

RP 03673

PIGEONPEA BREEDING

MATERIAL PLANTS

AND

FIELD LAYOUTS

AT ICRISAT CENTER

1986-87



ICRISAT

**International Crops Research Institute for the Semi-Arid Tropics
ICRISAT Patancheru P.O.
Andhra Pradesh 502 324, INDIA**

C O N T E N T S

		Page	
Introduction	...	1	
Display Plots	...	7	
Projects	...	10	
Experiments Listed by Projects	...	11	
Field Map	...	19	
Isolations	...	20	
Field Layouts			
RP-1A	...	22	
BP-2B	...	24	
BP-11B	...	26	
BP-11C	...	28	
BL-4A	...	30	
BM-7B	...	32	
BM-7C	...	34	
BUS-3D	...	36	
BUS-7D	...	38	
RUS-6D	...	40	
RCE-21	...	42	
Disease Nurseries			
Multiple Disease	RP-18	...	45
SM and Wilt	RM-3C	...	47
SM and Wilt	BIL-7B(A)	...	49
	BIL-7B(B)	...	51
SMD	BIL-7C	...	53
Wilt and Heliothis	BM-16C	...	55
Wilt	BIL-2A	...	57
Wilt	BIL-2B	...	59
Botanical Garden	RM-8	...	61

INTRODUCTION

This booklet provides a summary of the pigeonpea breeding material, isolations/seed multiplication and maintenance material planted at ICRISAT Center in 1986. It gives a writeup of the entries in the Field Display Plots. It also contains the layouts of the fields containing breeding material, isolations and disease nurseries (this year these nurseries were planted by pigeonpea breeding personnel).

The plantings commenced on 10 June and were completed on 4 August (delayed planting treatments). Details are given in Table 1. Planting rainfall (enough for germination) occurred on 14 June, and continued till 21 June. Bulk of the plantings were done during the fourth week of June. There was a gap in rainfall in the first two weeks of July (Table 2) which caused some hard crust formation and germination difficulties in a few plantings on red soil. In BL 4A, re-sowing was done of some populations and in some effective germination took place after the 15 July rain (BL 4A and RUS 6D).

On recommendation of pulse agronomy group we did not plan to apply fertilizer (basal dose) to any of the plantings. However before we communicated some fields were already fertilized as indicated in Table 4. To monitor soil and moisture factors influencing the year to year and within year variation in the performance of standard check cultivars in various yield trials, Dr. C. Johansen has initiated a study on mini-plots in the fields (BP 11B & C, BP 2B, BL 4A, RP 1A) where bulk of pigeonpea breeding yield trials are located. The treatments on these plots are:

N.P. Trials	1	+P	(200 kg/ha S&P)
	2	+P	Rhizobium
	3	+P	Rhizobium + N (100 kg/ha Urea)
	4	-P	Rhizobium without P

Net + Dry plots	1.	No irrigation
	2.	Water to be given to maintain plot free from water stress

In RP 18 (multiple disease nursery), 14 June planting was severely affected by early seedling rot (possibly F. solani), being investigated further and re-seeding was done on 14 July.

Apparently earlier plantings (mid-June) were trouble free. Excellent germination occurred on 13 June planting of 0.7 ha of ICPL 87 for seed production on the fields spared by RMP. We are grateful for this support of RMP. Bulk of the plantings had to be done in the last week of June, since considerable time was spent in over 5 ha plantings of disease nurseries.

Try of area planted with pigeonpea materials in 1986 as compared to last two years is given in Table 3. Reduction in area allotted in black precision fields has occurred, with no

increase in red precision fields. With increased emphasis on short duration pigeonpeas we would need at least 3 ha. allocation of red precision fields.

Good early weed control was possible by the use of pre emergence weedicides (Table 4).

This year there has been an increased emphasis on the investigations for short duration pigeonpea. Collaboration with GRU, RMP and pulse agronomy was increased and with that of pathology, entomology and biochemistry continued. Investigations on photo-insensitivity, perenniality, and stability over environments are some of the examples of multidisciplinary collaboration. Joint evaluation of germplasm of early and late duration types is being undertaken in different environments. Work on seed production and maintenance of genotypes has increased with the increasing demand of the seed of ICPL 87 and ICPL 151. Table gives the details of plantings of the isolations. Lines of ICPL 366 already screened for SND, and now being screened for Alternaria, shall be selected in isolation BP(1E) for agronomic attributes. Joint evaluation of medium duration lines is being done in intercropping and sole cropping in collaboration with RMP in field BW-3 (planted on 17 June). In botanic garden (B-1) Alyosia species (A. volubilis, A. scarabaeoides, A. platycarpa, A. albicans, A. lineata, A. mollis, A. geensis) have been planted in 900 sq m for cytological investigations of intergeneric hybrids by a post-doctoral fellow.

Table 1. Pigeonpea Breeding and Disease Nurseries Plantings 1966.

Field	Area (Ha)	Date Sown
RP 1A (North)	1.65	26,27,28, June; 23,30 July
BP 2B	2.08	25, 26, June, 1, 2, 26, July
BP 11B	1.97	23, 24, 25, June
BP 11C (West)	0.66	23, 24 June, 15, 25 July
BL 4A	1.40	30 June, 1, 2, 25 July
BH 7B	2.00	1, 4, 15, 24 July, 4 August
BH 7C	0.40	24 July
BH 7C	1.60	September
BUS 3D	1.32	23, 24, 25 June, 25 July
BUS 7D	1.20	27, 28 June
RUS 6D	0.25	30 June, 1 July, 4 August
RCE 21	0.25	30 July, 4 August
BIL 2A & B (Wilt Nursery)	1.30	18, 19, 23 June
BIL 7B & C (SM Nursery)	2.10	18, 19, 23, June; 16, 21 July
BH 16C (Wilt+Heliothis)	0.70	10 June
RM 3C (Wilt+SM)	0.10	17 June
RP 18 (Multiple disease)	0.95	13, 14, 17 June; (Replanted on 14 July)
RM 8E (Wilt+SM)	0.30	17 June

Table 2: Date and amount of rainfall from early June to 15 August 1986

Date	Month	Rainfall (mm)
3	6	2.2
11	6	1.3
12	6	1.0
14	6	28.0
15	6	9.8
16	6	33.4
17	6	0.3
20	6	15.4
21	6	17.0
28	6	0.7
29	6	1.2
30	6	7.0
7	7	4.0
9	7	1.2
14	7	2.2
15	7	16.7
17	7	30.4
18	7	20.8
19	7	2.5
20	7	0.7
21	7	0.6
22	7	38.6
23	7	0.3
24	7	2.0
30	7	8.2
1	8	21.0
2	8	6.6
3	8	0.9
4	8	6.0
5	8	15.3
6	8	27.5
7	8	14.0
8	8	6.4
10	8	12.2
11	8	42.5
12	8	5.2
13	8	36.2
14	8	11.2
15	8	3.2
Total		454.6

Table 3. Summary of area planted with Pigeonpea breeding material in 1984, 1985, and 1986

Type of Field	1984 Ha	1985 Ha	1986 Ha
Precision - Black	9.96	5.52	4.71
Precision - Red	1.50	1.25	1.65
Irrigated - Black	-	-	2.40
Irrigated - Red	-	-	0.25
Unirrigated - Black	2.77	5.39	1.40
Unsprayed	5.22	3.78	2.77
Isolations	4.50	3.49	3.61
With RMP (ICPL 87)	-	-	0.70
Pre Rabi	4.26	3.00	1.60
Sub total (Breeding)	(31.21)	(23.27)	(19.09)
Disease Nurseries (Pathology)		7.70	5.50
Insect Nurseries (Entomology)		0.15	0.15
Total		31.12	24.74

Table 4: Herbicide & Fertiliser Application details.

