1328	Cholan	Nigeria	211	413	311	-	413	413	1483	Yellow cholan	India	413	-	343	-	313	513
1331	Javara	Nigeria	311	323	443	111	513	513	1482	Yellow cholan	India	311	211	243	-	443	513
1332	Achi cholan	Nigeria	311	-	311	-	-	-	1481	Yellow cholan	India	311	-	311	111	413	513
1333	Pawaga wugla	Tanzania	311	-	413	111	-	-	1480	Yellow cholan	India	311	-	311	-	413	513
1335	Belagaga wugla	Tanzania	311	-	311	-	311	311	1479	Yellow cholan	India	311	-	311	-	311	513
1337	Myaga wugla	Tanzania	311	-	311	-	311	-	1478	Yellow cholan	India	311	211	243	-	-	-
1340	Mikondia	Tanzania	311	-	-	-	-	-	1477	Yellow cholan	India	311	-	243	-	-	-
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1352	Bengamito	Nigeria	311	-	311	-	311	311	1472	Yellow cholan	India	311	-	311	-	311	443
1353	Fetere	Nigeria	311	-	311	-	311	311	1471	Yellow cholan	India	311	-	311	-	311	443
1357	AS 2642	India	413	-	111	-	-	-	1470	Yellow cholan	India	311	-	311	-	311	443
1359	Pera manal cholan	India	413	-	111	-	-	-	1469	Yellow cholan	India	311	-	311	-	311	443
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1382	Pera manal cholan	India	311	-	311	-	311	311	1461	Yellow cholan	India	311	-	311	-	311	443
1387	AS 2643	India	413	-	311	-	-	-	1460	Yellow cholan	India	311	-	311	-	311	443
1392	AS 2645	India	413	-	311	-	-	-	1459	Yellow cholan	India	311	-	311	-	311	443
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1469	Cholan	India	311	-	311	-	311	311	1407	Yellow cholan	India	311	-	311	-	311	443
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1471	Cholan	India	311	-	311	-	311	311	1405	Yellow cholan	India	311	-	311	-	311	443
1472	Cholan	India	311	-	311	-	311	311	1404	Yellow cholan							

IS No	Alternate accession identifier	Source country	SP	PR	SB	MD	HB	IN No	Alternate accession identifier	Source country	SP	PR	SB	MD	HB
			R	PR	SB	MD	HB				R	PR	SB	MD	HB
2235	5378	USA	4(2)	0(1)	3(3)	1(1)	3(2)	2319	Lavali white Q2-3-25	Sudan	5(2)	3(2)	2(1)	2(1)	5(1)
2236	5380	USA	4(1)	-	2(2)	-	4(2)	2320	Lavali white Q2-3-26	Sudan	3(1)	-	2(2)	0(1)	-
2237	5383	USA	2(2)	0(1)	3(1)	0(1)	3(1)	2321	Aklama white	Sudan	4(1)	3(1)	0(1)	0(1)	5(1)
2238	5386	USA	4(2)	0(1)	3(3)	0(1)	3(1)	2322	Per abadi Q2-3-28	Sudan	4(1)	2(2)	3(1)	0(1)	4(2)
2239	5387	USA	3(1)	-	3(1)	-	3(1)	2323	Per abadi white Q2-3-29	Sudan	3(2)	3(1)	3(1)	-	3(1)
2240	SA 524-12-4	USA	4(1)	-	3(1)	-	4(2)	2324	Akira Q2-3-30	Sudan	3(1)	3(1)	0(1)	0(1)	4(2)
2241	Amber white Q2-3-31	Mexico	5(1)	0(1)	3(3)	0(1)	-	2325	Low fading Q2-3-31	Sudan	3(1)	0(1)	4(2)	3(1)	3(1)
2242	Q 140	India	3(0)	2(1)	-	-	-	2326	Mamoun Q2-3-33	Sudan	4(1)	-	4(2)	4(2)	3(1)
2243	PJ 4K	India	3(1)	-	2(2)	0(1)	-	2327	Thick grass Q2-3-35	Sudan	3(1)	3(1)	2(2)	0(1)	4(0)
2244	NJ 53	India	3(1)	-	2(1)	0(1)	5(1)	2328	Mahout Q2-3-36	Sudan	-	3(1)	-	-	4(0)
2245	KD 9	India	5(1)	-	2(1)	0(1)	-	2329	Per abadi white Q2-3-37	Sudan	5(1)	-	4(2)	3(1)	4(2)
2246	Ugion 6	India	3(1)	2(1)	3(1)	0(1)	-	2330	Per abadi white Q2-3-38	Sudan	4(2)	4(2)	3(1)	-	-
2247	T 753	India	5(1)	-	3(2)	-	5(1)	2331	Longhath Q2-3-39	Sudan	4(1)	-	3(1)	-	-
2248	T 253	India	3(1)	3(1)	2(1)	0(1)	5(1)	2332	Dendron Q2-3-40	Sudan	4(2)	3(1)	4(2)	3(1)	-
2249	T 2n GR 3 2p	India	4(1)	-	2(2)	0(1)	-	2333	Nyala Q2-3-43	Sudan	3(1)	3(1)	3(1)	2(1)	4(1)
2250	T 150	India	4(1)	-	2(2)	-	5(1)	2334	Tala Q2-3-48	Sudan	3(1)	-	3(2)	-	-
2251	T 150	India	4(1)	-	2(1)	0(1)	4(1)	2335	Dendron WQ Q2-3-49	Sudan	3(1)	-	3(2)	0(1)	3(2)
2252	Chavala 104	India	3(1)	-	2(1)	0(1)	-	2336	Per abadi Q2-3-54	Sudan	4(1)	-	2(2)	0(1)	-
2253	F 718	India	4(2)	2(1)	4(1)	-	-	2337	Kerfah Q2-2-92	Sudan	4(1)	-	2(1)	-	4(0)
2254	BI 1 Jola	India	4(1)	2(1)	0(2)	0(1)	-	2338	Nervousum Q2-2-94	Sudan	3(2)	3(1)	3(1)	-	3(1)
2255	Selection 28	India	2(1)	-	3(2)	0(1)	-	2339	Maghosa wengima	Sudan	2(1)	-	4(2)	0(1)	-
2256	Selection 211	India	2(1)	-	3(1)	4(2)	-	2340	Waryaba	Sudan	3(2)	3(1)	2(2)	0(1)	3(1)
2257	Selection 124-3	USA	2(1)	-	-	-	5(1)	2341	Kopang	Sudan	4(1)	-	4(2)	2(2)	3(1)
2258	Quarante 11055	USA	3(2)	4(1)	2(1)	-	-	2342	Volgare	India	3(1)	2(1)	3(1)	-	-
2259	Nyan sen Q2-2-48	Sudan	3(1)	-	3(2)	0(1)	4(1)	2343	Volgare	India	3(1)	-	-	-	-
2260	Agri Q2-2-47	Sudan	2(1)	2(1)	3(0)	4(1)	3(2)	2344	Q2-2-47	India	3(1)	-	3(2)	-	3(1)
2261	Wadi Al-Habib Q2-2-49	Sudan	3(1)	4(1)	3(1)	4(1)	3(1)	2345	Q2-2-48	Indonesia	2(1)	-	4(1)	-	3(1)
2262	Agri AB Q2-2-50	Sudan	4(1)	3(2)	2(0)	4(1)	3(1)	2346	Agri AB Q2-2-49	Indonesia	2(1)	-	3(1)	-	3(1)
2263	Agri AB Q2-2-51	Sudan	3(1)	3(2)	2(0)	4(1)	3(1)	2347	Agri AB Q2-2-50	Indonesia	2(1)	-	3(1)	-	3(1)
2264	Dura Q2-2-51	Sudan	3(1)	3(2)	2(0)	4(1)	3(1)	2348	Q2-2-51	Indonesia	4(1)	-	3(1)	-	3(2)
2265	Shadua Q2-2-51	Sudan	3(1)	3(0)	3(1)	4(1)	3(1)	2349	Madua Q2-3-52	Indonesia	2(1)	4(2)	3(2)	3(1)	3(1)
2266	Burgali agri	Sudan	3(1)	3(2)	4(1)	-	3(1)	2350	Q2-3-53	Fahran	3(2)	3(1)	3(2)	-	-
2267	Angway Q2-2-63	Sudan	3(1)	-	3(2)	0(1)	3(2)	2351	Q2-3-54	USA	3(1)	-	3(2)	-	3(1)
2268	Nirba Q2-1-23	USA	3(1)	3(1)	2(1)	-	1(1)	2352	Q2-3-55	Afghanistan	4(1)	3(1)	3(2)	-	3(1)
2269	Banito red Q2-2-29	USA	3(0)	3(2)	3(1)	3(1)	3(1)	2353	Ashabab Q2-3-56	Nigeria	2(1)	-	2(1)	-	4(1)
2270	Karanga Q2-1-31	USA	4(2)	3(1)	2(0)	-	1(1)	2354	Kikilima Q2-3-58	Nigeria	4(1)	-	3(2)	3(1)	3(1)
2271	Q2-1-44, MN 737	USA	4(4)	2(1)	3(2)	-	4(3)	2355	Agri Q2-4-17	Nigeria	4(1)	-	4(2)	-	3(1)
2272	Aklama	USA	3(2)	4(1)	3(2)	0(1)	3(1)	2356	Mare Q2-4-20	Nigeria	4(1)	-	4(2)	3(1)	3(1)
2273	Wachind resistant	USA	3(2)	3(1)	3(1)	-	3(1)	2357	Agri Q2-4-18	Nigeria	3(1)	-	4(2)	-	3(1)
2274	Acro Q2-1-56	USA	3(1)	-	3(2)	-	3(1)	2358	Peto Q2-4-48	Nigeria	3(1)	-	4(2)	-	3(1)
2275	Ladua Q2-1-57	USA	3(1)	-	3(1)	-	3(1)	2359	Mankama Q2-4-50	Nigeria	3(1)	-	4(1)	-	4(2)
2276	Banito white Q2-1-58	USA	4(2)	3(1)	3(1)	0(1)	3(2)	2360	Numbaba Q2-4-51	Nigeria	3(1)	-	3(1)	-	3(1)
2277	Banito and Bakuha	USA	2(1)	3(1)	3(1)	3(1)	3(1)	2361	Kaura Q2-4-59	Nigeria	3(1)	-	3(2)	-	3(1)
2278	Charm PQ2-1-73	USA	3(1)	3(1)	3(1)	-	3(1)	2362	Cruara Q2-4-61	Nigeria	3(1)	-	3(1)	-	3(1)
2279	QHE MN Q2-2-23	USA	4(1)	-	4(1)	-	-	2363	Fara Kura Q2-4-62	Nigeria	3(1)	-	3(2)	-	3(1)
2280	Red hard Q1 Congo	USA	3(1)	2(1)	3(1)	-	4(2)	2364	Uwara Q2-4-61	Nigeria	3(1)	-	3(2)	-	4(1)
2281	Q2-2-31	USA	3(1)	-	4(2)	0(1)	-	2365	Yan malika Q2-5-7	Nigeria	3(1)	-	3(2)	-	3(1)
2282	Q2-2-32	USA	4(4)	2(1)	3(1)	-	3(2)	2366	Volgare Q2-5-13	Indonesia	3(1)	-	3(2)	3(1)	3(1)
2283	Manara Q2-2-33	USA	3(2)	3(2)	3(1)	-	3(2)	2367	Volgare Q2-5-13	Indonesia	4(2)	-	3(2)	3(1)	3(1)
2284	Hale Jara Q2-2-37	USA	3(2)	2(1)	4(1)	-	3(1)	2368	Volgare Q2-5-13	Iran	5(1)	-	3(1)	-	-
2285	Baku Q2-2-34	Sudan	3(1)	-	3(2)	-	3(1)	2369	Volgare white Q2-5-14	Afghanistan	2(1)	-	3(1)	-	3(1)
2286	Wakad and Q2-2-35	Sudan	3(1)	-	3(2)	0(1)	-	2370	Volgare white Q2-5-15	India	2(1)	-	3(1)	-	3(1)
2287	Nagad BI MW Q2-2-46	Sudan	3(1)	-	3(2)	0(1)	3(1)	2371	Volgare Q2-5-16	India	2(1)	-	3(1)	-	3(1)
2288	Ma Ma Afri Q2-2-48	Sudan	4(1)	-	3(2)	0(1)	4(2)	2372	P 1730 Q2-5-38	South Africa	4(1)	-	3(1)	-	3(1)
2289	Robeth Q2-2-70	Sudan	4(1)	-	3(2)	0(1)	3(1)	2373	P 1731 Q2-5-39	South Africa	4(1)	-	3(1)	-	3(1)
2290	Sindry Q2-2-71	Sudan	4(1)	-	3(2)	0(1)	3(1)	2374	P 1732 Q2-5-40	South Africa	4(1)	-	3(1)	-	3(1)
2291	Akri Q2-2-72	Sudan	3(1)	-	3(2)	0(1)	3(1)	2375	P 1733 Q2-5-41	South Africa	4(1)	-	3(1)	-	3(1)
2292	Kala sen Q2-2-73	Sudan	3(1)	-	3(2)	0(1)	3(1)	2376	P 1734 Q2-5-42	South Africa	4(1)	-	3(1)	-	3(1)
2293	Wakad Q2-2-74	Sudan	4(1)	-	3(2)	0(1)	3(1)	2377	P 1735 Q2-5-43	South Africa	4(1)	-	3(1)	-	3(1)
2294	Wakad Q2-2-75	Sudan	4(1)	-	3(2)	0(1)	3(1)	2378	P 1736 Q2-5-44	South Africa	4(1)	-	3(1)	-	3(1)
2295	Q2-2-76	Sudan	4(1)	-	3(2)	0(1)	3(1)	2379	P 1737 Q2-5-45	South Africa	4(1)	-	3(1)	-	3(1)
2296	Aklama	USA	3(1)	-	3(2)	0(1)	3(1)	2380	P 1738 Q2-5-46	South Africa	4(1)	-	3(1)	-	3(1)
2297	Morandi Q2-3-5	Sudan	4(1)	-	3(2)	0(1)	3(1)	2381	P 1739 Q2-5-47	South Africa	4(1)	-	3(1)	-	3(1)
2298	EL Roh Q2-3-1	Sudan	4(1)	-	3(2)	0(1)	3(1)	2382	P 1740 Q2-5-48	South Africa	4(1)	-	3(1)	-	3(1)
2299	Low fading Q2-3-17	Sudan	4(1)	-	3(2)	0(1)	3(1)	2383	P 1741 Q2-5-49	South Africa	4(1)	-	3(1)	-	3(1)
2300	Higari sen Q2-3-17	Sudan	4(1)	-	3(2)	0(1)	3(1)	2384	P 1742 Q2-5-50	South Africa	4(1)	-	3(1)	-	3(1)
2301	Nagad Q2-1-14	Sudan	4(1)	-	3(2)	0(1)	3(1)	2385	P 1743 Q2-5-51	South Africa	4(1)	-	3(1)	-	3(1)
2302	Kala sen Q2-1-16	Sudan	4(1)	-	3(2)	0(1)	3(1)	2386	P 1744 Q2-5-52	South Africa	4(1)	-	3(1)	-	3(1)
2303	Wakad Q2-1-17	Sudan	4(1)	-	3(2)	0(1)	3(1)	2387	P 1745 Q2-5-53	South Africa	4(1)	-	3(1)	-	3(1)
2304	Wakad Q2-1-18	Sudan	4(1)	-	3(2)	0(1)	3(1)	2388	P 1746 Q2-5-54	South Africa	4(1)	-	3(1)	-	3(1)
2305	Kadoda Q2-2-76	Sudan	4(1)	-	3(2)	0(1)	3(1)	2389	P 1747 Q2-5-55	South Africa	4(1)	-	3(1)	-	3(1)
2306	Bakoda Q2-2-77	Sudan	4(1)	-	3(2)	0(1)	3(1)	2390	P 1748 Q2-5-56	South Africa	4(1)	-	3(1)	-	3(1)
2307	Bakoda Q2-2-78	Sudan	4(1)	-	3(2)	0(1)	3(1)	2391	P 1749 Q2-5-57	South Africa	4(1)	-	3(1)	-	3(1)
2308	EL Roh Q2-2-80	Sudan	4(1)	-	3(2)	0(1)	3(1)	2392	P 1750 Q2-5-58	South Africa	4(1)	-	3(1)	-	3(1)
2309	Wakad Q2-2-81	Sudan	4(1)	-	3(2)	0(1)	3(1)	2393	P 1751 Q2-5-59	South Africa	4(1)	-	3(1)	-	3(1)
2310	Gambel terraces	Sudan	4(1)	-	3(2)	0(1)	3(1)	2394	P 1752 Q2-5-60	South Africa	4(1)	-	3(1)	-	3(1)
2311	EL Roh Q2-2-82	Sudan	4(1)	-	3(2)	0(1)	3(1)	2395	P 1753 Q2-5-61	South Africa	4(1)	-	3(1)	-	3(1)
2312	Wakad Q2-2-83	Sudan	4(1)	-	3(2)	0(1)	3(1)	2396	P 1754 Q2-5-62	South Africa	4(1)	-	3(1)	-	3(1)
2313	Gambel Q2-2-84	Sudan	4(1)	-	3(2)	0(1)	3(1)	2397	P 1755 Q2-5-63	South Africa	4(1)	-	3(1)	-	3(1)
2314	Wakad Q2-2-85	Sudan	4(1)	-	3(2)	0(1)	3(1)	2398	P 1756 Q2-5-64	South Africa	4(1)	-	3(1)	-	3(1)
2315	Aklama	USA	3(1)	-	3(2)	0(1)	3(1)	2399	P 1757 Q2-5-65	South Africa	4(1)	-	3(1)	-	3(1)
2316	Gambel Q2-1-22	Sudan	4(1)	-	3(2)	0(1)	3(1)	2400	P 1758 Q2-5-66	South Africa	4(1)	-	3(1)	-	3(1)
2317	Wakad white Q2-1-23	Sudan	4(1)	-	3(2)	0(1)	3(1)	2401	P 1759 Q2-5-67	South Africa	4(1)	-	3(1)	-	3(1)
2318	Wakad white Q2-1-24	Sudan	4(1)	-	3(2)	0(1)	3(1)	2402	P 1760 Q2-5-68	South Africa	4(1)	-	3(1)	-	3(1)

SN	Alternate accession identifier	Source country	RF	SR	MD	HH	US No	Alternate accession identifier	Source country	RF	SR	MD	HH		
			R	PH	DHS	EPS	DR			R	PH	DHS	EPS	DR	DR
2406	Vulgate Q2-5-17	South Africa	5413	-	-	-	-	MN 750	USA	5413	-	-	-	-	-
2409	Vulgate Q2-5-19	South Africa	5413	-	5423	-	5409	MN 751	USA	5413	-	5423	-	5411	5411
2410	Vulgate Q2-5-20	South Africa	5423	5411	-	5412	-	MN 752	USA	5411	-	-	-	-	-
2411	Vulgate Q2-5-21	South Africa	4611	-	5413	-	5409	Calvin brick	Sweden	5411	-	5423	-	5411	5421
2412	Vulgate Q2-5-22	South Africa	4611	-	5411	-	5402	2070 754	USA	4611	-	5423	5413	-	-
2413	Vulgate mms certum	Iran	4611	-	5413	-	5404	MN 756	USA	5411	-	5423	5411	-	-
2414	Vulgate P 1740 Q2-C2	South Africa	4611	5413	5411	-	5406	MN 759	USA	5411	5411	5423	5411	-	-
2415	Vulgate P 1740 Q2-C3	South Africa	4611	-	5411	5412	5409	MN 759	USA	5411	-	-	-	5411	5411
2416	Vulgate P 1740 Q2-C4	South Africa	5413	-	5423	-	5408	MN 760	USA	5411	-	-	-	5423	-
2417	Vulgate P 1740 Q2-C5	South Africa	4611	-	5423	-	5430	MN 762	USA	4611	-	5411	-	-	-
2418	P 1748 Q2-C6	South Africa	4611	-	5411	5412	5404	MN 761	USA	5411	-	5423	5411	5411	5411
2419	P 1749 Q2-3-62	South Africa	5413	5411	5411	5412	5422	MN 764	USA	5413	-	5423	5411	5411	5411
2420	P 1749 Q2-3-61	South Africa	4611	5411	5411	5412	5417	SPZ 765	USA	4611	-	5423	5411	5411	5411
2421	P 1749 Q2-3-64	South Africa	4611	5421	-	-	5413	MN 766	USA	4611	-	5411	-	5411	5411
2422	Briguelle red	South Africa	5413	-	5411	5412	5415	MN 767	USA	4611	-	5411	-	-	-
2423	Early dwarf Q2-3-65	South Africa	5413	-	5421	-	5416	MN 768	USA	5413	-	5421	-	5411	5421
2424	Knabaker Q2-3-66	Alghanistan	5413	-	5411	5412	5417	MN 769	USA	5411	-	5411	-	5411	5411
2425	Q2-3-57	Alghanistan	5413	-	5411	5411	5418	MN 770	USA	5411	-	5421	-	5411	5421
2426	Q2-3-58	Alghanistan	5413	-	5421	5411	5420	MN 772	USA	5413	-	5421	-	5411	5421
2427	Q2-3-59	Alghanistan	5413	-	5421	5411	5421	MN 773	USA	5413	-	5421	-	5411	5421
2428	Br. Red R. Q2-3-60	Nigeria	5413	-	5421	-	5422	MN 774	USA	5413	-	5421	-	5411	5421
2429	Br. Red Q2-3-60	Nigeria	5413	-	5421	5411	5423	MN 776	USA	5413	-	5421	-	5411	5421
2430	Yar Bona Q2-3-61	Nigeria	4611	-	5411	-	5426	MN 777	USA	4611	-	5411	-	5411	5411
2431	Yar Bona Q2-3-73	Nigeria	4611	-	5411	5411	5426	MN 778	USA	4611	-	5421	5411	5411	5421
2432	Vulgate Q2-3-74	Nigeria	4611	-	5411	5411	5428	MN 780	USA	2411	-	5421	5411	-	-
2433	Muley Q2-3-72	USA	5413	-	5421	-	5429	MN 781	USA	5413	-	5421	5411	5411	5421
2434	MN 1278	USA	5413	-	5411	5411	5430	MN 782	USA	5413	-	5421	-	5411	5411
2435	Muley top Q2-3-78	USA	5413	-	5421	5411	5431	MN 784	USA	5413	-	5421	-	5411	5411
2436	MN 1279 (top)	USA	5413	-	5421	5411	5432	MN 785	USA	5413	-	5421	-	5	

IS No	Alternative identifier	Source country	SP	SB	MD	HB	IS No	Alternative identifier	Source country	SP	SB	MD	HB			
	Identifiers		R	PR	GRS	LES	DR	DR		R	PR	GRS	LES	DR	DR	
2849	Bard proof	South Africa	4(1)	-	-	-	-	2846	Yel End IP	USA	3(1)	-	-	-	-	-
2850	Plasma man	South Africa	5(2)	4(1)	4(1)	-	4(2)	5(3)	2847	Yel End IP	USA	3(1)	-	-	-	-
2851	Oven 11 underflow	South Africa	3(1)	-	3(1)	3(1)	5(3)	5(3)	2848	Yel End IP	USA	4(2)	-	-	-	-
2852	Kumbe	South Africa	3(1)	-	2(1)	3(1)	4(1)	5(3)	2849	Yel End IP	USA	3(1)	-	-	-	-
2853	W11 lightning	South Africa	3(1)	-	3(1)	3(1)	5(2)	5(3)	2850	Yel End up-shaft	USA	3(1)	-	-	-	-
2854	Hearnard	South Africa	3(1)	-	3(1)	-	5(3)	-	2851	Yel End up-shaft	USA	4(2)	4(1)	3(1)	5(2)	5(3)
2855	AW 7013	South Africa	3(1)	-	4(1)	-	5(3)	-	2852	Yel End up-shaft	USA	2(1)	-	-	-	-
2856	Muthi Swaziland	South Africa	3(1)	-	3(1)	-	-	-	2853	Yel End Shalla	USA	4(1)	-	-	-	-
2857	Serlen	South Africa	3(1)	-	3(1)	-	5(3)	-	2854	Yel End Shalla	USA	4(2)	3(1)	2(1)	5(2)	5(3)
2858	Stromberg USA	South Africa	3(1)	-	3(1)	-	5(3)	-	2855	Edinburgh and no 4	Ethiopia	3(1)	3(1)	3(1)	-	-
2859	Natal wine	South Africa	3(2)	2(3)	3(3)	3(1)	4(1)	5(3)	2856	Edinburgh and no 4	Ethiopia	3(1)	-	-	-	-
2860	Red mixed	South Africa	4(2)	3(1)	3(1)	-	5(3)	-	2857	Edinburgh and no 4	Ethiopia	3(1)	-	-	-	-
2861	W11 bullfinch	South Africa	4(2)	4(1)	4(1)	3(1)	4(1)	4(4)	2858	Edinburgh and no 4	Ethiopia	3(1)	-	-	-	-
2862	Trametta	South Africa	4(3)	4(1)	3(1)	-	4(2)	5(3)	2859	Edinburgh and no 4	Ethiopia	4(1)	-	-	-	-
2863	Var W11 began	South Africa	4(1)	-	4(2)	-	5(3)	4(4)	2860	Edinburgh and no 4	Ethiopia	3(1)	-	-	-	-
2864	Var red began	South Africa	3(1)	-	3(2)	-	4(1)	5(3)	2861	Jirama market	Ethiopia	4(2)	-	-	-	-
2865	Edinburgh and no 4	South Africa	4(1)	-	3(1)	-	4(2)	5(3)	2862	Jirama market	Ethiopia	5(1)	-	-	-	-
2866	Wintersome	South Africa	3(1)	-	2(3)	3(1)	5(3)	-	2863	Jirama market	Ethiopia	3(1)	2(1)	-	-	-
2867	Sugar Drop	South Africa	4(1)	3(2)	3(1)	3(1)	5(3)	5(3)	2864	Jirama market	Ethiopia	3(1)	-	-	-	-
2868	Red mixed	South Africa	4(1)	-	3(1)	-	5(3)	5(3)	2865	Jirama market	Ethiopia	3(1)	-	-	-	-
2869	Edinburgh and no 4	South Africa	3(1)	-	3(1)	-	5(3)	5(3)	2866	Jirama market	Ethiopia	3(1)	-	-	-	-
2870	Gila 545	Egypt	3(1)	3(1)	-	-	-	-	2867	Jirama market	Ethiopia	3(1)	-	-	-	-
2871	Gila 123	Egypt	3(1)	3(1)	-	-	-	-	2868	Jirama market	Ethiopia	3(1)	-	-	-	-
2872	Gila 559	Egypt	4(2)	3(1)	3(2)	3(1)	4(1)	5(3)	2869	Jirama market	Ethiopia	3(1)	-	-	-	-
2873	Gila 3759	Egypt	3(1)	-	-	-	4(2)	5(3)	2870	Jirama market	Ethiopia	3(1)	-	-	-	-
2874	Gila 14	Egypt	3(2)	3(2)	4(2)	-	4(1)	5(3)	2871	Jirama market	Ethiopia	3(1)	-	-	-	-
2875	Gila 415	Egypt	3(1)	-	4(2)	-	-	-	2872	Jirama market	Ethiopia	3(1)	-	-	-	-
2876	Gila 659	Egypt	3(2)	4(1)	3(2)	3(1)	3(1)	5(3)	2873	Jirama market	Ethiopia	3(1)	-	-	-	-
2877	Gila 250	Egypt	4(1)	-	3(2)	3(1)	5(3)	-	2874	Jirama market	Ethiopia	3(1)	-	-	-	-
2878	Gila 159	Egypt	4(1)	-	3(2)	-	-	-	2875	Jirama market	Ethiopia	3(1)	-	-	-	-
2879	N 15 M 331B	Ethiopia	4(1)	-	3(1)	-	3(1)	5(3)	2876	Jirama market	Ethiopia	3(1)	-	-	-	-
2880	M 6599	Egypt	3(1)	-	3(2)	3(1)	-	-	2877	Jirama market	Ethiopia	3(1)	-	-	-	-
2881	Var began 8 150	Australia	3(1)	-	4(1)	-	3(1)	5(3)	2878	Jirama market	Ethiopia	3(1)	-	-	-	-
2882	FAO 8482	Italy	4(2)	3(1)	3(2)	3(1)	3(1)	3(1)	2879	Jirama market	Ethiopia	3(1)	-	-	-	-
2883	FAO 8484	Italy	3(1)	-	4(1)	-	5(3)	5(3)	2880	Jirama market	Ethiopia	3(1)	-	-	-	-
2884	FAO 8485	Italy	3(1)	-	3(2)	3(1)	-	-	2881	Jirama market	Ethiopia	3(1)	-	-	-	-
2885	FAO 8486	Italy	2(1)	-	3(2)	-	-	-	2882	Jirama market	Ethiopia	3(1)	-	-	-	-
2886	FAO 8487	Italy	3(1)	-	2(3)	3(1)	-	-	2883	Jirama market	Ethiopia	3(1)	-	-	-	-
2887	FAO 8488	Italy	4(2)	3(1)	3(2)	3(1)	3(1)	5(3)	2884	Jirama market	Ethiopia	3(1)	-	-	-	-
2888	FAO 8490	Italy	3(1)	-	3(2)	3(1)	5(3)	-	2885	Jirama market	Ethiopia	3(1)	-	-	-	-
2889	S. halimena S 150	Italy	4(1)	-	3(2)	3(1)	5(3)	-	2886	Jirama market	Ethiopia	3(1)	-	-	-	-
2890	FAO 8492	Ethiopia	3(1)	-	3(2)	3(1)	-	-	2887	Jirama market	Ethiopia	3(1)	-	-	-	-
2891	Unkown	Ethiopia	3(1)	-	3(2)	3(1)	-	-	2888	Jirama market	Ethiopia	3(1)	-	-	-	-
2892	Beache amba	Nigeria	4(1)	-	3(2)	3(1)	-	-	2889	Jirama market	Ethiopia	3(1)	-	-	-	-
2893	Hara Jara	Nigeria	3(1)	-	3(2)	3(1)	-	-	2890	Jirama market	Ethiopia	3(1)	-	-	-	-
2894	Haramen lake	Nigeria	3(1)	-	3(2)	3(1)	-	-	2891	Jirama market	Ethiopia	3(1)	-	-	-	-
2895	Kherim market	Nigeria	3(1)	-	3(2)	3(1)	-	-	2892	Jirama market	Ethiopia	3(1)	-	-	-	-
2896	Kirina group	Nigeria	3(1)	-	3(2)	3(1)	-	-	2893	Jirama market	Ethiopia	3(1)	-	-	-	-
2897	Karakawala	Nigeria	3(1)	-	3(2)	3(1)	-	-	2894	Jirama market	Ethiopia	3(1)	-	-	-	-
2898	Karara	Nigeria	3(1)	-	3(2)	3(1)	-	-	2895	Jirama market	Ethiopia	3(1)	-	-	-	-
2899	Karara black alum	Nigeria	3(1)	-	3(2)	3(1)	-	-	2896	Jirama market	Ethiopia	3(1)	-	-	-	-
2900	Ashim market	Nigeria	3(1)	-	3(2)	3(1)	-	-	2897	Jirama market	Ethiopia	3(1)	-	-	-	-
2901	Kharin market	Nigeria	3(1)	-	3(2)	3(1)	-	-	2898	Jirama market	Ethiopia	3(1)	-	-	-	-
2902	DD white ferita	USA	4(2)	-	3(2)	3(1)	5(3)	5(3)	2899	Jirama market	Ethiopia	3(1)	-	-	-	-
2903	DD white ferita	USA	3(2)	-	3(2)	3(1)	5(3)	5(3)	2900	Jirama market	Ethiopia	3(1)	-	-	-	-
2904	DD white ferita	USA	3(2)	-	3(2)	3(1)	5(3)	5(3)	2901	Jirama market	Ethiopia	3(1)	-	-	-	-
2905	DD white ferita	USA	4(1)	-	3(2)	3(1)	-	-	2902	Jirama market	Ethiopia	3(1)	-	-	-	-
2906	DD white ferita	USA	4(1)	-	3(2)	3(1)	-	-	2903	Jirama market	Ethiopia	3(1)	-	-	-	-
2907	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2904	Jirama market	Ethiopia	3(1)	-	-	-	-
2908	DD white ferita	USA	4(1)	-	3(2)	3(1)	-	-	2905	Jirama market	Ethiopia	3(1)	-	-	-	-
2909	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2906	Jirama market	Ethiopia	3(1)	-	-	-	-
2910	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2907	Jirama market	Ethiopia	3(1)	-	-	-	-
2911	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2908	Jirama market	Ethiopia	3(1)	-	-	-	-
2912	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2909	Jirama market	Ethiopia	3(1)	-	-	-	-
2913	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2910	Jirama market	Ethiopia	3(1)	-	-	-	-
2914	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2911	Jirama market	Ethiopia	3(1)	-	-	-	-
2915	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2912	Jirama market	Ethiopia	3(1)	-	-	-	-
2916	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2913	Jirama market	Ethiopia	3(1)	-	-	-	-
2917	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2914	Jirama market	Ethiopia	3(1)	-	-	-	-
2918	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2915	Jirama market	Ethiopia	3(1)	-	-	-	-
2919	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2916	Jirama market	Ethiopia	3(1)	-	-	-	-
2920	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2917	Jirama market	Ethiopia	3(1)	-	-	-	-
2921	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2918	Jirama market	Ethiopia	3(1)	-	-	-	-
2922	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2919	Jirama market	Ethiopia	3(1)	-	-	-	-
2923	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2920	Jirama market	Ethiopia	3(1)	-	-	-	-
2924	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2921	Jirama market	Ethiopia	3(1)	-	-	-	-
2925	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2922	Jirama market	Ethiopia	3(1)	-	-	-	-
2926	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2923	Jirama market	Ethiopia	3(1)	-	-	-	-
2927	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2924	Jirama market	Ethiopia	3(1)	-	-	-	-
2928	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2925	Jirama market	Ethiopia	3(1)	-	-	-	-
2929	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2926	Jirama market	Ethiopia	3(1)	-	-	-	-
2930	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2927	Jirama market	Ethiopia	3(1)	-	-	-	-
2931	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2928	Jirama market	Ethiopia	3(1)	-	-	-	-
2932	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2929	Jirama market	Ethiopia	3(1)	-	-	-	-
2933	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2930	Jirama market	Ethiopia	3(1)	-	-	-	-
2934	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2931	Jirama market	Ethiopia	3(1)	-	-	-	-
2935	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2932	Jirama market	Ethiopia	3(1)	-	-	-	-
2936	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2933	Jirama market	Ethiopia	3(1)	-	-	-	-
2937	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2934	Jirama market	Ethiopia	3(1)	-	-	-	-
2938	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2935	Jirama market	Ethiopia	3(1)	-	-	-	-
2939	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2936	Jirama market	Ethiopia	3(1)	-	-	-	-
2940	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2937	Jirama market	Ethiopia	3(1)	-	-	-	-
2941	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2938	Jirama market	Ethiopia	3(1)	-	-	-	-
2942	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2939	Jirama market	Ethiopia	3(1)	-	-	-	-
2943	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2940	Jirama market	Ethiopia	3(1)	-	-	-	-
2944	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2941	Jirama market	Ethiopia	3(1)	-	-	-	-
2945	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2942	Jirama market	Ethiopia	3(1)	-	-	-	-
2946	DD white ferita	USA	3(2)	-	3(2)	3(1)	-	-	2943	Jirama market	Ethiopia					

IS No	Alternate accession identifier	Source country	RF	PR	SH	DR	MF	HB	IS No	Alternate accession identifier	Source country	RF	PR	SH	DR	MF	HB
3074	Abu mien	Sudan	3(1)	-	2(1)	(1)	(1)	-	3108	Purdue R1152	USA	4(2)	(1)	-	-	-	-
3075	Araric sole	Sudan	3(2)	(1)	2(1)	(1)	(1)	-	3109	Purdue R1153	USA	2(1)	-	2(1)	(1)	-	-
3076	Alfonsi white	Sudan	3(2)	-	3(1)	-	(1)	-	3120	Purdue R1160	USA	3(1)	-	-	-	-	-
3077	Fedeta 1931	Sudan	3(2)	-	3(1)	(1)	-	-	3121	Purdue R1161	USA	2(1)	-	-	-	-	-
3079	Fedeta wad husein	Sudan	4(4)	-	5(1)	-	(1)	-	3201	Purdue R1166	USA	2(1)	-	-	-	-	-
3080	Sofa	Sudan	5(1)	-	2(2)	(1)	(1)	-	3221	Purdue R1166	USA	3(1)	-	-	-	-	-
3081	From isabhan	Iran	3(1)	-	(1)	-	-	-	3222	Purdue R1166-2	USA	3(1)	-	-	-	-	-
3082	From fers	Iran	3(1)	-	2(2)	(1)	-	-	3213	Purdue R1188-1	USA	2(1)	-	-	-	-	-
3083	From shawar	Iran	5(1)	-	(1)	-	-	-	3214	Purdue R1188-2	USA	3(1)	-	-	-	-	-
3085	From mashid	Iran	5(1)	-	(1)	-	-	-	3215	Purdue R1198 up	USA	3(1)	-	-	-	-	-
3086	PI 150576	USA	5(1)	(1)	(1)	-	-	-	3216	Purdue R1198-1	USA	3(1)	-	-	-	-	-
3087	PI 190621	USA	5(2)	(1)	(1)	-	-	-	3219	Purdue R1200-1	USA	2(1)	-	-	-	-	-
3088	Unknown	USA	4(1)	-	-	-	-	-	3222	Purdue R1220	USA	2(1)	-	-	-	-	-
3089	PI 238103	USA	3(1)	-	-	-	-	-	3223	Purdue R1223	USA	2(1)	-	-	-	-	-
3090	PI 246096	USA	2(1)	(1)	(1)	-	-	-	3225	Purdue R1224	USA	2(1)	-	-	-	-	-
3091	S. elchite	USA	4(1)	-	(1)	-	-	-	3226	Purdue R1227-1	USA	2(1)	-	-	-	-	-
3092	S. elchite	USA	4(1)	-	(1)	-	-	-	3228	Purdue R1230-1	USA	2(1)	-	-	-	-	-
3104	Unknown	USA	5(1)	-	(1)	-	-	-	3229	Purdue R1230-1	USA	2(1)	-	-	-	-	-
3106	S. nemoralis	USA	5(1)	-	(1)	-	-	-	3230	Purdue R1233	USA	3(1)	-	-	-	-	-
3107	S. phoeniceus	USA	3(1)	-	(1)	-	-	-	3231	Purdue R1233-2	USA	2(1)	-	-	-	-	-
3109	S. xanthophylla	USA	5(2)	(1)	-	-	-	-	3234	Purdue R1236-1	USA	2(1)	-	-	-	-	-
3112	S. submarginata	USA	5(1)	-	(1)	-	-	-	3235	Purdue R1237 up	USA	3(1)	-	-	-	-	-
3113	S. submarginata	USA	4(1)	-	(1)	-	-	-	3236	Purdue R1244-1	USA	3(1)	-	-	-	-	-
3121	PI 226096	USA	3(1)	-	(1)	-	-	-	3237	Purdue R1247	USA	3(1)	-	-	-	-	-
3122	PI 173315	USA	3(1)	-	-	-	-	-	3238	Purdue R1247-1	USA	4(1)	-	-	-	-	-
3123	PI 155458	USA	4(1)	-	-	-	-	-	3240	Purdue R1248-1	USA	4(1)	-	-	-	-	-
3124	Unknown	USA	5(1)	-	(1)	-	-	-	3242	Unknown	USA	3(1)	-	-	-	-	-
3125	Unknown	USA	5(1)	-	(1)	-	-	-	3243	Purdue R1253-1	USA	3(1)	-	-	-	-	-
3126	Unknown	USA	4(1)	-	(1)	-	-	-	3244	Purdue R1256	USA	5(1)	-	-	-	-	-
3127	PI 211747	USA	4(1)	-	-	-	-	-	3246	Purdue R1260	USA	5(1)	-	-	-	-	-
3129	Unknown	USA	3(1)	-	(1)	-	-	-	3247	Purdue R1261	USA	5(1)	-	-	-	-	-
3133	PI 220636	USA	3(1)	-	(1)	-	-	-	3248	Purdue R1264	USA	5(1)	-	-	-	-	-
3134	S. acuminata	South Africa	5(1)	-	2(2)	-	-	-	3250	Purdue R1270	USA	5(1)	-	-	-	-	-
3135	S. albicoma	South Africa	3(1)	-	(1)	-	-	-	3252	Purdue R1275-1	USA	3(1)	-	-	-	-	-
3136	Unknown	South Africa	5(1)	(1)	(1)	-	-	-	3254	Purdue R1290	USA	2(1)	-	-	-	-	-
3137	Unknown	South Africa	5(1)	-	(1)	-	-	-	3255	Purdue R1291	USA	3(1)	-	-	-	-	-
3138	DL 5077	South Africa	4(1)	-	2(1)	-	-	-	3256	Purdue R1302 up	USA	3(1)	-	-	-	-	-
3139	DL 507118	South Africa	3(1)	-	(1)	-	-	-	3259	Purdue R1303	USA	3(1)	-	-	-	-	-
3140	DL 507116	South Africa	3(1)	-	(1)	-	-	-	3260	Purdue R1303-1	USA	3(1)	-	-	-	-	-
3141	DL 507119	South Africa	4(2)	(1)	(1)	-	-	-	3263	Purdue R1303-2	USA	5(1)	-	-	-	-	-
3142	DL 507120	South Africa	4(2)	(1)	(1)	-	-	-	3265	Purdue R1321-1	USA	2(1)	-	-	-	-	-
3144	Unknown	South Africa	4(1)	-	(1)	-	-	-	3266	Purdue R1336	USA	4(1)	-	-	-	-	-
3145	Unknown	South Africa	5(2)	(1)	(1)	-	-	-	3267	Purdue R1339	USA	2(1)	-	-	-	-	-
3146	S. nigricans	South Africa	4(1)	-	2(2)	(1)	-	-	3268	Purdue R1339-1	USA	2(1)	-	-	-	-	-
3147	S. nigricans	South Africa	4(1)	-	(1)	-	-	-	3270	Purdue R1441-1 up	USA	2(1)	-	-	-	-	-
3148	Haldimann	South Africa	3(1)	-	(1)	-	-	-	3271	Purdue R1446 up	USA	3(1)	-	-	-	-	-
3149	Third group	South Africa	4(2)	(1)	(1)	-	-	-	3272	Purdue R1447	USA	3(1)	-	-	-	-	-
3150	Third group	South Africa	3(1)	-	(1)	-	-	-	3273	Purdue R1447-1	USA	3(1)	-	-	-	-	-
3151	Perica burg	South Africa	4(2)	(1)	(1)	-	-	-	3275	Purdue R1452-1 (1)	USA	4(1)	-	-	-	-	-
3152	From burg	South Africa	3(1)	-	(1)	-	-	-	3277	Purdue R1453	USA	3(1)	-	-	-	-	-
3153	Third group	South Africa	2(1)	-	(1)	-	-	-	3279	Purdue R1460	USA	4(1)	-	-	-	-	-
3154	From burg	South Africa	3(1)	-	(1)	-	-	-	3280	Purdue R1464 up	USA	3(1)	-	-	-	-	-
3155	From burg	South Africa	4(2)	(1)	(1)	-	-	-	3282	Purdue R1483	USA	5(1)	-	-	-	-	-
3156	From burg	South Africa	4(2)	(1)	(1)	-	-	-	3283	Purdue R1483-1	USA	3(1)	-	-	-	-	-
3157	From burg	South Africa	2(1)	-	(1)	-	-	-	3284	Purdue R1484	USA	3(1)	-	-	-	-	-
3158	From burg	South Africa	3(1)	-	(1)	-	-	-	3287	Purdue R1493-1 (1)	USA	4(1)	-	-	-	-	-
3159	From burg	South Africa	4(2)	(1)	(1)	-	-	-	3288	Purdue R1497	USA	3(1)	-	-	-	-	-
3160	From burg	South Africa	4(2)	(1)	(1)	-	-	-	3290	Purdue R1499	USA	3(1)	-	-	-	-	-
3161	From burg	South Africa	2(1)	-	(1)	-	-	-	3291	Purdue R1507-1 (1)	USA	3(1)	-	-	-	-	-
3162	From burg	South Africa	3(1)	-	(1)	-	-	-	3295	Purdue R1602-2	USA	4(1)	-	-	-	-	-
3163	From burg	South Africa	4(1)	-	(1)	-	-	-	3297	Purdue R1634	USA	4(1)	-	-	-	-	-
3164	From burg	South Africa	4(2)	-	(1)	-	-	-	3299	Purdue R1642-2	USA	2(1)	-	-	-	-	-
3165	From burg	South Africa	4(1)	-	(1)	-	-	-	3301	Purdue R1622-1	USA	2(1)	-	-	-	-	-
3166	From burg	South Africa	3(1)	-	(1)	-	-	-	3302	Purdue R1633 up	USA	2(1)	-	-	-	-	-
3167	From burg	South Africa	4(1)	-	(1)	-	-	-	3303	Purdue R1633-2	USA	3(1)	-	-	-	-	-
3168	From burg	South Africa	4(1)	-	(1)	-	-	-	3306	Purdue R1637	USA	2(1)	-	-	-	-	-
3169	From burg	South Africa	3(2)	(1)	(1)	-	-	-	3307	Purdue R1652	USA	4(1)	-	-	-	-	-
3170	From burg	South Africa	4(1)	-	(1)	-	-	-	3308	Purdue R1652-2	USA	5(1)	-	-	-	-	-
3171	From burg	South Africa	3(1)	-	(1)	-	-	-	3309	Purdue R1659	USA	4(1)	-	-	-	-	-
3172	From burg	South Africa	4(2)	(1)	(1)	-	-	-	3310	Purdue R1660-1	USA	4(1)	-	-	-	-	-
3173	From burg	South Africa	3(1)	-	(1)	-	-	-	3312	Purdue R1659-2	USA	4(1)	-	-	-	-	-
3174	From burg	South Africa	3(1)	-	(1)	-	-	-	3313	Purdue R1664	USA	4(1)	-	-	-	-	-
3175	From burg	South Africa	2(1)	-	(1)	-	-	-	3314	Purdue R1664-1	USA	4(1)	-	-	-	-	-
3176	From burg	South Africa	3(1)	-	(1)	-	-	-	3315	Purdue R1664-2	USA	4(1)	-	-	-	-	-
3177	From burg	South Africa	2(2)	-	(1)	-	-	-	3316	Purdue R1664-3	USA	4(1)	-	-	-	-	-
3178	From burg	South Africa	3(1)	-	(1)	-	-	-	3318	Purdue R1667	USA	3(1)	-	-	-	-	-
3179	From burg	South Africa	3(1)	-	(1)	-	-	-	3319	Purdue R1668-1	USA	2(1)	-	-	-	-	-
3180	From burg	South Africa	4(1)	-	(1)	-	-	-	3321	Purdue R1669	USA	3(1)	-	-	-	-	-
3181	From burg	South Africa	3(1)	-	(1)	-	-	-	3322	Purdue R1670-1	USA	4(1)	-	-	-	-	-
3182	From burg	South Africa	3(1)	-	(1)	-	-	-	3323	Purdue R1670-2	USA	4(1)	-	-	-	-	-
3183	From burg	South Africa	3(1)	-	(1)	-	-	-	3324	Purdue R1670-3	USA	4(1)	-	-	-	-	-
3184	From burg	South Africa	3(1)	-	(1)	-	-	-	3325	Purdue R1670-4	USA	4(1)	-	-	-	-	-
3185	From burg	South Africa	3(1)	-	(1)	-	-	-	3326	Purdue R1671	USA	5(1)	-	-	-	-	-