Field No	Area (Ha)	Herbicide application				Fertiliser application N P K
		Herbicide	Date	Rate	Quantity	
RP 1A	1.20	Prometryn	28.6.86	2.00 lit/ha	2.40 lts	Nil
		+Basalin	30.6.86	2.25 lit/ha	2.50 lts	
RP 1A	0.30	Prometryn	30.6.86	2.00 lit/ha	0.84 lts	Nil
		+Basalin		2.25 lit/ha	0.84 lts	
BP 2B	2.08	Prometryn	27.6.86	2.00 kg/ha	4.00 kgs	18-46-0
		+Basalin		2.25 lit/ha	1.20 lts	
BP 11B	0.40	Prometryn	24.6.86	1.25 kg/ha	0.45 kgs	18-46-0
		+Basalin		2.25 lit/ha	0.85 lts	
BP 11 B	0.60	Prometryn	25.6.86	1.25 kg/ha	0.77 kgs	Nil
BP 11 C	0.40	Prometryn	24.6.86	1.25 kg/ha	0.45 kgs	Nil
		+Basalin		2.25 kg/ha	0.85 lts	
BL 4 A	1.00	Prometryn	2.7.86	2.00 lit/ha	2.00 lts	Nil
		+Basalin		2.25 lit/ha	2.25 lts	
BL 4 A	0.40	Prometryn	3.7.86	2.00 lit/ha	0.40 lts	Nil
		+Basalin		2.25 lit/ha	0.30 lts	
BM 7 B	1.20	Prometryn	1.7.86	2.00 lit/ha	2.40 lts	18-46-0
		+Basalin		2.25 lit/ha	2.65 lts	
BM 7 C	2.00	-	-	-	-	18-46-0
RCE 21	0.25	-	-	-	-	18-46-0

Pigeonpea Breeding Display Plots - 1986

These plots in field BP-11B, planted on 24.6.86 are designed to the outcome of various Pigeonpea improvement projects. Twenty entries planted in these plots are briefly described hereafter. Short duration and vegetable types (9 entries) are planted at 30 x 10 cm spacing (2 rows along each ridge of 60 cm) while other 11 entries are planted at a spacing of 60 x 20 cm. Row length is 4 m in all cases.

Early Maturity

- ICPL 151 : (ICP 6997 x Prabhat) - An extra-early line identified as promising by the AICPIP Kharif Pulses Workshop in 1985. It has a large white seed (10.5 g/100 seeds), has tolerance to sterility mosaic disease and fits in double cropping with wheat in irrigated areas. Being tested in minikit trials in Northern and Central India.
- ICPL 87 : [T 21 x ICP 6993 (JA 275)] - Recommended for release in Peninsular India by Central Variety Release Committee in 1986. The Maharashtra Department of Agriculture has also identified it for release in that State. ICPL 87 is a short duration high yielding line performing particularly well in normal and high input sole cropping systems where more than one harvest is taken. In this system it has given 5500 kg of dry seed/ha at ICRISAT Center. It has wilt tolerance and has 8.6 g/100 seed mass. It has also performed well in trials outside India.
- ICPL 83015 : [ICP 7035 X Prabhat] - Short duration, high yielding line with good seed size (9.4 g/100 seeds). It has been entered in the EXACT in 1986. Fits in pigeonpea-wheat rotation.
- ICPL 84031 : [ICPL 87 x (Prabhat x UPAS 120)] - A short duration line with high yield potential being tested in EACT in 1986.
- ICPL 83022 : [Comp I ODT x (Prabhat x Baigani)] - This high yielding line is earlier maturing than UPAS 120. This may be suitable for Pigeonpea-Wheat rotation in North India. This line is being tested in EACT in 1986.
- ICPL 4 : This is a pure line from Prabhat which is used as a check cultivar
- ICPE 8 : This hybrid has been produced using male sterile Prabhat converted by breeders at ICRISAT. ICPE 8 has yielded 3800 kg/ha in 5 trials at Hisar compared with 2700 kg/ha for the highest yielding control H 77-216. In a trial at 17 locations in 1984 it averaged over 30% more yield than the same control. This demonstrates the potential for pigeonpea hybrids. In 1986 it is being tested in EACT.

- UPAS 120 : This is a short duration high yielding cultivar with indeterminate growth habit.
- ICPL 211 : (JA 275 x Pusa Ageti) - This large white seeded vegetable pigeonpea line is highly resistant to sterility mosaic. Vegetable pigeonpeas are eaten when the seeds are still green. They are popular in Gujarat (India) and also in Eastern Africa and the Caribbean.

Medium Maturity

- ICPL 138 : This is a line developed from the cultivar BDN 1, which is well adapted to red soils in peninsular India. It has tolerance to wilt and resistance to phytophthora blight.
- ICPL 131 : This is a pure line of medium duration cultivar, C 11.
- ICPL 227 : (A selection from ICP 1-6) - This line combines wilt and sterility mosaic resistance with tolerance to salinity and waterlogging. This line is being extensively used by the Resource Management Program as a disease resistant form of ICP 1 in their watershed management research.
- ICPL 270 : (Wilt resistant selection from AS 71-37) - This is from our program to purify and stabilize the yield in existing cultivars through selection. This line has shown a high degree of wilt resistance and was the top yielder in the 1983-84 All India ACT-2 trial which was grown throughout Peninsular India. AS 71-37 is being considered for release in Madhya Pradesh as it has proven to be highly adapted at Sehore.
- ICPL 304 : [(T 21 x ICP 102) x (ICP 4726 x ICP 6986)] - A medium duration line, has performed well in the Andhra Pradesh Regional Trial and was in the ACT 2 trial for 3 years. It has some wilt tolerance. It was the highest yielding line in the low input demonstration plot in 1984-85. It also showed the highest tolerance in the 1984-85 waterlogging trial.
- ICPL 345 : (C 11 x ICP 6997) - This white seeded high yielding line is resistant to sterility mosaic disease.
- ICPL 83057 : This is a high yielding wilt resistant selection from ICP 7626.
- ICPL 84060 : (ICP 1900-1 x BDN 1) - This is from our program to develop insect resistant lines with high yield performance. This line combines a low level of pod borer attack with good agronomic performance.
- HPL 40 (Pant A2 x Atylosia albicans) - A high protein line (27% dhal protein) with a seed mass of 10 g/100 seed. Last year it recorded 2096 kg/ha yield. From this line an estimated 565 kg/ha protein was harvested in comparison

to 466 kg/ha for BDN 1. This line has amino acid
nutrition similar to that of the adapted cultivars.

Late Maturity

- ICPL 366 : A selection from ICP 7105 which combines high yield and resistance to sterility mosaic disease. This line is in the All India ACT-3 trial for late-maturity material for the third year.
- ICP 8102 : This selection from the germplasm combines some resistance to pod borer and podfly with sterility mosaic resistance. It was selected by our entomologists in cooperation with our pathologists. In last year's demonstration plot it gave good yield.

Pigeonpea Breeding Projects

Project number	Title of the Project	Project Scientist(s)
P-101 (85)IC	International trials	Laxman Singh, M.V. Reddy, S.S. Lateef, Y.S. Chauhan
P-102 (85)IC	Development of short duration cultivars and superior breeding lines for stability and grain production	S.C. Gupta, M.V. Reddy S.S. Lateef, Y.S. Chauhan
P-103 (85)IC	Development of medium duration cultivars and superior breeding lines for stability and grain production	K.C. Jain, M.V. Reddy and S.S. Lateef
P-104 (85)IC	Development of long duration cultivars and breeding populations for stability and grain production	D. Sharma, Laxman Singh, M.V. Reddy, S.S. Lateef and N.P. Saxena
P-105 (85)IC	Development of hybrids and their seed production technology	K.B. Saxena and M.V. Reddy
P-106 (85)IC	Breeding for special traits (new variability, vegetable types, high Protein)	K.B. Saxena, Laxman Singh, Umaid Singh and C. Johansen

PIGEONPEA BREEDING EXPERIMENTS LISTED BY PROJECTS - 1966

Project: P-102 (85)IC Development of short duration

Test No.	Name of the test	Entries including checks	Design	Reps	Plot Nos.	Date sown	Field
YIELD TRIALS							
86P01	ICRISAT Entries in AICPIP Testing	17	RBD	4	-	27 June	RP-1A
86P02	EPAY 86(DT)	18	RBD	4	-	27 June	RP-1A
86P03	EPAY 86(NDT)	18	RBD	4	-	27 June	RP-1A
86P04	EPPNLT 86(DT)	16	4x4 LAY.	4	-	28 June	RP-1A
86P05	EPPNLT 86(NDT)	16	4x4 LAY.	4	-	28 June	RP-1A
86P06	ADLT 86-3	16	4x4 LAY.	4	-	28 June	RP-1A
86P07	Test of lines of different podding behaviour in Sprayed condition.	5	RBD	4	-	28 June	RP-1A
86P08	ICRISAT Entries in AICPIP Testing (Unsprayed)	17	RBD	3	-	24 June	BUS-3D
86P09	EPAY 86(DT) (Unsprayed)	18	RBD	3	-	23 June	BUS-3D
86P10	EPAY 86(NDT) (Unsprayed)	18	RBD	3	-	23 June	BUS-3D
86P11	EPPNLT 86(DT) (Unsprayed)	16	4x4 LAY.	2	-	24 June	BUS-3D
86P12	EPPNLT 86(NDT) (Unsprayed)	16	4x4 LAY.	2	-	24 June	BUS-3D
86P13	T-21 Group DT Lines	10	RBD	3	-	01 July	SL-4A
86P14	T-21 Group NDT Lines	14	RBD	3	-	01 July	SL-4A
86P15	ANDLT 86-4	16	4x4 LAY.	4	-	30 June	SL-4A
86P16	8x8 P1 Diallel	36	RBD	3	-	01 July	SL-4A
86P17	Test of lines of different podding behaviour in Unsprayed condition	5	RBD	4	-	30 June 17 July effective	RUS-6D
86P18	Genotype x environment interaction studies 1. (Alfisol, normal planting, Irrigated and protected)	193	RBD	2	-	29 June	RP-1A
86P19	2. (Alfisol, delayed planting, Irrigated and protected)	193	RBD	2	-	02 Aug	RP-1A
86P20	3. (Alfisol, normal planting, Unirrigated and protected)	193	RBD	2	-	30 June 17 July effective	SL-4A
86P21	4. (Alfisol, delayed planting, Unirrigated and Protected)	193	RBD	2	-	25 July	SL-4A
86P22	5. (Vertisol, normal planting, Irrigated and Protected)	193	RBD	2	-	26 June	RP-2B
86P23	6. (Vertisol, delayed planting, Irrigated and Protected)	193	RBD	2	-	26 July	RP-2B

Test No.	Name of the test	Entries including checks	Design	Reps	Plot Nos.	Date sown	Field
66P24	7. (Vertisol, normal planting, Unirrigated and Unprotected)	193	RBD	2	-	26 June	BUS-3D
66P25	8. (Vertisol, delayed planting, Unirrigated and Unprotected)	193	RBD	2	-	25 July	BUS-3D
66P26	9. (Alfisol, normal planting, Unirrigated and Unprotected)	193	RBD	2	-	30 June 17 July effective	BUS-6D
66P27	10. (Alfisol, delayed planting, Unirrigated and Unprotected)	193	RBD	2	-	04 Aug	BUS-6D
BREEDING MATERIAL							
-	Populations for RBD advance	10	-	-	3507-3516	01 July	BL-4A
-	Populations for disruptive sel.	3	-	-	3517-3519	02 July	BL-4A
-	Composite Populations	2	-	-	3520-3521	02 July	BL-4A
-	74 Heliothis resistant SPP's	290	-	-	6226-6515	24 June	BUS-3D
-	73 Heliothis resistant SPP's	295	-	-	6516-6810	24 June	BUS-3D

Project: P-103 (65)IC: Development of medium duration

YIELD TRIALS

66P28	Advanced lines test 1	11	RBD	4	-	25 June	BP-2D
66P29	ACT-2	16	RBD	4	-	26 June	BP-2D
66P30	Arhar Regional Test (Vertisol)	14	RBD	3	-	25 June	BP-2D
66P31	Wilt Resistant lines Test	20	4X5 RL	3	-	25 June	BP-2D
66P32	P2 Yield Test	12	RBD	4	-	25 June	BP-2D
66P33	P4 DT Progenies Test	25	5X5 TL	3	-	24 June	BP-11D
66P34	MPAY (Sprayed)	12	RBD	4	-	23 June	BP-11C
66P35	PIRYT (Sprayed)	16	4x4 LAT.	4	-	23 June	BP-11C
66P36	Advanced Lines Test	14	RBD	4	-	23 June	BP-11C
66P37	L20 30 M3 Progenies Test	14	RBD	3	-	23 June	BP-11C
66P38	Arhar Regional Test (Alfisol)	14	RBD	3	-	30 June	BL-4A
66P39	P2 Yield Test (Sept. Planting)	12	RBD	4	-	- Sept	SM-7C
66P40	MPAY (Intercrop-Sorghum)	12	SPLIT	3	-	17 June	SM-3
66P41	MPAY (Unsprayed)	12	RBD	4	-	24 June	BUS-3D
66P42	PIRYT (Unsprayed)	16	4x4 LAT.	4	-	24 June	BUS-3D