IS No	Alternate accession identifier	Source country	SE	PR	DRS	LS	DR	DR	IS No	Alternate accession identifier	Source country	SE	PR	DRS	LS	DR	DR
3450	Sweet potato 179	India	311	-	321	-	409	541	4047	Yellow groundnut	India	424	311	321	-	302	501
3451	Sweet potato 179	India	411	-	321	301	311	331	4048	Groundnut	India	311	-	321	-	501	-
3452	Sweet potato 179	India	411	-	321	-	321	311	4049	White groundnut	India	311	-	411	501	-	-
3453	Dwarf fenugreek	USA	521	301	341	301	311	341	4050	White chandni	India	311	411	341	501	-	-
3454	DRS 179/179/179	USA	421	111	321	311	311	341	4051	Yellow chandni	India	401	321	311	311	311	311
3455	EC 18403	Nepal	311	-	321	-	-	541	4052	Brown chandni	India	311	-	321	-	411	501
3456	EC 18406	Nepal	311	311	321	311	-	-	4053	Black chandni	India	311	-	411	311	311	501
3457	EC 18422	Nepal	311	311	341	311	-	-	4055	Sunka	India	311	-	311	-	-	-
3458	EC 18449	Nepal	311	311	-	-	-	-	4056	White sunka	India	311	-	311	-	-	-
3459	EC 18484	Nepal	311	311	-	-	-	-	4057	Chandni	India	311	-	321	-	321	501
3460	EC 18488	Nepal	311	-	321	-	421	511	4058	Chandni	India	311	-	311	-	321	341
3461	EC 18491	Nepal	311	321	311	-	-	-	4059	Chandni	India	311	-	321	-	321	501
3462	PS 18	India	321	321	321	321	321	321	4060	Tallganga	India	311	-	321	311	311	311
3463	Long rabi	India	311	-	321	311	311	311	4061	Longganga	India	311	-	321	311	311	311
3464	Long rabi	India	321	311	321	311	311	311	4062	Long	India	321	311	321	311	311	311
3465	Long rabi	India	411	321	321	321	311	311	4063	Chandni	India	311	-	321	311	311	311
3466	EC 1853	India	311	-	311	-	-	-	4064	Chandni	India	311	-	311	311	311	311
3467	EC 1858	India	311	311	311	311	-	-	4065	Chandni	India	311	-	311	311	311	311
3468	EC 1859	India	311	-	321	311	311	311	4066	Chandni	India	311	-	311	311	311	311
3469	EC 1860	India	311	-	321	311	311	311	4067	Chandni	India	311	-	311	311	311	311
3470	EC 1861	India	311	-	321	311	311	311	4068	Chandni	India	311	-	311	311	311	311
3471	EC 1862	India	311	-	321	311	311	311	4069	Chandni	India	311	-	311	311	311	311
3472	EC 1863	India	311	-	321	311	311	311	4070	Chandni	India	311	-	311	311	311	311
3473	EC 1864	India	311	-	321	311	311	311	4071	Chandni	India	311	-	311	311	311	311
3474	EC 1865	India	311	-	321	311	311	311	4072	Chandni	India	311	-	311	311	311	311
3475	EC 1866	India	311	-	321	311	311	311	4073	Chandni	India	311	-	311	311	311	311
3476	EC 1867	India	311	-	321	311	311	311	4074	Chandni	India	311	-	311	311	311	311
3477	EC 1868	India	311	-	321	311	311	311	4075	Chandni	India	311	-	311	311	311	311
3478	EC 1869	India	311	-	321	311	311	311	4076	Chandni	India	311	-	311	311	311	311
3479	EC 1870	India	311	-	321	311	311	311	4077	Chandni	India	311	-	311	311	311	311
3480	EC 1871	India	311	-	321	311	311	311	4078	Chandni	India	311	-	311	311	311	311
3481	EC 1872	India	311	-	321	311	311	311	4079	Chandni	India	311	-	311	311	311	311
3482	EC 1873	India	311	-	321	311	311	311	4080	Chandni	India	311	-	311	311	311	311
3483	EC 1874	India	311	-	321	311	311	311	4081	Chandni	India	311	-	311	311	311	311
3484	EC 1875	India	311	-	321	311	311	311	4082	Chandni	India	311	-	311	311	311	311
3485	EC 1876	India	311	-	321	311	311	311	4083	Chandni	India	311	-	311	311	311	311
3486	EC 1877	India	311	-	321	311	311	311	4084	Chandni	India	311	-	311	311	311	311
3487	EC 1878	India	311	-	321	311	311	311	4085	Chandni	India	311	-	311	311	311	311
3488	EC 1879	India	311	-	321	311	311	311	4086	Chandni	India	311	-	311	311	311	311
3489	EC 1880	India	311	-	321	311	311	311	4087	Chandni	India	311	-	311	311	311	311
3490	EC 1881	India	311	-	321	311	311	311	4088	Chandni	India	311	-	311	311	311	311
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3532	EC 1923	India	311	-	321	311	311	311	4130	Chandni	India	311	-	311	311	311	311
3533	EC 1924	India	311	-	321	311	311	311	4131	Chandni	India	311	-	311	311	311	311
3534	EC 1925	India	311	-	321	311	311	311	4132	Chandni	India	311	-	311	311</		

IR No.	Alternative accession	Source country	IR						Accession	Source country	IR						
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4707	Agara Inlay	India	21	-	22	11	51	52	4793	Dasa local keracha	India	21	-	32	11	52	51
4709	Nilwa Inlay	India	21	-	31	11	51	51	4794	Bapapur	India	21	-	31	-	51	51
4710	Shalla makdani	India	32	21	25	11	51	54	4795	Dasa Inlay	India	31	-	21	11	51	42
4711	Maladani kunikand	India	31	31	31	11	51	51	4796	Papari	India	21	-	31	11	51	51
4712	Maladani nungun	India	41	31	25	31	51	51	4797	Chakravarti	India	-	-	31	-	42	35
4713	Dagari nungun	India	31	31	-	-	51	51	4798	Wadadi	India	31	-	21	11	51	51
4716	Jayar Inlay	India	31	11	32	-	51	-	4799	Papari	India	32	51	-	-	51	51
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4718	Nalickheri	India	21	-	32	-	51	-	4801	Papari	India	21	-	21	-	51	41
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[illegible]

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6252	Zowar	India	5(1)	-	3(1)	1(1)	-	6245	Puri sakri	India	5(1)	-	3(1)	-	-
6253	Link-towen	India	5(1)	-	3(1)	1(1)	-	6246	Puri sakri	India	5(1)	-	3(1)	-	5(1)
6257	Bagre	India	5(1)	-	3(1)	1(1)	-	6247	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6258	Jowar	India	5(1)	-	3(1)	1(1)	-	6248	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6259	Kishnu jal-gula	India	5(1)	-	3(1)	1(1)	-	6249	Jela nanday	India	5(1)	-	3(1)	1(1)	4(1)
6260	Jowar zeta i mulda	India	5(1)	-	3(1)	1(1)	-	6250	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6261	Jawa dhan wazir	India	5(1)	-	3(1)	1(1)	-	6251	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6263	Jowar hajdaji	India	5(1)	-	3(1)	1(1)	-	6252	Jela nanday	India	5(1)	-	3(1)	1(1)	5(1)
6264	Deep dhan mahara	India	5(1)	-	3(1)	1(1)	-	6253	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6265	Jowar basagari	India	5(1)	-	3(1)	1(1)	-	6254	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6266	Ganga namagari	India	5(1)	-	3(1)	1(1)	-	6255	Jela nanday	India	5(1)	-	3(1)	1(1)	-
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6268	Sala gundhi	India	5(1)	-	3(1)	1(1)	-	6257	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6269	Link khanda hatti	India	5(1)	-	3(1)	1(1)	-	6258	Jela nanday	India	5(1)	-	3(1)	1(1)	3(1)
6270	Jowar kotbahi	India	5(1)	-	3(1)	1(1)	-	6259	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6271	Chaman gungu	India	5(1)	4(1)	3(1)	1(1)	-	6260	Jela nanday	India	5(1)	-	3(1)	1(1)	-
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6274	Bhagpuri	India	5(1)	-	3(1)	1(1)	-	6262	Jela nanday	India	5(1)	-	3(1)	1(1)	5(1)
6275	Kangar chari harul	India	5(1)	-	3(1)	1(1)	3(1)	6263	Jela nanday	India	5(1)	-	3(1)	1(1)	5(1)
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6277	Kangar chari harul	India	5(1)	-	3(1)	1(1)	3(1)	6265	Jela nanday	India	5(1)	4(1)	3(1)	1(1)	5(1)
6278	Jowar	India	5(1)	-	3(1)	1(1)	-	6266	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6279	Jowar mawlati	India	5(1)	-	3(1)	1(1)	3(1)	6267	Jela nanday	India	5(1)	-	3(1)	1(1)	3(1)
6280	Jowar ladlowal	India	5(1)	-	3(1)	1(1)	-	6268	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6281	Jowar basagari	India	5(1)	-	3(1)	1(1)	-	6269	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6283	Jowar basagari	India	5(1)	-	3(1)	1(1)	-	6270	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6284	Jowar basagari	India	5(1)	-	3(1)	1(1)	-	6271	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6286	Jowar dhanuka	India	5(1)	-	3(1)	1(1)	-	6272	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6288	Chama palm	India	5(1)	-	3(1)	1(1)	-	6273	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6290	Jowar kishnu	India	5(1)	-	3(1)	1(1)	4(1)	6274	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6291	Jowar kishnu	India	5(1)	-	3(1)	1(1)	5(1)	6275	Jela nanday	India	5(1)	-	3(1)	1(1)	3(1)
6292	Wazir ghar basagari	India	5(1)	-	3(1)	1(1)	5(1)	6276	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6293	Wazir ghar basagari	India	5(1)	-	3(1)	1(1)	5(1)	6277	Jela nanday	India	5(1)	-	3(1)	1(1)	3(1)
6294	Wazir ghar basagari	India	5(1)	-	3(1)	1(1)	5(1)	6278	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6295	Wazir ghar basagari	India	5(1)	-	3(1)	1(1)	5(1)	6279	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6296	Wazir ghar basagari	India	5(1)	-	3(1)	1(1)	5(1)	6280	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6297	Wazir ghar basagari	India	5(1)	-	3(1)	1(1)	5(1)	6281	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6298	Wazir ghar basagari	India	5(1)	-	3(1)	1(1)	5(1)	6282	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6299	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-	6283	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6300	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-	6284	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6301	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-	6285	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6302	Jowar ghosara	India	5(1)	-	3(1)	1(1)	5(1)	6286	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6303	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-	6287	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6304	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-	6288	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6305	Jowar ghosara	India	5(1)	-	3(1)	1(1)	5(1)	6289	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6306	Jowar ghosara	India	5(1)	-	3(1)	1(1)	5(1)	6290	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6307	Jowar ghosara	India	5(1)	-	3(1)	1(1)	5(1)	6291	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6308	Jowar ghosara	India	5(1)	-	3(1)	1(1)	5(1)	6292	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6309	Jowar ghosara	India	5(1)	-	3(1)	1(1)	5(1)	6293	Jela nanday	India	5(1)	-	3(1)	1(1)	-
6310	Mahara	India	5(1)	-	3(1)	1(1)	-	6294	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6311	Mahara	India	5(1)	-	3(1)	1(1)	5(1)	6295	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6312	Chaman gungu	India	5(1)	-	3(1)	1(1)	-	6296	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6313	Chaman gungu	India	5(1)	-	3(1)	1(1)	-	6297	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6314	Chama	India	5(1)	-	3(1)	1(1)	-	6298	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6315	Chama	India	5(1)	-	3(1)	1(1)	-	6299	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6316	Chama	India	5(1)	-	3(1)	1(1)	-	6300	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6317	Chama	India	5(1)	-	3(1)	1(1)	-	6301	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6318	Chama	India	5(1)	-	3(1)	1(1)	-	6302	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6319	Chama	India	5(1)	-	3(1)	1(1)	-	6303	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6320	Chama	India	5(1)	-	3(1)	1(1)	-	6304	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6321	Chama	India	5(1)	-	3(1)	1(1)	-	6305	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6322	Chama	India	5(1)	-	3(1)	1(1)	-	6306	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6323	Chama	India	5(1)	-	3(1)	1(1)	-	6307	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6324	Chama	India	5(1)	-	3(1)	1(1)	-	6308	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6325	Chama	India	5(1)	-	3(1)	1(1)	-	6309	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6326	Chama	India	5(1)	-	3(1)	1(1)	-	6310	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6327	Chama	India	5(1)	-	3(1)	1(1)	-	6311	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6328	Chama	India	5(1)	-	3(1)	1(1)	-	6312	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6329	Chama	India	5(1)	-	3(1)	1(1)	-	6313	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6330	Chama	India	5(1)	-	3(1)	1(1)	-	6314	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6331	Chama	India	5(1)	-	3(1)	1(1)	-	6315	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6332	Chama	India	5(1)	-	3(1)	1(1)	-	6316	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6333	Chama	India	5(1)	-	3(1)	1(1)	-	6317	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6334	Chama	India	5(1)	-	3(1)	1(1)	-	6318	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6335	Chama	India	5(1)	-	3(1)	1(1)	-	6319	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6336	Chama	India	5(1)	-	3(1)	1(1)	-	6320	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6337	Chama	India	5(1)	-	3(1)	1(1)	-	6321	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6338	Chama	India	5(1)	-	3(1)	1(1)	-	6322	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6339	Chama	India	5(1)	-	3(1)	1(1)	-	6323	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6340	Chama	India	5(1)	-	3(1)	1(1)	-	6324	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6341	Chama	India	5(1)	-	3(1)	1(1)	-	6325	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-
6342	Chama	India	5(1)	-	3(1)	1(1)	-	6326	Jowar ghosara	India	5(1)	-	3(1)	1(1)	-

IS No	Alternate accession identifier	Source country	SP	SR	MD	IR	IS No	Alternate accession identifier	Source country	SP	SR	MD	IR
			R	PR	DHS	LEN				R	PR	DHS	LEN
6426	Shenoli-3.5	India	5(1)	-	5(2)	1(1)	6749	Zilet	Burkina Faso	5(1)	-	5(2)	1(1)
6427	Shenoli-4.3	India	5(1)	-	5(2)	1(1)	6750	171 Rhombus	Burkina Faso	5(1)	-	-	5(1)
6429	Shenoli-4.3	India	5(1)	-	5(2)	1(1)	6751	181 AB Farko-BA	Burkina Faso	5(1)	-	4(2)	3(1)
6430	Shenoli-4.3	India	4(2)	-	5(2)	1(1)	6752	187 AB Farko-BA	Burkina Faso	5(1)	-	1(1)	-
6431	Shenoli-4.3	India	5(1)	-	5(2)	1(1)	6753	Cominus	Burkina Faso	5(1)	-	4(2)	3(1)
6432	Shenoli-4.3	India	5(1)	-	5(2)	1(1)	6754	Bulbosa	Burkina Faso	5(1)	-	4(2)	3(1)
6433	Shenoli-4.3	India	5(1)	-	5(2)	1(1)	6755	194 AB Farko-BA	Burkina Faso	5(1)	-	5(1)	-
6434	Shenoli-4.3	India	5(1)	-	5(2)	1(1)	6757	195 AB Farko-BA	Burkina Faso	5(1)	-	5(1)	-
6435	Shenoli-4.3	India	5(1)	-	5(2)	1(1)	6758	Zenole	Burkina Faso	5(1)	-	5(1)	-
6436	Shenoli-4.3	India	5(1)	-	5(2)	1(1)	6759	198 AB Farko-BA	Burkina Faso	5(1)	-	5(1)	-
6437	Shenoli-4.3	India	5(1)	-	5(2)	1(1)	6760	Stipagrostis gracilior	Burkina Faso	5(1)	-	5(2)	2(1)
6438	Shenoli-4.3	India	5(1)	-	5(2)	1(1)	6761	201 AB Farko-BA	Burkina Faso	5(1)	-	5(1)	-
6439	Shenoli-4.3	India	5(1)	-	5(2)	1(1)	6762	Trifolium	Burkina Faso	5(1)	-	5(2)	2(1)
6440	Shenoli-4.3	India	5(1)	-	5(2)	1(1)	6763	Yoko	Burkina Faso	5(1)	-	5(2)	2(1)
6441	Shenoli-4.3	India	5(1)	-	5(2)	1(1)	6764	Wahet or heja	Burkina Faso	5(1)	-	5(1)	-
6442	Shenoli-4.3	India	5(1)	-	5(2)	1(1)	6765	Bara	Burkina Faso	5(1)	-	5(2)	1(1)
6443	Karad local	India	5(1)	-	5(2)	1(1)	6766	Bimadaga	Burkina Faso	5(1)	-	5(2)	1(1)
6444	Karad local	India	5(1)	-	5(2)	1(1)	6767	Bira schlag	Burkina Faso	5(1)	-	5(2)	1(1)
6445	Karad local	India	5(1)	-	5(2)	1(1)	6768	Wag muga	Burkina Faso	5(1)	-	5(1)	-
6446	Karad local	India	5(1)	-	5(2)	1(1)	6769	Beruga	Burkina Faso	5(1)	-	5(1)	-
6447	Karad local	India	5(1)	-	5(2)	1(1)	6770	212 AB Farko-BA	Burkina Faso	5(1)	-	5(2)	1(1)
6448	Karad local	India	5(1)	-	5(2)	1(1)	6771	Wag zungu	Burkina Faso	5(1)	-	5(1)	-
6449	Karad local	India	5(1)	-	5(2)	1(1)	6772	219 AB Farko-BA	Burkina Faso	5(1)	-	5(1)	-
6451	Shenoli local	India	5(1)	-	5(2)	1(1)	6773	226 AB Farko-BA	Burkina Faso	5(1)	-	4(1)	3(1)
6452	Shenoli local	India	5(1)	-	5(2)	1(1)	6774	227 AB Farko-BA	Burkina Faso	5(1)	-	5(2)	1(1)
6453	Shenoli local	India	5(1)	-	5(2)	1(1)	6775	223 AB Farko-BA	Burkina Faso	5(1)	-	5(2)	1(1)
6454	Karad local gati	India	5(1)	-	5(2)	1(1)	6776	Bimadaga	Burkina Faso	5(1)	-	5(1)	-
6455	Karad local gati	India	5(1)	-	5(2)	1(1)	6777	229 AB Farko-BA	Burkina Faso	5(1)	-	5(2)	1(1)
6456	Karad local gati	India	5(1)	-	5(2)	1(1)	6778	235 AB Farko-BA	Burkina Faso	5(1)	-	4(2)	3(1)
6457	Karad local gati	India	5(1)	-	5(2)	1(1)	6779	257 AB Farko-BA	Burkina Faso	5(1)	-	5(1)	-
6458	Karad local gati	India	5(1)	-	5(2)	1(1)	6780	258 AB Farko-BA	Burkina Faso	5(1)	-	5(1)	-
6460	Karad local gati	India	5(1)	-	5(2)	1(1)	6781	259 AB Farko-BA	Burkina Faso	5(1)	-	4(2)	3(1)
6461	Karad local gati	India	5(1)	-	5(2)	1(1)	6782	265 AB Farko-BA	Burkina Faso	5(1)	-	5(1)	-
6462	Karad local gati	India	5(1)	-	5(2)	1(1)	6783	Manga	Burkina Faso	5(1)	-	5(2)	1(1)
6463	Karad local gati	India	5(1)	-	5(2)	1(1)	6784	Manga	Burkina Faso	5(1)	-	5(2)	1(1)
6464	Karad local gati	India	5(1)	-	5(2)	1(1)	6785	Dori	Burkina Faso	5(1)	-	5(2)	1(1)
6465	Unkown	Unkown	5(1)	-	5(2)	1(1)	6786	Zumre	Burkina Faso	5(1)	-	5(2)	1(1)
6466	Unkown	Unkown	5(1)	-	5(2)	1(1)	6787	Zumre	Burkina Faso	5(1)	-	5(2)	1(1)
6467	Unkown	Unkown	5(1)	-	5(2)	1(1)	6788	Aguraga	Burkina Faso	5(1)	-	5(2)	1(1)
6468	Unkown	Unkown	5(1)	-	5(2)	1(1)	6789	Unkown	Burkina Faso	5(1)	-	5(2)	1(1)
6469	Unkown	Unkown	5(1)	-	5(2)	1(1)	6790	Unkown	Burkina Faso	5(1)	-	5(2)	1(1)
6470	Hududi No 4	Burkina Faso	5(1)	-	4(2)	3(1)	6791	Unkown	Burkina Faso	5(1)	-	5(2)	1(1)
6471	Blanc moudou No 7	Burkina Faso	5(1)	-	4(2)	3(1)	6792	Nahabou	Burkina Faso	5(1)	-	5(2)	1(1)
6472	Faraco-BA No. 7	Burkina Faso	5(1)	-	4(2)	3(1)	6793	Bahava	Burkina Faso	5(1)	-	5(2)	1(1)
6473	O Wida	Burkina Faso	5(1)	-	5(2)	1(1)	6794	Himnawin	Burkina Faso	5(1)	-	5(2)	1(1)
6474	No. 15-3-36-16	Sengul	5(1)	-	5(2)	1(1)	6795	Fefe	Burkina Faso	5(1)	-	4(2)	3(1)
6475	16 AB Farko-BA	Sengul	5(1)	-	5(2)	1(1)	6796	Nahabou	Burkina Faso	5(1)	-	5(2)	1(1)
6476	Yara LT	Burkina Faso	5(1)	-	-	-	6797	Nepi	Burkina Faso	5(1)	-	5(2)	1(1)
6477	17 AB Farko-BA	Burkina Faso	5(1)	-	5(2)	1(1)	6798	Unkown	Burkina Faso	5(1)	-	5(2)	1(1)
6478	Bimadaga	Burkina Faso	5(1)	-	5(2)	1(1)	6799	Aguraga	Burkina Faso	5(1)	-	5(2)	1(1)
6479	Unkown	Burkina Faso	5(1)	-	5(2)	1(1)	6800	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6480	Bimadaga	Burkina Faso	5(1)	-	5(2)	1(1)	6801	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6481	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6802	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6482	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6803	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6483	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6804	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6484	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6805	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6485	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6806	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6486	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6807	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6487	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6808	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6488	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6809	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6489	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6810	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6490	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6811	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6491	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6812	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6492	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6813	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6493	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6814	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6494	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6815	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6495	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6816	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6496	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6817	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6497	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6818	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6498	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6819	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6499	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6820	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6500	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6821	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6501	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6822	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6502	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6823	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6503	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6824	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6504	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6825	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6505	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6826	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6506	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6827	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6507	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6828	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6508	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6829	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6509	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6830	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6510	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6831	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)
6511	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)	6832	Bulbosa	Burkina Faso	5(1)	-	5(2)	1(1)

IS No	Alternate accession identifier	Source country	R	SF	SH	MD	FB	IR No	Alternate accession identifier	Source country	R	SF	SH	MD	FB
			R	PK	DHS	LFN	DR				R	PK	DHS	LFN	DR
7026	Festuca mausok	Sudan	5(2)	-	5(2)	1(1)	-	7116	SBI 110	Central Africa	5(1)	-	5(2)	1(1)	-
7027	Festuca mausok	Sudan	4(2)	-	5(2)	1(1)	-	7117	SBI 6 n	Central Africa	5(2)	4(2)	5(2)	-	5(1)
7028	Festuca mausok	Sudan	5(2)	-	5(2)	1(1)	-	7118	SBI 25	Central Africa	5(1)	-	5(2)	-	-
7029	Festuca mausok	Sudan	4(2)	-	5(1)	-	5(1)	7119	SBI 112	Central Africa	5(1)	-	5(2)	-	5(1)
7030	Festuca mausok	Sudan	4(2)	-	5(2)	1(1)	5(1)	7120	SBI 105	Central Africa	5(1)	-	5(2)	1(1)	-
7031	Festuca mausok	Sudan	4(2)	-	5(1)	1(1)	5(1)	7121	SBI 115	Central Africa	5(1)	-	5(2)	1(1)	-
7032	Festuca mausok	Sudan	5(1)	-	5(2)	1(1)	4(3)	7122	SBI 178	Central Africa	5(2)	-	5(2)	-	5(1)
7034	Festuca mausok	Sudan	5(2)	-	4(2)	1(1)	3(2)	7124	Malunusya yowri	Senegal	5(2)	-	5(1)	-	4(3)
7035	Festuca mausok	Sudan	5(2)	-	5(1)	1(1)	3(2)	7125	Mezmaia white	Rwanda	5(1)	-	5(1)	-	5(1)
7036	Bahama	Sudan	5(2)	-	5(2)	1(1)	3(2)	7126	Cypripis	Cyprus	5(2)	-	5(1)	-	-
7037	Unknown	Sudan	5(1)	4(1)	5(2)	1(1)	4(5)	7127	Wad frag	Philippines	5(1)	-	5(2)	1(1)	-
7038	Unknown	Sudan	5(2)	-	5(2)	1(1)	-	7128	Unknown	Indonesia	5(1)	-	5(1)	-	5(1)
7039	Wad yabir bulk 1	Sudan	5(2)	-	5(2)	1(1)	5(1)	7129	Guembu	Uganda	5(1)	-	5(1)	-	5(1)
7040	Wad yabir bulk 2	Sudan	4(2)	-	5(2)	1(1)	5(1)	7130	U. 18	Uganda	5(2)	4(1)	5(2)	-	-
7041	Wad yabir bulk 3	Sudan	4(2)	-	5(2)	1(1)	5(1)	7131	U. 27	Uganda	5(1)	-	5(2)	-	-
7042	Ph. Bahama	Sudan	4(1)	4(1)	5(2)	1(1)	4(1)	7134	Uganda 1	Uganda	5(1)	-	5(2)	-	4(1)
7043	Peruvia	Sudan	5(1)	-	5(1)	-	5(1)	7135	U. 6	Uganda	5(1)	-	5(2)	-	-
7044	Dier. Bahama	Sudan	4(2)	-	4(2)	1(1)	-	7136	Mezmaia	Uganda	5(1)	-	5(2)	1(1)	-
7046	Ad. Bahama	Sudan	5(1)	5(1)	5(2)	-	4(3)	7137	Diraga red	Uganda	5(1)	-	5(1)	-	-
7047	Mezmaia	Sudan	4(1)	5(1)	5(2)	1(1)	3(2)	7138	U. 17	Uganda	5(1)	-	5(2)	-	4(1)
7049	Uganda	Sudan	5(1)	5(1)	5(2)	1(1)	4(3)	7139	U. 10	Uganda	5(1)	-	5(2)	1(1)	5(1)
7050	Wad yabir	Sudan	5(2)	-	5(1)	1(1)	5(1)	7140	U. 26	Uganda	5(1)	-	5(2)	1(1)	-
7051	Mezmaia	Sudan	5(2)	-	5(2)	1(1)	5(1)	7141	U. 11	Uganda	5(1)	-	5(2)	-	5(1)
7052	Bahama	Sudan	4(2)	-	5(2)	1(1)	-	7142	U. 28	Uganda	5(2)	-	5(1)	-	5(1)
7053	Ad. Bahama	Sudan	5(2)	-	5(2)	1(1)	5(1)	7143	U. 21	Uganda	5(2)	-	5(2)	1(1)	-
7054	Wad yabir	Sudan	5(1)	4(1)	5(2)	1(1)	5(1)	7144	U. 18	Uganda	5(2)	4(1)	5(2)	-	5(1)
7055	Wad yabir	Sudan	5(1)	4(1)	5(2)	1(1)	5(1)	7145	U. 18	Uganda	5(1)	-	5(2)	-	5(1)
7056	Karanda red	Sudan	5(2)	-	5(2)	1(1)	-	7146	U. 5	Uganda	5(1)	-	5(2)	-	5(1)
7057	Yama white	Sudan	4(2)	-	5(1)	-	-	7147	U. 16	Uganda	5(1)	-	5(2)	1(1)	-
7058	Festuca dhumi	Sudan	5(1)	5(1)	5(2)	1(1)	5(1)	7148	Kemba	Kenya	5(2)	-	5(1)	-	5(1)
7059	Festuca dhumi	Sudan	5(2)	-	5(2)	1(1)	5(1)	7149	Mama 24	Kenya	5(2)	-	5(1)	-	5(1)
7060	Wad yabir	Sudan	5(2)	-	5(1)	-	-	7150	Kavirondo 1	Kenya	5(2)	-	5(1)	-	5(1)
7061	Turnak dhumi	Sudan	5(2)	5(1)	5(2)	1(1)	-	7151	Mama	Kenya	5(2)	-	5(1)	-	5(1)
7062	Ad. Bahama white	Sudan	5(1)	-	-	-	-	7152	U. 14	Zaire	5(2)	5(1)	5(1)	-	5(1)
7064	Festuca dhumi 2	Sudan	4(1)	-	-	-	-	7153	U. 1	Zaire	5(1)	-	5(2)	-	5(1)
7065	Uganda 1	Uganda	5(2)	-	5(2)	1(1)	-	7154	U. 13	Zaire	5(1)	-	5(1)	-	-
7066	Uganda 2	Uganda	5(2)	-	5(2)	1(1)	-	7155	U. 14	Zaire	5(1)	-	5(1)	-	-
7068	Uganda 3	Uganda	5(2)	-	5(2)	1(1)	-	7156	Kavirondo 2	Zimbabwe	5(1)	-	5(2)	-	5(1)
7069	Uganda 4	Uganda	5(2)	-	5(2)	1(1)	-	7157	Kavirondo 3	Zimbabwe	5(1)	-	5(2)	-	5(1)
7070	SBI 15	Sudan	5(2)	5(1)	5(2)	1(1)	5(1)	7158	Uganda	Zimbabwe	5(1)	-	5(2)	1(1)	-
7071	Bahama	Sudan	4(2)	4(1)	5(2)	-	5(1)	7159	Uganda 2	South Africa	5(1)	-	5(1)	-	-
7072	AT 12	Sudan	5(2)	5(1)	5(2)	1(1)	5(1)	7160	Uganda	South Africa	5(1)	-	5(1)	-	-
7073	SBI 100	Sudan	4(1)	5(1)	5(2)	1(1)	-	7161	Uganda 3	South Africa	5(1)	-	5(1)	-	-
7074	Ad. Bahama	Sudan	4(2)	-	5(2)	1(1)	-	7162	Uganda 4	South Africa	5(1)	-	5(2)	1(1)	-
7075	Uganda 5	Sudan	4(2)	-	5(2)	1(1)	-	7163	Uganda 5	South Africa	5(1)	-	5(2)	1(1)	-
7076	Mama	Sudan	4(2)	-	5(2)	1(1)	-	7164	Uganda 6	South Africa	5(1)	-	5(2)	1(1)	-
7077	Ad. Bahama	Sudan	4(2)	-	5(2)	1(1)	-	7165	Uganda 7	South Africa	5(1)	-	5(2)	1(1)	-
7078	SBI 22	Sudan	4(2)	-	5(2)	1(1)	-	7166	Uganda 8	South Africa	5(1)	-	5(2)	1(1)	-
7079	SBI 147	Sudan	5(2)	-	5(2)	1(1)	-	7167	Uganda 9	South Africa	5(1)	-	5(2)	1(1)	-
7080	U. 16	Sudan	5(2)	-	5(2)	1(1)	-	7168	Uganda 10	South Africa	5(1)	-	5(2)	1(1)	-
7081	Uganda	Sudan	5(2)	-	5(2)	1(1)	-	7169	Uganda 11	South Africa	5(1)	-	5(2)	1(1)	-
7082	Festuca mausok	Sudan	5(2)	4(1)	5(2)	1(1)	5(1)	7170	Uganda 12	South Africa	5(1)	-	5(2)	1(1)	-
7083	Ad. Bahama white	Sudan	4(2)	-	5(2)	1(1)	-	7171	Uganda 13	South Africa	5(1)	-	5(2)	1(1)	-
7084	Early Bahama	Sudan	4(2)	-	5(2)	1(1)	-	7172	Uganda 14	South Africa	5(1)	-	5(2)	1(1)	-
7085	SBI 125	Central Africa	5(1)	-	5(2)	-	-	7173	Uganda 15	South Africa	5(1)	-	5(2)	1(1)	-
7086	SBI 2A	Central Africa	5(1)	5(1)	5(2)	-	-	7174	Uganda 16	South Africa	5(1)	-	5(2)	1(1)	-
7087	SBI 41 A	Central Africa	5(1)	-	5(2)	-	5(1)	7175	Uganda 17	South Africa	5(1)	-	5(2)	1(1)	-
7088	SBI 46	Central Africa	5(1)	-	5(2)	-	5(1)	7176	Uganda 18	South Africa	5(1)	-	5(2)	1(1)	-
7089	SBI 19	Central Africa	5(1)	-	5(2)	-	5(1)	7177	Uganda 19	South Africa	5(1)	-	5(2)	1(1)	-
7090	SBI 121 A	Central Africa	5(1)	-	5(2)	-	5(1)	7178	Uganda 20	South Africa	5(1)	-	5(2)	1(1)	-
7091	SBI 20	Central Africa	5(2)	5(1)	5(2)	1(1)	5(1)	7179	Uganda 21	South Africa	5(1)	-	5(2)	1(1)	-
7092	SBI 38	Central Africa	5(2)	5(1)	5(2)	1(1)	5(1)	7180	Uganda 22	South Africa	5(1)	-	5(2)	1(1)	-
7093	SBI 17	Central Africa	5(2)	5(1)	5(2)	1(1)	5(1)	7181	Uganda 23	South Africa	5(1)	-	5(2)	1(1)	-
7094	SBI 151	Central Africa	5(2)	5(1)	5(2)	1(1)	5(1)	7182	Uganda 24	South Africa	5(1)	-	5(2)	1(1)	-
7095	SBI 7	Central Africa	5(1)	-	5(2)	-	5(1)	7183	Uganda 25	South Africa	5(1)	-	5(2)	1(1)	-
7096	SBI 9	Central Africa	5(1)	-	5(2)	-	5(1)	7184	Uganda 26	South Africa	5(1)	-	5(2)	1(1)	-
7097	SBI 6 A	Central Africa	5(2)	-	5(2)	-	-	7185	Uganda 27	South Africa	5(1)	-	5(2)	1(1)	-
7098	SBI 48 A	Central Africa	5(2)	-	5(2)	-	4(3)	7186	Uganda 28	South Africa	5(1)	-	5(2)	1(1)	-
7099	SBI 5	Central Africa	5(1)	-	5(2)	-	-	7187	Uganda 29	South Africa	5(1)	-	5(2)	1(1)	-
7100	SBI 106	Central Africa	5(2)	-	5(2)	-	-	7188	Uganda 30	South Africa	5(1)	-	5(2)	1(1)	-
7101	SBI 133	Central Africa	5(2)	-	5(2)	-	-	7189	Uganda 31	South Africa	5(1)	-	5(2)	1(1)	-
7102	SBI 108	Central Africa	5(2)	-	5(2)	-	-	7190	Uganda 32	South Africa	5(1)	-	5(2)	1(1)	-
7103	SBI 108	Central Africa	5(2)	-	5(2)	-	-	7191	Uganda 33	South Africa	5(1)	-	5(2)	1(1)	-
7104	SBI 26	Central Africa	5(2)	-	5(2)	-	-	7192	Uganda 34	South Africa	5(1)	-	5(2)	1(1)	-
7105	SBI 153	Central Africa	5(2)	-	5(2)	-	-	7193	Uganda 35	South Africa	5(1)	-	5(2)	1(1)	-
7106	SBI 48 B	Central Africa	5(2)	-	5(2)	-	-	7194	Uganda 36	South Africa	5(1)	-	5(2)	1(1)	-
7107	SBI 1	Central Africa	5(2)	-	5(2)	-	-	7195	Uganda 37	South Africa	5(1)	-	5(2)	1(1)	-
7108	SBI 1	Central Africa	5(2)	-	5(2)	-	-	7196	Uganda 38	South Africa	5(1)	-	5(2)	1(1)	-
7109	SBI 121 B	Central Africa	5(2)	-	5(2)	-	-	7197	Uganda 39	South Africa	5(1)	-	5(2)	1(1)	-
7110	SBI 43	Central Africa	5(2)	-	5(2)	-	-	7198	Uganda 40	South Africa	5(1)	-	5(2)	1(1)	-
7111	SBI 128	Central Africa	5(2)	-	5(2)	-	-	7199	Uganda 41	South Africa	5(1)	-	5(2)	1(1)	-
7112	SBI 41 B	Central Africa	5(2)	-	5(2)	-	-	7200	Uganda 42	South Africa	5(1)	-	5(2)	1(1)	-
7113	SBI 110	Central Africa	5(2)	-	5(2)	-	-	7201	Uganda 43	South Africa	5(1)	-	5(2)	1(1)	-
7114	SBI 110	Central Africa	5(2)	-	5(2)	-	-	7202	Uganda 44	South Africa	5(1)	-	5(2)	1(1)	-
7115	SBI 126	Central Africa	5(2)	-	5(2)	-	-	7203	Uganda 45	South Africa	5(1)	-	5(2)	1(1)	-

IS No.	Alternate accession identifier	Source country	SP					NB					MD					ED				
			R	PR	UK	US	DK	FR	UK	US	DK	FR	UK	US	DK	FR	UK	US	DK	FR		
2203	ZA 58	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-	-			
2204	Lowery kamla	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2205	SO 72	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2206	SO 72	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2207	IN 13	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2208	VI 430 Ex. Yola	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2209	VI 540 Ex. Yola	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2210	VI 930 Ex. Yola	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2211	VI 850 Ex. Yola	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2212	VI 740 Ex. Yola	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2213	VI 550 Ex. Yola	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2214	VI 240 Ex. Yola	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2215	Ym Laura ex. Yola	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2216	Shilumilla ex. Yola	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2217	Chakuliti saon ex. Yola	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2218	Mheerun vanni ex. Yola	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2219	Ym gumbe ex. Yola	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2220	Chakuliti	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2221	Mare	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2222	Ngel	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2223	Kamun wungun	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2224	Ym lamun	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2225	Famun laura	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2226	Bumkun	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2227	Famun - hiru glumes	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2228	Imari	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2229	EC ngundun	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2230	Mamun	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2231	Yabun	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2232	Abun	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2233	Ym lamun	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2234	Kamun	Nigeria	4(2)	-	-	4(2)	1(1)	-	-	-	-	-	-	-	-	-	-	-				
2235	Lakimwun	Nigeria	4(2)																			

IS No	Alphabetic accession identifier	Source country	SP	PR	SR	MR	HR	IS No	Alphabetic accession identifier	Source country	SP	PR	SR	MR	HR
R704	E 287	Zimbabwe	5(1)	-	3(2)	-	-	R808	E 553	Uganda	5(1)	-	5(2)	-	5(1)
R705	E 288	Zimbabwe	5(1)	-	1(1)	1(1)	-	R809	E 554	Uganda	4(1)	5(1)	1(1)	1(1)	-
R706	E 289	Sudan	2(1)	-	1(1)	5(1)	5(1)	R810	E 555	Uganda	5(1)	-	1(1)	1(1)	-
R707	E 290	Sudan	5(1)	-	1(1)	1(1)	-	R811	E 556	Uganda	5(1)	4(2)	3(2)	3(1)	5(1)
R709	E 292	India	5(1)	-	1(1)	2(1)	5(1)	R812	E 557	Uganda	5(1)	5(1)	1(1)	1(1)	-
R710	E 293	India	5(1)	-	4(1)	-	5(1)	R813	E 558	Uganda	4(1)	-	-	1(1)	1(1)
R801	Albino A	India	5(1)	5(2)	5(2)	-	5(2)	R814	E 559	Uganda	4(2)	5(1)	1(1)	1(1)	5(1)
R802	Thwart milk	USA	4(1)	-	3(2)	-	-	R815	E 560	Uganda	4(1)	5(1)	1(1)	1(1)	-
R803	Belko (SB 200)	Nigeria	2(1)	-	1(1)	1(1)	-	R816	E 561	Uganda	4(1)	5(1)	1(1)	1(1)	-
R804	DD Tereita	USA	4(1)	-	1(1)	1(1)	-	R817	E 562	Uganda	4(1)	5(1)	-	-	-
R805	E 471	Uganda	4(1)	5(1)	1(1)	1(1)	-	R818	E 563	Uganda	4(1)	5(1)	-	-	-
R806	E 472	Uganda	4(1)	-	1(1)	2(1)	-	R819	E 564	Uganda	4(1)	5(1)	-	-	-
R807	E 473	Uganda	5(1)	4(2)	5(1)	-	5(1)	R820	E 565	Uganda	4(1)	5(1)	-	-	-
R808	E 474	Uganda	4(1)	4(2)	3(2)	3(1)	5(1)	R821	E 566	Uganda	4(1)	5(1)	-	-	-
R819	E 475	Uganda	5(1)	5(1)	1(1)	1(1)	-	R822	E 567	Uganda	5(1)	5(1)	-	-	-
R811	E 476	Uganda	5(1)	4(2)	3(2)	3(1)	5(1)	R823	E 568	Uganda	4(2)	5(1)	-	-	-
R812	E 477	Uganda	4(2)	5(1)	1(1)	1(1)	-	R824	E 569	Uganda	5(1)	5(1)	-	-	-
R813	E 478	Uganda	5(1)	5(1)	1(1)	1(1)	-	R825	E 570	Uganda	5(1)	4(1)	4(1)	-	5(1)
R814	E 479	Uganda	5(1)	5(1)	1(1)	1(1)	-	R826	E 571	Uganda	5(1)	-	-	-	-
R815	E 480	Uganda	5(1)	5(1)	1(1)	1(1)	-	R827	E 572	Uganda	5(1)	-	-	-	-
R816	E 481	Uganda	5(1)	5(1)	1(1)	1(1)	-	R828	E 573	Uganda	4(2)	5(1)	-	-	-
R817	E 482	Uganda	5(1)	-	1(1)	1(1)	-	R829	E 574	Uganda	4(1)	-	-	-	-
R818	E 483	Uganda	5(1)	-	1(1)	1(1)	-	R830	E 575	Uganda	4(1)	-	-	-	-
R819	E 484	Kenya	5(1)	-	-	-	-	R831	E 576	Uganda	4(1)	-	-	-	-
R820	E 485	Kenya	5(1)	-	-	-	-	R832	E 577	Uganda	5(1)	-	-	-	-
R821	E 486	Kenya	5(1)	-	-	-	-	R833	E 578	Uganda	5(1)	-	-	-	-
R822	E 487	Kenya	5(1)	-	-	-	-	R834	E 579	Uganda	5(1)	-	-	-	-
R823	E 488	Kenya	5(1)	-	-	-	-	R835	E 580	Uganda	5(1)	-	-	-	-
R824	E 489	Kenya	5(1)	-	-	-	-	R836	E 581	Uganda	5(1)	-	-	-	-
R825	E 490	Kenya	5(1)	-	-	-	-	R837	E 582	Uganda	5(1)	-	-	-	-
R826	E 491	Kenya	5(1)	-	-	-	-	R838	E 583	Uganda	5(1)	-	-	-	-
R827	E 492	Kenya	5(1)	-	-	-	-	R839	E 584	Uganda	5(1)	-	-	-	-
R828	Asamiba	Kenya	5(1)	-	-	-	-	R840	E 585	Uganda	5(1)	-	-	-	-
R829	Asamiba	Kenya	5(1)	-	-	-	-	R841	E 586	Uganda	5(1)	-	-	-	-
R830	E 497	Kenya	5(1)	-	-	-	-	R842	E 587	Kenya	5(1)	-	-	-	-
R831	E 498	Kenya	5(1)	-	-	-	-	R843	E 588	Kenya	5(1)	-	-	-	-
R832	E 499	Kenya	5(1)	-	-	-	-	R844	E 589	Kenya	5(1)	-	-	-	-
R833	E 500	Kenya	5(1)	-	-	-	-	R845	E 590	Kenya	5(1)	-	-	-	-
R834	E 501	Kenya	5(1)	-	-	-	-	R846	E 591	Kenya	5(1)	-	-	-	-
R835	E 502	Kenya	5(1)	-	-	-	-	R847	E 592	Kenya	5(1)	-	-	-	-
R836	E 503	Kenya	5(1)	-	-	-	-	R848	E 593	Kenya	5(1)	-	-	-	-
R837	E 504	Kenya	5(1)	-	-	-	-	R849	E 594	Kenya	5(1)	-	-	-	-
R838	E 505	Kenya	5(1)	-	-	-	-	R850	E 595	Kenya	5(1)	-	-	-	-
R839	E 506	Kenya	5(1)	-	-	-	-	R851	E 596	Kenya	5(1)	-	-	-	-
R840	E 507	Kenya	5(1)	-	-	-	-	R852	E 597	Kenya	5(1)	-	-	-	-
R841	E 508	Kenya	5(1)	-	-	-	-	R853	E 598	Kenya	5(1)	-	-	-	-
R842	E 509	Kenya	5(1)	-	-	-	-	R854	E 599	Kenya	5(1)	-	-	-	-
R843	E 510	Kenya	5(1)	-	-	-	-	R855	E 600	Kenya	5(1)	-	-	-	-
R844	E 511	Kenya	5(1)	-	-	-	-	R856	E 601	Kenya	5(1)	-	-	-	-
R845	E 512	Kenya	5(1)	-	-	-	-	R857	E 602	Kenya	5(1)	-	-	-	-
R846	E 513	Kenya	5(1)	-	-	-	-	R858	E 603	Kenya	5(1)	-	-	-	-
R847	E 514	Kenya	5(1)	-	-	-	-	R859	E 604	Kenya	5(1)	-	-	-	-
R848	E 515	Kenya	5(1)	-	-	-	-	R860	E 605	Kenya	5(1)	-	-	-	-
R849	E 516	Kenya	5(1)	-	-	-	-	R861	E 606	Kenya	5(1)	-	-	-	-
R850	E 517	Kenya	5(1)	-	-	-	-	R862	E 607	Kenya	5(1)	-	-	-	-
R851	E 518	Kenya	5(1)	-	-	-	-	R863	E 608	Kenya	5(1)	-	-	-	-
R852	E 519	Kenya	5(1)	-	-	-	-	R864	E 609	Kenya	5(1)	-	-	-	-
R853	E 520	Kenya	5(1)	-	-	-	-	R865	E 610	Kenya	5(1)	-	-	-	-
R854	E 521	Kenya	5(1)	-	-	-	-	R866	E 611	Kenya	5(1)	-	-	-	-
R855	E 522	Kenya	5(1)	-	-	-	-	R867	E 612	Kenya	5(1)	-	-	-	-
R856	E 523	Kenya	5(1)	-	-	-	-	R868	E 613	Kenya	5(1)	-	-	-	-
R857	E 524	Kenya	5(1)	-	-	-	-	R869	E 614	Kenya	5(1)	-	-	-	-
R858	E 525	Kenya	5(1)	-	-	-	-	R870	E 615	Kenya	5(1)	-	-	-	-
R859	E 526	Kenya	5(1)	-	-	-	-	R871	E 616	Kenya	5(1)	-	-	-	-
R860	E 527	Kenya	5(1)	-	-	-	-	R872	E 617	Kenya	5(1)	-	-	-	-
R861	E 528	Kenya	5(1)	-	-	-	-	R873	E 618	Kenya	5(1)	-	-	-	-
R862	E 529	Kenya	5(1)	-	-	-	-	R874	E 619	Kenya	5(1)	-	-	-	-
R863	E 530	Kenya	5(1)	-	-	-	-	R875	E 620	Kenya	5(1)	-	-	-	-
R864	E 531	Kenya	5(1)	-	-	-	-	R876	E 621	Kenya	5(1)	-	-	-	-
R865	E 532	Kenya	5(1)	-	-	-	-	R877	E 622	Kenya	5(1)	-	-	-	-
R866	E 533	Kenya	5(1)	-	-	-	-	R878	E 623	Kenya	5(1)	-	-	-	-
R867	E 534	Kenya	5(1)	-	-	-	-	R879	E 624	Kenya	5(1)	-	-	-	-
R868	E 535	Kenya	5(1)	-	-	-	-	R880	E 625	Kenya	5(1)	-	-	-	-
R869	E 536	Kenya	5(1)	-	-	-	-	R881	E 626	Kenya	5(1)	-	-	-	-
R870	E 537	Kenya	5(1)	-	-	-	-	R882	E 627	Kenya	5(1)	-	-	-	-
R871	E 538	Kenya	5(1)	-	-	-	-	R883	E 628	Kenya	5(1)	-	-	-	-
R872	E 539	Kenya	5(1)	-	-	-	-	R884	E 629	Kenya	5(1)	-	-	-	-
R873	E 540	Kenya	5(1)	-	-	-	-	R885	E 630	Kenya	5(1)	-	-	-	-
R874	E 541	Kenya	5(1)	-	-	-	-	R886	E 631	Kenya	5(1)	-	-	-	-
R875	E 542	Kenya	5(1)	-	-	-	-	R887	E 632	Kenya	5(1)	-	-	-	-
R876	E 543	Kenya	5(1)	-	-	-	-	R888	E 633	Kenya	5(1)	-	-	-	-
R877	E 544	Kenya	5(1)	-	-	-	-	R889	E 634	Kenya	5(1)	-	-	-	-
R878	E 545	Kenya	5(1)	-	-	-	-	R890	E 635	Kenya	5(1)	-	-	-	-
R879	E 546	Kenya	5(1)	-	-	-	-	R891	E 636	Kenya	5(1)	-	-	-	-
R880	E 547	Kenya	5(1)	-	-	-	-	R892	E 637	Kenya	5(1)	-	-	-	-
R881	E 548	Kenya	5(1)	-	-	-	-	R893	E 638	Kenya	5(1)	-	-	-	-
R882	E 549	Kenya	5(1)	-	-	-	-	R894	E 639	Kenya	5(1)	-	-	-	-
R883	E 550	Kenya	5(1)	-	-	-	-	R895	E 640	Kenya	5(1)	-	-	-	-
R884	E 551	Kenya	5(1)	-	-	-	-	R896	E 641	Kenya	5(1)	-	-	-	-
R885	E 552	Kenya	5(1)	-	-	-	-	R897	E 642	Kenya	5(1)	-	-	-	-

IS No	Alternate accession	Source country	SP	SH	MD	HS	IS No	Alternate accession	Source country	SP	SH	MD	HS	
Identifier	Identifier		R	PR	THRS	LFS	DR	Identifier		R	PR	THRS	LFS	DR
0022	E 537	Kenya	5(1)	-	-	-	-	0038	E 528	Kenya	5(1)	5(1)	1(2)	5(1)
0073	E 639	Kenya	5(1)	5(1)	-	-	-	0059	E 529	Kenya	5(1)	-	1(1)	5(1)
0074	E 639	Kenya	5(1)	-	3(2)	-	-	0060	E 530	Kenya	5(1)	-	1(1)	5(1)
0075	E 640	Kenya	5(1)	-	-	-	-	0061	E 531	Kenya	5(1)	5(1)	1(1)	5(1)
0076	E 641	Kenya	4(2)	5(1)	-	-	-	0062	E 532	Kenya	5(1)	-	1(1)	5(1)
0077	E 644	Kenya	4(4)	5(1)	-	-	-	0063	E 533	Kenya	5(1)	-	1(1)	5(1)
0078	E 646	Kenya	5(1)	5(1)	-	-	-	0064	E 534	Kenya	5(1)	-	1(1)	5(1)
0079	E 648	Kenya	5(1)	-	2(2)	-	-	0065	E 535	Kenya	5(1)	-	1(1)	5(1)
0080	E 649	Kenya	5(1)	-	-	-	-	0066	E 536	Kenya	5(1)	-	1(1)	5(1)
0081	E 651	Kenya	5(1)	5(1)	-	-	-	0067	E 537	Kenya	5(1)	-	1(1)	5(1)
0082	E 652	Kenya	5(1)	-	3(1)	-	-	0068	E 538	Kenya	5(1)	3(2)	5(1)	5(1)
0083	E 653	Kenya	5(1)	-	2(2)	-	-	0069	E 539	Kenya	5(1)	-	-	5(1)
0084	E 654	Kenya	5(1)	-	2(1)	-	-	0070	E 540	Kenya	5(1)	-	1(1)	5(1)
0085	E 655	Kenya	5(1)	-	3(1)	-	-	0071	E 541	Kenya	5(1)	-	1(1)	5(1)
0086	E 656	Kenya	5(1)	-	-	-	-	0072	E 542	Kenya	5(1)	5(1)	-	-
0087	E 657	Kenya	5(1)	-	3(2)	-	-	0073	E 543	Kenya	5(1)	-	1(1)	5(1)
0088	E 658	Kenya	5(1)	2(1)	9(1)	-	-	0074	E 544	Kenya	5(1)	-	-	5(1)
0089	E 659	Kenya	5(1)	-	9(1)	-	-	0075	E 545	Kenya	5(1)	-	1(1)	5(1)
0090	E 660	Kenya	5(1)	-	5(1)	-	-	0076	E 546	Kenya	5(1)	-	-	-
0091	E 661	Kenya	5(1)	5(1)	-	-	-	0078	E 548	Kenya	5(1)	-	4(1)	-
0092	E 662	Kenya	1(2)	5(1)	4(1)	-	-	0079	E 549	Kenya	5(1)	-	4(1)	-
0093	E 663	Kenya	5(1)	5(1)	-	-	-	0080	E 550	Kenya	5(1)	-	1(1)	5(1)
0094	E 664	Kenya	4(1)	-	4(2)	-	-	0081	E 551	Kenya	5(1)	-	-	5(1)
0095	E 665	Kenya	5(1)	-	1(1)	-	-	0082	E 552	Kenya	5(1)	-	3(2)	-
0096	E 666	Kenya	5(1)	5(1)	-	-	-	0083	E 553	Kenya	5(1)	3(1)	1(1)	-
0097	E 667	Kenya	5(1)	-	3(2)	-	-	0084	E 554	Kenya	5(1)	-	3(1)	-
0098	E 668	Kenya	4(1)	5(1)	3(2)	-	-	0085	E 555	Kenya	5(1)	-	1(1)	5(1)
0099	E 669	Kenya	5(1)	-	3(1)	-	-	0086	E 556	Kenya	5(1)	-	1(1)	5(1)
0100	E 670	Kenya	5(1)	-	-	-	-	0087	E 557	Kenya	5(1)	-	1(1)	5(1)
0101	E 671	Kenya	5(1)	-	3(2)	-	-	0088	E 558	Kenya	5(1)	-	4(2)	5(1)
0102	E 672	Kenya	5(1)	-	-	-	-	0089	E 559	Kenya	5(1)	-	1(1)	5(1)
0103	E 673	Kenya	5(1)	-	-	-	-	0090	E 560	Kenya	5(1)	-	1(1)	5(1)
0104	E 674	Kenya	5(1)	-	-	-	-	0091	E 561	Kenya	5(1)	-	1(1)	5(1)
0105	E 675	Kenya	5(1)	-	-	-	-	0092	E 562	Kenya	5(1)	-	1(1)	5(1)
0106	E 676	Kenya	5(1)	-	-	-	-	0093	E 563	Kenya	5(1)	-	1(1)	5(1)
0107	E 677	Kenya	5(1)	-	1(1)	1(1)	5(1)	0094	E 564	Kenya	5(1)	-	1(1)	5(1)
0108	E 678	Kenya	5(1)	-	2(1)	-	-	0095	E 565	Kenya	5(1)	-	1(1)	5(1)
0109	E 679	Kenya	5(1)	-	1(1)	1(1)	5(1)	0096	E 566	Kenya	5(1)	-	1(1)	5(1)
0110	E 680	Kenya	5(1)	-	3(1)	-	-	0097	E 567	Kenya	5(1)	-	1(1)	5(1)
0111	E 681	Kenya	5(1)	-	3(1)	-	-	0098	E 568	Kenya	5(1)	-	1(1)	5(1)
0112	E 682	Kenya	5(1)	-	-	-	-	0099	E 569	Kenya	5(1)	-	1(1)	5(1)
0113	E 683	Kenya	5(1)	-	1(1)	1(1)	-	0100	E 570	Kenya	5(1)	-	1(1)	5(1)
0114	E 684	Kenya	5(1)	-	1(1)	1(1)	-	0101	E 571	Kenya	5(1)	-	1(1)	5(1)
0115	E 685	Kenya	1(1)	3(2)	1(1)	1(1)	-	0102	E 572	Kenya	5(1)	-	1(1)	5(1)
0116	E 686	Kenya	5(1)	-	1(1)	1(1)	5(1)	0103	E 573	Kenya	5(1)	4(1)	3(1)	5(1)
0117	E 687	Kenya	5(1)	-	3(1)	-	-	0104	E 574	Kenya	5(1)	-	3(2)	-
0118	E 688	Kenya	5(1)	-	3(2)	-	-	0105	E 575	Kenya	5(1)	-	3(2)	-
0119	E 689	Kenya	4(1)	-	-	-	-	0106	E 576	Kenya	5(1)	-	3(1)	5(1)
0120	E 690	Kenya	4(1)	-	3(1)	-	-	0107	E 577	Kenya	5(1)	-	3(1)	5(1)
0121	E 691	Kenya	4(1)	-	2(1)	-	-	0108	E 578	Kenya	5(1)	-	3(2)	-
0122	E 692	Kenya	4(1)	-	1(1)	-	-	0109	E 579	Kenya	5(1)	-	3(2)	-
0123	E 693	Kenya	4(1)	-	1(1)	-	-	0110	E 580	Kenya	5(1)	-	3(1)	5(1)
0124	E 694	Kenya	4(1)	-	1(1)	-	-	0111	E 581	Kenya	5(1)	-	3(1)	5(1)
0125	E 695	Kenya	4(1)	5(1)	1(1)	-	-	0112	E 582	Kenya	5(1)	-	3(1)	5(1)
0126	E 696	Kenya	5(1)	-	1(1)	-	-	0113	E 583	Kenya	5(1)	-	3(2)	-
0127	E 697	Kenya	5(1)	-	1(1)	-	-	0114	E 584	Kenya	5(1)	-	3(2)	-
0128	E 698	Kenya	5(1)	-	1(1)	-	-	0115	E 585	Kenya	5(1)	-	3(1)	5(1)
0129	E 699	Kenya	5(1)	-	1(1)	-	-	0116	E 586	Kenya	5(1)	-	3(1)	5(1)
0130	E 700	Kenya	5(1)	-	1(1)	-	-	0117	E 587	Kenya	5(1)	-	3(1)	5(1)
0131	E 701	Kenya	5(1)	-	1(1)	-	-	0118	E 588	Kenya	5(1)	-	3(1)	5(1)
0132	E 702	Kenya	5(1)	-	1(1)	-	-	0119	E 589	Kenya	5(1)	-	3(1)	5(1)
0133	E 703	Kenya	5(1)	-	1(1)	-	-	0120	E 590	Kenya	5(1)	-	3(1)	5(1)
0134	E 704	Kenya	5(1)	-	1(1)	-	-	0121	E 591	Kenya	5(1)	-	3(1)	5(1)
0135	E 705	Kenya	5(1)	-	1(1)	-	-	0122	E 592	Kenya	5(1)	-	3(1)	5(1)
0136	E 706	Kenya	5(1)	-	1(1)	-	-	0123	E 593	Kenya	5(1)	-	3(1)	5(1)
0137	E 707	Kenya	5(1)	-	1(1)	-	-	0124	E 594	Kenya	5(1)	-	3(1)	5(1)
0138	E 708	Kenya	5(1)	-	1(1)	-	-	0125	E 595	Kenya	5(1)	-	3(1)	5(1)
0139	E 709	Kenya	5(1)	-	1(1)	-	-	0126	E 596	Kenya	5(1)	-	3(1)	5(1)
0140	E 710	Kenya	5(1)	-	1(1)	-	-	0127	E 597	Kenya	5(1)	-	3(1)	5(1)
0141	E 711	Kenya	5(1)	-	1(1)	-	-	0128	E 598	Kenya	5(1)	-	3(1)	5(1)
0142	E 712	Kenya	5(1)	-	1(1)	-	-	0129	E 599	Kenya	5(1)	-	3(1)	5(1)
0143	E 713	Kenya	5(1)	-	1(1)	-	-	0130	E 600	Kenya	5(1)	-	3(1)	5(1)
0144	E 714	Kenya	5(1)	-	1(1)	-	-	0131	E 601	Kenya	5(1)	-	3(1)	5(1)
0145	E 715	Kenya	5(1)	-	1(1)	-	-	0132	E 602	Kenya	5(1)	-	3(1)	5(1)
0146	E 716	Kenya	5(1)	-	1(1)	-	-	0133	E 603	Kenya	5(1)	-	3(1)	5(1)
0147	E 717	Kenya	5(1)	-	1(1)	-	-	0134	E 604	Kenya	5(1)	-	3(1)	5(1)
0148	E 718	Kenya	5(1)	-	1(1)	-	-	0135	E 605	Kenya	5(1)	-	3(1)	5(1)
0149	E 719	Kenya	5(1)	-	1(1)	-	-	0136	E 606	Kenya	5(1)	-	3(1)	5(1)
0150	E 720	Kenya	5(1)	-	1(1)	-	-	0137	E 607	Kenya	5(1)	-	3(1)	5(1)
0151	E 721	Kenya	5(1)	-	1(1)	-	-	0138	E 608	Kenya	5(1)	-	3(1)	5(1)
0152	E 722	Kenya	5(1)	-	1(1)	-	-	0139	E 609	Kenya	5(1)	-	3(1)	5(1)
0153	E 723	Kenya	5(1)	-	1(1)	-	-	0140	E 610	Kenya	5(1)	-	3(1)	5(1)
0154	E 724	Kenya	5(1)	-	1(1)	-	-	0141	E 611	Kenya	5(1)	-	3(1)	5(1)
0155	E 725	Kenya	5(1)	-	1(1)	-	-	0142	E 612	Kenya	5(1)	-	3(1)	5(1)
0156	E 726	Kenya	5(1)	-	1(1)	-	-	0143	E 613	Kenya	5(1)	-	3(1)	5(1)
0157	E 727	Kenya	5(1)	-	1(1)	-	-	0144	E 614	Kenya	5(1)	-	3(1)	5(1)

IS No	Alternate accession	Source country	SP	PR	SH	MT	IR	IS No	Alternate accession	Source country	SP	PR	SH	MT	IR
			R	PR	SH	MT	IR				R	PR	SH	MT	IR
0150	No 163	South Africa	3(1)	4(1)	3(1)	-	-	0433	No 186	South Africa	5(1)	3(1)	2(1)	-	4(1)
0151	No 166	South Africa	4(1)	-	4(1)	-	4(1)	0434	No 187	South Africa	5(1)	-	3(2)	-	-
0152	No 167	South Africa	3(1)	5(1)	3(1)	-	4(1)	0435	No 188	South Africa	5(1)	-	3(2)	-	-
0153	No 169	South Africa	4(1)	5(2)	4(2)	-	3(1)	0436	No 189	South Africa	5(1)	3(1)	1(2)	5(1)	5(2)
0154	No 171	South Africa	3(1)	3(2)	3(2)	-	5(1)	0437	No 190	South Africa	5(1)	-	1(2)	1(1)	3(2)
0155	No 173	South Africa	3(1)	5(1)	3(2)	-	5(1)	0438	No 191	South Africa	5(1)	-	2(4)	-	-
0156	No 174	South Africa	4(1)	5(1)	4(1)	-	-	0439	No 192	South Africa	5(1)	-	2(2)	-	4(2)
0157	No 175	South Africa	4(1)	-	3(2)	-	5(1)	0440	No 193	South Africa	5(1)	-	3(2)	-	-
0158	No 177	South Africa	4(1)	3(2)	4(2)	-	5(1)	0441	No 194	South Africa	5(1)	-	3(1)	-	-
0159	No 180	South Africa	4(1)	3(2)	4(1)	-	-	0442	No 195	South Africa	5(1)	-	3(1)	-	-
0160	No 181	South Africa	4(1)	-	3(2)	-	-	0443	No 196	South Africa	5(1)	-	3(1)	-	-
0161	No 183	South Africa	4(1)	5(2)	3(1)	-	4(1)	0444	No 197	South Africa	5(1)	-	3(1)	-	5(1)
0162	No 184	South Africa	4(1)	-	3(2)	-	-	0445	No 198	South Africa	5(1)	-	3(2)	-	-
0163	No 185	South Africa	4(1)	-	3(1)	-	4(1)	0446	No 199	South Africa	5(1)	-	3(1)	-	-
0164	No 190	South Africa	4(1)	-	3(1)	-	4(1)	0447	No 200	South Africa	5(2)	-	3(1)	-	5(1)
0165	No 206	South Africa	4(1)	-	3(2)	-	4(2)	0448	No 206	South Africa	4(1)	-	3(2)	-	-
0166	No 208	South Africa	3(2)	5(1)	3(2)	-	3(4)	0449	No 208	South Africa	3(1)	3(1)	3(1)	-	3(2)
0167	No 212	South Africa	4(2)	-	3(1)	-	4(1)	0450	No 209	South Africa	5(1)	-	3(2)	-	5(1)
0168	No 218	South Africa	4(1)	-	3(2)	-	5(1)	0451	No 216	South Africa	5(1)	-	1(1)	1(1)	-
0169	No 220	South Africa	4(1)	-	3(2)	-	-	0452	No 217	South Africa	5(1)	4(1)	1(1)	1(1)	3(1)
0170	No 223	South Africa	3(1)	-	3(2)	-	4(1)	0453	No 218	South Africa	5(1)	-	3(2)	-	3(1)
0171	No 224	South Africa	3(1)	5(1)	-	-	5(2)	0454	No 219	South Africa	5(1)	-	3(2)	-	-
0172	No 224	South Africa	3(1)	5(1)	-	-	5(2)	0455	No 221	South Africa	4(1)	-	3(1)	-	5(1)
0173	No 226	South Africa	5(1)	-	3(2)	-	3(2)	0456	No 222	South Africa	5(1)	3(1)	1(1)	3(1)	5(1)
0174	No 228	South Africa	4(2)	5(1)	4(1)	-	-	0457	No 223	South Africa	5(1)	-	3(1)	-	5(1)
0175	No 232	South Africa	3(1)	5(1)	3(1)	-	-	0458	No 224	South Africa	5(1)	-	4(1)	-	4(1)
0176	No 244	South Africa	4(1)	-	3(2)	-	-	0459	No 225	South Africa	5(2)	5(1)	4(1)	-	5(2)
0177	No 245	South Africa	5(1)	4(1)	1(1)	1(1)	5(2)	0460	No 226	South Africa	5(1)	-	1(2)	-	5(1)
0178	No 248	South Africa	5(1)	-	1(1)	-	5(1)	0461	No 227	South Africa	5(2)	4(1)	4(1)	-	5(1)
0179	No 249	South Africa	5(1)	-	2(2)	-	-	0462	No 228	South Africa	5(1)	-	4(1)	-	5(1)
0180	No 251	South Africa	5(1)	-	3(2)	-	5(1)	0463	No 229	South Africa	5(1)	-	1(2)	-	5(1)
0181	No 252	South Africa	5(1)	-	1(1)	1(1)	5(1)	0464	No 230	South Africa	5(1)	-	3(2)	-	5(2)
0182	No 253	South Africa	5(1)	-	1(1)	1(1)	5(1)	0465	No 231	South Africa	5(1)	-	3(2)	-	5(1)
0183	No 254	South Africa	5(1)	-	1(1)	1(1)	5(1)	0466	No 232	South Africa	5(1)	-	3(2)	-	5(1)
0184	No 255	South Africa	5(1)	-	2(2)	-	-	0467	No 233	South Africa	5(1)	-	3(2)	-	5(1)
0185	No 256	South Africa	5(1)	-	3(1)	-	-	0468	No 234	South Africa	5(2)	5(1)	3(2)	-	5(2)
0186	No 257	South Africa	5(1)	-	3(1)	-	-	0469	No 235	South Africa	5(1)	-	3(2)	-	5(1)
0187	No 258	South Africa	5(1)	-	3(2)	-	-	0470	No 236	South Africa	5(1)	-	3(2)	-	5(1)
0188	No 259	South Africa	5(1)	-	3(2)	-	-	0471	No 237	South Africa	5(1)	-	3(2)	-	5(1)
0189	No 260	South Africa	5(1)	-	3(2)	-	-	0472	No 238	South Africa	5(1)	-	3(2)	-	5(1)
0190	No 261	South Africa	5(1)	-	3(2)	-	-	0473	No 239	South Africa	5(1)	-	3(2)	-	5(1)
0191	No 262	South Africa	5(1)	-	3(2)	-	-	0474	No 240	South Africa	5(1)	-	3(2)	-	5(1)
0192	No 263	South Africa	5(1)	-	3(2)	-	-	0475	No 241	South Africa	5(1)	-	3(2)	-	5(1)
0193	No 264	South Africa	5(1)	-	3(2)	-	-	0476	No 242	South Africa	5(1)	-	3(2)	-	5(1)
0194	No 265	South Africa	5(1)	-	3(2)	-	-	0477	No 243	South Africa	5(1)	-	3(2)	-	5(1)
0195	No 266	South Africa	5(1)	-	3(2)	-	-	0478	No 244	South Africa	5(1)	-	3(2)	-	5(1)
0196	No 267	South Africa	5(1)	-	1(1)	1(1)	5(1)	0479	No 245	South Africa	5(1)	-	3(2)	-	5(1)
0197	No 268	South Africa	5(1)	-	3(2)	-	-	0480	No 246	South Africa	5(1)	-	3(2)	-	5(1)
0198	No 269	South Africa	5(1)	-	3(2)	-	-	0481	No 247	South Africa	5(1)	-	3(2)	-	5(1)
0199	No 270	South Africa	5(1)	-	3(2)	-	-	0482	No 248	South Africa	5(1)	-	3(2)	-	5(1)
0200	No 271	South Africa	5(1)	-	3(2)	-	-	0483	No 249	South Africa	5(1)	-	3(2)	-	5(1)
0201	No 272	South Africa	5(1)	-	1(1)	1(1)	5(1)	0484	No 250	South Africa	5(1)	-	3(2)	-	5(1)
0202	No 273	South Africa	5(1)	-	3(2)	-	-	0485	No 251	South Africa	5(1)	-	3(2)	-	5(1)
0203	No 274	South Africa	5(1)	-	3(2)	-	-	0486	No 252	South Africa	5(1)	-	3(2)	-	5(1)
0204	No 275	South Africa	5(1)	-	1(1)	1(1)	5(1)	0487	No 253	South Africa	5(1)	-	3(2)	-	5(1)
0205	No 276	South Africa	5(1)	-	3(2)	-	-	0488	No 254	South Africa	5(1)	-	3(2)	-	5(1)
0206	No 277	South Africa	5(1)	-	3(2)	-	-	0489	No 255	South Africa	5(1)	-	3(2)	-	5(1)
0207	No 278	South Africa	5(1)	-	3(2)	-	-	0490	No 256	South Africa	5(1)	-	3(2)	-	5(1)
0208	No 280	South Africa	5(1)	-	3(2)	-	-	0491	No 257	South Africa	5(1)	-	3(2)	-	5(1)
0209	No 281	South Africa	5(1)	-	3(2)	-	-	0492	No 258	South Africa	5(1)	-	3(2)	-	5(1)
0210	No 282	South Africa	5(1)	-	3(2)	-	-	0493	No 259	South Africa	5(1)	-	3(2)	-	5(1)
0211	No 283	South Africa	5(1)	-	3(2)	-	-	0494	No 260	South Africa	5(1)	-	3(2)	-	5(1)
0212	No 284	South Africa	5(1)	-	3(2)	-	-	0495	No 261	South Africa	5(1)	-	3(2)	-	5(1)
0213	No 285	South Africa	5(1)	-	3(2)	-	-	0496	No 262	South Africa	5(1)	-	3(2)	-	5(1)
0214	No 286	South Africa	5(1)	-	3(2)	-	-	0497	No 263	South Africa	5(1)	-	3(2)	-	5(1)
0215	No 287	South Africa	5(1)	-	3(2)	-	-	0498	No 264	South Africa	5(1)	-	3(2)	-	5(1)
0216	No 288	South Africa	5(1)	-	3(2)	-	-	0499	No 265	South Africa	5(1)	-	3(2)	-	5(1)
0217	No 289	South Africa	5(1)	-	3(2)	-	-	0500	No 266	South Africa	5(1)	-	3(2)	-	5(1)
0218	No 290	South Africa	5(1)	-	3(2)	-	-	0501	No 267	South Africa	5(1)	-	3(2)	-	5(1)
0219	No 291	South Africa	5(1)	-	3(2)	-	-	0502	No 268	South Africa	5(1)	-	3(2)	-	5(1)
0220	No 292	South Africa	5(1)	-	3(2)	-	-	0503	No 269	South Africa	5(1)	-	3(2)	-	5(1)
0221	No 293	South Africa	5(1)	-	3(2)	-	-	0504	No 270	South Africa	5(1)	-	3(2)	-	5(1)
0222	No 294	South Africa	5(1)	-	3(2)	-	-	0505	No 271	South Africa	5(1)	-	3(2)	-	5(1)
0223	No 295	South Africa	5(1)	-	3(2)	-	-	0506	No 272	South Africa	5(1)	-	3(2)	-	5(1)
0224	No 296	South Africa	5(1)	-	3(2)	-	-	0507	No 273	South Africa	5(1)	-	3(2)	-	5(1)
0225	No 297	South Africa	5(1)	-	3(2)	-	-	0508	No 274	South Africa	5(1)	-	3(2)	-	5(1)
0226	No 298	South Africa	5(1)	-	3(2)	-	-	0509	No 275	South Africa	5(1)	-	3(2)	-	5(1)
0227	No 299	South Africa	5(1)	-	3(2)	-	-	0510	No 276	South Africa	5(1)	-	3(2)	-	5(1)
0228	No 300	South Africa	5(1)	-	3(2)	-	-	0511	No 277	South Africa	5(1)	-	3(2)	-	5(1)
0229	No 301	South Africa	5(1)	-	3(2)	-	-	0512	No 278	South Africa	5(1)	-	3(2)	-	5(1)
0230	No 302	South Africa	5(1)	-	3(2)	-	-	0513	No 279	South Africa	5(1)	-	3(2)	-	5(1)
0231	No 303	South Africa	5(1)	-	3(2)	-	-	0514	No 280	South Africa	5(1)	-	3(2)	-	5(1)
0232	No 304	South Africa	5(1)	-	3(2)	-	-	0515	No 281	South Africa	5(1)	-	3(2)	-	5(1)
0233	No 305	South Africa	5(1)	-	3(2)	-	-	0516	No 282	South Africa	5(1)	-	3(2)	-	5(1)

(S) No	Alternate accession identifier	Source country	R	RF	SF	SR	M/S	I/S	IR	IS No	Alternate accession identifier	Source country	R	RF	SF	SR	M/S	I/S	IR
00714	Unknown	USA	-	-	-	-	-	-	-	00814	Chia kuan	China	-	-	-	-	-	-	-
00715	Unknown	USA	-	-	-	-	-	-	-	00816	Chia kuan	China	-	-	-	-	-	-	-
00716	Unknown	USA	-	-	-	-	-	-	-	00819	Chia kuan	China	-	-	-	-	-	-	-
00717	Unknown	USA	-	-	-	-	-	-	-	00822	Tsao ying	China	-	-	-	-	-	-	-
00718	Unknown	USA	-	-	-	-	-	-	-	00824	Kidney babou	China	-	-	-	-	-	-	-
00719	Unknown	USA	-	-	-	-	-	-	-	00825	Kidney babou	China	-	-	-	-	-	-	-
00720	Unknown	USA	-	-	-	-	-	-	-	00826	Kallango	China	-	-	-	-	-	-	-
00721	Unknown	USA	-	-	-	-	-	-	-	00827	Kallango	China	-	-	-	-	-	-	-
00722	Unknown	USA	-	-	-	-	-	-	-	00828	Kallango	China	-	-	-	-	-	-	-
00723	Unknown	USA	-	-	-	-	-	-	-	00829	Tchokolium	China	-	-	-	-	-	-	-
00724	Unknown	USA	-	-	-	-	-	-	-	00834	Tchokolium	China	-	-	-	-	-	-	-
00725	Unknown	USA	-	-	-	-	-	-	-	00835	Tchokolium	China	-	-	-	-	-	-	-
00726	Unknown	USA	-	-	-	-	-	-	-	00836	Tchokolium	China	-	-	-	-	-	-	-
00727	Unknown	USA	-	-	-	-	-	-	-	00837	Tchokolium	China	-	-	-	-	-	-	-
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00735	No. 225	China	-	-	-	-	-	-	-	00845	Tchokolium	China	-	-	-	-	-	-	-
00736	Lafia djongo	China	-	-	-	-	-	-	-	00846	Tchokolium	China	-	-	-	-	-	-	-
00737	Lafia dodi	China	-	-	-	-	-	-	-	00847	Wala	China	-	-	-	-	-	-	-
00738	Lafia dodi	China	-	-	-	-	-	-	-	00848	Beri	China	-	-	-	-	-	-	-
00739	Galing wadma	China	-	-	-	-	-	-	-	00849	Kokro	China	-	-	-	-	-	-	-
00740	Pinkalampi	China	-	-	-	-	-	-	-	00850	Kekro	China	-	-	-	-	-	-	-
00741	Chia laon	China	-	-	-	-	-	-	-	00851	Belin	China	-	-	-	-	-	-	-
00742	Chia kangkang	China	-	-	-	-	-	-	-	00852	Belin	China	-	-	-	-	-	-	-
00743	Nganem	China	-	-	-	-	-	-	-	00853	Wakro	China	-	-	-	-	-	-	-
00744	Rakmal	China	-	-	-	-	-	-	-	00854	Nu 1554 WA	China	-	-	-	-	-	-	-
00745	Fahio gabri	China	-	-	-	-	-	-	-	00855	Nagyre	China	-	-	-	-	-	-	-
00746	R2	China	-	-	-	-	-	-	-	00856	Wadua	China	-	-	-	-	-	-	-
00751	Chia kuan	China	-	-	-	-	-	-	-	00861	Sali	China	-	-	-	-	-	-	-
00755	No. 725, Beri	China	-	-	-	-	-	-	-	00864	Sali	China	-	-	-	-	-	-	-
00756	Chia kuan	China	-	-	-	-	-	-	-	00865	Sali	China	-	-	-	-	-	-	-
00757	Chia kuan	China	-	-	-	-	-	-	-	00866	Wakro	China	-	-	-	-	-	-	-
00758	Chia kuan	China	-	-	-	-	-	-	-	00867	Selection berang	China	-	-	-	-	-	-	-
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00765	Mamango	China	-	-	-	-	-	-	-	00873	Hwanlum	Nigeria	-	-	-	-	-	-	-
00766	Kuan talon	China	-	-	-	-	-	-	-	00874	Mex 3, 10m	Nigeria	-	-	-	-	-	-	-
00767	Galama	China	-	-	-	-	-	-	-	00875	Alaka gero	Nigeria	-	-	-	-	-	-	-
00768	Chia nua	China	-	-	-	-	-	-	-	00876	Thahes (agum)	Nigeria	-	-	-	-	-	-	-
00769	Beri kuan	China	-	-	-	-	-	-	-	00877	Mex	Nigeria	-	-	-	-	-	-	-
00770	Beri n'ua	China	-	-	-	-	-	-	-	00878	N. guatum	Nigeria	-	-	-	-	-	-	-
00771	Beri n'ua	China	-	-	-	-	-	-	-	00879	Mex	Nigeria	-	-	-	-	-	-	-
00772	Kuan n'ua	China	-	-	-	-	-	-	-	00880	Guangxi	Nigeria	-	-	-	-	-	-	-
00773	Namdenkinebe	China	-	-	-	-	-	-	-	00881	Red hwanlum	Nigeria	-	-	-	-	-	-	-
00774	Kuan n'ua	China	-	-	-	-	-	-	-	00882	Farin kuan	Nigeria	-	-	-	-	-	-	-
00775	Mia n'ua	China	-	-	-	-	-	-	-	00883	Farin hwanlum	Nigeria	-	-	-	-	-	-	-
00776	Chia nua	China	-	-	-	-	-	-	-	00884	Red hwanlum	Nigeria	-	-	-	-	-	-	-
00777	Chia nua	China	-	-	-	-	-	-	-	00885	Namdenkinebe	Nigeria	-	-	-	-	-	-	-
00778	Kuan n'ua	China	-	-	-	-	-	-	-	00886	Agum	Nigeria	-	-	-	-	-	-	-
00779	Kuan n'ua	China	-	-	-	-	-	-	-	00887	RR 60	USA	-	-	-	-	-	-	-
00780	Mia	China	-	-	-	-	-	-	-	00888	K.A. 625	USA	-	-	-	-	-	-	-
00781	Mia	China	-	-	-	-	-	-	-	00889	Red 60	USA	-	-	-	-	-	-	-
00782	Muanda	China	-	-	-	-	-	-	-	00890	AKS n'ua	USA	-	-	-	-	-	-	-
00783	Kuan n'ua	China	-	-	-	-	-	-	-	00891	RR 60	USA	-	-	-	-	-	-	-
00786	Gup	China	-	-	-	-	-	-	-	00892	RR 60	USA	-	-	-	-	-	-	-
00787	Chia nua	China	-	-	-	-	-	-	-	00893	K.A. 625	USA	-	-	-	-	-	-	-
00788	Kell Huan	China	-	-	-	-	-	-	-	00894	Red 60	USA	-	-	-	-	-	-	-
00789	Chia nua	China	-	-	-	-	-	-	-	00895	AKS n'ua	USA	-	-	-	-	-	-	-
00794	Chia nua	China	-	-	-	-	-	-	-	00896	Chenopodium 13305	India	-	-	-	-	-	-	-
00795	Chia kuan	China	-	-	-	-	-	-	-	00897	Shore leaf mutant	USA	-	-	-	-	-	-	-
00797	Chia kuan	China	-	-	-	-	-	-	-	00898	Red 60	USA	-	-	-	-	-	-	-
00799	Shila	China	-	-	-	-	-	-	-	00899	Chenopodium 13305	India	-	-	-	-	-	-	-
00800	Chia kuan	China	-	-	-	-	-	-	-	00900	Chenopodium 13305	India	-	-	-	-	-	-	-
00801	Chia kuan	China	-	-	-	-	-	-	-	00901	Chenopodium 13305	India	-	-	-	-	-	-	-
00802	Chia kuan	China	-	-	-	-	-	-	-	00902	Chenopodium 13305	India	-	-	-	-	-	-	-
00803	Chia kuan	China	-	-	-	-	-	-	-	00903	Chenopodium 13305	India	-	-	-	-	-	-	-
00804	Chia kuan	China	-	-	-	-	-	-	-	00904	Chenopodium 13305	India	-	-	-	-	-	-	-
00805	Chia kuan	China	-	-	-	-	-	-	-	00905	Chenopodium 13305	India	-	-	-	-	-	-	-
00806	Chia kuan	China	-	-	-	-	-	-	-	00906	Chenopodium 13305	India	-	-	-	-	-	-	-
00807	Chia kuan	China	-	-	-	-	-	-	-	00907	Chenopodium 13305	India	-	-	-	-	-	-	-
00808	Chia kuan	China	-	-	-	-	-	-	-	00908	Chenopodium 13305	India	-	-	-	-	-	-	-
00809	Chia kuan	China	-	-	-	-	-	-	-	00909	Chenopodium 13305	India	-	-	-	-	-	-	-
00810	Chia kuan	China	-	-	-	-	-	-	-	00910	Chenopodium 13305	India	-	-	-	-	-	-	-
00811	Chia kuan	China	-	-	-	-	-	-	-	00911	Chenopodium 13305	India	-	-	-	-	-	-	-