Test No. Name of the test Entries including checks Design Reqs Plot No. Date sown Yield

BREEDING MATERIAL

-	F4 DT Progenies	120	-	703-902	25 June	SP-38
-	F5 SPP's	10	-	903-920	25 June	SP-38
-	F6 MDR SPP's	29	-	921-949	25 June	SP-38
-	F8 SMDR SPP's	99	-	950-1048	25 June	SP-38
-	TCPI's	42	-	1049-1090	25 June	SP-38
-	ICPL 87 BCIP3 SPP's	489	-	1112-1000	26 June	SP-38
-	Crossing block entries	38	-	1001-1038	24 July	SP-38
-	Variation for secondary branches and racemes	60	2	663-782	01 July	SP-38
-	Variation for secondary branches + racemes	27	2	609-662	02 July	SP-38
-	F1's (DT)	36	-	3272-3307	24 June	SP-11C
-	F1's (for National Crossing Program)	51	-	3308-3358	24 June	SP-11C
-	F1's (for backcrosses)	9	-	3359-3363	24 June	SP-11C
-	BC2PI's	4	-	3364-3367	24 June	SP-11C
-	F1 and F2 for multiplication	8	-	3368-3375	24 June	SP-11C
-	F1's and parents (insect resistant)	131	-	3376-3506	24 June	SP-11C
-	Advanced lines for multiplication	102	-	5050-5959	16 July	SM-7C
-	LR0-30 lines	3	-	6233-6235	24 June	SM-3D
-	F4 Heliothis resistant SPP's	316	-	6011-7124	25 June	SM-3D
-	PIRYM	76	2	7125-7200	24 June	SM-3D
-	F3 Heliothis resistant SPP's	317	-	7306-7702	27 June	SM-7D
-	Insect resistant F2 pops.	12	-	7703-7714	27 June	SM-7D

Project: P-105 (85)IC: Hybrid pigeons

YIELD TRIALS

86P43	MS-Prabhat (DT) Hybrid Test-1	12	RBD	-	27 June	SP-1A
86P44	MS-Prabhat (DT) Hybrid Test-2	14	RBD	-	27 June	SP-1A
86P45	MS-Prabhat (DT) Hybrid Test-3	16	RBD	-	27 June	SP-1A
86P46	MS-Prabhat (MDT) Hybrid Test-1	14	RBD	-	27 June	SP-1A
86P47	MS-Prabhat (MDT) Hybrid Test-2	14	RBD	-	27 June	SP-1A
86P48	MS. T 21 Hybrid Test-1	10	RBD	-	27 June	SP-1A
86P49	Triple Cross DT Hybrid Test-1	6	L.S	-	28 June	SP-1A
86P50	Triple Cross DT Hybrid Test-2	0	RBD	-	28 June	SP-1A
86P51	Triple Cross MDT Hybrid Test	10	RBD	-	28 June	SP-1A
86P52	MS QPL 3 Hybrid Test	0	RBD	-	26 June	SP-11B
86P53	MANICO Hybrid Test	10	RBD	-	26 June	SP-2B

Test No.	Name of the test	Entries including checks	Design	Reps	Plot No.	Date sown	Field
SEEDLING MATERIAL							
-	Lines from Delhi	16	-	-	156-171	28 June	SP-1A
-	MS-Prabhat (DT) sibs	52	-	-	245-296	28 June	SP-1A
-	3D single culm	6	-	-	299-304	28 June	SP-1A
-	Early MS-stocks	121	-	-	305	28 June	SP-1A
-	"		-	-	420-537	28 June	SP-1A
-	"		-	-	570-600	28 June	SP-1A
-	Early pollen parents	99	-	-	306-404	28 June	SP-1A
-	Lines for conversion	15	-	-	605-619	28 June	SP-1A
-	MDT hybrid obs. nursery	40	-	-	530-577	28 June	SP-1A
-	MS-1783 SPP's	170	-	-	2894-3063	25 June	SP-11B
-	MS-Prabhat (DT) sibs	42	-	-	3522-3561	30 June	DL-0A
-	ICPM 8 P2 bulk	1	-	-	6157	01 Aug	DM-7B
-	MS-lines from Nisar	95	-	-	5166-5260	04 and 16 July	DM-7B

Project: P-106 (85)IC: Breeding for special traits

A) Development of new variability

YIELD TRIALS

66P54	Early DT Cleistogamous Lines	10	RBD	4	-	27 June	SP-1A
66P55	Early MDT Cleistogamous Lines	16	4X4 TL	3	-	27 June	SP-1A
66P56	Seed Size Variants in ICPL 87 (Irrigated)	4	4X4 LS	4	-	27 June	SP-1A
66P57	Seed Size Variants in ICPL 87 (Unirrigated)	4	4X4 LS	4	-	30 June	DL-4A
66P58	Milt Resistant and Susceptible Lines	16	4X4 TL	3	-	16 July	SP-2B
66P59	Medium MDT Cleistogamous Lines	16	4X4 TL	3	-	25 June	SP-11B
66P60	P1 Dialled Test (Dwarf)	55	RBD	2	-	24 June	SP-11B
66P61	Intergeneric Lines	10	RBD	4	-	24 July	DM-7B
66P69	Perenniality Study	24	RBD	2	-	04 Aug	DM-7B
66P90	Perenniality Study	24	RBD	2	-	Sept	DM-7C

BREEDING MATERIAL

-	Irradiated lines	12	-	-	172-183	23 July	SP-1A
-	Cleistogamous bulk (UPAS 120 Derivative)	29	-	-	579-607	29 June	SP-1A
-	ICP 7035 and mutant	2	-	-	1091-1092	26 June	SP-2B
-	ICP 8423 selections	10	-	-	1109-1118	26 June	SP-2B
-	Intergeneric bulk prog.	25	-	-	1119-1143	26 June	SP-2B
-	Corky stem SPP's	118	-	-	1144-1261	26 June	SP-2B
-	Bolled leaf SPP's	49	-	-	1262-1310	26 June	SP-2B

Test No.	Name of the test	Entries including checks	Design	Reps	Plot Nos	Date sown	Field
-	German accessions for evaluation (white seed)	90		-	1819-1928	16 July	BP 28
-	Do Progenies	111	2	-	2025-2244	24 June	BP 118
-	Decumbent bulk	1	-	-	2735	26 June	BP-118
-	Dwarf SPP's	80	-	-	2814-2893	25 June	BP-118
-	Probable dwarfs	67	-	-	3064-3110	25 June	BP-118
-	F4 D2 progenies	66	-	-	3111-3176	25 June	BP-118
-	Dwarf inheritance study	28	-	-	3177-3201	25 June	BP-118
-					3249-3251		
-	F1's	34	-	-	3262-3235	26 June	BP-118
-	Mutants	126	-	-	4800-4852	01 July	BM-78
-					4855-4927	01 July	BM-78
-	ICP 12752 (white seed) bulk	2	-	-	5024-5857	04 Aug	BM-78
-	Leaf mutant SPP	60	-	-	5797-5856	29 July	BM 78
-	Entries for multiplication	21	-	-	7072-7092	04 Aug	BCE-21
-	Hill plots	256	-	2	3608-3863	15 July	BL 4A
-		256	-	2	5506-5759	15 July	BM-78
-	Photo period sensitivity study (extended light)	157	-	-	7215-7831	30 July	BCE-21
-	Photo-period sensitivity study (normal light)	154	-	-	2843-8244	30 July	BCE 21

B) Development of high protein material

YIELD TRIALS

86P62	MPL 40 Inbred Lines	18	4x4 Y2	3	-	25 June	BP-118
86P63	MPL 8 Inbred Lines	7	RBC	4	-	26 June	BP-118
86P64	F5 High Protein Lines	16	4x4 Y2	3	-	25 June	BP 118
86P65	High Protein GXE Study (Vertisol, Irrigated)	14	RBD	4	-	25 June	BP-118
86P66	F1 Diallel Test (High Protein Lines)	31	RBC	2	-	25 June	BP-118
86P67	Study of maternal effect on Protein	9	CFBD	2	-	25 June	BP-118
86P68	MPL 40 Progenies bulks (VI Group)	12	RBC	3	-	19 July	BP-28
86P69	High Protein GXE Study (Alfisol, Unirrigated)	14	RBD	4	-	30 June	BL-4A
86P70	High Protein GXE Study (Vertisol, Unirrigated)	14	RBD	4	-	01 July	BM-78
86P71	High Protein GXE Study (Delayed Planting)	14	RBD	4	-		
BREEDING MATERIAL							
-	MS-NPL	10	-	-	1093-1102	26 June	BP-28
-	MS-NPL fertile	6	-	-	1103-1108	26 June	BP-28
-	NPL Do Progenies	26	-	-	1999-2024	24 June	BP-118

Test No.	Name of the test	Entries including checks	Design	Reps	Plot Nos.	Date sown	Field
-	NPL-F3 bulk prog. (Rep-I)	26	-	-	2736-2763	25 June	BP-11B
-	NPL-F4 bulk prog. (Rep-I)	31	-	-	2764-2794	25 June	BP-11B
-	NPL-F9 and F10 prog. (Rep-I)	19	-	-	2795-2813	25 June	BP-11B
-	F1's	13	-	-	3236-3248	25 June	BP-11B
-	NPL-F2 bulks	6	-	-	4151-4156	01 July	BP-7B
-	NPL-F3 bulk prog. (Rep-II)	28	-	-	4721-4748	01 July	BP-7B
-	NPL-F4 bulk prog. (Rep-II)	31	-	-	4749-4779	01 July	BP-7B
-	NPL-F9 and F10 prog. (Rep-II)	19	-	-	4780-4798	01 July	BP-7B
-	NPL-40 bulk	1	-	-	4799	01 July	BP-7B
-	NPL-40 prog. (V1 group)	48	2	-	4928-5023	16 July	BP-7B
-	NPL-test entries	34	-	-	6178-6211	24 July	BP-7C
-	NPL's for maintenance	11	-	-	6212-6222	28 July	BP-7C

C) Development of vegetable pigeepoo

FIELD TRIALS

66P72	Extra-Extra Early Vegetable DT Lines Test	12	RBD	2	-	27 June	BP-1A
66P73	Early Vegetable DT Advanced Lines Test-1 (White seed)	25	5X5 TL	3	-	27 June	BP-1A
66P74	Early Vegetable DT Advanced Lines Test-2 (Brown seed)	16	4X4 TL	3	-	27 June	BP-1A
66P75	Early Vegetable DT Preliminary Yield Test-1	16	4X4 TL	3	-	27 June	BP-1A
66P76	EVPII	8	RBD	3	-	28 June	BP-1A
66P77	Early Vegetable DT F4 Bulks Test-I (Irrigated)	25	5X5 TL	3	-	27 June	BP-1A
66P78	Early Vegetable MDT Line (White seed)	8	RBD	4	-	27 June	BP-1A
66P79	Early Veg. F1 Dialled Test	28	RBD	2	-	27 June	BP-1A
66P80	Early Vegetable DT F4 Bulks Test-I (Unirrigated)	25	5X5 TL	3	-	30 June	BL-4A
66P81	Medium Vegetable DT Lines Test-I (White seed)	16	4X4 TL	3	-	23 June	BP-11B
66P82	Medium Vegetable DT Lines Test-II (White seed)	25	5X5 TL	3	-	23 June	BP-11B
66P83	Medium Vegetable DT Lines Test-III (Brown seed)	16	4X4 TL	3	-	23 June	BP-11B
66P84	Medium Vegetable DT Lines Test-IV (Brown seed)	12	RBD	4	-	23 June	BP-11B
66P85	Medium Vegetable MDT Lines Test-I (White seed)	25	5X5 TL	3	-	26 June	BP-11B
66P86	Medium Vegetable MDT Lines Test-II (Brown seed)	25	5X5 TL	3	-	26 June	BP-11B
66P87	Medium Vegetable MDT Lines Test-III	16	4X4 TL	3	-	25 June	BP-11B
66P88	MVPAY	12	SPLIT	4	-	23 June	BP-11B

Test No.	Name of the test	Entries including checks	Design	Rep	Plot No.	Date sown	Field
-	ICPL 120 for maintenance	1	-	-	5370	04 Aug	BA-70
-	Early P4 DT bulk prog. Rep-II (Unirrigated)	133	-	-	5371-5503	15 July	BA-70
-	Soil. from ICPL SPP (Rep-II)	32	-	-	5760-5791	21 July	BA-70
-	ICPL 07 early selections	5	-	-	5792-5796	29 July	BA-70
-	Early veg. test entries for maintenance	90	-	-	5960-6057	24 July	BA-7C
-	Med. veg. test entries for maintenance	120	-	-	6058-6177	24 July	BA-7C
-	Medium vegetable P3 SPP's	105	-	-	7201-7305	27 June	BOB-70