IS No	Alternate notation	Source country	SP					Alternative notation					Source country	SI				
			#	FR	DS	SB	MD	Alt. No	Altitude	R	FR	DS		SB	MD	Alt. No		
16370	Col No R-402	Ethiopia	-	-	-	-	-	17769	Col No R-511	Ethiopia	-	-	-	-	-			
16372	Col No R-405	Ethiopia	-	-	-	-	-	17769	Col No R-511	Ethiopia	-	-	-	-	-			
16373	Col No R-406	Ethiopia	-	-	-	-	-	17770	Col No R-513	Ethiopia	-	-	-	-	-			
16374	Col No R-407	Ethiopia	-	-	-	-	-	17771	Col No R-514	Ethiopia	-	-	-	-	-			
16375	Col No R-409	Ethiopia	-	-	-	-	-	17772	Col No R-515	Ethiopia	-	-	-	-	-			
16377	Col No R-410	Ethiopia	-	-	-	-	-	17773	Col No R-516	Ethiopia	-	-	-	-	-			
16378	Col No R-411	Ethiopia	-	-	-	-	-	17774	Col No R-517	Ethiopia	-	-	-	-	-			
16379	Col No R-412	Ethiopia	-	-	-	-	-	17775	Col No R-518	Ethiopia	-	-	-	-	-			
16380	Col No R-413	Ethiopia	-	-	-	-	-	17776	Col No R-519	Ethiopia	-	-	-	-	-			
16381	Col No R-414	Ethiopia	-	-	-	-	-	17777	Col No R-520	Ethiopia	-	-	-	-	-			
16382	Col No R-416	Ethiopia	-	-	-	-	-	17778	Col No R-521	Ethiopia	-	-	-	-	-			
16383	Col No R-417	Ethiopia	-	-	-	-	-	17779	Col No R-522	Ethiopia	-	-	-	-	-			
16385	Col No R-421	Ethiopia	-	-	-	-	-	17780	Col No R-523	Ethiopia	-	-	-	-	-			
16386	Col No R-422	Ethiopia	-	-	-	-	-	17781	Col No R-524	Ethiopia	-	-	-	-	-			
16387	Col No R-423	Ethiopia	-	-	-	-	-	17782	Col No R-525	Ethiopia	-	-	-	-	-			
16388	Col No R-424	Ethiopia	-	-	-	-	-	17783	Col No R-526	Ethiopia	-	-	-	-	-			
16390	Col No R-428	Ethiopia	-	-	-	-	-	17784	Col No R-527	Ethiopia	-	-	-	-	-			
16391	Col No R-429	Ethiopia	-	-	-	-	-	17785	Col No R-528	Ethiopia	-	-	-	-	-			
16392	Col No R-430	Ethiopia	-	-	-	-	-	17786	Col No R-529	Ethiopia	-	-	-	-	-			
16393	Col No R-431	Ethiopia	-	-	-	-	-	17787	Col No R-530	Ethiopia	-	-	-	-	-			
16394	Col No R-434	Ethiopia	-	-	-	-	-	17788	Col No R-531	Ethiopia	-	-	-	-	-			
16395	Col No R-435	Ethiopia	-	-	-	-	-	17789	Col No R-532	Ethiopia	-	-	-	-	-			
16396	Col No R-436	Ethiopia	-	-	-	-	-	17790	Col No R-533	Ethiopia	-	-	-	-	-			
16397	Col No R-437	Ethiopia	-	-	-	-	-	17791	Col No R-534	Ethiopia	-	-	-	-	-			
16398	Col No R-438	Ethiopia	-	-	-	-	-	17792	Col No R-535	Ethiopia	-	-	-	-	-			
16399	Col No R-439	Ethiopia	-	-	-	-	-	17793	Col No R-536	Ethiopia	-	-	-	-	-			
16400	Col No R-440	Ethiopia	-	-	-	-	-	17794	Col No R-537	Ethiopia	-	-	-	-	-			
16401	Col No R-441	Ethiopia	-	-	-	-	-	17795	Col No R-538	Ethiopia	-	-	-	-	-			
16402	Col No R-442	Ethiopia	-	-	-	-	-	17796	Col No R-539	Ethiopia	-	-	-	-	-			
16403	Col No R-443	Ethiopia	-	-	-	-	-	17797	Col No R-540	Ethiopia	-	-	-	-	-			
16404	Col No R-444	Ethiopia	-	-	-	-	-	17798	Col No R-541	Ethiopia	-	-	-	-	-			
16405	Col No R-445	Ethiopia	-	-	-	-	-	17799	Col No R-542	Ethiopia	-	-	-	-	-			
16406	Col No R-446	Ethiopia	-	-	-	-	-	17800	Col No R-543	Ethiopia	-	-	-	-	-			
16407	Col No R-447	Ethiopia	-	-	-	-	-	17801	Col No R-544	Ethiopia	-	-	-	-	-			
16408																		

IS No	Alternate accession	Source country	SP				SB				IS No	Alternate accession	Source country	SP				SB			
			R	PR	DRS	DR	R	PR	DRS	DR				R	PR	DRS	DR	R	PR	DRS	DR
12574	MIN 848	Sudan	5(1)	1(1)	-	-	5(1)	1(1)	-	-	12640	SA 2158	Ethiopia	5(1)	1(1)	2(1)	-	5(1)	1(1)	2(1)	-
12575	MIN 877	Sudan	5(1)	-	-	-	5(1)	-	-	-	12641	SA 2155	Ethiopia	5(1)	-	-	-	5(1)	-	-	-
12576	MIN 888	Sudan	5(1)	-	-	-	5(1)	-	-	-	12642	SA 2156	Ethiopia	5(1)	2(1)	-	-	5(1)	2(1)	-	-
12577	MIN 1223	Kenya	4(1)	-	-	-	4(1)	-	-	-	12643	SA 2149	Ethiopia	5(1)	2(1)	-	-	5(1)	2(1)	-	-
12578	MIN 1230	Kenya	5(1)	4(1)	-	-	5(1)	4(1)	-	-	12644	SA 2160	Ethiopia	5(1)	4(1)	2(1)	-	5(1)	4(1)	2(1)	-
12579	MIN 1234	Kenya	4(1)	-	-	-	4(1)	-	-	-	12645	SA 2161	Ethiopia	5(1)	3(1)	-	-	5(1)	3(1)	-	-
12580	MIN 1244	Kenya	5(1)	-	-	-	5(1)	-	-	-	12646	SA 2168	Ethiopia	4(1)	-	-	-	4(1)	-	-	-
12581	MIN 1250	Kenya	5(1)	2(1)	-	-	5(1)	2(1)	-	-	12647	SA 2169	Ethiopia	5(1)	-	-	-	5(1)	-	-	-
12582	MIN 1251	Kenya	5(1)	-	-	-	5(1)	-	-	-	12648	SA 2170	Ethiopia	4(1)	-	-	-	4(1)	-	-	-
12583	MIN 1252	Kenya	5(1)	-	-	-	5(1)	-	-	-	12649	SA 2171	Ethiopia	5(1)	2(1)	-	-	5(1)	2(1)	-	-
12584	MIN 1258	Kenya	4(1)	-	-	-	4(1)	-	-	-	12650	SA 2173	Ethiopia	5(1)	-	-	-	5(1)	-	-	-
12585	MIN 1259	Kenya	5(1)	-	-	-	5(1)	-	-	-	12651	PI 277167	Malawi	5(1)	2(1)	-	-	5(1)	2(1)	-	-
12586	MIN 1263	Kenya	5(1)	-	-	-	5(1)	-	-	-	12652	PI 277542	South Africa	5(1)	-	-	-	5(1)	-	-	-
12587	MIN 1265	Kenya	5(1)	-	-	-	5(1)	-	-	-	12653	PI 283419	Nigeria	5(1)	-	-	-	5(1)	-	-	-
12588	MIN 1265	Kenya	5(1)	-	-	-	5(1)	-	-	-	12654	PI 285042	Nigeria	4(1)	-	-	-	4(1)	-	-	-
12589	MIN 1265	Kenya	5(1)	-	-	-	5(1)	-	-	-	12655	PI 1197	India	5(1)	1(1)	2(1)	-	5(1)	1(1)	2(1)	-
12590	MIN 1274	Kenya	5(1)	-	-	-	5(1)	-	-	-	12656	SA 1995	Nigeria	5(1)	3(1)	-	-	5(1)	3(1)	-	-
12591	MIN 1308	Uganda	4(1)	-	-	-	4(1)	-	-	-	12657	SA 2186	Ethiopia	3(1)	-	-	-	3(1)	-	-	-
12592	MIN 1316	Uganda	5(1)	-	-	-	5(1)	-	-	-	12658	PI 302105	Ethiopia	5(1)	-	-	-	5(1)	-	-	-
12593	MIN 1318	Uganda	5(1)	-	-	-	5(1)	-	-	-	12659	PI 250405	Zimbabwe	5(1)	-	-	-	5(1)	-	-	-
12594	MIN 1368	Uganda	4(1)	-	-	-	4(1)	-	-	-	12660	PI 302111	South Africa	5(1)	-	-	-	5(1)	-	-	-
12595	MIN 1374	Uganda	5(1)	3(1)	-	-	5(1)	3(1)	-	-	12661	PI 302113	South Africa	5(1)	-	-	-	5(1)	-	-	-
12596	MIN 1382	Uganda	5(1)	-	-	-	5(1)	-	-	-	12662	PI 307116	Australia	5(1)	4(1)	-	-	5(1)	4(1)	-	-
12597	MIN 1382	Uganda	5(1)	-	-	-	5(1)	-	-	-	12663	PI 307117	Australia	5(1)	-	-	-	5(1)	-	-	-
12598	MIN 1382	Uganda	5(1)	-	-	-	5(1)	-	-	-	12664	PI 307117	Australia	5(1)	-	-	-	5(1)	-	-	-
12599	MIN 1382	Uganda	5(1)	-	-	-	5(1)	-	-	-	12665	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12600	MIN 1382	Uganda	5(1)	-	-	-	5(1)	-	-	-	12666	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12601	MIN 1382	Uganda	5(1)	-	-	-	5(1)	-	-	-	12667	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12602	PI 221624	Nigeria	5(1)	2(1)	-	-	5(1)	2(1)	-	-	12668	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12603	PI 221625	Nigeria	5(1)	2(1)	-	-	5(1)	2(1)	-	-	12669	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12604	PI 221625	Nigeria	5(1)	2(1)	-	-	5(1)	2(1)	-	-	12670	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12605	PI 221625	Nigeria	5(1)	2(1)	-	-	5(1)	2(1)	-	-	12671	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12606	PI 221625	Nigeria	5(1)	2(1)	-	-	5(1)	2(1)	-	-	12672	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12607	MIN 4984	Ethiopia	5(1)	2(1)	-	-	5(1)	2(1)	-	-	12673	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12608	PI 257595	Ethiopia	5(1)	2(1)	-	-	5(1)	2(1)	-	-	12674	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12609	PI 257595	Ethiopia	5(1)	2(1)	-	-	5(1)	2(1)	-	-	12675	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12610	PI 257595	Ethiopia	5(1)	2(1)	-	-	5(1)	2(1)	-	-	12676	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12611	PI 257600	Ethiopia	5(1)	2(1)	-	-	5(1)	2(1)	-	-	12677	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12612	PI 257603	Ethiopia	5(1)	2(1)	-	-	5(1)	2(1)	-	-	12678	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12613	SA 2285	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12679	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12614	SA 2287	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12680	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12615	SA 2288	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12681	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12616	SA 2290	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12682	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12617	SA 2291	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12683	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12618	SA 2292	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12684	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12619	SA 2293	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12685	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12620	SA 2294	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12686	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12621	SA 2295	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12687	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12622	SA 2296	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12688	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12623	SA 2297	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12689	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12624	SA 2298	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12690	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12625	SA 2299	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12691	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12626	SA 2300	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12692	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12627	SA 2301	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12693	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12628	SA 2302	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12694	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12629	SA 2303	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12695	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12630	SA 2304	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12696	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12631	SA 2305	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12697	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12632	SA 2310	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12698	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12633	SA 2312	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12699	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12634	SA 2313	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12700	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12635	SA 2314	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12701	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12636	SA 2315	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12702	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12637	SA 2316	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12703	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12638	SA 2317	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12704	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12639	SA 2318	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12705	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12640	SA 2319	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12706	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12641	SA 2320	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12707	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12642	SA 2321	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12708	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
12643	SA 2322	Ethiopia	5(1)	-	-	-	5(1)	-	-	-	12709	PI 307118	Ethiopia	5(1)	5(1)	-	-	5(1)	5(1)	-	-
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IS No	Alternate accession	Source country	SF	PR	SR	MD	IF	IS No	Alternate accession	Source country	SF	PR	SR	MD	IF
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14906	1-2-5-48	Cameroun	-	4(3)	-	-	4(1)	14949	1-2-14-5	Cameroun	-	4(3)	(1)	(1)	-
14907	1-2-5-49	Cameroun	-	5(1)	-	-	4(1)	15001	2-1-1-1	Cameroun	-	5(1)	-	5(1)	-
14908	1-2-5-50	Cameroun	-	5(1)	-	-	4(1)	15002	2-1-1-3	Cameroun	-	5(1)	-	5(1)	-
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14915	1-2-6-1	Cameroun	-	5(1)	-	-	-	15006	2-1-2-4	Cameroun	-	5(1)	-	4(1)	-
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IS No	Alternate accession identifier	Source country	ST	PR	DRN	DR	IS No	Alternate accession identifier	Source country	ST	PR	DRN	DR
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IS084	2-1-25-10	Cameroon	-	-	-	-	IS170	2-4-6-4	Cameroon	401	-	-	-
IS085	2-1-25-11	Cameroon	-	-	-	-	IS322	2-4-6-5	Cameroon	-	-	-	-
IS086	2-1-25-12	Cameroon	-	-	-	-	IS373	2-4-6-5	Cameroon	-	-	-	-
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IS089	2-2-1-9	Cameroon	-	-	-	-	IS376	2-4-7-7	Cameroon	-	-	-	-
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IS096	2-2-2-8	Cameroon	-	-	-	-	IS382	2-4-8-8	Cameroon	-	-	-	-
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IS101	2-2-4-1	Cameroon	-	-	-	-	IS388	2-4-9-6	Cameroon	-	-	-	-
IS102	2-2-4-4	Cameroon	-	-	-	-	IS389	2-4-9-7	Cameroon	-	-	-	-
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IS110	2-2-5-15	Cameroon	-	-	-	-	IS397	2-4-10-6	Cameroon	-	-	-	-
IS111	2-2-5-16	Cameroon	-	-	-	-	IS398	2-4-10-9	Cameroon	-	-	-	-
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15306	2-5-5-30	Cameroon	-	-	-	-	5(1) 5(1)	15388	2-5-R-54	Cameroon	-	-	-	-	5(1)
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15308	2-5-5-32	Cameroon	-	-	-	-	5(1) 5(1)	15390	2-5-R-56	Cameroon	-	-	-	-	5(1)
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15335	2-5-5-59	Cameroon	-	-	-	-	5(1)	15417	2-5-R-83	Cameroon	-	-	-	-	4(1)
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16118	4-2-1-27	Cameroon	-	5(1)	-	-	16203	4-2-1-3-F	Cameroon	-	5(2)	5(1)	5(1)
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16120	4-2-2-2	Cameroon	-	4(2)	-	-	16205	4-2-11-B	Cameroon	-	5(2)	-	-
16121	4-2-2-3	Cameroon	-	4(1)	5(1)	4(1)	16206	4-2-11-C	Cameroon	-	5(1)	-	-
16122	4-2-2-4	Cameroon	-	5(1)	-	-	16207	4-2-11-D	Cameroon	-	5(2)	-	-
16123	4-2-2-5	Cameroon	-	5(1)	-	-	16208	4-2-11-E	Cameroon	-	5(1)	-	-
16124	4-2-2-6	Cameroon	-	4(2)	-	-	16209	4-2-11-F	Cameroon	-	5(1)	-	-
16125	4-2-2-7	Cameroon	-	5(1)	-	-	16210	4-2-11-G	Cameroon	-	5(1)	-	-
16126	4-2-2-8	Cameroon	-	5(1)	5(1)	-	16211	4-2-12-A	Cameroon	4(1)	-	-	-
16127	4-2-2-9	Cameroon	-	4(2)	-	-	16212	4-2-12-B	Cameroon	-	5(1)	-	-
16128	4-2-2-10	Cameroon	-	5(1)	5(1)	5(1)	16213	4-2-12-C	Cameroon	-	5(1)	5(1)	-
16129	4-2-2-11	Cameroon	-	5(1)	-	-	16214	4-2-12-D	Cameroon	-	5(1)	-	-
16130	4-2-2-12	Cameroon	-	5(1)	-	-	16215	4-2-12-E	Cameroon	-	5(1)	-	-
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16133	4-2-2-15	Cameroon	-	5(1)	-	-	16218	4-2-12-H	Cameroon	-	4(1)	5(1)	-
16134	4-2-2-16	Cameroon	-	4(1)	-	-	16219	4-2-12-I	Cameroon	-	4(1)	-	-
16135	4-2-2-17	Cameroon	-	5(1)	-	-	16220	4-2-12-J	Cameroon	-	4(1)	-	-
16136	4-2-2-18	Cameroon	-	4(1)	-	-	16221	4-2-12-K	Cameroon	-	5(1)	-	-
16137	4-2-2-19	Cameroon	-	5(1)	5(1)	5(1)	16222	4-2-12-L	Cameroon	-	5(1)	5(1)	5(1)
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16139	4-2-2-21	Cameroon	-	5(1)	5(1)	5(1)	16224	4-2-12-N	Cameroon	-	5(1)	5(1)	5(1)
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16142	4-2-2-24	Cameroon	-	5(1)	5(1)	5(1)	16227	4-2-11-A	Cameroon	-	5(1)	-	-
16143	4-2-2-25	Cameroon	-	5(1)	5(1)	5(1)	16228	4-2-11-B	Cameroon	-	5(1)	-	-
16144	4-2-2-26	Cameroon	-	5(1)	5(1)	5(1)	16229	4-2-11-C	Cameroon	-	5(1)	-	-
16145	4-2-2-27	Cameroon	-	5(1)	5(1)	5(1)	16230	4-2-11-D	Cameroon	-	5(1)	-	-
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16149	4-2-2-31	Cameroon	-	5(1)	5(1)	5(1)	16234	4-2-11-H	Cameroon	-	5(1)	-	-
16150	4-2-2-32	Cameroon	-	5(1)	5(1)	5(1)	16235	4-2-11-I	Cameroon	-	5(1)	-	-
16151	4-2-2-33	Cameroon	-	5(1)	5(1)	5(1)	16236	4-2-11-J	Cameroon	-	5(1)	-	-
16152	4-2-2-34	Cameroon	-	5(1)	5(1)	5(1)	16237	4-2-11-K	Cameroon	-	5(1)	-	-
16153	4-2-2-35	Cameroon	-	5(1)	5(1)	5(1)	16238	4-2-11-L	Cameroon	-	5(1)	-	-
16154	4-2-2-36	Cameroon	-	5(1)	5(1)	5(1)	16239	4-2-11-M	Cameroon	-	5(1)	-	-
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16158	4-2-2-40	Cameroon	-	5(1)	5(1)	5(1)	16243	4-2-11-Q	Cameroon	-	5(1)	-	-
16159	4-2-2-41	Cameroon	-	5(1)	5(1)	5(1)	16244	4-2-11-R	Cameroon	-	5(1)	-	-
16160	4-2-2-42	Cameroon	-	5(1)	5(1)	5(1)	16245	4-2-11-S	Cameroon	-	5(1)	-	-
16161	4-2-2-43	Cameroon	-	5(1)	5(1)	5(1)	16246	4-2-11-T	Cameroon	-	5(1)	-	-
16162	4-2-2-44	Cameroon	-	5(1)	5(1)	5(1)	16247	4-2-11-U	Cameroon	-	5(1)	-	-
16163	4-2-2-45	Cameroon	-	5(1)	5(1)	5(1)	16248	4-2-11-V	Cameroon	-	5(1)	-	-
16164	4-2-2-46	Cameroon	-	5(1)	5(1)	5(1)	16249	4-2-11-W	Cameroon	-	5(1)	-	-
16165	4-2-2-47	Cameroon	-	5(1)	5(1)	5(1)	16250	4-2-11-X	Cameroon	-	5(1)	-	-
16166	4-2-2-48	Cameroon	-	5(1)	5(1)	5(1)	16251	4-2-11-Y	Cameroon	-	5(1)	-	-
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16168	4-2-2-50	Cameroon	-	5(1)	5(1)	5(1)	16253	4-2-11-A	Cameroon	-	5(1)	-	-
16169	4-2-2-51	Cameroon	-	5(1)	5(1)	5(1)	16254	4-2-11-B	Cameroon	-	5(1)	-	-
16170	4-2-2-52	Cameroon	-	5(1)	5(1)	5(1)	16255	4-2-11-C	Cameroon	-	5(1)	-	-
16171	4-2-2-53	Cameroon	-	5(1)	5(1)	5(1)	16256	4-2-11-D	Cameroon	-	5(1)	-	-
16172	4-2-2-54	Cameroon	-	5(1)	5(1)	5(1)	16257	4-2-11-E	Cameroon	-	5(1)	-	-
16173	4-2-2-55	Cameroon	-	5(1)	5(1)	5(1)	16258	4-2-11-F	Cameroon	-	5(1)	-	-
16174	4-2-2-56	Cameroon	-	5(1)	5(1)	5(1)	16259	4-2-11-G	Cameroon	-	5(1)	-	-
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16177	4-2-2-59	Cameroon	-	5(1)	5(1)	5(1)	16262	4-2-11-J	Cameroon	-	5(1)	-	-
16178	4-2-2-60	Cameroon	-	5(1)	5(1)	5(1)	16263	4-2-11-K	Cameroon	-	5(1)	-	-
16179	4-2-2-61	Cameroon	-	5(1)	5(1)	5(1)	16264	4-2-11-L	Cameroon	-	5(1)	-	-
16180	4-2-2-62	Cameroon	-	5(1)	5(1)	5(1)	16265	4-2-11-M	Cameroon	-	5(1)	-	-
16181	4-2-2-63	Cameroon	-	5(1)	5(1)	5(1)	16266	4-2-11-N	Cameroon	-	5(1)	-	-
16182	4-2-2-64	Cameroon	-	5(1)	5(1)	5(1)	16267	4-2-11-O	Cameroon	-	5(1)	-	-
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16184	4-2-2-66	Cameroon	-	5(1)	5(1)	5(1)	16269	4-2-11-Q	Cameroon	-	5(1)	-	-
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16186	4-2-2-68	Cameroon	-	5(1)	5(1)	5(1)	16271	4-2-11-S	Cameroon	-	5(1)	-	-
16187	4-2-2-69	Cameroon	-	5(1)	5(1)	5(1)	16272	4-2-11-T	Cameroon	-	5(1)	-	-
16188	4-2-2-70	Cameroon	-	5(1)	5(1)	5(1)	16273	4-2-11-U	Cameroon	-	5(1)	-	-
16189	4-2-2-71	Cameroon	-	5(1)	5(1)	5(1)	16274	4-2-11-V	Cameroon	-	5(1)	-	-
16190	4-2-2-72	Cameroon	-	5(1)	5(1)	5(1)	16275	4-2-11-W	Cameroon	-	5(1)	-	-
16191	4-2-2-73	Cameroon	-	5(1)	5(1)	5(1)	16276	4-2-11-X	Cameroon	-	5(1)	-	-
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16197	4-2-2-79	Cameroon	-	5(1)	5(1)	5(1)	16282	4-2-11-D	Cameroon	-	5(1)	-	-
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IS No	Alternate accession identifier	Source country	NC	PR	SH	IFS	MD	IR	IS No	Alternate accession identifier	Source country	NC	PR	SH	IFS	MD	IR
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16561	4-3-3-76	Cameroon		3(1)					16663	4-4-3-77	Cameroon		3(1)				
16562	4-3-3-77	Cameroon		3(1)					16664	4-4-3-78	Cameroon		3(1)				
16563	4-3-3-78	Cameroon		3(1)					16665	4-4-3-79	Cameroon		3(1)				
16564	4-3-3-79	Cameroon		3(1)					16666	4-4-3-80	Cameroon		3(1)				
16565	4-3-3-80	Cameroon		3(1)					16667	4-4-3-81	Cameroon		3(1)				
16566	4-3-3-81	Cameroon		3(1)					16668	4-4-3-82	Cameroon		3(1)				
16567	4-3-3-82	Cameroon		3(1)					16669	4-4-3-83	Cameroon		3(1)				
16568	4-3-3-83	Cameroon		3(1)					16670	4-4-3-84	Cameroon		3(1)				
16569	4-3-3-84	Cameroon		3(1)					16671	4-4-3-85	Cameroon		3(1)				
16570	4-3-3-85	Cameroon		3(1)					16672	4-4-3-86	Cameroon		3(1)				
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16572	4-3-3-87	Cameroon		3(1)					16674	4-4-3-88	Cameroon		3(1)				
16573	4-3-3-88	Cameroon		3(1)					16675	4-4-3-89	Cameroon		3(1)				
16574	4-3-3-89	Cameroon		3(1)					16676	4-4-3-90	Cameroon		3(1)				
16575	4-3-3-90	Cameroon		3(1)					16677	4-4-3-91	Cameroon		3(1)				
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16579	4-3-3-94	Cameroon		3(1)					16681	4-4-3-95	Cameroon		3(1)				
16580	4-3-3-95	Cameroon		3(1)					16682	4-4-3-96	Cameroon		3(1)				
16581	4-3-3-96	Cameroon		3(1)					16683	4-4-3-97	Cameroon		3(1)				
16582	4-3-3-97	Cameroon		3(1)					16684	4-4-3-98	Cameroon		3(1)				
16583	4-3-3-98	Cameroon		3(1)					16685	4-4-3-99	Cameroon		3(1)				
16584	4-3-3-99	Cameroon		3(1)					16686	4-4-4-00	Cameroon		3(1)				
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AS No	Alternative accession	Source country	SE	PR	NR	MD	IR	IS No	Alternative accession	Source country	SE	PR	NR	MD	IR
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17057	Yar darara	Nigeria	5(1)	-	5(1)	-	-	17310	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17058	Yar darara	Nigeria	5(1)	-	5(1)	-	-	17345	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17060	Yar musun	Nigeria	5(1)	-	5(1)	-	-	17347	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17067	Paikola	Nigeria	5(1)	-	5(1)	-	-	17348	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17071	Croqwa	Nigeria	5(1)	-	5(1)	-	-	17349	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17071	Yakin da Ikin	Nigeria	5(1)	-	5(1)	-	-	17350	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17075	Tara fara	Nigeria	5(1)	-	5(1)	-	-	17352	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17076	Yalan	Nigeria	5(1)	-	5(1)	-	-	17353	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17077	Yalan	Nigeria	5(1)	-	5(1)	-	-	17364	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17078	Yali Isaragun	Nigeria	5(1)	-	5(1)	-	-	17375	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17080	Kala yumi Isara	Nigeria	5(1)	-	5(1)	-	-	17376	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17082	Isafula	Nigeria	5(1)	-	5(1)	-	-	17377	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17087	Yar gasku	Nigeria	5(1)	-	5(1)	-	-	17394	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17089	Ruba	Nigeria	5(1)	-	5(1)	-	-	17400	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17092	Fara fara	Nigeria	5(1)	-	5(1)	-	-	17401	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17094	Wargu	Nigeria	5(1)	-	5(1)	-	-	17415	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17098	Nuncho	Nigeria	5(1)	-	5(1)	-	-	17416	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17099	Belice	Nigeria	5(1)	-	5(1)	-	-	17427	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17101	Tara fara	Nigeria	5(1)	-	5(1)	-	-	17428	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17102	Daden	Nigeria	5(1)	-	5(1)	-	-	17430	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17105	Awon zaho	Nigeria	5(1)	-	5(1)	-	-	17435	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17110	Mor	Nigeria	5(1)	-	5(1)	-	-	17436	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17114	Neni semp	Nigeria	5(1)	-	5(1)	-	-	17459	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17120	Balik Isaragun	Nigeria	5(1)	-	5(1)	-	-	17461	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17124	Mori	Nigeria	5(1)	-	5(1)	-	-	17462	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17126	Giko	Nigeria	5(1)	-	5(1)	-	-	17463	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17127	Ahaku	Nigeria	5(1)	-	5(1)	-	-	17464	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17112	Mai ban	Nigeria	5(1)	-	5(1)	-	-	17465	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17113	Fara fara	Nigeria	5(1)	-	5(1)	-	-	17467	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17115	Wile bentu	Nigeria	5(1)	-	5(1)	-	-	17468	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17117	Bonko	Nigeria	5(1)	-	5(1)	-	-	17469	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17118	Nya kumbia	Nigeria	5(1)	-	5(1)	-	-	17470	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17141	Bonkum	Nigeria	5(1)	-	5(1)	-	-	17471	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17142	Syara tiran	Nigeria	5(1)	-	5(1)	-	-	17472	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17149	Obanoke	Nigeria	5(1)	-	5(1)	-	-	17473	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17150	Jar tura	Nigeria	5(1)	-	5(1)	-	-	17474	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17151	Akiki	Nigeria	5(1)	-	5(1)	-	-	17480	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17155	Enidre	Egypt	5(1)	-	5(1)	-	-	17481	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17157	Banidre	Egypt	5(1)	-	5(1)	-	-	17482	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17159	El 2K	Egypt	5(1)	-	5(1)	-	-	17483	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17170	Ninmu	Nigeria	5(1)	-	5(1)	-	-	17484	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17171	Nadi	Nigeria	5(1)	-	5(1)	-	-	17485	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17174	Birigala	Nigeria	5(1)	-	5(1)	-	-	17486	Unkown	Ethiopia	5(1)	-	5(1)	-	-
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17176	El 2K	Nigeria	5(1)	-	5(1)	-	-	17491	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17178	Nyabun	Nigeria	5(1)	-	5(1)	-	-	17498	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17180	Medhen	Nigeria	5(1)	-	5(1)	-	-	17501	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17185	Kela gazu	Nigeria	5(1)	-	5(1)	-	-	17503	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17186	W G2	USA	5(1)	-	5(1)	-	-	17504	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17188	Sukew	USA	5(1)	-	5(1)	-	-	17506	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17189	Kojo 2	USA	5(1)	-	5(1)	-	-	17507	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17190	Namunji	USA	5(1)	-	5(1)	-	-	17509	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17191	Kucurdo	USA	5(1)	-	5(1)	-	-	17512	Unkown	Ethiopia	5(1)	-	5(1)	-	-
17194	Wah	Nigeria	5(1)	-	5(1)	-	-	17513	Unkown	Ethiopia	5(1)	-	5(1)	-	-
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17196	El 2K	Nigeria	5(1)	-	5(1)	-	-	17515	Unkown	Ethiopia	5(1)	-	5(1)	-	-
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17292	Unkown	Ethiopia	5(1)	-	5(1)	-	-	17553	Unkown	Nigeria	5(1)	-	5(1)	-	-
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17307	Unkown	Ethiopia	5(1)	-	5(1)	-	-	17556	Unkown	Nigeria	5(1)	-	5(1)	-	-
17311	Unkown	Ethiopia	5(1)	-	5(1)	-	-	17558	Unkown	Nigeria	5(1)	-	5(1)	-	-
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17318	Unkown	Ethiopia	5(1)	-	5(1)	-	-	17560	Unkown	Nigeria	5(1)	-	5(1)	-	-
17323	Unkown	Ethiopia	5(1)	-	5(1)	-	-	17561	Unkown	Nigeria	5(1)	-	5(1)	-	-
17326	Unkown	Ethiopia	5(1)	-	5(1)	-	-	17562	Unkown	Nigeria	5(1)	-	5(1)	-	-
17331	Unkown	Ethiopia	5(1)	-	5(1)	-	-	17563	Unkown	Nigeria	5(1)	-	5(1)	-	-
17332	Unkown	Ethiopia	5(1)	-	5(1)	-	-	17564	Unkown	Nigeria	5(1)	-	5(1)	-	-

IS No	Alternate accession identifier	Source country	SP	SD	MD	DR	IS No	Alternate accession identifier	Source country	SP	SD	MD	DR
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17565	3822	Nigeria	5(1)	-	-	-	17630	Van wong	Ghana	5(1)	-	-	-
17566	3828	Nigeria	5(1)	-	-	-	17631	Wang 2	Ghana	5(1)	5(1)	-	-
17567	3830	Nigeria	5(1)	-	-	-	17632	AYO 1	Ghana	5(1)	-	-	-
17568	3834	Nigeria	5(1)	-	-	-	17633	AYO 5	Ghana	5(1)	-	-	-
17569	3831	Nigeria	5(1)	-	-	-	17634	Beddingling	Ghana	5(2)	-	-	-
17570	3832	Nigeria	5(1)	-	-	-	17635	GDC 1	Ghana	5(1)	-	-	-
17571	3834	Nigeria	5(1)	-	-	-	17636	GDC 2	Ghana	5(1)	-	-	-
17572	3835	Nigeria	5(2)	-	-	-	17637	Kapilaga	Ghana	5(1)	-	-	-
17573	3836	Nigeria	5(1)	-	-	-	17638	Vasanthakutal	Ghana	5(1)	-	-	-
17574	3837	Nigeria	5(1)	-	-	-	17639	Unkown	Ghana	5(1)	-	-	-
17575	3838	Nigeria	5(1)	-	-	-	17640	Yellow jowar	India	5(1)	-	-	-
17576	3839	Nigeria	5(1)	-	-	-	17641	Yellow jowar	India	4(2)	5(1)	5(1)	-
17577	3840	Nigeria	5(1)	-	-	-	17642	Yellow jowar	India	4(2)	5(1)	5(1)	-
17578	3848	Nigeria	4(1)	5(1)	-	-	17643	Yellow jowar	India	2(1)	5(2)	5(1)	-
17579	3849	Nigeria	3(1)	5(1)	5(2)	-	17644	Yellow jowar	India	5(2)	5(1)	-	-
17580	3877-1	Nigeria	2(2)	-	-	-	17645	Yellow jowar	India	5(1)	5(1)	5(1)	-
17581	3877-2	Nigeria	2(1)	-	-	-	17646	Yellow jowar	India	5(1)	5(1)	-	-
17582	7787	Nigeria	2(1)	-	-	-	17647	Yellow jowar	India	2(1)	5(1)	-	-
17583	3850	Nigeria	2(1)	-	-	-	17648	Yellow jowar	India	4(2)	5(1)	-	-
17584	3851	Nigeria	2(1)	-	-	-	17649	Yellow jowar	India	5(1)	5(1)	-	-
17585	Dimla & Sada	Yemen	2(1)	-	-	-	17650	Yellow jowar	India	4(2)	5(1)	-	-
17586	Nasaschi	Yemen	2(1)	5(1)	-	-	17651	Yellow jowar	India	5(2)	4(1)	-	-
17587	Abdihace	Yemen	2(2)	-	-	-	17652	Yellow jowar	India	4(2)	5(1)	-	-
17588	Shubho	Yemen	1(1)	5(1)	5(1)	5(1)	17653	Yellow jowar	India	4(2)	-	-	-
17589	Bandi sahari	Yemen	5(1)	-	-	-	17654	Yellow jowar	India	4(2)	4(2)	5(1)	-
17590	Qurra lumra	Yemen	5(1)	-	-	-	17655	KFP 16	India	4(2)	4(1)	-	-
17591	Thana shama	Yemen	5(1)	-	-	-	17656	KFP 17	India	5(2)	-	-	-
17592	Gogoyachi	Yemen	5(1)	-	-	-	17657	Yellow jowar	India	4(1)	-	-	-
17593	Lindhoran	Yemen	5(1)	-	-	-	17658	Yellow jowar	India	5(1)	-	-	-
17594	Daada	Yemen	5(1)	-	-	-	17659	Yellow jowar	India	4(2)	5(1)	-	-
17595	Bandi eubeti	Yemen	5(1)	-	-	-	17660	KFP 21	India	5(2)	-	-	-
17596	Araya 124	Yemen	5(2)	-	-	-	17661	Light yellow jowar	India	4(1)	4(1)	-	-
17597	Sana 1	Yemen	5(1)	-	-	-	17662	KFP 23	India	5(2)	-	-	-
17598	Sana 2	Yemen	5(2)	-	-	-	17663	KFP 24	India	4(2)	4(1)	-	-
17599	Sana 3	Yemen	5(1)	-	-	-	17664	Red jowar	India	4(2)	5(1)	5(1)	5(2)
17600	Drinlo	Yemen	5(1)	5(1)	5(1)	5(1)	17665	White jowar	India	5(1)	-	-	-
17601	Drinlo eubeti	Yemen	5(1)	-	-	-	17666	White jowar	India	5(1)	-	-	-
17602	Drinlo	Yemen	5(1)	-	-	-	17667	White jowar	India	5(1)	-	-	-
17603	Sana 4	Yemen	5(1)	-	-	-	17668	White jowar	India	5(1)	-	-	-
17604	Sana 5	Yemen	5(1)	-	-	-	17669	White jowar	India	5(1)	-	-	-
17605	Amata	Yemen	5(1)	5(1)	5(1)	5(1)	17670	White jowar	India	5(1)	-	-	-
17606	Sana 6	Yemen	5(1)	-	-	-	17671	White jowar	India	5(1)	-	-	-
17607	Thana	Yemen	2(1)	-	-	-	17672	White jowar	India	5(1)	-	-	-
17608	Ladiga	Yemen	5(1)	-	-	-	17673	White jowar	India	5(1)	-	-	-
17609	Alma	Ghana	5(1)	5(1)	5(1)	5(1)	17674	White jowar	India	5(1)	-	-	-
17610	Mbajelag	Ghana	5(1)	5(1)	5(1)	5(1)	17675	White jowar	India	5(1)	-	-	-
17611	Mbajelag	Ghana	5(1)	-	-	-	17676	White jowar	India	5(1)	-	-	-
17612	W. S. 1	Ghana	5(1)	-	-	-	17677	White jowar	India	5(1)	-	-	-
17613	W. S. 2	Ghana	5(1)	-	-	-	17678	White jowar	India	5(1)	-	-	-
17614	W. S. 3	Ghana	5(1)	-	-	-	17679	White jowar	India	5(1)	-	-	-
17615	W. S. 4	Ghana	5(1)	-	-	-	17680	White jowar	India	5(1)	-	-	-
17616	W. S. 5	Ghana	5(1)	-	-	-	17681	White jowar	India	5(1)	-	-	-
17617	W. S. 6	Ghana	5(1)	-	-	-	17682	White jowar	India	5(1)	-	-	-
17618	W. S. 7	Ghana	5(1)	-	-	-	17683	White jowar	India	5(1)	-	-	-
17619	W. S. 8	Ghana	5(1)	-	-	-	17684	White jowar	India	5(1)	-	-	-
17620	W. S. 9	Ghana	5(1)	-	-	-	17685	White jowar	India	5(1)	-	-	-
17621	W. S. 10	Ghana	5(1)	-	-	-	17686	White jowar	India	5(1)	-	-	-
17622	W. S. 11	Ghana	5(1)	-	-	-	17687	White jowar	India	5(1)	-	-	-
17623	W. S. 12	Ghana	5(1)	-	-	-	17688	White jowar	India	5(1)	-	-	-
17624	W. S. 13	Ghana	5(1)	-	-	-	17689	White jowar	India	5(1)	-	-	-
17625	W. S. 14	Ghana	5(1)	-	-	-	17690	White jowar	India	5(1)	-	-	-
17626	W. S. 15	Ghana	5(1)	-	-	-	17691	White jowar	India	5(1)	-	-	-
17627	W. S. 16	Ghana	5(1)	-	-	-	17692	White jowar	India	5(1)	-	-	-
17628	W. S. 17	Ghana	5(1)	-	-	-	17693	White jowar	India	5(1)	-	-	-
17629	W. S. 18	Ghana	5(1)	-	-	-	17694	White jowar	India	5(1)	-	-	-
17630	W. S. 19	Ghana	5(1)	-	-	-	17695	White jowar	India	5(1)	-	-	-
17631	W. S. 20	Ghana	5(1)	-	-	-	17696	White jowar	India	5(1)	-	-	-
17632	W. S. 21	Ghana	5(1)	-	-	-	17697	White jowar	India	5(1)	-	-	-
17633	W. S. 22	Ghana	5(1)	-	-	-	17698	White jowar	India	5(1)	-	-	-
17634	W. S. 23	Ghana	5(1)	-	-	-	17699	White jowar	India	5(1)	-	-	-
17635	W. S. 24	Ghana	5(1)	-	-	-	17700	White jowar	India	5(1)	-	-	-
17636	W. S. 25	Ghana	5(1)	-	-	-	17701	White jowar	India	5(1)	-	-	-
17637	W. S. 26	Ghana	5(1)	-	-	-	17702	White jowar	India	5(1)	-	-	-
17638	W. S. 27	Ghana	5(1)	-	-	-	17703	White jowar	India	5(1)	-	-	-
17639	W. S. 28	Ghana	5(1)	-	-	-	17704	White jowar	India	5(1)	-	-	-
17640	W. S. 29	Ghana	5(1)	-	-	-	17705	White jowar	India	5(1)	-	-	-
17641	W. S. 30	Ghana	5(1)	-	-	-	17706	White jowar	India	5(1)	-	-	-
17642	W. S. 31	Ghana	5(1)	-	-	-	17707	White jowar	India	5(1)	-	-	-
17643	W. S. 32	Ghana	5(1)	-	-	-	17708	White jowar	India	5(1)	-	-	-
17644	W. S. 33	Ghana	5(1)	-	-	-	17709	White jowar	India	5(1)	-	-	-
17645	W. S. 34	Ghana	5(1)	-	-	-	17710	White jowar	India	5(1)	-	-	-
17646	W. S. 35	Ghana	5(1)	-	-	-	17711	White jowar	India	5(1)	-	-	-
17647	W. S. 36	Ghana	5(1)	-	-	-	17712	White jowar	India	5(1)	-	-	-
17648	W. S. 37	Ghana	5(1)	-	-	-	17713	White jowar	India	5(1)	-	-	-
17649	W. S. 38	Ghana	5(1)	-	-	-	17714	White jowar	India	5(1)	-	-	-
17650	W. S. 39	Ghana	5(1)	-	-	-	17715	White jowar	India	5(1)	-	-	-