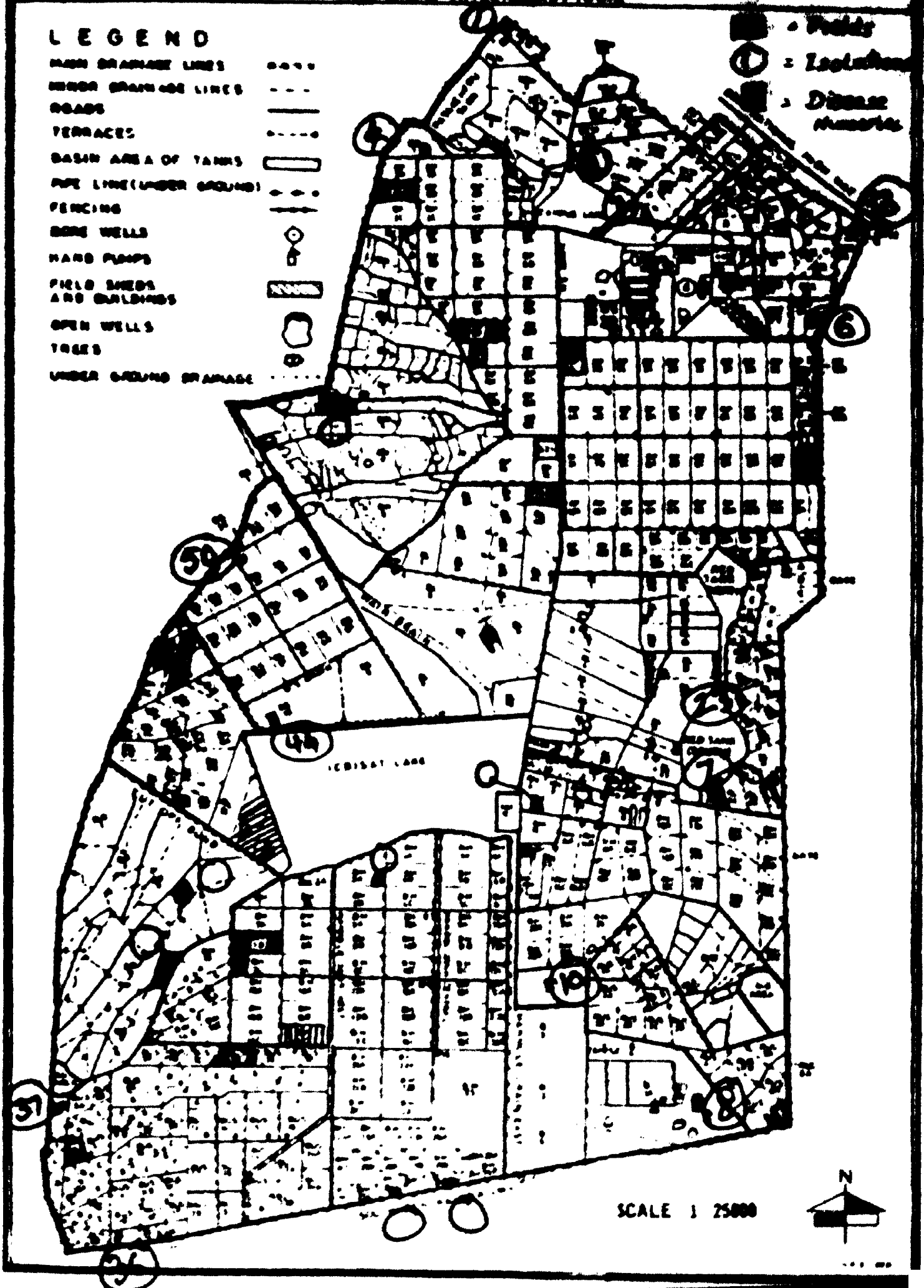
PIGEONPEA BREEDING FIELDS AND DISEASE NUMBERS, 1955

INTERNATIONAL CROPS RESEARCH INSTITUTE FOR THE SEMI-ARID TROPICS
PATANKOTTA (HYDERABAD), INDIA

LEGEND

- MAIN DRAINAGE LINES - - - - -
- MINOR DRAINAGE LINES - - - - -
- ROADS ————
- TERRACES - · - · -
- Basin Area of Tanks []
- PIPE LINE (UNDER GROUND) - · - · -
- FENCING — · — · —
- BORE WELLS []
- HAND PUMPS []
- FIELD SHEDS AND BUILDINGS []
- OPEN WELLS []
- TREES []
- UNDER GROUND DRAINAGE - · - · -

- [] = Fields
- [] = Isolation
- [] = Disease Number



SCALE 1 25000



PIGONPEA BREEDING ISOLATIONS - 1966

ISOL	FIELD No.	SIZE/AREA (Ha)	DATE SOWN	SCIENTIST CONCERNED	MATERIAL
1	RCW-1(NW) RCW-1(SE)	76rx50m(.29) 32rx30m(.07)	8 July 14 July	KBS KBS	ICPB-8 IMS-1
2	RCW-19(S)	28rx40m(.08)	14 July	KBS	ICPB-8
3	RCW-20(E)	40rx33m(.10)	8 July	KBS	MS Prabhat(DT) Maintenance
4	BP-1(E)	32rx40m(.10)	16 July	LS	ICPL 366
6	RCE-24	32rx40m(.10)	15 July	KCJ	ICPL 95
7	RL-33(E)	28rx110m(.23)	8 July	KBS	ICPB-8 [LONG TERM]
8	Q-5	24rx25m(.05)	9 July	KBS	MS ICP 7035
10	RH-21B	52rx33m(.13)	8 July	KCJ	ICPL 227
13	RCE-5	32rx50m(.12)	8 July	KCJ	ICPP 6
23	RL-19	11rx95m(.09)	8 July	KCJ	ICP 8863
36	BUS-12A(E)	32rx50m(.12)	8 July	KCJ	ICPP 2
37	BUS-1A(N)	16rx75m(.1)	8 July	KCJ	ICPP 3
44	BS-10	20rx50m(.08)	9 July	KCJ	ICPP 4
50	BS-3C	24rx50m(.09)	9 July	KCJ	ICPP 5
-	BM-28C	52rx48m(.19)	8 July	KCJ	ICPL 270
-	BM-26C	36rx62m(.17)	8 July	KCJ	ICPL 304
-	RH-4(SE)	32rx45m(.11)	8 July	KCJ	ICP 8357
-	BR-3E	(.6)	9 July	LS	ICPL 151
-	BR-4K	(.7)	9 July	LS	ICPL 87
-	BM-3A(SE)	24rx50m(.09)	9 July	KCJ	ICPP 1
	BM-5	(.7)	13 June	LS	ICPL 87