HS No	Alternate accession identifier	Source country	SP	PR	DIS	LFS	MD	DR	HS No	Alternate accession identifier	Source country	SP	PR	DIS	LFS	MD	DR
			R	PR	DIS	LFS	MD	DR				R	PR	DIS	LFS	MD	DR
17336	Tella jonna	India	5(2)	2(2)	5(1)	-	5(1)	-	17920	KEP 160	India	5(2)	4(2)	5(1)	-	5(1)	5(1)
17337	Tella jonna	India	4(5)	5(1)	-	-	-	-	17921	KEP 161	India	5(2)	5(1)	-	-	-	-
17338	Tella jonna	India	5(2)	5(1)	-	-	5(1)	-	17922	KEP 162	India	5(2)	5(1)	-	-	-	-
17339	Nalin visam jonna	India	4(5)	2(4)	4(2)	-	5(1)	-	17923	KEP 163	India	5(2)	5(1)	-	-	-	-
17340	Tella jonna	India	4(5)	5(2)	5(4)	-	5(1)	-	17924	KEP 164	India	5(2)	5(1)	-	-	-	-
17341	Tella jonna	India	-	-	5(3)	-	5(1)	-	17925	KEP 165	India	5(1)	4(1)	5(1)	-	-	-
17342	Tella jonna	India	3(3)	2(4)	5(1)	5(1)	5(2)	5(3)	17926	KEP 166	India	5(2)	4(2)	5(1)	-	-	-
17343	Tella jonna	India	5(2)	4(2)	5(1)	-	5(1)	-	17927	KEP 167	India	5(2)	5(1)	-	-	-	-
17344	Tella jonna	India	5(1)	5(1)	5(2)	-	-	-	17928	KEP 168	India	5(2)	4(2)	5(1)	-	-	-
17345	Tella jonna	India	5(1)	3(2)	5(1)	5(1)	5(3)	-	17929	KEP 169	India	5(2)	4(2)	-	-	-	-
17346	Tella jonna	India	5(1)	5(2)	5(1)	-	5(2)	-	17930	KEP 170	India	5(2)	5(2)	-	-	-	-
17347	Tella jonna	India	5(2)	3(2)	5(1)	-	5(2)	5(4)	17931	KEP 170.2	India	5(2)	4(1)	-	-	-	-
17349	Gunditella jonna	India	4(2)	2(4)	5(3)	-	-	-	17932	KEP 171	India	5(2)	4(2)	5(1)	-	-	-
17350	Tella jonna	India	4(5)	4(4)	5(2)	-	5(2)	5(2)	17933	KEP 171.2	India	4(1)	3(2)	-	-	-	-
17351	Tella jonna	India	3(1)	2(2)	5(2)	-	5(1)	-	17934	KEP 171.3	India	5(2)	5(1)	5(1)	-	-	-
17352	Puru jonna	India	4(4)	4(1)	5(1)	-	-	-	17935	KEP 171.4	India	4(2)	4(1)	5(1)	-	-	-
17353	Puru jonna	India	4(4)	3(1)	3(1)	-	-	-	17936	KEP 172	India	5(2)	4(1)	-	-	-	-
17354	Puru jonna	India	4(4)	5(2)	5(1)	-	-	-	17937	KEP 173	India	5(2)	4(1)	-	-	-	-
17355	Puru jonna	India	3(5)	5(1)	-	-	-	-	17938	KEP 174	India	5(2)	4(1)	-	-	-	-
17356	Aradia palcha jonna	India	3(4)	5(1)	-	-	-	-	17939	KEP 175	India	5(2)	4(1)	-	-	-	-
17357	Palla jonna	India	4(5)	5(1)	-	-	-	-	17940	KEP 176	India	5(2)	5(1)	-	-	-	-
17358	Kakuvu jonna	India	4(4)	4(1)	5(1)	-	-	-	17941	KEP 177	India	5(2)	4(1)	-	-	-	-
17359	Edakula jonna	India	5(4)	4(1)	5(1)	-	-	-	17942	KEP 178	India	5(2)	5(1)	-	-	-	-
17360	Puru jonna	India	4(5)	4(1)	5(1)	-	-	-	17943	KEP 179	India	5(1)	4(1)	-	-	-	-
17361	Venu modda jonna	India	4(4)	3(1)	5(1)	-	-	-	17944	KEP 180	India	5(2)	4(1)	-	-	-	-
17362	Kakuvu jonna	India	4(1)	-	-	-	-	-	17945	KEP 181	India	5(2)	4(2)	-	-	-	-
17363	Venu modda jonna	India	5(4)	4(1)	-	-	-	-	17946	KEP 181.2	India	5(1)	3(1)	-	-	-	-
17364	Kakuvu jonna	India	4(1)	3(2)	-	-	-	-	17947	KEP 182	India	5(2)	4(2)	-	-	-	-
17365	Kakuvu jonna	India	4(5)	4(1)	5(1)	-	-	-	17948	KEP 183	India	5(2)	-	-	-	-	-
17366	Tella jonna	India	5(4)	5(2)	-	-	-	-	17949	KEP 184	India	4(2)	4(2)	-	-	-	-
17367	Tella jonna	India	4(5)	2(2)	4(1)	-	-	-	17950	KEP 185	India	4(3)	4(2)	-	-	-	-
17368	Chela paacha jonna	India	5(4)	4(2)	-	-	-	-	17951	KEP 186	India	5(2)	5(1)	-	-	-	-
17369	Kola paacha jonna	India	5(4)	5(2)	5(1)	-	-	-	17952	KEP 187	India	5(1)	-	-	-	-	-
17370	Parula paacha jonna	India	5(2)	4(2)	-	-	5(1)	-	17953	KEP 188	India	5(2)	4(1)	4(2)	-	-	-
17371	Paacha jonna	India	4(4)	4(2)	5(1)	-	5(1)	-	17954	KEP 189	India	5(2)	5(1)	-	-	-	-
17372	Belala jonna	India	5(2)	5(1)	-	-	-	-	17955	KEP 190	India	5(2)	4(1)	-	-	-	-
17373	Belala jonna	India	5(1)	4(1)	4(1)	-	-	-	17956	KEP 191	India	5(2)	4(1)	-	-	-	-
17374	Maddu parin jonna	India	4(4)	4(2)	-	-	-	-	17957	KEP 194	India	5(2)	-	-	-	-	-
17375	Cheruku jonna	India	4(7)	5(1)	-	-	-	-	17958	KEP 195	India	5(2)	4(1)	-	-	-	-
17376	Katta jonna	India	5(2)	5(1)	2(2)	-	5(1)	-	17959	KEP 196	India	4(2)	-	-	-	-	-
17377	Cheruku jonna	India	4(5)	4(2)	4(2)	-	5(1)	-	17960	KEP 197	India	5(2)	4(1)	-	-	-	-
17378	Paacha jonna	India	5(2)	2(2)	4(2)	-	5(1)	-	17961	KEP 198	India	4(2)	4(1)	-	-	-	-
17379	Paacha jonna	India	5(2)	5(1)	-	-	-	-	17962	KEP 199	India	5(2)	5(1)	-	-	-	-
17380	Paacha jonna	India	5(1)	5(1)	-	-	-	-	17963	KEP 200	India	5(2)	5(1)	-	-	-	-
17381	Puru jonna	India	5(2)	5(1)	5(1)	-	-	-	17964	KEP 201	India	5(2)	4(1)	-	-	-	-
17382	Kola paacha jonna	India	5(4)	5(2)	-	-	-	-	17965	KEP 202	India	5(2)	4(1)	-	-	-	-
17383	Puru jonna	India	5(1)	4(1)	-	-	-	-	17966	KEP 203	India	5(2)	5(1)	-	-	-	-
17384	Puru jonna	India	4(5)	5(1)	-	-	-	-	17967	KEP 204	India	5(2)	4(1)	-	-	-	-
17385	Paacha jonna	India	6(2)	4(2)	5(1)	-	-	-	17968	KEP 205	India	5(1)	5(1)	-	-	-	-
17386	Paacha jonna	India	4(5)	4(1)	-	-	-	-	17969	KEP 206	India	5(2)	4(1)	-	-	-	-
17387	Paacha jonna	India	5(1)	5(1)	-	-	-	-	17970	KEP 207	India	5(2)	4(1)	-	-	-	-
17388	Paacha jonna	India	5(1)	5(1)	-	-	-	-	17971	KEP 208	India	5(2)	4(1)	-	-	-	-
17389	Paacha jonna	India	4(5)	4(1)	-	-	-	-	17972	KEP 209	India	5(2)	4(1)	-	-	-	-
17390	Paacha jonna	India	4(5)	4(1)	-	-	-	-	17973	KEP 210	India	5(2)	4(1)	-	-	-	-
17391	Paacha jonna	India	4(5)	4(1)	-	-	-	-	17974	KEP 211	India	5(2)	4(1)	-	-	-	-
17392	Paacha jonna	India	4(5)	4(1)	-	-	-	-	17975	KEP 212	India	5(2)	4(1)	-	-	-	-
17393	Paacha jonna	India	4(5)	4(1)	-	-	-	-	17976	KEP 213	India	5(2)	4(1)	-	-	-	-
17394	Paacha jonna	India	4(5)	4(1)	-	-	-	-	17977	KEP 214	India	5(2)	4(1)	-	-	-	-
17395	Paacha jonna	India	4(5)	4(1)	-	-	-	-	17978	KEP 215	India	5(2)	4(1)	-	-	-	-
17396	Paacha jonna	India	4(5)	4(1)	-	-	-	-	17979	KEP 216	India	5(2)	4(1)	-	-	-	-
17397	Paacha jonna	India	4(5)	4(1)	-	-	-	-	17980	KEP 217	India	5(2)	4(1)	-	-	-	-
17398	Paacha jonna	India	4(5)	4(1)	-	-	-	-	17981	KEP 218	India	5(2)	4(1)	-	-	-	-
17399	Paacha jonna	India	4(5)	4(1)	-	-	-	-	17982	KEP 219	India	5(2)	4(1)	-	-	-	-
17400	Venu jonna	India	4(4)	4(2)	-	-	-	-	17983	KEP 220	India	5(2)	4(1)	-	-	-	-
17401	Venu jonna	India	4(4)	4(2)	-	-	-	-	17984	KEP 221	India	5(2)	4(1)	-	-	-	-
17402	Karala jonna	India	4(5)	3(1)	2(1)	-	5(1)	-	17985	KEP 222	India	5(2)	4(1)	-	-	-	-
17403	Parala jonna	India	5(1)	-	-	-	5(2)	-	17986	KEP 223	India	5(2)	4(1)	-	-	-	-
17404	Parala jonna	India	5(1)	-	-	-	5(1)	-	17987	KEP 224	India	5(2)	4(1)	-	-	-	-
17405	Cheruku jonna	India	5(1)	5(1)	-	-	-	-	17988	KEP 225	India	5(2)	4(1)	-	-	-	-
17406	Tella jonna	India	2(2)	5(2)	-	-	-	-	17989	KEP 226	India	5(2)	4(1)	-	-	-	-
17407	KEP 147	India	5(2)	4(1)	-	-	-	-	17990	KEP 227	India	5(2)	4(1)	-	-	-	-
17408	KEP 148	India	4(2)	5(2)	-	-	-	-	17991	KEP 228	India	4(1)	4(2)	5(1)	-	-	-
17409	KEP 151	India	5(2)	5(1)	-	-	-	-	17992	KEP 229	India	4(2)	4(1)	-	-	-	-
17410	KEP 152	India	5(1)	4(1)	-	-	-	-	17993	KEP 230	India	5(2)	4(1)	-	-	-	-
17411	KEP 153	India	5(2)	5(2)	-	-	-	-	17994	KEP 231	India	5(2)	4(1)	-	-	-	-
17412	KEP 154	India	5(2)	5(1)	-	-	-	-	17995	KEP 232	India	5(2)	4(1)	-	-	-	-
17413	KEP 155	India	5(2)	5(1)	3(1)	-	-	-	17996	KEP 233	India	4(2)	4(1)	-	-	-	-
17414	KEP 156	India	5(2)	4(1)	5(1)	-	5(2)	-	17997	KEP 234	India	4(2)	4(1)	-	-	-	-
17415	KEP 157	India	5(2)	4(1)	5(1)	-	5(2)	-	17998	KEP 235	India	5(2)	4(1)	-	-	-	-
17416	KEP 157.1	India	5(2)	4(1)	5(1)	-	5(2)	-	17999	KEP 236	India	5(2)	4(1)	-	-	-	-
17417	KEP 157.2	India	5(2)	4(1)	5(1)	-	5(2)	-	18000	KEP 237	India	5(2)	4(1)	-	-	-	-
17418	KEP 158	India	5(2)	4(1)	5(1)	-	5(2)	-	18001	KEP 238	India	5(2)	4(1)	-	-	-	-
17419	KEP 159	India	5(2)	4(1)	5(1)	-	5(2)	-	18002	KEP 239	India	5(2)	4(1)	-	-	-	-

IS No.	Alternate accession	Source country	SP	PR	SH	MD	HR	IS No.	Alternate accession	Source country	SP	PR	SH	MD	HR
	Identification		R	PR	SH	MD	HR		Identification		R	PR	SH	MD	HR
18402	PF 108	India	4(2)	2(2)	3(1)	-	-	18484	CS 1541	India	4(2)	3(2)	-	-	3(1)
18403	PF 116	India	4(3)	2(3)	3(1)	-	3(1)	18485	CS 3678-765	India	2(1)	3(1)	-	-	3(1)
18404	PF 12K	India	4(3)	3(3)	3(1)	-	3(1)	18486	CS 1687	India	4(1)	3(1)	-	-	3(2)
18405	PF 13K	India	4(3)	3(3)	3(1)	-	-	18487	RC 4	India	4(2)	3(2)	-	-	3(2)
18406	PF 14K	India	4(4)	2(4)	3(1)	-	4(2)	18488	R 24	India	4(4)	3(4)	3(1)	-	3(1)
18407	PF 15K	India	4(2)	3(2)	3(1)	-	3(1)	18489	PS 11	India	4(3)	3(3)	3(1)	-	-
18408	PF 16K	India	4(4)	2(4)	3(1)	-	-	18490	PT 2-1	India	2(1)	3(1)	3(1)	3(1)	3(2)
18409	PF 17K	India	4(2)	3(2)	3(1)	-	3(2)	18491	PT 2-2	India	3(1)	3(2)	3(2)	-	-
18410	PF 17K	India	2(3)	3(3)	-	-	3(3)	18492	PT 3-1-1	India	3(1)	3(1)	3(1)	-	3(2)
18411	NZ 15K	India	4(3)	2(3)	3(1)	-	-	18493	PS 478	India	3(4)	2(3)	3(2)	-	3(4)
18412	NZ 16K	India	4(3)	2(3)	3(1)	-	3(2)	18494	PS 176	India	2(1)	3(1)	-	-	3(2)
18413	Madhuli local	India	4(4)	3(4)	3(1)	-	3(2)	18495	MS 1	India	4(2)	3(2)	3(1)	-	3(2)
18414	Changmang local	India	2(1)	3(1)	-	-	3(2)	18496	Panchang	India	2(2)	-	-	-	3(2)
18415	Namoli local	India	3(4)	3(4)	3(1)	-	3(3)	18497	USV 1	India	2(3)	3(2)	3(1)	-	3(2)
18416	Kuppal local	India	3(3)	3(3)	-	-	3(2)	18498	USV 4	India	2(1)	3(4)	3(1)	-	3(2)
18417	Kand local	India	3(4)	3(4)	3(1)	-	-	18499	USV 5	India	1(1)	3(2)	-	-	3(2)
18418	Dhuli	India	4(2)	3(2)	-	-	4(1)	18500	USV 7	India	2(1)	4(2)	-	-	3(2)
18419	Saenag pajar	India	4(1)	3(2)	2(3)	-	3(2)	18501	Panipat 3275	India	2(1)	4(1)	-	-	3(2)
18420	Khandi jowar	India	3(1)	3(1)	-	-	3(1)	18502	R 1	India	2(1)	-	-	-	3(2)
18421	Kamkeli	India	4(2)	3(2)	2(2)	-	3(2)	18503	R 2	India	2(1)	-	1(1)	3(1)	-
18422	Bili gila	India	4(1)	3(1)	-	-	3(3)	18504	R 3	India	2(1)	4(3)	3(1)	-	3(2)
18423	Sauri 1	India	4(2)	3(2)	3(1)	-	3(2)	18505	R 4	India	2(1)	4(2)	-	-	4(3)
18424	Shimoga-R	India	3(3)	3(3)	3(1)	-	3(2)	18506	R 5	India	2(1)	3(1)	-	-	3(2)
18425	Aravali	India	3(2)	3(2)	3(1)	-	3(2)	18507	R 6	India	3(1)	3(1)	3(1)	-	3(2)
18426	Aravali	India	3(1)	3(1)	2(1)	-	3(2)	18508	PT 160	India	3(1)	3(4)	3(1)	-	-
18427	Nialo	India	4(4)	2(4)	3(1)	-	3(2)	18509	Neeta Jula	India	3(2)	4(2)	3(1)	-	3(2)
18428	K. variety red	India	3(3)	3(3)	3(1)	-	3(2)	18510	P 1 Jany	India	1(1)	4(1)	3(1)	3(1)	3(2)
18429	K. variety yellow	India	4(2)	4(2)	3(1)	-	3(1)	18511	Paigat white	India	2(1)	-	3(1)	3(1)	-
18430	K. variety white	India	3(3)	3(3)	-	-	3(1)	18512	US R 1	India	3(1)	3(1)	3(4)	-	3(2)
18431	Vodha NO-1	India	4(1)	3(1)	3(2)	-	4(3)	18513	Heliohygus	India	3(1)	3(1)	3(1)	-	3(2)
18432	101	India	4(2)	3(2)	-	-	3(1)	18514	CT 50-16-1	Bhutan	3(1)	-	-	-	3(2)
18433	USNA A-52	India	3(2)	4(2)	3(2)	-	3(3)	18515	India down 1	Uganda	2(1)	3(1)	-	-	3(2)
18434	K 1351	India	3(1)	3(1)	3(1)	-	3(2)	18516	Camelina	Uganda	2(1)	3(1)	-	-	4(4)
18435	101 178	India	4(3)	2(3)	3(1)	-	3(1)	18517	GL 1	Uganda	4(2)	3(2)	-	-	3(2)
18436	K. 202-2-20	India	3(2)	3(2)	3(1)	-	3(3)	18518	Dabhi	Uganda	4(2)	4(2)	4(2)	-	3(2)
18437	Khanduli P-1, B	India	3(1)	3(2)	3(2)	-	3(3)	18519	Narino	Uganda	4(2)	4(1)	4(2)	-	4(4)
18438	11 102	India	3(1)	3(1)	3(1)	-	3(3)	18520	Pranides	USA	3(4)	3(2)	-	-	3(2)
18439	11 106	India	4(2)	3(2)	-	-	3(2)	18521	Pranides 1	USA	3(1)	3(1)	-	-	4(1)
18440	11 107	India	4(2)	3(2)	-	-	3(2)	18522	Pranides 4 R	USA	4(2)	4(2)	3(1)	-	3(3)
18441	11 109	India	4(2)	3(2)	-	-	3(3)	18523	SI-1	USA	3(1)	4(1)	3(1)	3(1)	3(2)
18442	21 112	India	3(1)	3(1)	3(2)	-	4(1)	18524	Zulu	USA	-	-	1(1)	3(2)	3(1)
18443	HC 116	India	4(1)	3(1)	3(2)	-	4(1)	18525	S-6	USA	3(1)	4(2)	3(1)	3(1)	3(2)
18444	SPV 1	India	4(2)	3(2)	-	-	3(2)	18527	Rio 168	USA	3(1)	3(1)	-	-	3(1)
18445	SPV 5	India	4(2)	3(2)	3(1)	-	3(3)	18528	Camelina adaluk	Uganda	2(1)	3(2)	3(1)	-	3(4)
18446	SPV 12	India	4(2)	3(2)	3(2)	-	3(3)	18529	GL 1	Uganda	3(2)	4(2)	3(2)	-	3(2)
18447	SPV 15	India	3(2)	3(2)	3(1)	-	3(3)	18530	GL 1 (white)	Uganda	3(1)	2(1)	4(2)	-	3(1)
18448	SPV 55	India	3(1)	3(1)	3(1)	-	3(3)	18531	Giza 3	Uganda	3(1)	4(1)	3(1)	-	3(1)
18449	SPV 56	India	3(1)	3(1)	3(1)	-	3(3)	18532	GMD 2006	Uganda	4(2)	4(2)	3(1)	-	3(1)
18450	SPV 59	India	3(1)	3(1)	-	-	3(3)	18533	SS 2	Pakistan	4(1)	2(1)	3(1)	-	3(1)
18451	SPV 71	India	3(1)	3(1)	3(1)	-	4(1)	18534	S-9	Burkina Faso	2(1)	2(1)	-	-	3(2)
18452	SPV 164	India	-	-	3(2)	-	4(1)	18535	Sesquifol	Honduras	3(1)	4(1)	-	-	3(2)
18453	SPV 129	India	4(1)	3(1)	3(1)	-	3(3)	18536	R1 Honduras	Honduras	3(1)	3(1)	-	-	3(2)
18454	KO 2	India	1(1)	2(2)	3(1)	3(1)	3(2)	18537	Rukimang Inkatia	Nigeria	3(1)	3(1)	4(2)	-	4(1)
18455	KO 4	India	4(1)	4(2)	3(1)	-	4(2)	18538	YF 161	United Kingdom	4(1)	3(2)	-	-	3(2)
18456	KO 11	India	3(4)	2(4)	3(1)	-	3(3)	18539	Sulfolobus	Sudan	2(1)	3(1)	-	-	3(1)
18457	KO 12	India	2(1)	3(1)	-	-	3(2)	18540	Edimond	Uganda	3(1)	3(1)	-	-	3(2)
18458	KO 18	India	2(1)	3(1)	-	-	4(1)	18541	Adimond	Ethiopia	2(1)	4(2)	4(1)	-	3(2)
18459	KO 19	India	2(1)	3(1)	-	-	3(1)	18542	Adimond 70	Ethiopia	4(1)	4(1)	-	-	3(2)
18460	KO 20	India	3(4)	3(4)	3(1)	-	-	18543	Adimond 277	Ethiopia	3(1)	4(1)	3(1)	-	3(2)
18461	KO 21	India	3(1)	3(1)	3(1)	-	3(1)	18544	Adimond 1050	Ethiopia	2(1)	-	-	-	3(2)
18462	KO 22	India	3(1)	3(1)	-	-	3(2)	18545	Babile 103	Ethiopia	4(1)	3(1)	-	-	3(2)
18463	Saenag	India	2(1)	2(1)	3(2)	-	3(1)	18546	Defensa 1057	Ethiopia	2(1)	4(1)	-	-	3(2)
18464	KO4	India	2(1)	2(1)	-	-	3(1)	18547	FT 2039	Ethiopia	3(1)	3(1)	-	-	3(2)
18465	S-102	India	2(1)	2(1)	-	-	4(2)	18548	Orto 1001	Ethiopia	2(1)	3(2)	-	-	3(2)
18466	S-103	India	2(1)	2(1)	-	-	3(2)	18549	Orto 1005	Ethiopia	2(1)	3(2)	-	-	3(2)
18467	CPR 148	India	3(2)	3(2)	-	-	3(1)	18550	Orto 1007	Ethiopia	2(1)	3(2)	-	-	3(2)
18468	CPR 168	India	2(1)	2(1)	-	-	3(2)	18551	Orto 1008	Ethiopia	2(1)	3(2)	-	-	3(2)
18469	CPR 169	India	4(1)	3(1)	-	-	3(2)	18552	Orto 1009	Ethiopia	2(1)	3(2)	-	-	3(2)
18470	CPR 170	India	4(1)	3(1)	-	-	3(2)	18553	Orto 1010	Ethiopia	2(1)	3(2)	-	-	3(2)
18471	CPR 171	India	3(1)	3(1)	-	-	3(2)	18554	Orto 1011	Ethiopia	4(1)	3(2)	-	-	3(2)
18472	CPR 172	India	4(2)	3(2)	3(1)	-	3(2)	18555	Orto 1012	Ethiopia	3(1)	4(1)	3(1)	-	3(2)
18473	CPR 173	India	2(1)	2(1)	3(1)	-	3(2)	18556	Orto 1013	Ethiopia	3(1)	3(1)	3(1)	-	3(2)
18474	CPR 174	India	3(2)	3(2)	-	-	3(1)	18557	Orto 1014	Ethiopia	3(1)	3(1)	3(1)	-	3(2)
18475	CPR 175	India	4(2)	3(2)	3(1)	-	3(2)	18558	Orto 1015	Ethiopia	1(1)	4(2)	-	-	3(4)
18476	CPR 176	India	3(1)	3(1)	3(1)	-	3(2)	18559	Orto 1016	Ethiopia	3(1)	3(1)	3(1)	-	3(2)
18477	CPR 177	India	3(1)	3(1)	-	-	3(2)	18560	Orto 1017	Ethiopia	2(1)	3(1)	3(1)	-	4(4)
18478	CPR 178	India	3(2)	3(2)	-	-	3(2)	18561	Orto 1018	Ethiopia	2(1)	3(1)	3(1)	-	3(2)
18479	CPR 179	India	4(2)	3(2)	3(1)	-	4(2)	18562	Orto 1019	Ethiopia	2(1)	3(1)	3(1)	-	3(2)
18480	CPR 180	India	3(2)	3(2)	3(1)	-	4(2)	18563	Orto 1020	Ethiopia	2(1)	3(1)	3(1)	-	3(2)
18481	CPR 181	India	4(1)	3(1)	-	-	4(2)	18564	Orto 1021	Ethiopia	2(1)	3(1)	3(1)	-	3(2)
18482	R 17	India	3(4)	3(4)	3(1)	-	3(4)	18565	Orto 1022	Ethiopia	2(1)	3(1)	3(1)	-	3(2)
18483	CS A-2	India	4(4)	2(4)	-	-	3(1)	18566	V 2104-P-1-1	Uganda	3(1)	-	-	-	4(3)

IS No	Alternate accession identifier	Source country	SE	SR	MD	HR	IS No	Alternate accession identifier	Source country	SE	SR	MD	HR		
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03406	HW 760	USA	-	-	-	-	03407	HW 761	USA	-	-	-	-	-	-
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03410	HW 764	USA	-	-	-	-	03411	HW 765	USA	-	-	-	-	-	-
03412	HW 766	USA	-	-	-	-	03413	HW 767	USA	-	-	-	-	-	-
03414	HW 768	USA	-	-	-	-	03415	HW 769	USA	-	-	-	-	-	-
03416	HW 770	USA	-	-	-	-	03417	HW 771	USA	-	-	-	-	-	-
03418	HW 772	USA	-	-	-	-	03419	HW 773	USA	-	-	-	-	-	-
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03422	HW 776	USA	-	-	-	-	03423	HW 777	USA	-	-	-	-	-	-
03424	HW 778	USA	-	-	-	-	03425	HW 779	USA	-	-	-	-	-	-
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03428	HW 782	USA	-	-	-	-	03429	HW 783	USA	-	-	-	-	-	-
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03434	HW 788	USA	-	-	-	-	03435	HW 789	USA	-	-	-	-	-	-
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03456	HW 810	USA	-	-	-	-	03457	HW 811	USA	-	-	-	-	-	-
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03608	HW 962	USA	-	-	-	-	03609	HW 963	USA	-	-	-	-	-	-
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03612	HW 966	USA	-	-	-	-	03613	HW 967	USA	-	-	-	-	-	-
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03616	HW 970	USA	-	-	-	-	03617	HW 971	USA	-	-	-	-	-	-
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03622	HW 976	USA	-	-	-	-	03623	HW 977	USA	-	-	-	-	-	-
03624	HW 978	USA	-	-	-	-	03625	HW 979	USA	-	-	-	-	-	-
03626	HW 980	USA	-	-	-	-	03627	HW 981	USA	-	-	-	-	-	-
03628	HW 982	USA	-	-	-	-	03629	HW 983	USA	-	-	-	-	-	-
03630	HW 984	USA	-	-	-	-	03631	HW 985	USA						

IS No	Alternate accession identifier	Source country	SP	FR	DBS	LF	DB	DR	IS No	Alternate accession identifier	Source country	SP	FR	DBS	LF	DB	DR
10060	WM 10114	Sudan	3(1)	-	-	-	-	-	10151	WM 10314	Sudan	3(2)	5(1)	-	-	-	-
10061	WM 10119	Sudan	4(1)	-	-	-	-	-	10152	WM 10315	Sudan	3(1)	-	-	-	-	-
10071	WM 10120	Sudan	3(1)	-	-	-	-	-	10153	WM 10316	Sudan	4(1)	-	-	-	-	-
10072	WM 10122	Sudan	2(1)	5(1)	-	-	-	-	10154	WM 10317	Sudan	2(1)	5(1)	-	-	-	5(1)
10073	WM 10123	Sudan	4(2)	3(2)	-	-	-	-	10155	WM 10318	Sudan	2(2)	-	-	-	-	5(2)
10074	WM 10124	Sudan	3(1)	-	-	-	-	-	10156	WM 10319	Sudan	-	-	-	-	-	5(2)
10075	WM 10131	Sudan	3(1)	-	-	-	-	-	10157	WM 10320	Sudan	2(1)	-	-	-	-	5(1)
10076	WM 10132	Sudan	3(1)	-	-	-	-	-	10158	WM 10321	Sudan	3(1)	-	-	-	-	-
10077	WM 10133	Sudan	3(1)	-	-	-	-	-	10159	WM 10322	Sudan	3(1)	-	-	-	-	-
10078	WM 10134	Sudan	-	-	-	-	-	-	10160	WM 10323	Sudan	4(1)	-	-	-	-	-
10079	WM 10136	Sudan	2(1)	-	-	-	-	-	10161	WM 10324	Sudan	2(1)	4(1)	-	-	-	-
10080	WM 10137	Sudan	2(1)	-	-	-	-	-	10162	WM 10325	Sudan	4(1)	-	-	-	-	-
10081	WM 10140	Sudan	3(1)	-	-	-	-	-	10163	WM 10326	Sudan	2(1)	4(1)	-	-	-	5(1)
10082	WM 10141	Sudan	2(1)	-	-	-	-	-	10164	WM 10327	Sudan	2(1)	5(1)	-	-	-	-
10083	WM 10142	Sudan	3(1)	-	-	-	-	-	10165	WM 10328	Sudan	2(1)	4(1)	-	-	-	-
10084	WM 10143	Sudan	3(1)	3(1)	3(1)	-	-	-	10166	WM 10329	Sudan	2(1)	5(1)	-	-	-	5(1)
10085	WM 10144	Sudan	3(1)	-	-	-	-	-	10167	WM 10330	Sudan	3(1)	5(1)	-	-	-	-
10086	WM 10147	Sudan	2(1)	-	-	-	-	-	10168	WM 10331	Sudan	4(1)	-	-	-	-	5(1)
10087	WM 10148	Sudan	3(1)	-	-	-	-	-	10169	WM 10332	Sudan	3(1)	-	-	-	-	-
10088	WM 10152	Sudan	4(1)	-	-	-	-	-	10170	WM 10333	Sudan	3(1)	-	-	-	-	-
10089	WM 10155	Sudan	2(1)	-	-	-	-	-	10171	WM 10334	Sudan	2(1)	3(1)	-	-	-	-
10090	WM 10157	Sudan	4(1)	-	-	-	-	-	10172	WM 10335	Sudan	3(1)	-	-	-	-	5(1)
10091	WM 10158	Sudan	3(1)	-	-	-	-	-	10173	WM 10336	Sudan	2(1)	4(1)	-	-	-	-
10092	WM 10162	Sudan	3(1)	-	-	-	-	-	10174	WM 10337	Sudan	4(1)	-	-	-	-	-
10093	WM 10163	Sudan	2(1)	4(1)	-	-	-	-	10175	WM 10338	Sudan	2(1)	4(1)	-	-	-	-
10094	WM 10164	Sudan	4(1)	-	-	-	-	-	10176	WM 10339	Sudan	2(1)	5(1)	-	-	-	5(1)
10095	WM 10165	Sudan	3(1)	-	-	-	-	-	10177	WM 10340	Sudan	3(1)	5(1)	-	-	-	5(1)
10096	WM 10166	Sudan	3(1)	-	-	-	-	-	10178	WM 10341	Sudan	3(1)	-	-	-	-	-
10097	WM 10170	Sudan	2(1)	6(2)	-	-	-	-	10179	WM 10342	Sudan	4(1)	-	-	-	-	-
10098	WM 10171	Sudan	4(1)	-	-	-	-	-	10180	WM 10343	Sudan	3(1)	-	-	-	-	-
10099	WM 10172	Sudan	2(1)	4(1)	-	-	-	-	10181	WM 10344	Sudan	3(1)	-	-	-	-	-
10100	WM 10173	Sudan	2(1)	5(1)	-	-	-	-	10182	WM 10345	Sudan	3(1)	-	-	-	-	-
10101	WM 10180	Sudan	3(1)	-	-	-	-	-	10183	WM 10346	Sudan	3(1)	-	-	-	-	-
10102	WM 10181	Sudan	3(1)	-	-	-	-	-	10184	WM 10347	Sudan	3(1)	-	-	-	-	-
10103	WM 10185	Sudan	3(1)	-	-	-	-	-	10185	WM 10348	Sudan	3(1)	-	-	-	-	-
10104	WM 10189	Sudan	3(1)	-	-	-	-	-	10186	WM 10349	Sudan	2(1)	4(1)	-	-	-	-
10105	WM 10191	Sudan	3(1)	-	-	-	-	-	10187	WM 10350	Sudan	3(1)	-	-	-	-	-
10106	WM 10192	Sudan	3(1)	-	-	-	-	-	10188	WM 10351	Sudan	3(1)	-	-	-	-	-
10107	WM 10193	Sudan	2(1)	-	-	-	-	-	10189	WM 10352	Sudan	3(1)	-	-	-	-	-
10108	WM 10201	Sudan	2(1)	3(1)	2(1)	-	-	-	10190	WM 10353	Sudan	3(1)	-	-	-	-	-
10109	WM 10202	Sudan	2(1)	4(1)	-	-	-	-	10191	WM 10354	Sudan	3(1)	-	-	-	-	-
10110	WM 10204	Sudan	2(1)	4(1)	-	-	-	-	10192	WM 10355	Sudan	3(1)	-	-	-	-	-
10111	WM 10206	Sudan	3(1)	-	-	-	-	-	10193	WM 10356	Sudan	2(1)	4(1)	-	-	-	-
10112	WM 10207	Sudan	3(1)	-	-	-	-	-	10194	WM 10357	Sudan	4(1)	-	-	-	-	-
10113	WM 10208	Sudan	3(1)	-	-	-	-	-	10195	WM 10358	Sudan	2(1)	4(1)	-	-	-	-
10114	WM 10209	Sudan	2(1)	4(1)	-	-	-	-	10196	WM 10359	Sudan	4(1)	-	-	-	-	-
10115	WM 10210	Sudan	2(1)	4(1)	-	-	-	-	10197	WM 10360	Sudan	3(1)	-	-	-	-	-
10116	WM 10211	Sudan	4(1)	-	-	-	-	-	10198	WM 10361	Sudan	4(1)	-	-	-	-	-
10117	WM 10214	Sudan	3(1)	-	-	-	-	-	10199	WM 10362	Sudan	3(1)	-	-	-	-	-
10118	WM 10215	Sudan	3(1)	-	-	-	-	-	10200	WM 10363	Sudan	2(1)	-	-	-	-	-
10119	WM 10216	Sudan	2(1)	5(1)	-	-	-	-	10201	WM 10364	Sudan	3(1)	-	-	-	-	-
10120	WM 10217	Sudan	3(1)	-	-	-	-	-	10202	WM 10365	Sudan	2(1)	5(1)	-	-	-	-
10121	WM 10218	Sudan	2(1)	-	-	-	-	-	10203	WM 10366	Sudan	3(1)	4(1)	-	-	-	-
10122	WM 10220	Sudan	3(1)	-	-	-	-	-	10204	WM 10367	Sudan	4(1)	-	-	-	-	-
10123	WM 10223	Sudan	2(1)	-	-	-	-	-	10205	WM 10368	Sudan	3(1)	-	-	-	-	-
10124	WM 10224	Sudan	2(1)	5(1)	-	-	-	-	10206	WM 10369	Sudan	3(1)	-	-	-	-	-
10125	WM 10231	Sudan	3(1)	-	-	-	-	-	10207	WM 10370	Sudan	3(1)	-	-	-	-	-
10126	WM 10231	Sudan	4(1)	-	-	-	-	-	10208	WM 10371	Sudan	3(1)	-	-	-	-	-
10127	WM 10247	Sudan	3(1)	-	-	-	-	-	10209	WM 10372	Sudan	3(1)	-	-	-	-	-
10128	WM 10249	Sudan	3(1)	-	-	-	-	-	10210	WM 10373	Sudan	2(1)	-	-	-	-	-
10129	WM 10258	Sudan	3(1)	-	-	-	-	-	10211	WM 10374	Sudan	3(1)	4(1)	-	-	-	-
10130	WM 10259	Sudan	3(1)	-	-	-	-	-	10212	WM 10375	Sudan	3(1)	-	-	-	-	-
10131	WM 10260	Sudan	3(1)	-	-	-	-	-	10213	WM 10376	Sudan	3(1)	4(1)	-	-	-	-
10132	WM 10261	Sudan	3(1)	-	-	-	-	-	10214	WM 10377	Sudan	2(1)	5(1)	-	-	-	-
10133	WM 10263	Sudan	2(1)	5(1)	2(1)	-	-	-	10215	WM 10378	Sudan	3(1)	-	-	-	-	-
10134	WM 10264	Sudan	-	4(1)	-	-	-	-	10216	WM 10379	Sudan	2(1)	3(1)	-	-	-	-
10135	WM 10265	Sudan	-	5(1)	-	-	-	-	10217	WM 10380	Sudan	3(1)	-	-	-	-	-
10136	WM 10266	Sudan	-	4(1)	-	-	-	-	10218	WM 10381	Sudan	4(1)	-	-	-	-	-
10137	WM 10267	Sudan	-	5(1)	-	-	-	-	10219	WM 10382	Sudan	3(1)	-	-	-	-	-
10138	WM 10268	Sudan	2(1)	5(1)	-	-	-	-	10220	WM 10383	Sudan	3(1)	-	-	-	-	-
10139	WM 10271	Sudan	2(1)	4(1)	-	-	-	-	10221	WM 10384	Sudan	3(1)	-	-	-	-	-
10140	WM 10272	Sudan	2(1)	5(1)	-	-	-	-	10222	WM 10385	Sudan	3(1)	-	-	-	-	-
10141	WM 10273	Sudan	3(1)	4(1)	-	-	-	-	10223	WM 10386	Sudan	3(1)	4(1)	-	-	-	-
10142	WM 10276	Sudan	3(1)	-	-	-	-	-	10224	WM 10387	Sudan	2(1)	4(1)	-	-	-	-
10143	WM 10277	Sudan	2(1)	-	-	-	-	-	10225	WM 10388	Sudan	3(1)	-	-	-	-	-
10144	WM 10279	Sudan	3(1)	-	-	-	-	-	10226	WM 10389	Sudan	2(1)	4(1)	-	-	-	-
10145	WM 10282	Sudan	3(1)	-	-	-	-	-	10227	WM 10390	Sudan	3(1)	-	-	-	-	-
10146	WM 10283	Sudan	1(1)	4(1)	-	-	-	-	10228	WM 10391	Sudan	2(1)	5(1)	-	-	-	-
10147	WM 10293	Sudan	3(1)	-	-	-	-	-	10229	WM 10392	Sudan	3(1)	-	-	-	-	-
10148	WM 10305	Sudan	3(1)	-	-	-	-	-	10230	WM 10393	Sudan	2(1)	5(1)	-	-	-	-
10149	WM 10310	Sudan	4(1)	-	-	-	-	-	10231	WM 10394	Sudan	2(1)	5(1)	-	-	-	-
10150	WM 10310	Sudan	2(1)	-	-	-	-	-	10232	WM 10395	Sudan	2(1)	3(1)	-	-	-	-

[illegible]

IS No	Alternate accession identifier	Source country	SP	SR	SB	MD	IRB	IS No	Alternate accession identifier	Source country	SP	SR	SB	MD	IRB
			R	PR	DRS	DR	DR				R	PR	DRS	DR	DR
21391	MD 413	Malawi	5(1)	-	-	-	5(1)	21475	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21392	MD 260	Malawi	5(1)	-	-	-	-	21476	SAD 286	Malawi	5(1)	-	3(2)	1(1)	5(2)
21395	MD 259	Malawi	5(1)	-	-	-	2(1)	21477	SAD 267	Malawi	5(1)	-	-	-	5(2)
21396	MD 265	Malawi	5(1)	-	-	-	-	21478	SAD 290	Malawi	5(1)	-	3(2)	1(1)	5(2)
21397	MD 260	Malawi	5(2)	-	-	-	-	21479	SAD 201	Malawi	5(1)	-	2(2)	1(1)	5(2)
21398	MD 301	Malawi	5(1)	-	-	-	-	21480	SAD 293	Malawi	5(1)	-	4(2)	1(1)	5(2)
21399	MD 311	Malawi	5(1)	-	-	-	-	21481	SAD 262	Malawi	5(1)	-	3(2)	1(1)	5(2)
21400	SAD 7	Malawi	5(1)	-	1(2)	1(1)	-	21482	SAD 296	Malawi	5(1)	-	3(2)	1(1)	5(2)
21401	SAD 16	Malawi	5(1)	-	3(2)	1(1)	5(1)	21483	SAD 296	Malawi	5(1)	-	3(2)	1(1)	5(2)
21402	SAD 17	Malawi	5(1)	-	3(2)	1(1)	5(1)	21484	SAD 298	Malawi	5(1)	-	1(1)	1(1)	5(2)
21403	SAD 30	Malawi	5(1)	-	4(2)	1(1)	5(2)	21485	Tempanungu	Malawi	5(1)	-	3(2)	1(1)	5(2)
21404	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)	21486	SAD 312	Malawi	5(1)	-	3(2)	1(1)	5(2)
21405	Mtshile	Malawi	5(1)	-	3(2)	1(1)	5(2)	21487	SAD 311	Malawi	5(1)	-	3(2)	1(1)	5(2)
21406	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)	21488	SAD 316	Malawi	5(1)	-	3(2)	1(1)	5(2)
21407	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)	21489	SAD 317	Malawi	5(1)	-	3(2)	1(1)	5(2)
21408	SAD 53	Malawi	5(1)	-	3(2)	1(1)	5(2)	21490	SAD 351	Malawi	5(1)	-	2(2)	1(1)	5(2)
21409	SAD 55	Malawi	5(1)	-	3(2)	1(1)	5(2)	21491	SAD 355	Malawi	5(1)	-	2(2)	1(1)	5(2)
21410	Mtshile	Malawi	5(1)	-	3(2)	1(1)	5(2)	21492	SAD 356	Malawi	5(1)	-	3(2)	1(1)	5(2)
21411	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)	21493	Kapelele	Malawi	5(1)	-	3(2)	1(1)	5(2)
21412	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)	21494	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21413	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)	21495	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21414	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)	21496	SAD 363	Malawi	5(1)	-	3(2)	1(1)	5(2)
21415	SAD 74	Malawi	5(1)	-	3(2)	1(1)	5(2)	21497	SAD 364	Malawi	5(1)	-	3(2)	1(1)	5(2)
21416	Kapelele	Malawi	5(1)	-	3(2)	1(1)	5(2)	21498	SAD 365	Malawi	5(1)	-	3(2)	1(1)	5(2)
21417	SAD 78	Malawi	5(1)	-	3(2)	1(1)	5(2)	21499	Kapelele	Malawi	5(1)	-	3(2)	1(1)	5(2)
21418	SAD 79 A	Malawi	5(1)	-	3(2)	1(1)	5(2)	21500	SAD 367	Malawi	5(1)	-	3(2)	1(1)	5(2)
21419	SAD 79 B	Malawi	5(1)	-	3(2)	1(1)	5(2)	21501	Shidaka	Malawi	5(1)	-	3(2)	1(1)	5(2)
21420	SAD 88B	Malawi	5(1)	-	3(2)	1(1)	5(2)	21502	Ndlo-ndlo	Malawi	5(1)	-	3(2)	1(1)	5(2)
21421	SAD 87	Malawi	5(1)	-	3(2)	1(1)	5(2)	21503	SAD 368	Malawi	5(1)	-	3(2)	1(1)	5(2)
21422	SAD 88	Malawi	5(1)	-	3(2)	1(1)	5(2)	21504	SAD 369	Malawi	5(1)	-	3(2)	1(1)	5(2)
21423	SAD 89	Malawi	5(1)	-	3(2)	1(1)	5(2)	21505	SAD 369	Malawi	5(1)	-	3(2)	1(1)	5(2)
21424	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)	21506	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21425	Tempanungu	Malawi	5(1)	-	3(2)	1(1)	5(2)	21507	SAD 369	Malawi	5(1)	-	3(2)	1(1)	5(2)
21426	Ndlo-ndlo	Malawi	5(1)	-	3(2)	1(1)	5(2)	21508	SAD 369	Malawi	5(1)	-	3(2)	1(1)	5(2)
21427	SAD 110	Malawi	5(1)	-	3(2)	1(1)	5(2)	21509	SAD 371	Malawi	5(1)	-	3(2)	1(1)	5(2)
21428	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)	21510	SAD 371	Malawi	5(1)	-	3(2)	1(1)	5(2)
21429	SAD 111	Malawi	5(1)	-	3(2)	1(1)	5(2)	21511	SAD 370	Malawi	5(1)	-	3(2)	1(1)	5(2)
21430	SAD 113	Malawi	5(1)	-	3(2)	1(1)	5(2)	21512	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21431	SAD 116	Malawi	5(1)	-	3(2)	1(1)	5(2)	21513	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21432	SAD 117	Malawi	5(1)	-	3(2)	1(1)	5(2)	21514	Mtshile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21433	SAD 122	Malawi	5(1)	-	3(2)	1(1)	5(2)	21515	SAD 374	Malawi	5(1)	-	3(2)	1(1)	5(2)
21434	SAD 124	Malawi	5(1)	-	3(2)	1(1)	5(2)	21516	SAD 375	Malawi	5(1)	-	3(2)	1(1)	5(2)
21435	SAD 125	Malawi	5(1)	-	3(2)	1(1)	5(2)	21517	SAD 376	Malawi	5(1)	-	3(2)	1(1)	5(2)
21436	SAD 129	Malawi	5(1)	-	3(2)	1(1)	5(2)	21518	SAD 376	Malawi	5(1)	-	3(2)	1(1)	5(2)
21437	SAD 131	Malawi	5(1)	-	3(2)	1(1)	5(2)	21519	SAD 376	Malawi	5(1)	-	3(2)	1(1)	5(2)
21438	SAD 132	Malawi	5(1)	-	3(2)	1(1)	5(2)	21520	SAD 376	Malawi	5(1)	-	3(2)	1(1)	5(2)
21439	SAD 138	Malawi	5(1)	-	3(2)	1(1)	5(2)	21521	SAD 377	Malawi	5(1)	-	3(2)	1(1)	5(2)
21440	SAD 154	Malawi	5(1)	-	3(2)	1(1)	5(2)	21522	Mtshile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21441	SAD 155	Malawi	5(1)	-	3(2)	1(1)	5(2)	21523	SAD 378	Malawi	5(1)	-	3(2)	1(1)	5(2)
21442	SAD 157	Malawi	5(1)	-	3(2)	1(1)	5(2)	21524	SAD 378	Malawi	5(1)	-	3(2)	1(1)	5(2)
21443	SAD 157	Malawi	5(1)	-	3(2)	1(1)	5(2)	21525	SAD 378	Malawi	5(1)	-	3(2)	1(1)	5(2)
21444	SAD 158	Malawi	5(1)	-	3(2)	1(1)	5(2)	21526	SAD 378	Malawi	5(1)	-	3(2)	1(1)	5(2)
21445	SAD 163	Malawi	5(1)	-	3(2)	1(1)	5(2)	21527	SAD 378	Malawi	5(1)	-	3(2)	1(1)	5(2)
21446	SAD 164	Malawi	5(1)	-	3(2)	1(1)	5(2)	21528	SAD 378	Malawi	5(1)	-	3(2)	1(1)	5(2)
21447	SAD 165	Malawi	5(1)	-	3(2)	1(1)	5(2)	21529	SAD 378	Malawi	5(1)	-	3(2)	1(1)	5(2)
21448	SAD 168	Malawi	5(1)	-	3(2)	1(1)	5(2)	21530	SAD 378	Malawi	5(1)	-	3(2)	1(1)	5(2)
21449	SAD 170	Malawi	5(1)	-	3(2)	1(1)	5(2)	21531	Mtshile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21450	SAD 171	Malawi	5(1)	-	3(2)	1(1)	5(2)	21532	SAD 629	Malawi	5(1)	-	3(2)	1(1)	5(2)
21451	SAD 173	Malawi	5(1)	-	3(2)	1(1)	5(2)	21533	Mtshile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21452	SAD 175	Malawi	5(1)	-	3(2)	1(1)	5(2)	21534	SAD 175	Malawi	5(1)	-	3(2)	1(1)	5(2)
21453	SAD 181	Malawi	5(1)	-	3(2)	1(1)	5(2)	21535	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21454	SAD 182	Malawi	5(1)	-	3(2)	1(1)	5(2)	21536	SAD 182	Malawi	5(1)	-	3(2)	1(1)	5(2)
21455	SAD 183	Malawi	5(1)	-	3(2)	1(1)	5(2)	21537	Mtshile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21456	SAD 185	Malawi	5(1)	-	3(2)	1(1)	5(2)	21538	SAD 609	Malawi	5(1)	-	3(2)	1(1)	5(2)
21457	SAD 190	Malawi	5(1)	-	3(2)	1(1)	5(2)	21539	SAD 700	Malawi	5(1)	-	3(2)	1(1)	5(2)
21458	SAD 191	Malawi	5(1)	-	3(2)	1(1)	5(2)	21540	SAD 717	Malawi	5(1)	-	3(2)	1(1)	5(2)
21459	SAD 191	Malawi	5(1)	-	3(2)	1(1)	5(2)	21541	SAD 718 A	Malawi	5(1)	-	3(2)	1(1)	5(2)
21460	SAD 194	Malawi	5(1)	-	3(2)	1(1)	5(2)	21542	SAD 719 A	Malawi	5(1)	-	3(2)	1(1)	5(2)
21461	SAD 195	Malawi	5(1)	-	3(2)	1(1)	5(2)	21543	SAD 726 B	Malawi	5(1)	-	3(2)	1(1)	5(2)
21462	SAD 196	Malawi	5(1)	-	3(2)	1(1)	5(2)	21544	SAD 741 B	Malawi	5(1)	-	3(2)	1(1)	5(2)
21463	SAD 205	Malawi	5(1)	-	3(2)	1(1)	5(2)	21545	SAD 730	Malawi	5(1)	-	3(2)	1(1)	5(2)
21464	Kashomile	Malawi	5(1)	-	3(2)	1(1)	5(2)	21546	SAD 741 B	Malawi	5(1)	-	3(2)	1(1)	5(2)
21465	SAD 214	Malawi	5(1)	-	3(2)	1(1)	5(2)	21547	SAD 742	Malawi	5(1)	-	3(2)	1(1)	5(2)
21466	SAD 225	Malawi	5(1)	-	3(2)	1(1)	5(2)	21548	SAD 743	Malawi	5(1)	-	3(2)	1(1)	5(2)
21467	SAD 226 A	Malawi	5(1)	-	3(2)	1(1)	5(2)	21549	SAD 745	Malawi	5(1)	-	3(2)	1(1)	5(2)
21468	SAD 226 B	Malawi	5(1)	-	3(2)	1(1)	5(2)	21550	Mtshile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21469	SAD 235	Malawi	5(1)	-	3(2)	1(1)	5(2)	21551	Mtshile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21470	SAD 235	Malawi	5(1)	-	3(2)	1(1)	5(2)	21552	Mtshile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21471	SAD 235	Malawi	5(1)	-	3(2)	1(1)	5(2)	21553	Mtshile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21472	SAD 235	Malawi	5(1)	-	3(2)	1(1)	5(2)	21554	Mtshile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21473	SAD 235	Malawi	5(1)	-	3(2)	1(1)	5(2)	21555	Mtshile	Malawi	5(1)	-	3(2)	1(1)	5(2)
21474	SAD 235	Malawi	5(1)	-	3(2)	1(1)	5(2)	21556	Mtshile	Malawi	5(1)	-	3(2)	1(1)	5(2)

IS No	Alternate accession identifier	Source country	SI	SP	SH	MD	DR	IS No	Alternate accession identifier	Source country	SI	SP	SH	MD	DR
			R	PR	DRS	LFS	DR				R	PR	DRS	LFS	DR
21557	SAD 704	Malawi	5/11	-	3/21	1/11	-	21640	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11
21558	SAD 800	Malawi	5/11	-	1/21	1/11	5/11	21642	Kavakazuru	Malawi	5/11	-	3/21	1/11	4/11
21559	SAD 835	Malawi	5/11	-	3/21	1/11	-	21642	Kavakazuru	Malawi	5/11	-	3/21	1/11	5/11
21560	SAD 857	Malawi	5/11	-	3/21	1/11	5/11	21643	SAD 107	Malawi	5/11	-	3/21	1/11	5/11
21561	SAD 828 A	Malawi	5/11	-	1/21	1/11	-	21644	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11
21562	SAD 829	Malawi	5/11	-	3/11	1/11	-	21645	SAD 108	Malawi	5/11	-	3/21	1/11	5/11
21563	SAD 813 B	Malawi	5/11	-	2/21	1/11	-	21646	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11
21564	SAD 815 A	Malawi	5/11	-	1/21	1/11	5/11	21647	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11
21565	SAD 815 A	Malawi	5/11	-	2/21	1/11	-	21648	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11
21566	SAD 854	Malawi	5/11	-	3/21	1/11	-	21649	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11
21567	SAD 853	Malawi	5/11	-	3/21	1/11	-	21650	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11
21568	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11	21651	Kavakazuru	Malawi	5/11	-	3/21	1/11	5/11
21569	SAD 865	Malawi	5/11	-	3/21	1/11	5/11	21652	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11
21570	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11	21653	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11
21571	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11	21654	Misale	Malawi	5/11	-	3/21	1/11	5/11
21572	SAD 801	Malawi	5/11	-	3/21	1/11	5/11	21655	SAD 108	Malawi	5/11	-	3/21	1/11	5/11
21573	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11	21656	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11
21574	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11	21657	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11
21575	SAD 872	Malawi	5/11	-	3/21	1/11	5/11	21658	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11
21577	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11	21659	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11
21578	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11	21660	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11
21579	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11	21662	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11
21580	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11	21663	Musungumungu	Malawi	5/11	-	3/21	1/11	5/11
21581	Misale	Malawi	5/11	-	3/21	1/11	5/11	21664	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11
21582	Misale	Malawi	5/11	-	3/21	1/11	5/11	21665	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11
21583	SAD 881	Malawi	5/11	-	3/21	1/11	5/11	21666	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11
21584	SAD 881	Malawi	5/11	-	3/21	1/11	5/11	21667	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11
21585	SAD 881	Malawi	5/11	-	3/21	1/11	5/11	21668	Musungumungu	Malawi	5/11	-	3/21	1/11	5/11
21586	Misale	Malawi	5/11	-	3/21	1/11	5/11	21669	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11
21587	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11	21670	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11
21588	Misale	Malawi	5/11	-	3/21	1/11	5/11	21671	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11
21589	SAD 891	Malawi	5/11	-	3/21	1/11	5/11	21672	SAD 108	Malawi	5/11	-	3/21	1/11	5/11
21590	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11	21673	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11
21591	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11	21674	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11
21592	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11	21675	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11
21593	Kavakazuru	Malawi	5/11	-	3/21	1/11	5/11	21676	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11
21594	Misale	Malawi	5/11	-	3/21	1/11	5/11	21677	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11
21595	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11	21678	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11
21596	SAD 901	Malawi	5/11	-	3/21	1/11	5/11	21679	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11
21597	Musungumungu	Malawi	5/11	-	3/21	1/11	5/11	21680	SAD 107	Malawi	5/11	-	3/21	1/11	5/11
21598	Misale	Malawi	5/11	-	3/21	1/11	5/11	21681	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11
21599	Misale	Malawi	5/11	-	3/21	1/11	5/11	21682	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11
21600	Misale	Malawi	5/11	-	3/21	1/11	5/11	21683	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11
21601	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11	21684	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11
21602	SAD 906	Malawi	5/11	-	3/21	1/11	5/11	21685	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11
21603	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11	21686	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11
21604	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11	21688	HFD 200	Niger	5/11	-	3/21	1/11	5/11
21605	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11	21689	HFD 181	Niger	5/11	-	3/21	1/11	5/11
21606	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11	21690	HFD 181	Niger	5/11	-	3/21	1/11	5/11
21607	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11	21692	Unkown	Niger	5/11	-	3/21	1/11	5/11
21608	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11	21693	HFD 306	Nigeria	5/11	-	3/21	1/11	5/11
21609	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11	21694	HFD 307	Nigeria	5/11	-	3/21	1/11	5/11
21610	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11	21695	HFD 307	Nigeria	5/11	-	3/21	1/11	5/11
21611	Misale	Malawi	5/11	-	3/21	1/11	5/11	21697	HFD 307	Nigeria	5/11	-	3/21	1/11	5/11
21612	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11	21698	HFD 409	Nigeria	5/11	-	3/21	1/11	5/11
21613	SAD 926	Malawi	5/11	-	3/21	1/11	5/11	21699	PI 2211585	Nigeria	5/11	-	3/21	1/11	5/11
21614	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11	21700	PI 2211615	Nigeria	5/11	-	3/21	1/11	5/11
21615	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11	21701	PI 2211617	Nigeria	5/11	-	3/21	1/11	5/11
21616	Misale	Malawi	5/11	-	3/21	1/11	5/11	21702	PI 2211625	Nigeria	5/11	-	3/21	1/11	5/11
21617	Musungumungu	Malawi	5/11	-	3/21	1/11	5/11	21703	PI 2211628	Nigeria	5/11	-	3/21	1/11	5/11
21618	SAD 934	Malawi	5/11	-	3/21	1/11	5/11	21704	PI 2211661	Nigeria	5/11	-	3/21	1/11	5/11
21619	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11	21705	PI 2211662	Nigeria	5/11	-	3/21	1/11	5/11
21620	Kavakazuru	Malawi	5/11	-	3/21	1/11	5/11	21707	PI 2211911	Nigeria	5/11	-	3/21	1/11	5/11
21621	Kavakazuru	Malawi	5/11	-	3/21	1/11	5/11	21708	PI 2211912	Nigeria	5/11	-	3/21	1/11	5/11
21622	Kavakazuru	Malawi	5/11	-	3/21	1/11	5/11	21709	PI 2211913	Nigeria	5/11	-	3/21	1/11	5/11
21623	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11	21710	PI 2211914	Nigeria	5/11	-	3/21	1/11	5/11
21624	Misale	Malawi	5/11	-	3/21	1/11	5/11	21711	PI 2211915	Nigeria	5/11	-	3/21	1/11	5/11
21625	Kavakazuru	Malawi	5/11	-	3/21	1/11	5/11	21712	PI 2211916	Nigeria	5/11	-	3/21	1/11	5/11
21626	Kavakazuru	Malawi	5/11	-	3/21	1/11	5/11	21713	SC 1208 106	Ghana	5/11	-	3/21	1/11	5/11
21627	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11	21714	SC 1209 106	Ghana	5/11	-	3/21	1/11	5/11
21628	Misale	Malawi	5/11	-	3/21	1/11	5/11	21715	SC 1210 106	Ghana	5/11	-	3/21	1/11	5/11
21629	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11	21717	PI 308120	South Africa	5/11	-	3/21	1/11	5/11
21630	Kavakazuru	Malawi	5/11	-	3/21	1/11	5/11	21718	HFD 241	Senegal	5/11	-	3/21	1/11	5/11
21631	Misale	Malawi	5/11	-	3/21	1/11	5/11	21720	HFD 242	Senegal	5/11	-	3/21	1/11	5/11
21632	Kavakazuru	Malawi	5/11	-	3/21	1/11	5/11	21721	HFD 243	Senegal	5/11	-	3/21	1/11	5/11
21633	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11	21722	HFD 244	Senegal	5/11	-	3/21	1/11	5/11
21634	Tengarrumungu	Malawi	5/11	-	3/21	1/11	5/11	21723	HFD 245	Senegal	5/11	-	3/21	1/11	5/11
21635	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11	21724	HFD 246	Senegal	5/11	-	3/21	1/11	5/11
21636	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11	21725	HFD 247	Senegal	5/11	-	3/21	1/11	5/11
21637	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11	21726	Collection 26	Sudan	5/11	-	3/21	1/11	5/11
21638	Kashimbe	Malawi	5/11	-	3/21	1/11	5/11	21727	Collection 240	Sudan	5/11	-	3/21	1/11	5/11
21639	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11	21728	Collection 267	Sudan	5/11	-	3/21	1/11	5/11
21640	Ndikhuwa	Malawi	5/11	-	3/21	1/11	5/11	21729	Collection 107	Sudan	5/11	-	3/21	1/11	5/11

IS No	Alternate accession	Source country	SI	SE	MD	IR	IS No	Alternate accession	Source country	SI	SE	MD	IR	
Identif			R	PR	DRS	LPS	FR	Identif		R	PR	DRS	LPS	FR
21900	IRAW 479	USA	5(1)	-	3(2)	1(1)	-	21904	AHM 58	India	5(1)	-	-	5(1)
21906	IRAW 480	USA	5(1)	-	4(2)	1(1)	-	21906	AHM 61	India	5(1)	-	4(2)	5(1)
21907	IRAW 484	USA	5(1)	-	3(2)	5(2)	-	21908	AHM 65	India	5(1)	-	3(2)	5(1)
21908	IRAW 543	USA	5(1)	-	5(1)	-	5(2)	21991	PR 4201	India	5(1)	-	-	5(1)
21909	IRAW 547	USA	5(1)	-	3(2)	1(1)	5(1)	21992	PR 4294	India	5(1)	-	-	5(1)
21910	Milo 340	USA	5(1)	-	3(2)	5(2)	-	5903	PR 4203	India	5(1)	-	-	5(2)
21911	Milo 340	USA	5(1)	-	3(2)	5(1)	-	5905	PR 4504	India	5(1)	-	4(1)	5(2)
21912	PL 21508	USA	5(1)	-	3(2)	4(1)	-	5996	PR 4506	India	5(2)	-	3(2)	5(1)
21914	Bu	Bangladesh	5(1)	-	2(2)	5(2)	-	5967	PR 4513	India	5(2)	-	-	5(1)
21914	Bu	Bangladesh	5(1)	-	2(2)	4(1)	-	5998	PR 4515	India	5(1)	-	3(2)	5(1)
21915	002	Bangladesh	5(1)	-	4(2)	1(1)	-	5999	PR 4553	India	5(1)	-	-	5(2)
21916	002	Bangladesh	5(1)	-	2(2)	4(1)	-	6006	PR 4565	India	5(1)	-	-	4(2)
21917	004	Bangladesh	5(1)	-	3(2)	3(3)	-	62001	PR 4574	India	5(1)	-	-	5(2)
21918	06	Bangladesh	5(1)	-	2(2)	1(1)	-	63012	PR 4598	India	5(1)	-	3(2)	5(1)
21919	08	Bangladesh	5(1)	-	3(2)	1(1)	-	63014	PR 4603	India	5(1)	-	-	5(2)
21920	09	Bangladesh	5(1)	-	3(2)	1(1)	-	6305	PR 4606	India	5(1)	-	-	5(1)
21921	071	Bangladesh	5(1)	-	3(2)	3(4)	-	62006	PR 4607	India	5(1)	-	-	5(1)
21922	081	Bangladesh	5(1)	-	3(2)	4(1)	-	62007	PR 4630	India	5(1)	-	-	5(2)
21923	083	Bangladesh	5(2)	-	4(2)	1(1)	-	62008	PR 4631	India	5(1)	-	-	4(1)
21924	084	Bangladesh	5(2)	-	3(2)	5(1)	-	62009	PR 4632	India	5(1)	-	-	5(1)
21925	092	Bangladesh	5(1)	-	2(2)	1(1)	-	62013	PR 4639	India	5(1)	-	3(2)	5(1)
21926	093	Bangladesh	5(2)	-	4(2)	1(1)	-	62014	PR 4640	India	5(1)	-	-	4(1)
21927	094	Bangladesh	5(1)	-	3(2)	1(1)	-	62015	PR 4641	India	5(1)	-	-	5(1)
21928	255	Bangladesh	5(1)	-	3(2)	1(1)	-	62016	PR 4642	India	5(1)	-	-	5(1)
21929	256	Bangladesh	5(1)	-	3(2)	1(1)	-	62017	PR 4643	India	5(1)	-	-	5(1)
21930	401	Bangladesh	5(1)	-	3(2)	1(1)	-	62018	PR 4644	India	5(1)	-	-	5(1)
21931	405	Bangladesh	5(2)	-	2(2)	1(1)	-	62019	PR 4645	India	5(1)	-	-	5(1)
21932	406	Bangladesh	5(1)	-	3(2)	1(1)	-	62020	PR 4646	India	5(1)	-	-	5(1)
21933	408	Bangladesh	5(1)	-	3(2)	1(1)	-	62021	PR 4647	India	5(1)	-	-	5(1)
21934	409	Bangladesh	5(1)	-	3(2)	1(1)	-	62022	PR 4648	India	5(1)	-	-	5(1)
21935	410	Bangladesh	5(1)	-	3(2)	1(1)	-	62023	PR 4649	India	5(1)	-	-	5(1)
21936	411	Bangladesh	5(1)	-	3(2)	1(1)	-	62024	PR 4650	India	5(1)	-	-	5(1)
21937	412	Bangladesh	5(1)	-	3(2)	1(1)	-	62025	PR 4651	India	5(1)	-	-	5(1)
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21939	414	Bangladesh	5(1)	-	3(2)	1(1)	-	62027	PR 4653	India	5(1)	-	-	5(1)
21940	415	Bangladesh	5(1)	-	3(2)	1(1)	-	62028	PR 4654	India	5(1)	-	-	5(1)
21941	416	Bangladesh	5(1)	-	3(2)	1(1)	-	62029	PR 4655	India	5(1)	-	-	5(1)
21942	417	Bangladesh	5(1)	-	3(2)	1(1)	-	62030	PR 4656	India	5(1)	-	-	5(1)
21943	418	Bangladesh	5(1)	-	3(2)	1(1)	-	62031	PR 4657	India	5(1)	-	-	5(1)
21944	419	Bangladesh	5(1)	-	3(2)	1(1)	-	62032	PR 4658	India	5(1)	-	-	5(1)
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21946	421	Bangladesh	5(1)	-	3(2)	1(1)	-	62034	PR 4660	India	5(1)	-	-	5(1)
21947	422	Bangladesh	5(1)	-	3(2)	1(1)	-	62035	PR 4661	India	5(1)	-	-	5(1)
21948	423	Bangladesh	5(1)	-	3(2)	1(1)	-	62036	PR 4662	India	5(1)	-	-	5(1)
21949	424	Bangladesh	5(1)	-	3(2)	1(1)	-	62037	PR 4663	India	5(1)	-	-	5(1)
21950	425	Bangladesh	5(1)	-	3(2)	1(1)	-	62038	PR 4664	India	5(1)	-	-	5(1)
21951	426	Bangladesh	5(1)	-	3(2)	1(1)	-	62039	PR 4665	India	5(1)	-	-	5(1)
21952	427	Bangladesh	5(1)	-	3(2)	1(1)	-	62040	PR 4666	India	5(1)	-	-	5(1)
21953	428	Bangladesh	5(1)	-	3(2)	1(1)	-	62041	PR 4667	India	5(1)	-	-	5(1)
21954	429	Bangladesh	5(1)	-	3(2)	1(1)	-	62042	PR 4668	India	5(1)	-	-	5(1)
21955	430	Bangladesh	5(1)	-	3(2)	1(1)	-	62043	PR 4669	India	5(1)	-	-	5(1)
21956	431	Bangladesh	5(1)	-	3(2)	1(1)	-	62044	PR 4670	India	5(1)	-	-	5(1)
21957	432	Bangladesh	5(1)	-	3(2)	1(1)	-	62045	PR 4671	India	5(1)	-	-	5(1)
21958	433	Bangladesh	5(1)	-	3(2)	1(1)	-	62046	PR 4672	India	5(1)	-	-	5(1)
21959	434	Bangladesh	5(1)	-	3(2)	1(1)	-	62047	PR 4673	India	5(1)	-	-	5(1)
21960	435	Bangladesh	5(1)	-	3(2)	1(1)	-	62048	PR 4674	India	5(1)	-	-	5(1)
21961	436	Bangladesh	5(1)	-	3(2)	1(1)	-	62049	PR 4675	India	5(1)	-	-	5(1)
21962	437	Bangladesh	5(1)	-	3(2)	1(1)	-	62050	PR 4676	India	5(1)	-	-	5(1)
21963	438	Bangladesh	5(1)	-	3(2)	1(1)	-	62051	PR 4677	India	5(1)	-	-	5(1)
21964	439	Bangladesh	5(1)	-	3(2)	1(1)	-	62052	PR 4678	India	5(1)	-	-	5(1)
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21966	441	Bangladesh	5(1)	-	3(2)	1(1)	-	62054	PR 4680	India	5(1)	-	-	5(1)
21967	442	Bangladesh	5(1)	-	3(2)	1(1)	-	62055	PR 4681	India	5(1)	-	-	5(1)
21968	443	Bangladesh	5(1)	-	3(2)	1(1)	-	62056	PR 4682	India	5(1)	-	-	5(1)
21969	444	Bangladesh	5(1)	-	3(2)	1(1)	-	62057	PR 4683	India	5(1)	-	-	5(1)
21970	445	Bangladesh	5(1)	-	3(2)	1(1)	-	62058	PR 4684	India	5(1)	-	-	5(1)
21971	446	Bangladesh	5(1)	-	3(2)	1(1)	-	62059	PR 4685	India	5(1)	-	-	5(1)
21972	447	Bangladesh	5(1)	-	3(2)	1(1)	-	62060	PR 4686	India	5(1)	-	-	5(1)
21973	448	Bangladesh	5(1)	-	3(2)	1(1)	-	62061	PR 4687	India	5(1)	-	-	5(1)
21974	449	Bangladesh	5(1)	-	3(2)	1(1)	-	62062	PR 4688	India	5(1)	-	-	5(1)
21975	450	Bangladesh	5(1)	-	3(2)	1(1)	-	62063	PR 4689	India	5(1)	-	-	5(1)
21976	451	Bangladesh	5(1)	-	3(2)	1(1)	-	62064	PR 4690	India	5(1)	-	-	5(1)
21977	452	Bangladesh	5(1)	-	3(2)	1(1)	-	62065	PR 4691	India	5(1)	-	-	5(1)
21978	453	Bangladesh	5(1)	-	3(2)	1(1)	-	62066	PR 4692	India	5(1)	-	-	5(1)
21979	454	Bangladesh	5(1)	-	3(2)	1(1)	-	62067	PR 4693	India	5(1)	-	-	5(1)
21980	455	Bangladesh	5(1)	-	3(2)	1(1)	-	62068	PR 4694	India	5(1)	-	-	5(1)
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21982	457	Bangladesh	5(1)	-	3(2)	1(1)	-	62070	PR 4696	India	5(1)	-	-	5(1)
21983	458	Bangladesh	5(1)	-	3(2)	1(1)	-	62071	PR 4697	India	5(1)	-	-	5(1)
21984	459	Bangladesh	5(1)	-	3(2)	1(1)	-	62072	PR 4698	India	5(1)	-	-	5(1)
21985	460	Bangladesh	5(1)	-	3(2)	1(1)	-	62073	PR 4699	India	5(1)	-	-	5(1)
21986	461	Bangladesh	5(1)	-	3(2)	1(1)	-	62074	PR 4700	India	5(1)	-	-	5(1)
21987	462	Bangladesh	5(1)	-	3(2)	1(1)	-	62075	PR 4701	India	5(1)	-	-	5(1)

IR No	Alternative accession identifier	Source country	SI	SP	MD	IB	IR No	Alternative accession identifier	Source country	SI	SP	MD	IB		
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22936	K 46	Sudan	-	-	-	-	-	23021	K 118	Sudan	-	-	-	-	-
22937	K 47	Sudan	-	-	-	-	-	23022	K 141	Sudan	-	-	-	-	-
22938	K 49	Sudan	-	-	-	-	-	23023	K 142	Sudan	-	-	-	-	-
22939	K 50	Sudan	-	-	-	-	-	23024	K 143	Sudan	-	-	-	-	-
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22941	K 52	Sudan	-	-	-	-	-	23026	K 145	Sudan	-	-	-	-	-
22942	K 54	Sudan	-	-	-	-	-	23027	K 147	Sudan	-	-	-	-	-
22943	K 55	Sudan	-	-	-	-	-	23028	K A 7	Sudan	-	-	-	-	-
22944	K 56	Sudan	-	-	-	-	-	23029	K A 12	Sudan	-	-	-	-	-
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22947	K 59	Sudan	-	-	-	-	-	23032	K A 19	Sudan	-	-	-	-	-
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22981	K 95	Sudan	-	-	-	-	-	23066	K A 82	Sudan	-	-	-	-	-
22982	K 95	Sudan	-	-	-	-	-	23067	K A 81	Sudan	-	-	-	-	-
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22984	K 97	Sudan	-	-	-	-	-	23069	K A 89	Sudan	-	-	-	-	-
22985	K 98.1	Sudan	-	-	-	-	-	23070	K A 90	Sudan	-	-	-	-	-
22986	K 98.11	Sudan	-	-	-	-	-	23071	K A 91	Sudan	-	-	-	-	-
22987	K 99	Sudan	-	-	-	-	-	23072	K A 98	Sudan	-	-	-	-	-
22988	K 100	Sudan	-	-	-	-	-	23073	K A 100	Sudan	-	-	-	-	-
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22992	K 104	Sudan	-	-	-	-	-	23077	Mali	Tanzania	-	-	-	-	-
22993	K 105	Sudan	-	-	-	-	-	23078	U.R.S.R.	Tanzania	-	-	-	-	-
22994	K 106	Sudan	-	-	-	-	-	23079	U.R.S.R.	Tanzania	-	-	-	-	-
22995	K 107	Sudan	-	-	-	-	-	23080	U.R.S.R.	Tanzania	-	-	-	-	-
22996	K 108	Sudan	-	-	-	-	-	23081	U.R.S.R.	Tanzania	-	-	-	-	-
22997	K 108	Sudan	-	-	-	-	-	23082	U.R.S.R.	Tanzania	-	-	-	-	-
22998	K 110	Sudan	-	-	-	-	-	23083	U.R.S.R.	Tanzania	-	-	-	-	-
22999	K 111	Sudan	-	-	-	-	-	23084	U.R.S.R.	Tanzania	-	-	-	-	-
23000	K 112	Sudan	-	-	-	-	-	23085	U.R.S.R.	Tanzania	-	-	-	-	-
23001	K 113	Sudan	-	-	-	-	-	23086	U.R.S.R.	Tanzania	-	-	-	-	-
23002	K 114	Sudan	-	-	-	-	-	23087	U.R.S.R.	Tanzania	-	-	-	-	-
23003	K 115	Sudan	-	-	-	-	-	23088	U.R.S.R.	Tanzania	-	-	-	-	-
23004	K 116	Sudan	-	-	-	-	-	23089	U.R.S.R.	Tanzania	-	-	-	-	-
23005	K 118	Sudan	-	-	-	-	-	23090	U.R.S.R.	Tanzania	-	-	-	-	-
23006	K 119	Sudan	-	-	-	-	-	23091	U.R.S.R.	Tanzania	-	-	-	-	-
23007	K 120	Sudan	-	-	-	-	-	23092	U.R.S.R.	Tanzania	-	-	-	-	-
23008	K 121	Sudan	-	-	-	-	-	23093	U.R.S.R.	Tanzania	-	-	-	-	-
23009	K 122	Sudan	-	-	-	-	-	23094	U.R.S.R.	Tanzania	-	-	-	-	-
23010	K 123	Sudan	-	-	-	-	-	23095	U.R.S.R.	Tanzania	-	-	-	-	-
23011	K 124	Sudan	-	-	-	-	-	23096	U.R.S.R.	Tanzania	-	-	-	-	-
23012	K 125	Sudan	-	-	-	-	-	23097	U.R.S.R.	Tanzania	-	-	-	-	-
23013	K 126	Sudan	-	-	-	-	-	23098	U.R.S.R.	Tanzania	-	-	-	-	-
23014	K 127	Sudan	-	-	-	-	-	23099	U.R.S.R.	Tanzania	-	-	-	-	-
23015	K 128	Sudan	-	-	-	-	-	23100	U.R.S.R.	Tanzania	-	-	-	-	-
23016	K 129	Sudan	-	-	-	-	-	23101	U.R.S.R.	Tanzania	-	-	-	-	-
23017	K 130	Sudan	-	-	-	-	-	23102	U.R.S.R.	Tanzania	-	-	-	-	-
23018	K 131	Sudan	-	-	-	-	-	23103	U.R.S.R.	Tanzania	-	-	-	-	-
23019	K 132	Sudan	-	-	-	-	-	23104	U.R.S.R.	Tanzania	-	-	-	-	-
23020	K 133	Sudan	-	-	-	-	-	23105	U.R.S.R.	Tanzania	-	-	-	-	-
23021	K 134	Sudan	-	-	-	-	-	23106	U.R.S.R.	Tanzania	-	-	-	-	-
23022	K 135	Sudan	-	-	-	-	-	23107	U.R.S.R.	Tanzania	-	-	-	-	-
23023	K 136	Sudan	-	-	-	-	-	23108	U.R.S.R.	Tanzania	-	-	-	-	-

IS No	Alternate accession identifier	Source country	SP	SB	MD	HR	IS No	Alternate accession identifier	Source country	SP	SB	MD	HR		
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21106	CER-S 57	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21107	CER-S 58	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21108	CER-S 59	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21109	Udo	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21110	Udo	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21111	Udo	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21112	CER-S 67	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21114	Phupulu	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21115	Lunga-lunga	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21117	CER-S 79	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21118	CER-S 82	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21119	CER-S 83	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21120	CER-S 85	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21121	Udo-lindwer	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21122	K.R.S. 87	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21123	Udo-lunga	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21124	CER-S 96	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21125	Umbaba	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21127	Mima	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21128	U gamba	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
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21130	MPR 24	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21131	MPR 25	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21132	Ugumba	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21133	MPR 34	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21134	MPR 35	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21135	MPR 36	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21136	Hemba-hemba	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21137	Sansayi	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21138	Nabanga	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21139	Mima	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21140	Ugumba	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21141	Ugumba	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21142	Mima mkundu	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21143	Mima-mesupe	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21144	MPR 58	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21145	MPR 59	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21146	Lungu	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21148	Nkumba	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21149	Ugumba	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21150	Kakela-umani	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21151	Ugumba	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21152	Lunga-lunga	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21153	Lunga-lunga	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21154	Lunga-lunga	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21155	Lunga-lunga	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21156	Lunga-lunga	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21157	Nkwana	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21158	MPR 13	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21160	MPR 126	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21161	MPR 127	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21162	MPR 131	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21163	MPR 134	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21164	MPR 135	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21165	MPR 141	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21166	MPR 144	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21167	MPR 145	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21168	Hemba-hemba	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21169	Mima	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21170	Ngweta	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21171	Ngweta	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21172	MPR 154	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21174	MPR 155	Tanzania	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21176	ZM 1	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21177	ZM 1	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21180	ZM 17	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21181	ZM 18	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21182	ZM 20	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21183	ZM 21	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21184	ZM 22	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21185	kandondo	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21188	Minga	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21189	ZM 38	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21190	Minga	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21191	ZM 40	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21192	Minga	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21193	ZM 50	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21194	ZM 53	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21195	Minga	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21197	ZM 75	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21198	ZM 76	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21199	Minga	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-
21200	Minga	Zambia	-	-	-	-	-	-	Zambia	-	-	-	-	-	-

IS No	Alternate specimen identifier	Source country	SP	SR	MR	DR	IS No	Alternate specimen identifier	Source country	SP	SR	MR	DR
23811	AWW 80-756	Malawi	-	-	-	-	23895	AI K 126	Yemen	-	-	-	-
23812	AWW 80-778	Malawi	-	-	-	-	23896	AI K 127	Yemen	-	-	-	-
23813	AWW 80-781	Malawi	-	-	-	-	23897	AI K 128	Yemen	-	-	-	-
23814	AWW 80-783	Malawi	-	-	-	-	23898	AI K 129	Yemen	-	-	-	-
23815	AWW 80-796	Malawi	-	-	-	-	23899	AI K 130	Yemen	-	-	-	-
23816	AI K 1	Yemen	-	-	-	-	23900	AI K 131	Yemen	-	-	-	-
23817	AI K 2	Yemen	-	-	-	-	23901	AI K 132	Yemen	-	-	-	-
23818	AI K 3	Yemen	-	-	-	-	23902	AI K 133	Yemen	-	-	-	-
23819	AI K 4	Yemen	-	-	-	-	23903	AI K 134	Yemen	-	-	-	-
23820	AI K 5	Yemen	-	-	-	-	23904	AI K 135	Yemen	-	-	-	-
23821	AI K 6	Yemen	-	-	-	-	23905	AI K 136	Yemen	-	-	-	-
23822	AI K 7	Yemen	-	-	-	-	23906	AI K 137	Yemen	-	-	-	-
23823	AI K 8	Yemen	-	-	-	-	23907	AI K 138	Yemen	-	-	-	-
23824	AI K 9	Yemen	-	-	-	-	23908	AI K 139	Yemen	-	-	-	-
23825	AI K 10	Yemen	-	-	-	-	23909	AI K 140	Yemen	-	-	-	-
23826	AI K 11	Yemen	-	-	-	-	23910	AI K 141	Yemen	-	-	-	-
23827	AI K 12	Yemen	-	-	-	-	23911	AI K 142	Yemen	-	-	-	-
23828	AI K 13	Yemen	-	-	-	-	23912	AI K 143	Yemen	-	-	-	-
23829	AI K 14	Yemen	-	-	-	-	23913	AI K 144	Yemen	-	-	-	-
23830	AI K 15	Yemen	-	-	-	-	23914	AI K 145	Yemen	-	-	-	-
23831	AI K 16	Yemen	-	-	-	-	23915	AI K 146	Yemen	-	-	-	-
23832	AI K 17	Yemen	-	-	-	-	23916	AI K 147	Yemen	-	-	-	-
23833	AI K 18	Yemen	-	-	-	-	23917	AI K 148	Yemen	-	-	-	-
23834	AI K 19	Yemen	-	-	-	-	23918	AI K 149	Yemen	-	-	-	-
23835	AI K 20	Yemen	-	-	-	-	23919	AI K 150	Yemen	-	-	-	-
23836	AI K 21	Yemen	-	-	-	-	23920	AI K 151	Yemen	-	-	-	-
23837	AI K 22	Yemen	-	-	-	-	23921	AI K 152	Yemen	-	-	-	-
23838	AI K 23	Yemen	-	-	-	-	23922	AI K 153	Yemen	-	-	-	-
23839	AI K 24	Yemen	-	-	-	-	23923	AI K 154	Yemen	-	-	-	-
23840	AI K 25	Yemen	-	-	-	-	23924	AI K 155	Yemen	-	-	-	-
23841	AI K 26	Yemen	-	-	-	-	23925	AI K 156	Yemen	-	-	-	-
23842	AI K 27	Yemen	-	-	-	-	23926	AI K 157	Yemen	-	-	-	-
23843	AI K 28	Yemen	-	-	-	-	23927	AI K 158	Yemen	-	-	-	-
23844	AI K 29	Yemen	-	-	-	-	23928	AI K 159	Yemen	-	-	-	-
23845	AI K 30	Yemen	-	-	-	-	23929	AI K 160	Yemen	-	-	-	-
23846	AI K 31	Yemen	-	-	-	-	23930	AI K 161	Yemen	-	-	-	-
23847	AI K 32	Yemen	-	-	-	-	23931	AI K 162	Yemen	-	-	-	-
23848	AI K 33	Yemen	-	-	-	-	23932	AI K 163	Yemen	-	-	-	-
23849	AI K 34	Yemen	-	-	-	-	23933	AI K 164	Yemen	-	-	-	-
23850	AI K 35	Yemen	-	-	-	-	23934	AI K 165	Yemen	-	-	-	-
23851	AI K 36	Yemen	-	-	-	-	23935	AI K 166	Yemen	-	-	-	-
23852	AI K 37	Yemen	-	-	-	-	23936	AI K 167	Yemen	-	-	-	-
23853	AI K 38	Yemen	-	-	-	-	23937	AI K 168	Yemen	-	-	-	-
23854	AI K 39	Yemen	-	-	-	-	23938	AI K 169	Yemen	-	-	-	-
23855	AI K 40	Yemen	-	-	-	-	23939	AI K 170	Yemen	-	-	-	-
23856	AI K 41	Yemen	-	-	-	-	23940	AI K 171	Yemen	-	-	-	-
23857	AI K 42	Yemen	-	-	-	-	23941	AI K 172	Yemen	-	-	-	-
23858	AI K 43	Yemen	-	-	-	-	23942	AI K 173	Yemen	-	-	-	-
23859	AI K 44	Yemen	-	-	-	-	23943	AI K 174	Yemen	-	-	-	-
23860	AI K 45	Yemen	-	-	-	-	23944	AI K 175	Yemen	-	-	-	-
23861	AI K 46	Yemen	-	-	-	-	23945	AI K 176	Yemen	-	-	-	-
23862	AI K 47	Yemen	-	-	-	-	23946	AI K 177	Yemen	-	-	-	-
23863	AI K 48	Yemen	-	-	-	-	23947	AI K 178	Yemen	-	-	-	-
23864	AI K 49	Yemen	-	-	-	-	23948	AI K 179	Yemen	-	-	-	-
23865	AI K 50	Yemen	-	-	-	-	23949	AI K 180	Yemen	-	-	-	-
23866	AI K 51	Yemen	-	-	-	-	23950	AI K 181	Yemen	-	-	-	-
23867	AI K 52	Yemen	-	-	-	-	23951	AI K 182	Yemen	-	-	-	-
23868	AI K 53	Yemen	-	-	-	-	23952	AI K 183	Yemen	-	-	-	-
23869	AI K 54	Yemen	-	-	-	-	23953	AI K 184	Yemen	-	-	-	-
23870	AI K 55	Yemen	-	-	-	-	23954	AI K 185	Yemen	-	-	-	-
23871	AI K 56	Yemen	-	-	-	-	23955	AI K 186	Yemen	-	-	-	-
23872	AI K 57	Yemen	-	-	-	-	23956	AI K 187	Yemen	-	-	-	-
23873	AI K 58	Yemen	-	-	-	-	23957	AI K 188	Yemen	-	-	-	-
23874	AI K 59	Yemen	-	-	-	-	23958	AI K 189	Yemen	-	-	-	-
23875	AI K 60	Yemen	-	-	-	-	23959	AI K 190	Yemen	-	-	-	-
23876	AI K 61	Yemen	-	-	-	-	23960	AI K 191	Yemen	-	-	-	-
23877	AI K 62	Yemen	-	-	-	-	23961	AI K 192	Yemen	-	-	-	-
23878	AI K 63	Yemen	-	-	-	-	23962	AI K 193	Yemen	-	-	-	-
23879	AI K 64	Yemen	-	-	-	-	23963	AI K 194	Yemen	-	-	-	-
23880	AI K 65	Yemen	-	-	-	-	23964	AI K 195	Yemen	-	-	-	-
23881	AI K 66	Yemen	-	-	-	-	23965	AI K 196	Yemen	-	-	-	-
23882	AI K 67	Yemen	-	-	-	-	23966	AI K 197	Yemen	-	-	-	-
23883	AI K 68	Yemen	-	-	-	-	23967	AI K 198	Yemen	-	-	-	-
23884	AI K 69	Yemen	-	-	-	-	23968	AI K 199	Yemen	-	-	-	-
23885	AI K 70	Yemen	-	-	-	-	23969	AI K 200	Yemen	-	-	-	-
23886	AI K 71	Yemen	-	-	-	-	23970	AI K 201	Yemen	-	-	-	-
23887	AI K 72	Yemen	-	-	-	-	23971	AI K 202	Yemen	-	-	-	-
23888	AI K 73	Yemen	-	-	-	-	23972	AI K 203	Yemen	-	-	-	-
23889	AI K 74	Yemen	-	-	-	-	23973	AI K 204	Yemen	-	-	-	-
23890	AI K 75	Yemen	-	-	-	-	23974	AI K 205	Yemen	-	-	-	-
23891	AI K 76	Yemen	-	-	-	-	23975	AI K 206	Yemen	-	-	-	-
23892	AI K 77	Yemen	-	-	-	-	23976	AI K 207	Yemen	-	-	-	-
23893	AI K 78	Yemen	-	-	-	-	23977	AI K 208	Yemen	-	-	-	-
23894	AI K 79	Yemen	-	-	-	-	23978	AI K 209	Yemen	-	-	-	-
23895	AI K 80	Yemen	-	-	-	-	23979	AI K 210	Yemen	-	-	-	-