P101d: DP-1A

Proj. No.	Treat No.	Name of the Treat	Entries including checks	Design	Rep	Plot Nos.	Date of
102	06P01	ICMIBAT Series in AICP12	17	RBD	4	-	27 June
102	06P02	Testing	18	RBD	4	-	27 June
102	06P03	EPAT 06(DT)	18	RBD	4	-	27 June
102	06P04	EPAT 06(BDT)	18	RBD	4	-	27 June
102	06P05	EPPLT 06(DT)	16	424 LAT	4	-	28 June
102	06P06	EPPLT 06(BDT)	16	424 LAT	4	-	28 June
102	06P06	ADLT 06-3	16	424 LAT	4	-	28 June
102	06P07	Test of time of different peddling behaviour in sprayed condition.	5	R.D	4	-	28 June
102	06P10	Genotype x environment interaction studies 1. (Alfisol, normal planting, irrigated and protected) 2. (Alfisol, delayed planting, irrigated and protected)	193	RBD	2	-	29 June
102	06P19	Delayed planting, irrigated and protected)	193	RBD	2	-	02 Aug
105	06P03	MS-Prabhat (DT) Hybrid Test-1	12	RBD	2	-	27 June
105	06P04	MS-Prabhat (DT) Hybrid Test-2	14	RBD	2	-	27 June
105	06P05	MS-Prabhat (DT) Hybrid Test-3	14	RBD	2	-	27 June
105	06P06	MS-Prabhat (BDT) Hybrid Test-1	14	RBD	2	-	27 June
105	06P07	MS-Prabhat (BDT) Hybrid Test-2	14	RBD	2	-	27 June
105	06P08	MS T 21 Hybrid Test-1	10	RBD	2	-	27 June
105	06P09	Triple Cross DT Hybrid Test-1	6	L.S	4	-	28 June
105	06P10	Triple Cross DT Hybrid Test-2	8	RBD	4	-	28 June
105	06P11	Triple Cross BDT Hybrid Test	10	RBD	4	-	28 June
105	-	Linea (Free Delt)	16	-	-	156-172	28 June
105	-	MS-Prabhat (DT) sibe	52	-	-	245-296	28 June
105	-	3D single culm	4	-	-	299-304	28 June
105	-	Early MS-stocks	123	-	-	305	28 June
105	-	Early pollen parents	99	-	-	420-517	28 June
105	-	Linea for conversion	14	-	-	578, 608	28 June
105	-	BDT Hybrid obs. nursery	40	-	-	106-404	28 June
106A	06P16	Early DT Cleistogamous Lines	10	RBD	4	-	27 June
106A	06P18	Early BDT Cleistogamous Lines	14	424 TL	3	-	27 June
106A	06P16	Seed size variants in ICPL 87 (Irrigated)	4	424 LS	4	-	27 June
106A	-	Irrigated Linea	11	-	-	172-183	23 July
106A	-	Cleistogamous Bulk (UPAS 120 Derivatives)	29	-	-	579-607	29 June
106C	06P72	Extra-Extra Early Vegetable DT Linea Test	11	RBC	2	-	27 June
106C	06P73	Early Vegetable DT Advanced Linea Test-1 (White seed)	25	525 TL	3	-	27 June
106C	06P74	Early Vegetable DT Advanced	16	424 TL	3	-	27 June
106C	06P75	Linea Test-2 (Brown seed) Early Vegetable DT Preliminary Trial Test-3	4	424 TL	3	-	27 June
106C	06P76	BDP7	4	RBC	3	-	28 June
106C	06P77	Early Vegetable DT P4 Bulks Test-1 (Irrigated)	25	525 TL	3	-	27 June
106C	06P78	Early Vegetable BDT Linea (White seed)	4	RBD	4	-	27 June
106C	06P79	Early Veg P1 Diallel Test Irrigated early P4 DT Bulk Prog. (Rep-1)	19 53	RBD	2	- 1-153	27 June 16 July
106C	-	Derivat bulk	1	-	-	154	30 July
106C	-	P4 Bulk for mass selection Bulk	1	-	-	155	16 July
106C	-	Early veg. Linea for maintenance	1	-	-	184	28 June
106C	-	ICPL 47 mutant	1	-	-	185-190	27 June
106C	-	Baroda selections	46	-	-	199-244	28 June
106C	-	Early veg. P1's	2	-	-	297-298	28 June

RP-1A



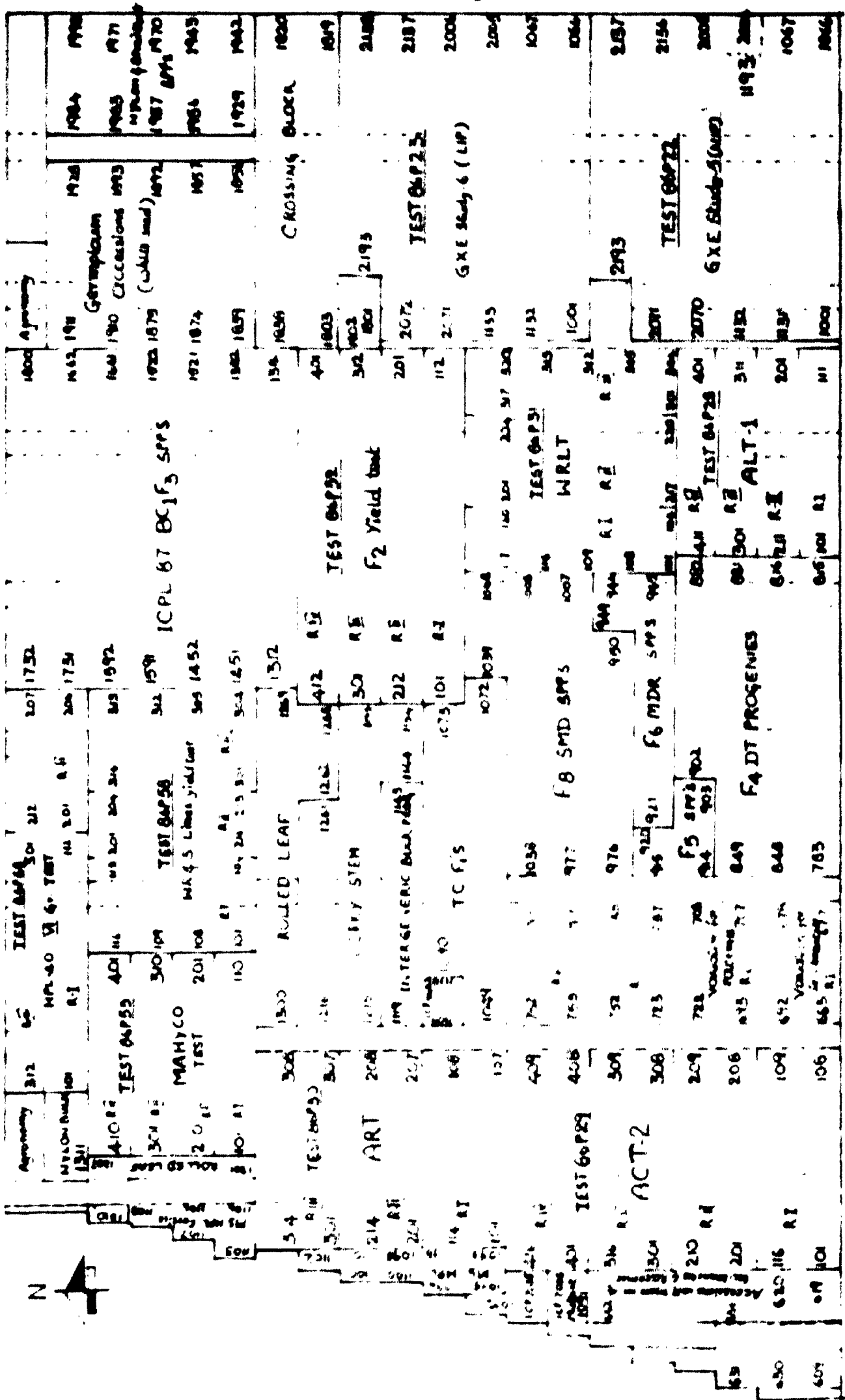
Chemical	Gametocide	trial
2138	2193	2138
2137	2083	2137
2028	2028	2028
2027	2001	2027
1111	1165	1111
1110	1056	1110
1001	1055	1001
116	116	116
10	10	10
26	40114	26
301	516	301
216	201	216
101	116	101
417	40148	417
303	317301	303
217	201216	217
101	117101	101