IS No	Alternate accession identification	Source country	SP		SH	MID	FIR	IS No	Alternate accession identification	Source country	SP		SH	MID	FIR
			R	PR							R	PR			
24151	TLSC 427	Tanzania	-	-	-	-	-	24231	TLSC 413	Tanzania	-	-	-	-	-
24152	TLSC 128	Tanzania	-	-	-	-	-	24232	TLSC 415	Tanzania	-	-	-	-	-
24153	TLSC 320	Tanzania	-	-	-	-	-	24233	TLSC 416	Tanzania	-	-	-	-	-
24154	TLSC 340	Tanzania	-	-	-	-	-	24236	E 2399	Tanzania	-	-	-	-	-
24155	TLSC 311	Tanzania	-	-	-	-	-	24237	E 2004 (1)	Tanzania	-	-	-	-	-
24156	TLSC 332	Tanzania	-	-	-	-	-	24238	E 2005 (1)	Tanzania	-	-	-	-	-
24157	TLSC 431	Tanzania	-	-	-	-	-	24239	E 2005 (2)	Tanzania	-	-	-	-	-
24158	TLSC 333	Tanzania	-	-	-	-	-	24240	E 2005	Tanzania	-	-	-	-	-
24159	TLSC 136	Tanzania	-	-	-	-	-	24241	E 2006	Tanzania	-	-	-	-	-
24160	TLSC 107	Tanzania	-	-	-	-	-	24242	E 2007	Tanzania	-	-	-	-	-
24161	TLSC 138	Tanzania	-	-	-	-	-	24243	E 2008	Tanzania	-	-	-	-	-
24162	TLSC 400	Tanzania	-	-	-	-	-	24244	E 2009	Tanzania	-	-	-	-	-
24163	TLSC 343	Tanzania	-	-	-	-	-	24245	E 2010	Tanzania	-	-	-	-	-
24164	TLSC 342	Tanzania	-	-	-	-	-	24246	E 2011	Tanzania	-	-	-	-	-
24165	TLSC 343	Tanzania	-	-	-	-	-	24247	E 2012	Tanzania	-	-	-	-	-
24166	TLSC 344	Tanzania	-	-	-	-	-	24248	E 2013	Tanzania	-	-	-	-	-
24167	TLSC 345	Tanzania	-	-	-	-	-	24249	ALN 023 x Lohu	Tanzania	-	-	-	-	-
24168	TLSC 306	Tanzania	-	-	-	-	-	24250	Karimn A x Lohu	Tanzania	-	-	-	-	-
24169	TLSC 347	Tanzania	-	-	-	-	-	24251	Ch x 9707-103	Tanzania	-	-	-	-	-
24170	TLSC 348	Tanzania	-	-	-	-	-	24252	Ch x 98 Bolk	Tanzania	-	-	-	-	-
24171	TLSC 349	Tanzania	-	-	-	-	-	24253	Ch x 14 57 59	Tanzania	-	-	-	-	-
24172	TLSC 350	Tanzania	-	-	-	-	-	24254	Ch x 12 B-1	Tanzania	-	-	-	-	-
24173	TLSC 351	Tanzania	-	-	-	-	-	24255	Ch x 10 S	Tanzania	-	-	-	-	-
24174	TLSC 352	Tanzania	-	-	-	-	-	24256	Ch x 8	Tanzania	-	-	-	-	-
24175	TLSC 353	Tanzania	-	-	-	-	-	24257	Ch x 10 S 15	Tanzania	-	-	-	-	-
24176	TLSC 354	Tanzania	-	-	-	-	-	24258	Ch x 13 B	Tanzania	-	-	-	-	-
24177	TLSC 355	Tanzania	-	-	-	-	-	24259	Ch x 20	Tanzania	-	-	-	-	-
24178	TLSC 356	Tanzania	-	-	-	-	-	24260	Ch x 57	Tanzania	-	-	-	-	-
24179	TLSC 357	Tanzania	-	-	-	-	-	24261	E 25 15	Tanzania	-	-	-	-	-
24180	TLSC 358	Tanzania	-	-	-	-	-	24262	Ch 14	Tanzania	-	-	-	-	-
24181	TLSC 359	Tanzania	-	-	-	-	-	24263	Ch x 12/10	Tanzania	-	-	-	-	-
24182	TLSC 360	Tanzania	-	-	-	-	-	24264	Lulu x Ch x 232	Tanzania	-	-	-	-	-
24183	TLSC 361	Tanzania	-	-	-	-	-	24265	Ch x 11/50	Tanzania	-	-	-	-	-
24184	TLSC 362	Tanzania	-	-	-	-	-	24266	Pop 11 28 100	Tanzania	-	-	-	-	-
24185	TLSC 363	Tanzania	-	-	-	-	-	24267	Ch 19	Tanzania	-	-	-	-	-
24186	TLSC 364	Tanzania	-	-	-	-	-	24268	Ch x 17/6	Tanzania	-	-	-	-	-
24187	TLSC 365	Tanzania	-	-	-	-	-	24269	Ch 21	Tanzania	-	-	-	-	-
24188	TLSC 367	Tanzania	-	-	-	-	-	24270	Ch 33	Tanzania	-	-	-	-	-
24189	TLSC 368	Tanzania	-	-	-	-	-	24271	Ch 22	Tanzania	-	-	-	-	-
24190	TLSC 369	Tanzania	-	-	-	-	-	24272	Ch 23	Tanzania	-	-	-	-	-
24191	TLSC 370	Tanzania	-	-	-	-	-	24273	Ch 24	Tanzania	-	-	-	-	-
24192	TLSC 371	Tanzania	-	-	-	-	-	24274	Ch 25	Tanzania	-	-	-	-	-
24193	TLSC 372	Tanzania	-	-	-	-	-	24275	Ch 26	Tanzania	-	-	-	-	-
24194	TLSC 373	Tanzania	-	-	-	-	-	24276	Ch 27	Tanzania	-	-	-	-	-
24195	TLSC 374	Tanzania	-	-	-	-	-	24277	Ch 28	Tanzania	-	-	-	-	-
24196	TLSC 375	Tanzania	-	-	-	-	-	24278	Ch 29	Tanzania	-	-	-	-	-
24197	TLSC 376	Tanzania	-	-	-	-	-	24279	Ch 30	Tanzania	-	-	-	-	-
24198	TLSC 377	Tanzania	-	-	-	-	-	24280	Ch 31	Tanzania	-	-	-	-	-
24199	TLSC 378	Tanzania	-	-	-	-	-	24281	Ch 32	Tanzania	-	-	-	-	-
24200	TLSC 379	Tanzania	-	-	-	-	-	24282	Ch 33	Tanzania	-	-	-	-	-
24201	TLSC 380	Tanzania	-	-	-	-	-	24283	Ch 34	Tanzania	-	-	-	-	-
24202	TLSC 381	Tanzania	-	-	-	-	-	24284	Ch 35	Tanzania	-	-	-	-	-
24203	TLSC 382	Tanzania	-	-	-	-	-	24285	Ch 36	Tanzania	-	-	-	-	-
24204	TLSC 383	Tanzania	-	-	-	-	-	24286	Ch 37	Tanzania	-	-	-	-	-
24205	TLSC 384	Tanzania	-	-	-	-	-	24287	Ch 38	Tanzania	-	-	-	-	-
24206	TLSC 385	Tanzania	-	-	-	-	-	24288	Ch 39	Tanzania	-	-	-	-	-
24207	TLSC 386	Tanzania	-	-	-	-	-	24289	Ch 40	Tanzania	-	-	-	-	-
24208	TLSC 387	Tanzania	-	-	-	-	-	24290	Ch 41	Tanzania	-	-	-	-	-
24209	TLSC 388	Tanzania	-	-	-	-	-	24291	Ch 42	Tanzania	-	-	-	-	-
24210	TLSC 389	Tanzania	-	-	-	-	-	24292	Ch 43	Tanzania	-	-	-	-	-
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24213	TLSC 392	Tanzania	-	-	-	-	-	24295	Ch 46	Tanzania	-	-	-	-	-
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24215	TLSC 394	Tanzania	-	-	-	-	-	24297	Ch 48	Tanzania	-	-	-	-	-
24216	TLSC 395	Tanzania	-	-	-	-	-	24298	Ch 49	Tanzania	-	-	-	-	-
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24218	TLSC 397	Tanzania	-	-	-	-	-	24300	Ch 51	Tanzania	-	-	-	-	-
24219	TLSC 398	Tanzania	-	-	-	-	-	24301	Ch 52	Tanzania	-	-	-	-	-
24220	TLSC 399	Tanzania	-	-	-	-	-	24302	Ch 53	Tanzania	-	-	-	-	-
24221	TLSC 400	Tanzania	-	-	-	-	-	24303	Ch 54	Tanzania	-	-	-	-	-
24222	TLSC 401	Tanzania	-	-	-	-	-	24304	Ch 55	Tanzania	-	-	-	-	-
24223	TLSC 402	Tanzania	-	-	-	-	-	24305	Ch 56	Tanzania	-	-	-	-	-
24224	TLSC 403	Tanzania	-	-	-	-	-	24306	Ch 57	Tanzania	-	-	-	-	-
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24226	TLSC 405	Tanzania	-	-	-	-	-	24308	Ch 59	Tanzania	-	-	-	-	-
24227	TLSC 406	Tanzania	-	-	-	-	-	24309	Ch 60	Tanzania	-	-	-	-	-
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24250	TLSC 429	Tanzania	-	-	-	-	-	24332	Ch 83	Tanzania	-	-	-	-	-
24251	TLSC 430	Tanzania	-	-	-	-	-	24333	Ch 84	Tanzania	-	-	-	-	-
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24257	TLSC 436	Tanzania	-	-	-	-	-	24339	Ch 90	Tanzania	-	-	-	-	-
24258	TLSC 437	Tanzania	-	-	-	-	-	24340	Ch 91	Tanzania	-	-	-	-	-
24259	TLSC 438	Tanzania	-	-	-	-	-	24341	Ch 92	Tanzania	-	-	-	-	-

IS No	Alternate accession identifier	Source country	SF						IS No	Alternate accession identifier	Source country	SF					
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24501	70734	South Africa	-	-	-	-	-	-	24586	11404	Lebanon	-	-	-	-	-	
24505	71180	South Africa	-	-	-	-	-	-	24587	10667	Lebanon	-	-	-	-	-	
24506	71181	South Africa	-	-	-	-	-	-	24588	10668	Lebanon	-	-	-	-	-	
24507	71182	South Africa	-	-	-	-	-	-	24589	10669	Lebanon	-	-	-	-	-	
24508	71525	South Africa	-	-	-	-	-	-	24590	10771	Lebanon	-	-	-	-	-	
24509	717	Lebanon	-	-	-	-	-	-	24591	10786	Lebanon	-	-	-	-	-	
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24512	742	Lebanon	-	-	-	-	-	-	24594	11338	Lebanon	-	-	-	-	-	
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24517	791	Lebanon	-	-	-	-	-	-	24599	11960	Lebanon	-	-	-	-	-	
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24885	PC01178	Nigeria			5111			24935	Nm 1900	Zambia			5111		
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25011	AB 49	Sudan	-	-	-	-	-	25008	DSA 171-1	Ghana	-	-	-	-	-
25014	AB 50	Sudan	-	-	-	-	-	25100	DSA 175	Ghana	-	-	-	-	-
25015	AB 51	Sudan	-	-	-	-	-	25101	DSA 172-1	Ghana	-	-	-	-	-
25016	AB 52	Sudan	-	-	-	-	-	25102	DSA 174	Ghana	-	-	-	-	-
25017	AB 53	Sudan	-	-	-	-	-	25103	DSA 173-1	Ghana	-	-	-	-	-
25018	AB 54	Sudan	-	-	-	-	-	25104	DSA 176	Ghana	-	-	-	-	-
25019	AB 55	Sudan	-	-	-	-	-	25105	DSA 177	Ghana	-	-	-	-	-
25020	AB 56	Sudan	-	-	-	-	-	25106	DSA 184	Ghana	-	-	-	-	-
25021	AB 58	Sudan	-	-	-	-	-	25107	DSA 184-1	Ghana	-	-	-	-	-
25022	AB 59	Sudan	-	-	-	-	-	25108	DSA 185-1	Ghana	-	-	-	-	-
25023	AB 60	Sudan	-	-	-	-	-	25109	DSA 186-1	Ghana	-	-	-	-	-
25024	AB 62	Sudan	-	-	-	-	-	25110	DSA 186-2	Ghana	-	-	-	-	-
25025	AB 63	Sudan	-	-	-	-	-	25111	DSA 186-3	Ghana	-	-	-	-	-
25026	AB 64	Sudan	-	-	-	-	-	25112	DSA 186-1-2	Ghana	-	-	-	-	-
25027	AB 65	Sudan	-	-	-	-	-	25113	DSA 186	Ghana	-	-	-	-	-
25028	AB 66	Sudan	-	-	-	-	-	25114	DSA 186-1-2	Ghana	-	-	-	-	-
25029	AB 67	Sudan	-	-	-	-	-	25115	DSA 186-1-2	Ghana	-	-	-	-	-
25030	AB 68	Sudan	-	-	-	-	-	25116	DSA 187	Ghana	-	-	-	-	-
25031	AB 69	Sudan	-	-	-	-	-	25117	DSA 187-1	Ghana	-	-	-	-	-
25032	AB 70	Sudan	-	-	-	-	-	25118	DSA 110-2	Ghana	-	-	-	-	-
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25036	AB 75	Sudan	-	-	-	-	-	25122	DSA 168-1	Ghana	-	-	-	-	-
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25038	AB 77	Sudan	-	-	-	-	-	25124	DSA 168-1	Ghana	-	-	-	-	-
25039	AB 78	Sudan	-	-	-	-	-	25125	DSA 172-2	Ghana	-	-	-	-	-
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25042	AB 90	Sudan	-	-	-	-	-	25128	DSA 176-1	Ghana	-	-	-	-	-
25043	AB 91-1-32	Sudan	-	-	-	-	-	25129	DSA 177-1	Ghana	-	-	-	-	-
25044	AB 91-1-38	Sudan	-	-	-	-	-	25130	DSA 176	Ghana	-	-	-	-	-
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25046	AB 91-1-42	Sudan	-	-	-	-	-	25132	SPP 146	Ethiopia	-	-	-	-	-
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25048	DSA 5	Ethiopia	-	-	-	-	-	25134	ACC 20003	Ethiopia	-	-	-	-	-
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25055	DSA 25	Ethiopia	-	-	-	-	-	25141	ACC 20010	Ethiopia	-	-	-	-	-
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25070	DSA 57	Ethiopia	-	-	-	-	-	25156	ACC 20025	Ethiopia	-	-	-	-	-
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25072	DSA 61	Ethiopia	-	-	-	-	-	25158	ACC 20027	Ethiopia	-	-	-	-	-
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25076	DSA 69	Ethiopia	-	-	-	-	-	25162	ACC 20031	Ethiopia	-	-	-	-	-
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25080	DSA 77	Ethiopia	-	-	-	-	-	25166	ACC 20035	Ethiopia	-	-	-	-	-
25081	DSA 79	Ethiopia	-	-	-	-	-	25167	ACC 20036	Ethiopia	-	-	-	-	-
25082	DSA 81	Ethiopia	-	-	-	-	-	25168	ACC 20037	Ethiopia	-	-	-	-	-
25083	DSA 83	Ethiopia	-	-	-	-	-	25169	ACC 20038	Ethiopia	-	-	-	-	-
25084	DSA 85	Ethiopia	-	-	-	-	-	25170	ACC 20039	Ethiopia	-	-	-	-	-
25085	DSA 87	Ethiopia	-	-	-	-	-	25171	ACC 20040	Ethiopia	-	-	-	-	-
25086	DSA 89	Ethiopia	-	-	-	-	-	25172	ACC 20041	Ethiopia	-	-	-	-	-
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25088	DSA 93	Ethiopia	-	-	-	-	-	25174	ACC 20043	Ethiopia	-	-	-	-	-
25089	DSA 95	Ethiopia	-	-	-	-	-	25175	ACC 20044	Ethiopia	-	-	-	-	-
25090	DSA 97	Ethiopia	-	-	-	-	-	25176	ACC 20045	Ethiopia	-	-	-	-	-
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25092	DSA 101	Ethiopia	-	-	-	-	-	25178	ACC 20047	Ethiopia	-	-	-	-	-
25093	DSA 103	Ethiopia	-	-	-	-	-	25179	ACC 20048	Ethiopia	-	-	-	-	-
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25188	ACC 70660	Ethiopia							25270	ACC 72356	Ethiopia					
25189	ACC 70660	Ethiopia							25271	ACC 72377	Ethiopia					
25190	ACC 70661	Ethiopia							25272	ACC 72502	Ethiopia					
25191	ACC 70661	Ethiopia							25273	ACC 72608	Ethiopia					
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25294	ACC 70840	Ethiopia</														

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26083	Koude-toum	Mali	-	-	-	-	26166	Beluga	Togo	-	-	-	-
26084	M'bayeri daniro	Mali	-	-	-	-	26167	Dermom	Togo	-	-	-	-
26085	M'bayeri katiou	Mali	-	-	-	-	26168	Beluga	Togo	-	-	-	-
26086	Alchagari	Mali	-	-	-	-	26169	Dermom	Togo	-	-	-	-
26087	M'bayeri	Mali	-	-	-	-	26170	Duduck	Togo	-	-	-	-
26088	Doudou kourou	Mali	-	-	-	-	26171	Beluga	Togo	-	-	-	-
26089	Djibres	Mali	-	-	-	-	26172	Kapok	Togo	-	-	-	-
26090	Chandou kourou	Mali	-	-	-	-	26173	Nazack	Togo	-	-	-	-
26091	M'bayeri	Mali	-	-	-	-	26174	Karakou	Togo	-	-	-	-
26092	Koumouga	Mali	-	-	-	-	26175	Dermom	Togo	-	-	-	-
26093	Sumbala	Mali	-	-	-	-	26176	Dermom	Togo	-	-	-	-
26094	Hembé-lé	Mali	-	-	-	-	26177	Dermom	Togo	-	-	-	-
26095	Doudou kourou	Mali	-	-	-	-	26180	Beluga	Togo	-	-	-	-
26096	Fimewou	Mali	-	-	-	-	26181	Song	Togo	-	-	-	-
26097	Emetou	Mali	-	-	-	-	26182	Seak	Togo	-	-	-	-
26098	M'bayeri kourouga	Mali	-	-	-	-	26183	Dermom	Togo	-	-	-	-
26099	M'bayeri daniro	Mali	-	-	-	-	26184	Beluga	Togo	-	-	-	-
26100	M'bayeri katiou	Mali	-	-	-	-	26185	Emetou	Togo	-	-	-	-
26101	Hambou	Mali	-	-	-	-	26186	Song	Togo	-	-	-	-
26102	Daniro-lé	Mali	-	-	-	-	26187	L'pikou	Togo	-	-	-	-
26103	Lacoua kourou	Mali	-	-	-	-	26188	Dermom	Togo	-	-	-	-
26104	Lacoua kourou	Mali	-	-	-	-	26189	Dermom	Togo	-	-	-	-
26105	Lacoua-lé	Mali	-	-	-	-	26190	Emetou	Togo	-	-	-	-
26106	M'bayeri katiou	Mali	-	-	-	-	26191	Karakou	Togo	-	-	-	-
26107	Yiloua	Mali	-	-	-	-	26192	L'pikou	Togo	-	-	-	-
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26109	Beluga-lé	Mali	-	-	-	-	26194	Song	Togo	-	-	-	-
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26111	Beluga-lé	Mali	-	-	-	-	26196	Dermom	Togo	-	-	-	-
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26113	Beluga-lé	Mali	-	-	-	-	26198	L'pikou	Togo	-	-	-	-
26114	Beluga-lé	Mali	-	-	-	-	26199	Emetou	Togo	-	-	-	-
26115	Beluga-lé	Mali	-	-	-	-	26200	Emetou	Togo	-	-	-	-
26116	Beluga-lé	Mali	-	-	-	-	26201	Nyabou	Togo	-	-	-	-
26117	Beluga-lé	Mali	-	-	-	-	26202	Karakou	Togo	-	-	-	-
26118	Beluga-lé	Mali	-	-	-	-	26203	L'pikou	Togo	-	-	-	-
26119	Beluga-lé	Mali	-	-	-	-	26204	Nyabou	Togo	-	-	-	-
26120	Beluga-lé	Mali	-	-	-	-	26205	L'pikou	Togo	-	-	-	-
26121	Beluga-lé	Mali	-	-	-	-	26206	Dermom	Togo	-	-	-	-
26122	Beluga-lé	Mali	-	-	-	-	26207	L'pikou	Togo	-	-	-	-
26123	Beluga-lé	Mali	-	-	-	-	26208	Emetou	Togo	-	-	-	-
26124	Beluga-lé	Mali	-	-	-	-	26209	Emetou	Togo	-	-	-	-
26125	Beluga-lé	Mali	-	-	-	-	26210	Emetou	Togo	-	-	-	-
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26127	Beluga-lé	Mali	-	-	-	-	26212	Karakou	Togo	-	-	-	-
26128	Beluga-lé	Mali	-	-	-	-	26213	Karakou	Togo	-	-	-	-
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26130	Beluga-lé	Mali	-	-	-	-	26215	Emetou	Togo	-	-	-	-
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26140	Beluga-lé	Mali	-	-	-	-	26225	Emetou	Togo	-	-	-	-
26141	Beluga-lé	Mali	-	-	-	-	26226	Emetou	Togo	-	-	-	-
26142	Beluga-lé	Mali	-	-	-	-	26227	Emetou	Togo	-	-	-	-
26143	Beluga-lé	Mali	-	-	-	-	26228	Emetou	Togo	-	-	-	-
26144	Beluga-lé	Mali	-	-	-	-	26229	Emetou	Togo	-	-	-	-
26145	Beluga-lé	Mali	-	-	-	-	26230	Emetou	Togo	-	-	-	-
26146	Beluga-lé	Mali	-	-	-	-	26231	Emetou	Togo	-	-	-	-
26147	Beluga-lé	Mali	-	-	-	-	26232	Emetou	Togo	-	-	-	-
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26149	Beluga-lé	Mali	-	-	-	-	26234	Emetou	Togo	-	-	-	-
26150	Beluga-lé	Mali	-	-	-	-	26235	Emetou	Togo	-	-	-	-
26151	Beluga-lé	Mali	-	-	-	-	26236	Emetou	Togo	-	-	-	-
26152	Beluga-lé	Mali	-	-	-	-	26237	Emetou	Togo	-	-	-	-
26153	Beluga-lé	Mali	-	-	-	-	26238	Emetou	Togo	-	-	-	-
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26160	Beluga-lé	Mali	-	-	-	-	26245	Emetou	Togo	-	-	-	-
26161	Beluga-lé	Mali	-	-	-	-	26246	Emetou	Togo	-	-	-	-
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26163	Beluga-lé	Mali	-	-	-	-	26248	Emetou	Togo	-	-	-	-
26164	Beluga-lé	Mali	-	-	-	-	26249	Emetou	Togo	-	-	-	-
26165	Beluga-lé	Mali	-	-	-	-	26250	Emetou	Togo	-	-	-	-

IS No	Alternative accession identifier	Source country	SP		SH		MID		IS No	Alternative accession identifier	Source country	SI		SH		MID	
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26226	SGT 3808	Berutu			5/11	-	-	-	26213	Molokai	Berutu			5/11	-	-	-
26227	Dohi	Berutu			5/11	-	-	-	26214	Koromaru bagaru	Berutu			5/11	-	-	-
26228	Dohi	Berutu			5/11	-	-	-	26215	Koromaru bagaru	Berutu			5/11	-	-	-
26229	Dohi	Berutu			5/11	-	-	-	26216	Burumohu	Berutu			5/11	-	-	-
26230	Dohi wunukuru	Berutu			5/11	-	-	-	26217	Makulu	Berutu			5/11	-	-	-
26231	Dosomou	Berutu			5/11	-	-	-	26218	Koromaru bagaru	Berutu			5/11	-	-	-
26232	Dohimou	Berutu			5/11	-	-	-	26219	Dogu	Berutu			5/11	-	-	-
26233	Dohi	Berutu			5/11	-	-	-	26220	Molokai	Berutu			5/11	-	-	-
26234	Dohi	Berutu			5/11	-	-	-	26221	Molokai	Berutu			5/11	-	-	-
26235	SGT 4017	Berutu			4/2	-	-	-	26222	Dogu	Berutu			5/11	-	-	-
26236	Koromaru heiki	Berutu			5/11	-	-	-	26223	Dohimohu	Berutu			4/11	-	-	-
26237	Dohi	Berutu			5/11	-	-	-	26224	Molokai	Berutu			5/11	-	-	-
26238	Dohi pika	Berutu			5/11	-	-	-	26225	Molokai	Berutu			5/11	-	-	-
26239	SGT 4017	Berutu			5/11	-	-	-	26226	Molokai	Berutu			5/11	-	-	-
26240	Dohi	Berutu			5/11	-	-	-	26227	Molokai	Berutu			5/11	-	-	-
26241	Dohi	Berutu			5/11	-	-	-	26228	Toko hekemaru	Berutu			5/11	-	-	-
26242	SGT 4022	Berutu			5/11	-	-	-	26229	Toko hekemaru	Berutu			5/11	-	-	-
26243	SGT 4023	Berutu			5/11	-	-	-	26230	Koromaru bagaru	Berutu			5/11	-	-	-
26244	SGT 4025	Berutu			5/11	-	-	-	26231	Dohi pika	Berutu			5/11	-	-	-
26245	SGT 4027	Berutu			5/11	-	-	-	26232	Molokai	Berutu			5/11	-	-	-
26246	Toko hekemaru	Berutu			5/11	-	-	-	26233	Molokai	Berutu			5/11	-	-	-
26247	Toko hekemaru	Berutu			5/11	-	-	-	26234	Sakura hekemaru	Berutu			5/11	-	-	-
26248	Dohi wunukuru	Berutu			5/11	-	-	-	26235	Toko hekemaru	Berutu			5/11	-	-	-
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26252	Esare pika	Berutu			5/11	-	-	-	26239	Molokai	Berutu			5/11	-	-	-
26253	Esare pika	Berutu			5/11	-	-	-	26240	Dohi pika	Berutu			5/11	-	-	-
26254	Esare pika	Berutu			5/11	-	-	-	26241	Dohi pika	Berutu			5/11	-	-	-
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26256	Dohi	Berutu			5/11	-	-	-	26243	Molokai	Berutu			5/11	-	-	-
26257	Dohi	Berutu			5/11	-	-	-	26244	Molokai	Berutu			5/11	-	-	-
26258	Dohi	Berutu			5/11	-	-	-	26245	Sakura hekemaru	Berutu			5/11	-	-	-
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26260	SGT 4026	Berutu			5/11	-	-	-	26247	Molokai	Berutu			5/11	-	-	-
26261	Koromaru	Berutu			5/11	-	-	-	26248	Molokai	Berutu			5/11	-	-	-
26262	Dohi	Berutu			5/11	-	-	-	26249	Molokai	Berutu			5/11	-	-	-
26263	SGT 4021	Berutu			5/11	-	-	-	26250	Sakura hekemaru	Berutu			5/11	-	-	-
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26267	Sakura hekemaru	Berutu			5/11	-	-	-	26254	Molokai	Berutu			5/11	-	-	-
26268	SGT 4026	Berutu			5/11	-	-	-	26255	Molokai	Berutu			5/11	-	-	-
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26312	Molokai	Berutu			5/11	-	-	-	26299	Molokai	Berutu			5/11	-	-	-

IS No	Alternate accession identifier	Source country	SI					IS No	Alternate accession identifier	Source country	SF				
			R	PR	LR	LR	LR				R	PR	LR	LR	LR
26066	NPV 796	India	-	-	-	-	-	27060	TGR 245 C	Zimbabwe	-	-	-	-	-
26069	NPV 422	India	-	-	-	-	-	27061	TGR 249 A	Zimbabwe	-	-	-	-	-
26070	NPV 424	India	-	-	-	-	-	27062	TGR 249 B	Zimbabwe	-	-	-	-	-
26072	Acacia local	India	-	-	-	-	-	27063	TGR 249 C	Zimbabwe	-	-	-	-	-
26074	Acacia etyopalia	India	-	-	-	-	-	27064	TGR 249 D	Zimbabwe	-	-	-	-	-
26075	Malig local	India	-	-	-	-	-	27065	TGR 249 E	Zimbabwe	-	-	-	-	-
26076	Berzanti local	India	-	-	-	-	-	27066	TGR 249 F	Zimbabwe	-	-	-	-	-
26077	Dera local	India	-	-	-	-	-	27067	TGR 249 H	Zimbabwe	-	-	-	-	-
26078	Phisal local	India	-	-	-	-	-	27068	TGR 250 A	Zimbabwe	-	-	-	-	-
26079	Samugji local	India	-	-	-	-	-	27069	TGR 250 H	Zimbabwe	-	-	-	-	-
26080	Samugji damgi	India	-	-	-	-	-	27100	TGR 257 A	Zimbabwe	-	-	-	-	-
26081	Rathi dighi	India	-	-	-	-	-	27101	TGR 257 B	Zimbabwe	-	-	-	-	-
26082	Indian Syn 187 I	India	-	-	-	-	-	27102	TGR 272	Zimbabwe	-	-	-	-	-
26083	A 717	India	-	-	-	-	-	27103	TGR 280 A	Zimbabwe	-	-	-	-	-
26087	1382	India	-	-	-	-	-	27104	TGR 280 B	Zimbabwe	-	-	-	-	-
26088	Waray prima	India	-	-	-	-	-	27105	TGR 280 C	Zimbabwe	-	-	-	-	-
26091	SA 504	India	-	-	-	-	-	27106	TGR 282 A	Zimbabwe	-	-	-	-	-
27006	WSI 11165	Nicaragua	-	-	-	-	-	27107	TGR 282 B	Zimbabwe	-	-	-	-	-
27007	WSI 11165	Nicaragua	-	-	-	-	-	27108	TGR 283	Zimbabwe	-	-	-	-	-
27008	WSI 11167	Nicaragua	-	-	-	-	-	27109	TGR 314	Zimbabwe	-	-	-	-	-
27009	WM 11169	Nicaragua	-	-	-	-	-	27110	TGR 341	Zimbabwe	-	-	-	-	-
27010	WM 11171	Nicaragua	-	-	-	-	-	27111	TGR 351 B	Zimbabwe	-	-	-	-	-
27011	WM 11173	Nicaragua	-	-	-	-	-	27112	TGR 370	Zimbabwe	-	-	-	-	-
27012	WM 11165	Nicaragua	-	-	-	-	-	27113	TGR 311	Zimbabwe	-	-	-	-	-
27013	WSI 11501	Nicaragua	-	-	-	-	-	27114	TGR 338	Zimbabwe	-	-	-	-	-
27014	WSI 11506	Nicaragua	-	-	-	-	-	27115	TGR 360	Zimbabwe	-	-	-	-	-
27015	WSI 11515	Nicaragua	-	-	-	-	-	27116	TGR 362	Zimbabwe	-	-	-	-	-
27016	WSI 11523	Nicaragua	-	-	-	-	-	27117	TGR 361	Zimbabwe	-	-	-	-	-
27017	WSI 11517	Nicaragua	-	-	-	-	-	27118	TGR 492	Zimbabwe	-	-	-	-	-
27018	WSI 11531	Nicaragua	-	-	-	-	-	27119	TGR 296	Zimbabwe	-	-	-	-	-
27019	WSI 11544	Nicaragua	-	-	-	-	-	27120	TGR 307	Zimbabwe	-	-	-	-	-
27020	WSI 11548	Nicaragua	-	-	-	-	-	27121	TGR 308	Zimbabwe	-	-	-	-	-
27021	WSI 11647	Nicaragua	-	-	-	-	-	27122	TGR 400	Zimbabwe	-	-	-	-	-
27022	WSI 11652	Nicaragua	-	-	-	-	-	27123	TGR 410	Zimbabwe	-	-	-	-	-
27023	WSI 11658	Nicaragua	-	-	-	-	-	27124	TGR 411	Zimbabwe	-	-	-	-	-
27024	WSI 11700	Nicaragua	-	-	-	-	-	27125	TGR 415	Zimbabwe	-	-	-	-	-
27025	DMR & 31A set	India	-	-	-	-	-	27126	TGR 417	Zimbabwe	-	-	-	-	-
27026	TGR 37	Zimbabwe	-	-	-	-	-	27127	TGR 427	Zimbabwe	-	-	-	-	-
27027	TGR 48	Zimbabwe	-	-	-	-	-	27128	TGR 428	Zimbabwe	-	-	-	-	-
27028	TGR 50	Zimbabwe	-	-	-	-	-	27129	TGR 430	Zimbabwe	-	-	-	-	-
27029	TGR 51	Zimbabwe	-	-	-	-	-	27130	TGR 434	Zimbabwe	-	-	-	-	-
27030	TGR 62	Zimbabwe	-	-	-	-	-	27131	TGR 442	Zimbabwe	-	-	-	-	-
27031	TGR 82	Zimbabwe	-	-	-	-	-	27132	TGR 443	Zimbabwe	-	-	-	-	-
27032	TGR 88	Zimbabwe	-	-	-	-	-	27133	TGR 449	Zimbabwe	-	-	-	-	-
27033	TGR 97	Zimbabwe	-	-	-	-	-	27134	TGR 449	Zimbabwe	-	-	-	-	-
27034	TGR 105	Zimbabwe	-	-	-	-	-	27135	TGR 455	Zimbabwe	-	-	-	-	-
27035	TGR 107	Zimbabwe	-	-	-	-	-	27136	TGR 456	Zimbabwe	-	-	-	-	-
27036	TGR 110	Zimbabwe	-	-	-	-	-	27137	TGR 466	Zimbabwe	-	-	-	-	-
27037	TGR 111	Zimbabwe	-	-	-	-	-	27138	TGR 467	Zimbabwe	-	-	-	-	-
27038	TGR 122	Zimbabwe	-	-	-	-	-	27139	TGR 476	Zimbabwe	-	-	-	-	-
27039	TGR 132	Zimbabwe	-	-	-	-	-	27140	TGR 480	Zimbabwe	-	-	-	-	-
27040	TGR 147	Zimbabwe	-	-	-	-	-	27141	TGR 487	Zimbabwe	-	-	-	-	-
27041	TGR 151	Zimbabwe	-	-	-	-	-	27142	TGR 517	Zimbabwe	-	-	-	-	-
27042	TGR 154	Zimbabwe	-	-	-	-	-	27143	TGR 527	Zimbabwe	-	-	-	-	-
27043	TGR 154	Zimbabwe	-	-	-	-	-	27144	TGR 536	Zimbabwe	-	-	-	-	-
27044	TGR 156	Zimbabwe	-	-	-	-	-	27145	TGR 547	Zimbabwe	-	-	-	-	-
27045	TGR 157	Zimbabwe	-	-	-	-	-	27146	TGR 548	Zimbabwe	-	-	-	-	-
27046	TGR 158	Zimbabwe	-	-	-	-	-	27147	TGR 556 A	Zimbabwe	-	-	-	-	-
27047	TGR 159	Zimbabwe	-	-	-	-	-	27148	TGR 556 B	Zimbabwe	-	-	-	-	-
27048	TGR 166	Zimbabwe	-	-	-	-	-	27149	TGR 558	Zimbabwe	-	-	-	-	-
27049	TGR 181	Zimbabwe	-	-	-	-	-	27150	TGR 558 A	Zimbabwe	-	-	-	-	-
27050	TGR 187	Zimbabwe	-	-	-	-	-	27151	TGR 610	Zimbabwe	-	-	-	-	-
27051	TGR 187	Zimbabwe	-	-	-	-	-	27152	TGR 617	Zimbabwe	-	-	-	-	-
27052	TGR 203 B	Zimbabwe	-	-	-	-	-	27153	TGR 614	Zimbabwe	-	-	-	-	-
27053	TGR 205 A	Zimbabwe	-	-	-	-	-	27154	TGR 615	Zimbabwe	-	-	-	-	-
27054	TGR 205 B	Zimbabwe	-	-	-	-	-	27155	TGR 615	Zimbabwe	-	-	-	-	-
27055	TGR 206	Zimbabwe	-	-	-	-	-	27156	TGR 706	Zimbabwe	-	-	-	-	-
27056	TGR 230 B	Zimbabwe	-	-	-	-	-	27157	TGR 707	Zimbabwe	-	-	-	-	-
27057	TGR 240 C	Zimbabwe	-	-	-	-	-	27158	TGR 714	Zimbabwe	-	-	-	-	-
27058	TGR 210 A	Zimbabwe	-	-	-	-	-	27159	TGR 720	Zimbabwe	-	-	-	-	-
27059	TGR 210 B	Zimbabwe	-	-	-	-	-	27160	TGR 721	Zimbabwe	-	-	-	-	-
27060	TGR 254 B	Zimbabwe	-	-	-	-	-	27161	TGR 708 F	Zimbabwe	-	-	-	-	-
27061	TGR 225 A	Zimbabwe	-	-	-	-	-	27162	TGR 718 F	Zimbabwe	-	-	-	-	-
27062	TGR 225 B	Zimbabwe	-	-	-	-	-	27163	TGR 738 H	Zimbabwe	-	-	-	-	-
27063	TGR 250	Zimbabwe	-	-	-	-	-	27164	TGR 800	Zimbabwe	-	-	-	-	-
27064	TGR 211	Zimbabwe	-	-	-	-	-	27165	TGR 800	Zimbabwe	-	-	-	-	-
27065	TGR 216 B	Zimbabwe	-	-	-	-	-	27166	TGR 800	Zimbabwe	-	-	-	-	-
27066	TGR 200 C	Zimbabwe	-	-	-	-	-	27167	TGR 800	Zimbabwe	-	-	-	-	-
27067	TGR 242	Zimbabwe	-	-	-	-	-	27168	TGR 800	Zimbabwe	-	-	-	-	-
27068	TGR 245 A	Zimbabwe	-	-	-	-	-	27169	TGR 901	Zimbabwe	-	-	-	-	-
27069	TGR 245 B	Zimbabwe	-	-	-	-	-	27170	TGR 907	Zimbabwe	-	-	-	-	-
27070	TGR 245 C	Zimbabwe	-	-	-	-	-	27171	TGR 979	Zimbabwe	-	-	-	-	-

IS No	Alternate accession	Source country	SP	FR	SH	MD	DR	IS No	Alternate accession	Source country	SP	FR	SH	MD	DR
Identifier			R	FR	SH	MD	DR	Identifier			R	FR	SH	MD	DR
27905	JM 4645	South Africa	4(1)	-	-	-	-	27904	YSC 1794	Yemen	-	-	-	-	-
27906	JM 4670	South Africa	4(1)	-	-	-	-	27905	YSC 1797	Yemen	-	-	-	-	-
27907	JM 4671	South Africa	4(1)	-	-	-	-	27906	YSC 1798	Yemen	-	-	-	-	-
27908	JM 4672	South Africa	4(1)	-	-	-	-	27907	YSC 1799	Yemen	-	-	-	-	-
27909	JM 4673	South Africa	4(1)	-	-	-	-	27908	YSC 1800	Yemen	-	-	-	-	-
27910	JM 4677	South Africa	4(1)	-	-	-	-	27909	YSC 1801	Yemen	-	-	-	-	-
27911	JM 4679	South Africa	4(1)	-	-	-	-	27910	YSC 1802	Yemen	-	-	-	-	-
27912	JM 4682	South Africa	4(1)	-	-	-	-	27911	YSC 1803	Yemen	-	-	-	-	-
27913	JM 4683	South Africa	4(1)	-	-	-	-	27912	YSC 1804	Yemen	-	-	-	-	-
27914	JM 4684	South Africa	4(1)	-	-	-	-	27913	YSC 1805	Yemen	-	-	-	-	-
27915	JM 4689	South Africa	4(1)	-	-	-	-	27914	YSC 1807	Yemen	-	-	-	-	-
27916	JM 4690	South Africa	4(1)	-	-	-	-	27915	YSC 1808	Yemen	-	-	-	-	-
27917	JM 4697	South Africa	4(1)	-	-	-	-	27916	YSC 1811	Yemen	-	-	-	-	-
27918	SL BL 2000	USA	4(1)	-	-	-	-	27917	YSC 1812	Yemen	-	-	-	-	-
27919	SL BL 2080	USA	4(1)	-	-	-	-	27918	YSC 1813	Yemen	-	-	-	-	-
27920	SL BL 2104	USA	4(1)	-	-	-	-	27919	YSC 1814	Yemen	-	-	-	-	-
27921	Var dakur	Kenya	4(1)	-	-	-	-	27920	YSC 1815	Yemen	-	-	-	-	-
27922	Var hende	Kenya	4(1)	-	-	-	-	27921	YSC 1816	Yemen	-	-	-	-	-
27923	Var maku	Kenya	4(1)	-	-	-	-	27922	YSC 1817	Yemen	-	-	-	-	-
27924	Var asarima	Kenya	4(1)	-	-	-	-	27923	YSC 1818	Yemen	-	-	-	-	-
27925	Var kahanga	Kenya	4(1)	-	-	-	-	27924	YSC 1819	Yemen	-	-	-	-	-
27926	Var mukilipi	Kenya	4(1)	-	-	-	-	27925	YSC 1820	Yemen	-	-	-	-	-
27927	Var mihira	Kenya	4(1)	-	-	-	-	27926	YSC 1821	Yemen	-	-	-	-	-
27928	No 1	China	4(1)	-	-	-	-	27927	YSC 1822	Yemen	-	-	-	-	-
27929	No 2	China	4(1)	-	-	-	-	27928	YSC 1823	Yemen	-	-	-	-	-
27930	No 3	China	4(1)	-	-	-	-	27929	YSC 1824	Yemen	-	-	-	-	-
27931	No 4	China	4(1)	-	-	-	-	27930	YSC 1825	Yemen	-	-	-	-	-
27932	No 5	China	4(1)	-	-	-	-	27931	YSC 1826	Yemen	-	-	-	-	-
27933	No 6	China	4(1)	-	-	-	-	27932	YSC 1827	Yemen	-	-	-	-	-
27934	No 7	China	4(1)	-	-	-	-	27933	YSC 1828	Yemen	-	-	-	-	-
27935	No 10	China	4(1)	-	-	-	-	27934	YSC 1829	Yemen	-	-	-	-	-
27936	No 11	China	4(1)	-	-	-	-	27935	YSC 1830	Yemen	-	-	-	-	-
27937	No 12	China	4(1)	-	-	-	-	27936	YSC 1831	Yemen	-	-	-	-	-
27938	No 13	China	4(1)	-	-	-	-	27937	YSC 1832	Yemen	-	-	-	-	-
27939	No 14	China	4(1)	-	-	-	-	27938	YSC 1833	Yemen	-	-	-	-	-
27940	Mogambila	Cote d'Ivoire	4(1)	-	-	-	-	27939	YSC 1834	Yemen	-	-	-	-	-
27941	YSC 105	Yemen	-	-	-	-	-	27940	YSC 1835	Yemen	-	-	-	-	-
27942	YSC 126	Yemen	-	-	-	-	-	27941	YSC 1836	Yemen	-	-	-	-	-
27943	YSC 126	Yemen	-	-	-	-	-	27942	YSC 1837	Yemen	-	-	-	-	-
27944	YSC 442	Yemen	-	-	-	-	-	27943	YSC 1838	Yemen	-	-	-	-	-
27945	YSC 448	Yemen	-	-	-	-	-	27944	YSC 1839	Yemen	-	-	-	-	-
27946	YSC 482	Yemen	-	-	-	-	-	27945	YSC 1840	Yemen	-	-	-	-	-
27947	YSC 482	Yemen	-	-	-	-	-	27946	YSC 1841	Yemen	-	-	-	-	-
27948	YSC 482	Yemen	-	-	-	-	-	27947	YSC 1842	Yemen	-	-	-	-	-
27949	YSC 482	Yemen	-	-	-	-	-	27948	YSC 1843	Yemen	-	-	-	-	-
27950	YSC 482	Yemen	-	-	-	-	-	27949	YSC 1844	Yemen	-	-	-	-	-
27951	YSC 482	Yemen	-	-	-	-	-	27950	YSC 1845	Yemen	-	-	-	-	-
27952	YSC 482	Yemen	-	-	-	-	-	27951	YSC 1846	Yemen	-	-	-	-	-
27953	YSC 482	Yemen	-	-	-	-	-	27952	YSC 1847	Yemen	-	-	-	-	-
27954	YSC 482	Yemen	-	-	-	-	-	27953	YSC 1848	Yemen	-	-	-	-	-
27955	YSC 482	Yemen	-	-	-	-	-	27954	YSC 1849	Yemen	-	-	-	-	-
27956	YSC 482	Yemen	-	-	-	-	-	27955	YSC 1850	Yemen	-	-	-	-	-
27957	YSC 482	Yemen	-	-	-	-	-	27956	YSC 1851	Yemen	-	-	-	-	-
27958	YSC 482	Yemen	-	-	-	-	-	27957	YSC 1852	Yemen	-	-	-	-	-
27959	YSC 482	Yemen	-	-	-	-	-	27958	YSC 1853	Yemen	-	-	-	-	-
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27961	YSC 482	Yemen	-	-	-	-	-	27960	YSC 1855	Yemen	-	-	-	-	-
27962	YSC 482	Yemen	-	-	-	-	-	27961	YSC 1856	Yemen	-	-	-	-	-
27963	YSC 482	Yemen	-	-	-	-	-	27962	YSC 1857	Yemen	-	-	-	-	-
27964	YSC 482	Yemen	-	-	-	-	-	27963	YSC 1858	Yemen	-	-	-	-	-
27965	YSC 482	Yemen	-	-	-	-	-	27964	YSC 1859	Yemen	-	-	-	-	-
27966	YSC 482	Yemen	-	-	-	-	-	27965	YSC 1860	Yemen	-	-	-	-	-
27967	YSC 482	Yemen	-	-	-	-	-	27966	YSC 1861	Yemen	-	-	-	-	-
27968	YSC 482	Yemen	-	-	-	-	-	27967	YSC 1862	Yemen	-	-	-	-	-
27969	YSC 482	Yemen	-	-	-	-	-	27968	YSC 1863	Yemen	-	-	-	-	-
27970	YSC 482	Yemen	-	-	-	-	-	27969	YSC 1864	Yemen	-	-	-	-	-
27971	YSC 482	Yemen	-	-	-	-	-	27970	YSC 1865	Yemen	-	-	-	-	-
27972	YSC 482	Yemen	-	-	-	-	-	27971	YSC 1866	Yemen	-	-	-	-	-
27973	YSC 482	Yemen	-	-	-	-	-	27972	YSC 1867	Yemen	-	-	-	-	-
27974	YSC 482	Yemen	-	-	-	-	-	27973	YSC 1868	Yemen	-	-	-	-	-
27975	YSC 482	Yemen	-	-	-	-	-	27974	YSC 1869	Yemen	-	-	-	-	-
27976	YSC 482	Yemen	-	-	-	-	-	27975	YSC 1870	Yemen	-	-	-	-	-
27977	YSC 482	Yemen	-	-	-	-	-	27976	YSC 1871	Yemen	-	-	-	-	-
27978	YSC 482	Yemen	-	-	-	-	-	27977	YSC 1872	Yemen	-	-	-	-	-
27979	YSC 482	Yemen	-	-	-	-	-	27978	YSC 1873	Yemen	-	-	-	-	-
27980	YSC 482	Yemen	-	-	-	-	-	27979	YSC 1874	Yemen	-	-	-	-	-
27981	YSC 482	Yemen	-	-	-	-	-	27980	YSC 1875	Yemen	-	-	-	-	-
27982	YSC 482	Yemen	-	-	-	-	-	27981	YSC 1876	Yemen	-	-	-	-	-
27983	YSC 482	Yemen	-	-	-	-	-	27982	YSC 1877	Yemen	-	-	-	-	-
27984	YSC 482	Yemen	-	-	-	-	-	27983	YSC 1878	Yemen	-	-	-	-	-
27985	YSC 482	Yemen	-	-	-	-	-	27984	YSC 1879	Yemen	-	-	-	-	-
27986	YSC 482	Yemen	-	-	-	-	-	27985	YSC 1880	Yemen	-	-	-	-	-
27987	YSC 482	Yemen	-	-	-	-	-	27986	YSC 1881	Yemen	-	-	-	-	-
27988	YSC 482	Yemen	-	-	-	-	-	27987	YSC 1882	Yemen	-	-	-	-	-
27989	YSC 482	Yemen	-	-	-	-	-	27988	YSC 1883	Yemen	-	-	-	-	-
27990	YSC 482	Yemen	-	-	-	-	-	27989	YSC 1884	Yemen	-	-	-	-	-
27991	YSC 482	Yemen	-	-	-	-	-	27990	YSC 1885	Yemen	-	-	-	-	-
27992	YSC 482	Yemen	-	-	-	-	-	27991	YSC 1886	Yemen	-	-	-	-	-
27993	YSC 482	Yemen	-	-	-	-	-	27992	YSC 1887	Yemen	-	-	-	-	-
27994	YSC 482	Yemen	-	-	-	-	-	27993	YSC 1888	Yemen	-	-	-	-	-
27995	YSC 482	Yemen	-	-	-	-	-	27994	YSC 1889	Yemen	-	-	-	-	-
27996	YSC 482	Yemen	-	-	-	-	-	27995	YSC 1890	Yemen	-	-	-	-	-
27997	YSC 482	Yemen	-	-	-	-	-	27996	YSC 1891	Yemen	-	-	-	-	-
27998	YSC 482	Yemen	-	-	-	-	-	27997	YSC 1892	Yemen	-	-	-	-	-
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28001	YSC 482	Yemen	-	-	-	-	-	28000	YSC 1895	Yemen	-	-	-	-	-
28002	YSC 482	Yemen	-	-	-	-	-	28001	YSC 1896	Yemen	-	-	-	-	-
28003	YSC 482	Yemen	-	-	-	-	-	28002	YSC 1897	Yemen	-	-	-	-	-
28004	YSC 482	Yemen	-	-	-	-	-	28003	YSC 1898	Yemen	-	-	-	-	-

IS No	Alternate accession identifier	Source country	SR				SM				MD				JH				IS No	Alternate accession identifier	Source country	SR				SM				MD				JH			
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26082	YSC 2524	Yemen																26737	YSC 2593	Yemen																	
26083	YSC 2525	Yemen																26738	YSC 2599	Yemen																	
26084	YSC 2527	Yemen																26739	YSC 2597	Yemen																	
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26089	YSC 2262	Yemen																26792	YSC 2543	Yemen																	
26090	YSC 2283	Yemen																26793	YSC 2544	Yemen																	
26091	YSC 2282	Yemen																26794	YSC 2546	Yemen																	
26092	YSC 2248	Yemen																26795	YSC 2549	Yemen																	
26093	YSC 2266	Yemen																26796	YSC 2550	Yemen																	
26094	YSC 2269	Yemen																26797	YSC 2554	Yemen																	
26095	YSC 2271	Yemen																26799	YSC 2559	Yemen																	
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26106	YSC 2295	Yemen																26810	YSC 2580	Yemen																	
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26113	YSC 2302	Yemen																26817	YSC 2587	Yemen																	
26114	YSC 2303	Yemen																26818	YSC 2588	Yemen																	
26115	YSC 2304	Yemen																26819	YSC 2589	Yemen																	
26116	YSC 2305	Yemen																26820	YSC 2590	Yemen																	
26117	YSC 2306	Yemen																26821	YSC 2591	Yemen																	
26118	YSC 2307	Yemen																26822	YSC 2592	Yemen																	
26119	YSC 2308	Yemen																26823	YSC 2593	Yemen																	
26120	YSC 2309	Yemen																26824	YSC 2594	Yemen																	
26121	YSC 2310	Yemen																26825	YSC 2595	Yemen																	
26122	YSC 2311	Yemen																26826	YSC 2596	Yemen																	
26123	YSC 2312	Yemen																26827	YSC 2597	Yemen																	
26124	YSC 2313	Yemen																26828	YSC 2598	Yemen																	
26125	YSC 2314	Yemen																26829	YSC 2599	Yemen																	
26126	YSC 2315	Yemen																26830	YSC 2600	Yemen																	
26127	YSC 2316	Yemen																26831	YSC 2601	Yemen																	
26128	YSC 2317	Yemen																26832	YSC 2602	Yemen																	
26129	YSC 2318	Yemen																26833	YSC 2603	Yemen																	
26130	YSC 2319	Yemen																26834	YSC 2604	Yemen																	
26131	YSC 2320	Yemen																26835	YSC 2605	Yemen																	
26132	YSC 2321	Yemen																26836	YSC 2606	Yemen																	
26133	YSC 2322	Yemen																26837	YSC 2607	Yemen																	
26134	YSC 2323	Yemen																26838	YSC 2608	Yemen																	
26135	YSC 2324	Yemen																26839	YSC 2609	Yemen																	
26136	YSC 2325	Yemen																26840	YSC 2610	Yemen																	
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26138	YSC 2327	Yemen																26842	YSC 2612	Yemen																	
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26140	YSC 2329	Yemen																26844	YSC 2614	Yemen																	
26141	YSC 2330	Yemen																26845	YSC 2615	Yemen																	
26142	YSC 2331	Yemen																26846	YSC 2616	Yemen																	
26143	YSC 2332	Yemen																26847	YSC 2617	Yemen																	
26144	YSC 2333	Yemen																26848	YSC 2618	Yemen																	
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26146	YSC 2335	Yemen																26850	YSC 2620	Yemen																	
26147	YSC 2336	Yemen																26851	YSC 2621	Yemen																	
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26149	YSC 2338	Yemen								</																											

IS No	Alternate accession identifier	Source country	SF				IS No	Alternate accession identifier	Source country	SF			
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20051	AMM 674	Zimbabwe	-	-	403	-	20037	AMM 822	Zimbabwe	-	-	412	-
20052	AMM 675	Zimbabwe	-	-	511	-	20038	AMM 810	Zimbabwe	-	-	412	-
20053	AMM 677	Zimbabwe	-	-	512	-	20039	AMM 831	Zimbabwe	-	-	511	-
20054	AMM 684	Zimbabwe	-	-	411	-	20040	AMM 842	Zimbabwe	-	-	511	-
20055	AMM 694	Zimbabwe	-	-	512	-	20041	AMM 842-1	Zimbabwe	-	-	411	-
20056	AMM 694	Zimbabwe	-	-	512	-	20042	AMM 843	Zimbabwe	-	-	511	-
20057	AMM 696	Zimbabwe	-	-	512	-	20043	AMM 844	Zimbabwe	-	-	511	-
20058	AMM 697	Zimbabwe	-	-	512	-	20044	AMM 845	Zimbabwe	-	-	412	-
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20061	AMM 701	Zimbabwe	-	-	511	-	20047	AMM 850	Zimbabwe	-	-	511	-
20062	AMM 702	Zimbabwe	-	-	511	-	20048	AMM 851	Zimbabwe	-	-	512	-
20063	AMM 703	Zimbabwe	-	-	511	-	20049	AMM 854	Zimbabwe	-	-	512	-
20064	AMM 704	Zimbabwe	-	-	511	-	20050	AMM 855	Zimbabwe	-	-	411	-
20065	AMM 706	Zimbabwe	-	-	411	-	20051	AMM 859	Zimbabwe	-	-	512	-
20066	AMM 707	Zimbabwe	-	-	511	-	20052	AMM 861	Zimbabwe	-	-	512	-
20067	AMM 708	Zimbabwe	-	-	511	-	20053	AMM 862	Zimbabwe	-	-	512	-
20068	AMM 709	Zimbabwe	-	-	511	-	20054	AMM 865	Zimbabwe	-	-	512	-
20069	AMM 710	Zimbabwe	-	-	512	-	20055	AMM 866	Zimbabwe	-	-	411	-
20070	AMM 711	Zimbabwe	-	-	512	-	20056	AMM 869	Zimbabwe	-	-	511	-
20071	AMM 712	Zimbabwe	-	-	512	-	20057	AMM 870	Zimbabwe	-	-	511	-
20072	AMM 713	Zimbabwe	-	-	512	-	20058	AMM 871	Zimbabwe	-	-	411	-
20073	AMM 716	Zimbabwe	-	-	512	-	20059	AMM 872	Zimbabwe	-	-	511	-
20074	AMM 718	Zimbabwe	-	-	512	-	20060	AMM 873	Zimbabwe	-	-	512	-
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20076	AMM 720	Zimbabwe	-	-	512	-	20062	AMM 879	Zimbabwe	-	-	512	-
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20082	AMM 730	Zimbabwe	-	-	411	-	20068	AMM 886	Zimbabwe	-	-	512	-
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20084	AMM 732	Zimbabwe	-	-	412	-	20070	AMM 888	Zimbabwe	-	-	412	-
20085	AMM 733	Zimbabwe	-	-	412	-	20071	AMM 886	Zimbabwe	-	-	512	-
20086	AMM 741	Zimbabwe	-	-	411	-	20072	AMM 886-1	Zimbabwe	-	-	512	-
20087	AMM 742	Zimbabwe	-	-	412	-	20073	AMM 900	Zimbabwe	-	-	512	-
20088	AMM 743	Zimbabwe	-	-	512	-	20074	AMM 901	Zimbabwe	-	-	511	-
20089	AMM 744	Zimbabwe	-	-	411	-	20075	AMM 914	Zimbabwe	-	-	411	-
20090	AMM 745	Zimbabwe	-	-	411	-	20076	AMM 921	Zimbabwe	-	-	512	-
20091	AMM 748	Zimbabwe	-	-	512	-	20077	AMM 924	Zimbabwe	-	-	511	-
20092	AMM 749	Zimbabwe	-	-	411	-	20078	AMM 926	Zimbabwe	-	-	411	-
20093	AMM 750	Zimbabwe	-	-	412	-	20079	AMM 927	Zimbabwe	-	-	511	-
20094	AMM 751	Zimbabwe	-	-	512	-	20080	AMM 931	Zimbabwe	-	-	411	-
20095	AMM 752	Zimbabwe	-	-	411	-	20081	AMM 932	Zimbabwe	-	-	512	-
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20097	AMM 754	Zimbabwe	-	-	511	-	20083	AMM 937	Zimbabwe	-	-	511	-
20098	AMM 754-1	Zimbabwe	-	-	412	-	20084	AMM 938	Zimbabwe	-	-	511	-
20099	AMM 756	Zimbabwe	-	-	511	-	20085	AMM 939	Zimbabwe	-	-	512	-
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20105	AMM 785	Zimbabwe	-	-	411	-	20091	AMM 946	Zimbabwe	-	-	411	-
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20107	AMM 787	Zimbabwe	-	-	511	-	20093	AMM 948	Zimbabwe	-	-	512	-
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20110	AMM 790	Zimbabwe	-	-	512	-	20096	AMM 952	Zimbabwe	-	-	412	-
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20115	AMM 801	Zimbabwe	-	-	512	-	20101	AMM 960	Zimbabwe	-	-	511	-
20116	AMM 804	Zimbabwe	-	-	511	-	20102	AMM 961	Zimbabwe	-	-	412	-
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20123	AMM 814	Zimbabwe	-	-	512	-	20109	AMM 968	Zimbabwe	-	-	411	-
20124	AMM 816	Zimbabwe	-	-	512	-	20110	AMM 969	Zimbabwe	-	-	411	-
20125	AMM 818	Zimbabwe	-	-	512	-	20111	AMM 970	Zimbabwe	-	-	411	-
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20127	AMM 821	Zimbabwe	-	-	412	-	20113	AMM 972	Zimbabwe	-	-	411	-
20128	AMM 822	Zimbabwe	-	-	412	-	20114	AMM 973	Zimbabwe	-	-	411	-
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20131	AMM 825	Zimbabwe	-	-	412	-	20117	AMM 976	Zimbabwe	-	-	411	-
20132	AMM 826	Zimbabwe	-	-	412	-	20118	AMM 977	Zimbabwe	-	-	411	-
20133	AMM 827	Zimbabwe	-	-	412	-	20119	AMM 978	Zimbabwe	-	-	411	-
20134	AMM 828	Zimbabwe	-	-	412	-	20120	AMM 979	Zimbabwe	-	-	411	-
20135	AMM 829	Zimbabwe	-	-	412	-	20121	AMM 980	Zimbabwe	-	-	411	-
20136	AMM 830	Zimbabwe	-	-	412	-	20122	AMM 981	Zimbabwe	-	-	411	-
20137	AMM 831	Zimbabwe	-	-	412	-	20123	AMM 982	Zimbabwe	-	-	411	-
20138	AMM 832	Zimbabwe	-	-	412	-	20124	AMM 983	Zimbabwe	-	-	411	-
20139	AMM 833	Zimbabwe	-	-	412	-	20125	AMM 984	Zimbabwe	-	-	411	-
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20147	AMM 841	Zimbabwe	-	-	412	-	20133	AMM 992	Zimbabwe	-	-	411	-
20148	AMM 842	Zimbabwe	-	-	412	-	20134	AMM 993	Zimbabwe	-	-	411	-
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20152	AMM 846	Zimbabwe	-	-	412	-	20138	AMM 997	Zimbabwe	-	-	411	-
20153	AMM 847	Zimbabwe	-	-	412	-	20139	AMM 998	Zimbabwe	-	-	411	-
20154	AMM 848	Zimbabwe	-	-	412	-	20140	AMM 999	Zimbabwe	-	-	411	-

IS No	Alternate accession identifier	Source country	SF	PR	DBS	SB	LFS	MD	HB	IS No	Alternate accession identifier	Source country	SF	PR	DBS	SB	LFS	MD	HB
12536	SS 21	Somalia	-	-	4(1)	-	-	-	-	12620	SS 108	Somalia	-	-	4(3)	5(1)	-	-	-
12537	SS 22	Somalia	-	-	3(1)	-	-	-	-	12621	SS 109	Somalia	-	-	3(1)	-	-	-	-
12538	SS 23	Somalia	-	-	2(1)	-	-	-	-	12622	SS 110	Somalia	-	-	1(1)	-	-	-	-
12539	SS 24	Somalia	-	-	2(3)	4(1)	-	-	-	12623	SS 111	Somalia	-	-	2(1)	-	-	-	-
12540	SS 25	Somalia	-	-	4(1)	-	-	-	-	12624	SS 112	Somalia	-	-	1(3)	5(1)	-	-	-
12541	SS 26	Somalia	-	-	3(1)	-	-	-	-	12625	SS 113	Somalia	-	-	3(3)	5(1)	-	-	-
12542	SS 27	Somalia	-	-	3(1)	-	-	-	-	12626	SS 114	Somalia	-	-	2(3)	5(1)	-	-	-
12543	SS 28	Somalia	-	-	1(1)	-	-	-	-	12627	SS 115	Somalia	-	-	1(1)	-	-	-	-
12544	SS 29	Somalia	-	-	1(1)	-	-	-	-	12628	SS 116	Somalia	-	-	3(1)	-	-	-	-
12545	SS 30	Somalia	-	-	4(1)	-	-	-	-	12629	SS 117	Somalia	-	-	3(1)	-	-	-	-
12546	SS 31	Somalia	-	-	3(1)	-	-	-	-	12630	SS 118	Somalia	-	-	3(1)	-	-	-	-
12547	SS 32	Somalia	-	-	1(1)	-	-	-	-	12631	SS 119	Somalia	-	-	1(1)	-	-	-	-
12548	SS 33	Somalia	-	-	1(1)	-	-	-	-	12632	SS 120	Somalia	-	-	1(1)	-	-	-	-
12549	SS 34	Somalia	-	-	1(1)	-	-	-	-	12633	SS 121	Somalia	-	-	2(1)	-	-	-	-
12550	SS 35	Somalia	-	-	3(3)	5(1)	-	-	-	12634	SS 122	Somalia	-	-	1(1)	-	-	-	-
12551	SS 36	Somalia	-	-	3(1)	-	-	-	-	12635	SS 123	Somalia	-	-	3(1)	-	-	-	-
12552	SS 37	Somalia	-	-	3(1)	4(1)	-	-	-	12636	SS 124-2	Somalia	-	-	3(1)	-	-	-	-
12553	SS 40	Somalia	-	-	2(1)	-	-	-	-	12637	SS 124-2	Somalia	-	-	2(1)	-	-	-	-
12554	SS 41	Somalia	-	-	1(1)	-	-	-	-	12638	SS 125-1	Somalia	-	-	2(1)	-	-	-	-
12555	SS 43	Somalia	-	-	3(1)	-	-	-	-	12640	SS 126	Somalia	-	-	1(1)	-	-	-	-
12556	SS 44	Somalia	-	-	1(1)	-	-	-	-	12641	SS 127-1	Somalia	-	-	1(1)	-	-	-	-
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12560	SS 48	Somalia	-	-	1(1)	-	-	-	-	12645	SS 130	Somalia	-	-	2(1)	-	-	-	-
12561	SS 49	Somalia	-	-	1(1)	-	-	-	-	12646	SS 131-1	Somalia	-	-	1(1)	-	-	-	-
12562	SS 50	Somalia	-	-	1(1)	-	-	-	-	12647	SS 131-2	Somalia	-	-	1(1)	-	-	-	-
12563	SS 51	Somalia	-	-	1(1)	-	-	-	-	12648	SS 132	Somalia	-	-	3(1)	-	-	-	-
12564	SS 53	Somalia	-	-	1(1)	-	-	-	-	12649	SS 133	Somalia	-	-	3(1)	-	-	-	-
12565	SS 54	Somalia	-	-	1(1)	-	-	-	-	12650	SS 134	Somalia	-	-	2(1)	-	-	-	-
12566	SS 55	Somalia	-	-	1(1)	-	-	-	-	12651	SS 135	Somalia	-	-	1(1)	-	-	-	-
12567	SS 56	Somalia	-	-	1(1)	-	-	-	-	12652	SS 136-1	Somalia	-	-	1(1)	-	-	-	-
12568	SS 57	Somalia	-	-	1(1)	-	-	-	-	12653	SS 136-2	Somalia	-	-	2(1)	-	-	-	-
12569	SS 58	Somalia	-	-	1(1)	-	-	-	-	12654	SS 137	Somalia	-	-	3(1)	-	-	-	-
12570	SS 59	Somalia	-	-	1(1)	-	-	-	-	12655	SS 138	Somalia	-	-	3(1)	-	-	-	-
12571	SS 60	Somalia	-	-	1(1)	-	-	-	-	12656	SS 139-1	Somalia	-	-	3(1)	-	-	-	-
12572	SS 61	Somalia	-	-	1(1)	-	-	-	-	12657	SS 139-2	Somalia	-	-	3(1)	-	-	-	-
12573	SS 62	Somalia	-	-	2(3)	5(1)	-	-	-	12658	SS 140	Somalia	-	-	1(1)	-	-	-	-
12574	SS 63	Somalia	-	-	2(3)	5(1)	-	-	-	12659	SS 141-1	Somalia	-	-	1(1)	-	-	-	-
12575	SS 64	Somalia	-	-	1(1)	-	-	-	-	12660	SS 141-2	Somalia	-	-	3(1)	-	-	-	-
12576	SS 65	Somalia	-	-	2(1)	-	-	-	-	12661	SS 142-1	Somalia	-	-	5(1)	-	-	-	-
12577	SS 66 (LR)	Somalia	-	-	2(1)	-	-	-	-	12662	SS 142-2	Somalia	-	-	5(1)	-	-	-	-
12578	SS 66 (Brown)	Somalia	-	-	1(1)	-	-	-	-	12663	SS 143	Somalia	-	-	5(1)	-	-	-	-
12579	SS 67	Somalia	-	-	4(1)	-	-	-	-	12664	SS 144	Somalia	-	-	4(1)	-	-	-	-
12580	SS 68	Somalia	-	-	2(1)	-	-	-	-	12665	SS 145	Somalia	-	-	3(1)	-	-	-	-
12581	SS 69	Somalia	-	-	1(1)	-	-	-	-	12666	SS 146	Somalia	-	-	3(1)	-	-	-	-
12582	SS 70	Somalia	-	-	1(1)	-	-	-	-	12667	SS 147	Somalia	-	-	1(1)	-	-	-	-
12583	SS 71	Somalia	-	-	4(1)	-	-	-	-	12668	SS 148	Somalia	-	-	3(1)	-	-	-	-
12584	SS 72	Somalia	-	-	3(1)	-	-	-	-	12669	SS 149	Somalia	-	-	2(1)	-	-	-	-
12585	SS 73	Somalia	-	-	1(1)	-	-	-	-	12670	SS 150	Somalia	-	-	3(1)	-	-	-	-
12586	SS 74	Somalia	-	-	4(1)	-	-	-	-	12671	SS 151	Somalia	-	-	3(1)	-	-	-	-
12587	SS 75	Somalia	-	-	1(1)	-	-	-	-	12672	SS 152	Somalia	-	-	3(1)	-	-	-	-
12588	SS 77	Somalia	-	-	4(1)	-	-	-	-	12673	SS 153	Somalia	-	-	3(1)	-	-	-	-
12590	SS 78	Somalia	-	-	2(1)	-	-	-	-	12674	SS 154	Somalia	-	-	3(1)	-	-	-	-
12592	SS 80	Somalia	-	-	2(1)	-	-	-	-	12675	SS 155	Somalia	-	-	2(1)	-	-	-	-
12593	SS 81	Somalia	-	-	4(1)	-	-	-	-	12676	SS 156	Somalia	-	-	1(1)	-	-	-	-
12594	SS 82	Somalia	-	-	2(1)	-	-	-	-	12677	SS 157	Somalia	-	-	2(1)	-	-	-	-
12595	SS 83	Somalia	-	-	2(1)	-	-	-	-	12678	SS 158	Somalia	-	-	4(1)	-	-	-	-
12596	SS 84	Somalia	-	-	4(1)	-	-	-	-	12679	SS 159	Somalia	-	-	5(1)	-	-	-	-
12597	SS 84-1	Somalia	-	-	4(1)	-	-	-	-	12680	SS 160	Somalia	-	-	4(1)	-	-	-	-
12598	SS 85	Somalia	-	-	2(1)	-	-	-	-	12681	SS 161	Somalia	-	-	4(1)	-	-	-	-
12599	SS 86	Somalia	-	-	3(1)	-	-	-	-	12682	SS 162	Somalia	-	-	3(1)	-	-	-	-
12600	SS 87	Somalia	-	-	4(1)	-	-	-	-	12683	SS 163	Somalia	-	-	5(1)	-	-	-	-
12601	SS 88	Somalia	-	-	5(1)	-	-	-	-	12684	SS 164	Somalia	-	-	2(1)	-	-	-	-
12602	SS 89	Somalia	-	-	5(1)	-	-	-	-	12685	SS 165	Somalia	-	-	3(1)	-	-	-	-
12603	SS 90	Somalia	-	-	4(1)	-	-	-	-	12686	SS 166	Somalia	-	-	5(1)	-	-	-	-
12604	SS 91	Somalia	-	-	3(1)	-	-	-	-	12687	SS 167	Somalia	-	-	5(1)	-	-	-	-
12605	SS 92	Somalia	-	-	2(1)	-	-	-	-	12688	SS 168	Somalia	-	-	3(1)	-	-	-	-
12606	SS 93	Somalia	-	-	3(1)	-	-	-	-	12689	SS 169	Somalia	-	-	5(1)	-	-	-	-
12607	SS 94	Somalia	-	-	5(1)	-	-	-	-	12690	SS 170	Somalia	-	-	2(1)	-	-	-	-
12608	SS 95	Somalia	-	-	4(1)	-	-	-	-	12691	SS 170 (LR)	Somalia	-	-	2(1)	-	-	-	-
12609	SS 97	Somalia	-	-	4(1)	-	-	-	-	12692	SS 171	Somalia	-	-	1(1)	-	-	-	-
12610	SS 98	Somalia	-	-	2(1)	-	-	-	-	12693	SS 172	Somalia	-	-	1(1)	-	-	-	-
12611	SS 99	Somalia	-	-	3(1)	-	-	-	-	12694	SS 174	Somalia	-	-	1(1)	-	-	-	-
12612	SS 100	Somalia	-	-	4(1)	-	-	-	-	12695	SS 175	Somalia	-	-	2(1)	-	-	-	-
12613	SS 101	Somalia	-	-	2(1)	-	-	-	-	12696	SS 176	Somalia	-	-	3(1)	-	-	-	-
12614	SS 102	Somalia	-	-	1(1)	-	-	-	-	12697	SS 177	Somalia	-	-	1(1)	-	-	-	-
12615	SS 103	Somalia	-	-	1(1)	-	-	-	-	12698	SS 178	Somalia	-	-	3(1)	-	-	-	-
12616	SS 104	Somalia	-	-	2(1)	-	-	-	-	12699	SS 179	Somalia	-	-	2(1)	-	-	-	-
12617	SS 105	Somalia	-	-	1(1)	-	-	-	-	12700	SS 180	Somalia	-	-	1(1)	-	-	-	-
12618	SS 106	Somalia	-	-	4(1)	-	-	-	-	12701	SS 181	Somalia	-	-	1(1)	-	-	-	-
12619	SS 107	Somalia	-	-	1(1)	-	-	-	-	12702	SS 182	Somalia	-	-	1(1)	-	-	-	-

IS No	Alternative accession identifier	Source country	RF	FW	DHS	DS	MD	HB	IS No	Alternative accession identifier	Source country	RF	FW	DHS	DS	MD	HB
32703	SS 183	Somalia	-	-	(U)	-	-	-	32752	R 170-E	Ethiopia	-	-	-	-	-	(S)
32704	SS 185	Somalia	-	-	(U)	-	-	-	32758	R 170F	Ethiopia	-	-	-	-	-	(S)
32706	SS 187	Somalia	-	-	(U)	-	-	-	32759	W-A-1200W-10	Ethiopia	-	-	-	-	-	(S)
32707	SS 188	Somalia	-	-	(U)	-	-	-	32760	W-A-15 Key munga	Ethiopia	-	-	-	-	-	(S)
32708	SS 189	Somalia	-	-	(U)	-	-	-	32761	ET 145 RR	Ethiopia	-	-	-	-	-	(S)
32709	SS 190	Somalia	-	-	(U)	-	-	-	32762	ET 155	Ethiopia	-	-	-	-	-	(S)
32710	SS 191	Somalia	-	-	(U)	-	-	-	32763	W-A-15	Ethiopia	-	-	-	-	-	(S)
32711	SS 192	Somalia	-	-	(U)	-	-	-	32764	W-A-15	Ethiopia	-	-	-	-	-	(S)
32712	SS 193	Somalia	-	-	(U)	-	-	-	32765	ET 174-1	Ethiopia	-	-	-	-	-	(S)
32713	SS 194	Somalia	-	-	(U)	-	-	-	32766	Y. concolor	Ethiopia	-	-	-	-	-	(S)
32714	SS 195	Somalia	-	-	(U)	-	-	-	32767	ET 185	Ethiopia	-	-	-	-	-	(S)
32715	SS 196	Somalia	-	-	(U)	-	-	-	32768	Zenja	Ethiopia	-	-	-	-	-	(S)
32716	SS 197	Somalia	-	-	(U)	-	-	-	32769	Zenja	Ethiopia	-	-	-	-	-	(S)
32717	SS 198	Somalia	-	-	(U)	-	-	-	32770	ET 494	Ethiopia	-	-	-	-	-	(S)
32718	SS 199	Somalia	-	-	(U)	-	-	-	32771	W-A-15	Ethiopia	-	-	-	-	-	(S)
32719	SS 200	Somalia	-	-	(U)	-	-	-	32772	W-A-15-A	Ethiopia	-	-	-	-	-	(S)
32720	SS 201	Somalia	-	-	(U)	-	-	-	32773	ET 270a	Ethiopia	-	-	-	-	-	(S)
32721	SS 202	Somalia	-	-	(U)	-	-	-	32774	ET 267	Ethiopia	-	-	-	-	-	(S)
32722	SS 203	Somalia	-	-	(U)	-	-	-	32775	ET 270-3	Ethiopia	-	-	-	-	-	(S)
32723	SS 204	Somalia	-	-	(U)	-	-	-	32776	Timbali Zengadi	Ethiopia	-	-	-	-	-	(S)
32724	SS 205	Somalia	-	-	(U)	-	-	-	32777	Matija	Ethiopia	-	-	-	-	-	(S)
32725	SS 206	Somalia	-	-	(U)	-	-	-	32778	Dologon	Ethiopia	-	-	-	-	-	(S)
32726	SS 207	Somalia	-	-	(U)	-	-	-	32779	Dologon	Ethiopia	-	-	-	-	-	(S)
32727	SS 208	Somalia	-	-	(U)	-	-	-	32780	Zenja	Ethiopia	-	-	-	-	-	(S)
32728	SS 209	Somalia	-	-	(U)	-	-	-	32781	W-A-15	Ethiopia	-	-	-	-	-	(S)
32729	SS 210	Somalia	-	-	(U)	-	-	-	32782	ET 1971-1	Ethiopia	-	-	-	-	-	(S)
32730	SS 211	Somalia	-	-	(U)	-	-	-	32783	ET 1983	Ethiopia	-	-	-	-	-	(S)
32731	SS 212	Somalia	-	-	(U)	-	-	-	32784	ET 1984-1	Ethiopia	-	-	-	-	-	(S)
32732	SS 213	Somalia	-	-	(U)	-	-	-	32785	Enja	Ethiopia	-	-	-	-	-	(S)
32733	SS 214	Somalia	-	-	(U)	-	-	-	32786	ET 1995	Ethiopia	-	-	-	-	-	(S)
32734	SS 215	Somalia	-	-	(U)	-	-	-	32787	Wadi Veldur	Ethiopia	-	-	-	-	-	(S)
32735	SS 216	Somalia	-	-	(U)	-	-	-	32788	Wadi Veldur	Ethiopia	-	-	-	-	-	(S)
32736	SS 217	Somalia	-	-	(U)	-	-	-	32789	ET 2116	Ethiopia	-	-	-	-	-	(S)
32737	SS 218	Somalia	-	-	(U)	-	-	-	32790	ET 2116-1	Ethiopia	-	-	-	-	-	(S)
32738	SS 219	Somalia	-	-	(U)	-	-	-	32791	ET 2116-1	Ethiopia	-	-	-	-	-	(S)
32739	SS 220	Somalia	-	-	(U)	-	-	-	32792	ET 2201	Ethiopia	-	-	-	-	-	(S)
32740	SS 221	Somalia	-	-	(U)	-	-	-	32793	ET 2206	Ethiopia	-	-	-	-	-	(S)
32741	SS 222	Somalia	-	-	(U)	-	-	-	32794	ET 2283	Ethiopia	-	-	-	-	-	(S)
32742	SS 223	Somalia	-	-	(U)	-	-	-	32795	Japan	Ethiopia	-	-	-	-	-	(S)
32743	SS 224	Somalia	-	-	(U)	-	-	-	32796	BC 21	Ethiopia	-	-	-	-	-	(S)
32744	SS 225	Somalia	-	-	(U)	-	-	-	32797	Shum Nesh Amni	Ethiopia	-	-	-	-	-	(S)
32745	SS 226	Somalia	-	-	(U)	-	-	-	32798	Jiyale	Ethiopia	-	-	-	-	-	(S)
32746	SS 227	Somalia	-	-	(U)	-	-	-	32799	BAZ 39	Ethiopia	-	-	-	-	-	(S)
32747	SS 228	Somalia	-	-	(U)	-	-	-	32800	BAZ 19-3	Ethiopia	-	-	-	-	-	(S)
32748	SS 229	Somalia	-	-	(U)	-	-	-	32801	BAZ 24	Ethiopia	-	-	-	-	-	(S)
32749	SS 230	Somalia	-	-	(U)	-	-	-	32802	BAZ 33	Ethiopia	-	-	-	-	-	(S)
32750	SS 231	Somalia	-	-	(U)	-	-	-	32803	BAZ 33	Ethiopia	-	-	-	-	-	(S)
32751	SS 232	Somalia	-	-	(U)	-	-	-	32804	BAZ 44	Ethiopia	-	-	-	-	-	(S)
32752	SS 233	Somalia	-	-	(U)	-	-	-	32805	BAZ 45	Ethiopia	-	-	-	-	-	(S)
32753	SS 234	Somalia	-	-	(U)	-	-	-	32806	BAZ 52	Ethiopia	-	-	-	-	-	(S)
32754	SS 235	Somalia	-	-	(U)	-	-	-	32807	BAZ 59	Ethiopia	-	-	-	-	-	(S)
32755	SS 236	Somalia	-	-	(U)	-	-	-	32808	BAZ 64	Ethiopia	-	-	-	-	-	(S)
32756	SS 237	Somalia	-	-	(U)	-	-	-	32809	BAZ 61-1	Ethiopia	-	-	-	-	-	(S)
32757	SS 238	Somalia	-	-	(U)	-	-	-	32810	BAZ 64	Ethiopia	-	-	-	-	-	(S)
32758	SS 239	Somalia	-	-	(U)	-	-	-	32811	BAZ 73	Ethiopia	-	-	-	-	-	(S)
32759	SS 240	Somalia	-	-	(U)	-	-	-	32812	BAZ 74	Ethiopia	-	-	-	-	-	(S)
32760	SS 241	Somalia	-	-	(U)	-	-	-	32813	BAZ 130	Ethiopia	-	-	-	-	-	(S)
32761	SS 242	Somalia	-	-	(U)	-	-	-	32814	BAZ 132	Ethiopia	-	-	-	-	-	(S)
32762	SS 243	Somalia	-	-	(U)	-	-	-	32815	BAZ 178	Ethiopia	-	-	-	-	-	(S)
32763	SS 244	Somalia	-	-	(U)	-	-	-	32816	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32764	SS 245	Somalia	-	-	(U)	-	-	-	32817	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32765	SS 246	Somalia	-	-	(U)	-	-	-	32818	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32766	SS 247	Somalia	-	-	(U)	-	-	-	32819	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32767	SS 248	Somalia	-	-	(U)	-	-	-	32820	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32768	SS 249	Somalia	-	-	(U)	-	-	-	32821	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32769	SS 250	Somalia	-	-	(U)	-	-	-	32822	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32770	SS 251	Somalia	-	-	(U)	-	-	-	32823	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32771	SS 252	Somalia	-	-	(U)	-	-	-	32824	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32772	SS 253	Somalia	-	-	(U)	-	-	-	32825	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32773	SS 254	Somalia	-	-	(U)	-	-	-	32826	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32774	SS 255	Somalia	-	-	(U)	-	-	-	32827	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32775	SS 256	Somalia	-	-	(U)	-	-	-	32828	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32776	SS 257	Somalia	-	-	(U)	-	-	-	32829	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32777	SS 258	Somalia	-	-	(U)	-	-	-	32830	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32778	SS 259	Somalia	-	-	(U)	-	-	-	32831	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32779	SS 260	Somalia	-	-	(U)	-	-	-	32832	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32780	SS 261	Somalia	-	-	(U)	-	-	-	32833	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32781	SS 262	Somalia	-	-	(U)	-	-	-	32834	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32782	SS 263	Somalia	-	-	(U)	-	-	-	32835	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32783	SS 264	Somalia	-	-	(U)	-	-	-	32836	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32784	SS 265	Somalia	-	-	(U)	-	-	-	32837	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32785	SS 266	Somalia	-	-	(U)	-	-	-	32838	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32786	SS 267	Somalia	-	-	(U)	-	-	-	32839	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32787	SS 268	Somalia	-	-	(U)	-	-	-	32840	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32788	SS 269	Somalia	-	-	(U)	-	-	-	32841	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32789	SS 270	Somalia	-	-	(U)	-	-	-	32842	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32790	SS 271	Somalia	-	-	(U)	-	-	-	32843	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32791	SS 272	Somalia	-	-	(U)	-	-	-	32844	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32792	SS 273	Somalia	-	-	(U)	-	-	-	32845	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32793	SS 274	Somalia	-	-	(U)	-	-	-	32846	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32794	SS 275	Somalia	-	-	(U)	-	-	-	32847	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32795	SS 276	Somalia	-	-	(U)	-	-	-	32848	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32796	SS 277	Somalia	-	-	(U)	-	-	-	32849	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32797	SS 278	Somalia	-	-	(U)	-	-	-	32850	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32798	SS 279	Somalia	-	-	(U)	-	-	-	32851	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32799	SS 280	Somalia	-	-	(U)	-	-	-	32852	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32800	SS 281	Somalia	-	-	(U)	-	-	-	32853	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32801	SS 282	Somalia	-	-	(U)	-	-	-	32854	BAZ 179	Ethiopia	-	-	-	-	-	(S)
32802	SS 283	Somalia	-	-	(U)	-	-	-	32855	BAZ 179	Ethiopia	-	-	-	-	-	(S)

About ICRISAT

The semi-arid tropics (SAT) encompass parts of 48 developing countries including most of India, parts of southeast Asia, a swathe across sub-Saharan Africa, much of southern and eastern Africa, and parts of Latin America. Many of these countries are among the poorest in the world. Approximately one-sixth of the world's population lives in the SAT, which is typified by unpredictable weather, limited and erratic rainfall, and nutrient-poor soils.

ICRISAT's mandate crops are sorghum, pearl millet, chickpea, pigeonpea, and groundnut; these five crops are vital to life for the ever-increasing populations of the SAT. ICRISAT's mission is to conduct research that can lead to enhanced sustainable production of these crops and to improved management of the limited natural resources of the SAT. ICRISAT communicates information on technologies as they are developed through workshops, networks, training, library services, and publishing.

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