303

Field: DP-2B

Proj. No.	Test No.	Name of the test	Entries including checks	Design	Reps	Plot Nos.	Date sown
102	86P22	S. G x B study (Vertisol, normal planting, Irrigated and Protected)	193	RBD	2	-	26 June
102	86P23	S. G x B study (Vertisol, delayed planting, Irrigated and Protected)	193	RBD	2	-	26 July
103	86P28	Advanced lines test-1	11	RBD	4	-	25 June
103	86P29	ACT-2	16	RBD	4	-	26 June
103	86P30	Arhar Regional Test (Vertisol)	14	RBD	3	-	25 June
103	86P31	Wilt Resistant lines Test	20	4X5 RL	3	-	25 June
103	86P32	F2 Yield Test	12	RBD	4	-	25 June
103	-	F4 BT progenies	120	-	-	783-902	25 June
103	-	F5 SPP's	10	-	-	903-920	25 June
103	-	F6 NBR SPP's	29	-	-	921-949	25 June
103	-	F8 SBR SPP's	99	-	-	950-1040	25 June
103	-	TCF1's	42	-	-	1049-1090	25 June
103	-	ICPL 87 SC17) SPP's	489	-	-	1312-1000	26 June
103	-	Crossing Block entries	38	-	-	1001-1038	24 July
103	-	Variation for secondary branches and racemes	60	-	2	663-702	01 July
103	-	Variation for secondary branches + racemes	27	-	2	609-662	02 July
105	86P53	MAHYCO Hybrid Test	10	RBD	4	-	26 June
106A	86P58	Wilt Resistant and Susceptible Lines	16	4X4 TL	3	-	16 July
106A	-	ICP 7035 and mutant	2	-	-	1091-1092	26 June
106A	-	ICP 8422 selections	10	-	-	1109-1110	26 June
106A	-	Intergeneric bulk prog.	25	-	-	1119-1143	26 June
106A	-	Corky stem SPP's	118	-	-	1144-1261	26 June
106A	-	Rolled leaf SPP's	49	-	-	1262-1310	26 June
106A	-	Germplasm accessions for evaluation (white seed)	90	-	-	1039-1920	16 July
106B	86P68	HPL 60 Progenies bulks (VI Group)	12	RBD	3	-	16 July
106B	-	MS-HPL	10	-	-	1093-1102	26 June
106B	-	MS-HPL fertile	6	-	-	1103-1100	26 June
106C	-	Wylon (bulk)	1	-	-	1311	16 July
106C	-	Wylon and Badbhoet selections	67	-	-	1029-1098	16 July
106C	-	Misc. P1's	3	-	-	1096-1090	16 July

BP-2B



RO 2

Field: NP-118

Proj. No.	Test No.	Name of the test	Entries including checks	Design	Reps	Plot No.	Date set
103	66P33	F4 DT Progenies Test	25	5X5 TL	3	-	24 June
103	66P32	MS QPL 3 Hybrid Test	8	RBD	2	-	26 June
103	-	MS-3783 SPP's	170	-	-	2094-3063	28 June
106A	66P59	Medium HDT Cleistogamous Lines	16	4X4 TL	3	-	25 June
106A	66P60	F1 Diallel Test (Dwarf)	55	RBD	2	-	24 June
106A	-	Do progenies	111	?	-	2025-2246	24 June
106A	-	Decumbent bulk	1	-	-	2725	26 June
106A	-	Dwarf SPP's	80	-	-	2074-2093	25 June
106A	-	Probable dwarfs	67	-	-	3066-3110	25 June
106A	-	F4 D2 progenies	66	-	-	3111-3176	25 June
106A	-	Dwarf inheritance study	20	-	-	3177-3201) 3249-3291)	25 June
106A	-	F1's	34	-	-	3202-3235	26 June
106B	66P62	HPL 40 Inbred Lines	16	4X4 TL	3	-	25 June
106B	66P63	HPL 8 Inbred Lines	7	RBD	4	-	24 June
106B	66P64	F5 High Protein Lines	16	4X4 TL	3	-	25 June
106B	66P65	High Protein 0 x 2 study (Vertisol, Irrigated)	14	RBD	4	-	25 June
106B	66P66	F1 Diallel Test (High Protein Lines)	31	RBD	2	-	26 June
106B	66P67	Study of maternal effect on Protein	9	CFBD	2	-	26 June
106B	-	HPL Do progenies	26	-	-	1999-2024	24 June
106B	-	HPL-F3 bulk prog. (Rep-I)	20	-	-	2716-2763	25 June
106B	-	HPL-F4 bulk prog. (Rep-I)	31	-	-	2764-2794	25 June
106B	-	HPL-F9 and F10 prog. (Rep-I)	19	-	-	2795-2813	25 June
106B	-	F1's	13	-	-	3236-3248	25 June
106C	66P81	Medium Vegetable DT Lines Test-I (White seed)	16	4X4 TL	3	-	23 June
106C	66P82	Medium Vegetable DT Lines Test-II (White seed)	25	5X5 TL	3	-	23 June
106C	66P83	Medium Vegetable DT Lines Test-III (Brown seed)	16	4X4 TL	3	-	23 June
106C	66P84	Medium Vegetable DT Lines Test-IV (Brown seed)	12	RBD	4	-	23 June
106C	66P85	Medium Vegetable HDT Lines Test-I (White seed)	25	5X5 TL	3	-	26 June
106C	66P86	Medium Vegetable HDT Lines Test-II (Brown seed)	25	5X5 TL	3	-	26 June
106C	66P87	Medium Vegetable HDT Lines Test-III	16	4X4 TL	3	-	25 June
106C	66P88	NVPAY	12	SPLIT	4	-	23 June
106C	-	Bulks from ICPL 79079 for multiplication	13	-	-	2247-2259	23 June
106C	-	Med. veg. DT bulk prog. from ICPLs (cream seed)	32	-	-	2260-2291	24 June
106C	-	Med. veg. DT bulk prog. (cream seed)	66	-	-	2292-2357	24 June
106C	-	Med. veg. DT bulk prog. (brown seed)	113	-	-	2358-2470	24 June
106C	-	Med. veg. DT ICPL's bulk prog. (brown seed)	14	-	-	2471-2484	24 June
106C	-	Med. veg. DT SPP's (brown seed)	239	-	-	2485-2723	24 June
106C	-	Med. veg. DT SPPs from ICPL prog. (brown seed)	11	-	-	2724-2734	24 June



BP.115

DISPLAY PLOTS											
224	AI	401	2389		266	243	28	3201	397	Dwarf inhibitor study	397
301	AI	324		2804	2812	272	AI	3193	397		397
284	AI	TEST 0609	201	2805	2811	211	205	3493	306		306
101	AI	MVIA	124	2806	2812	201	204	3462	306		306
212	TEST 0608	201	201	2807	2813	218	204	3182	306		306
101	Med. veg. DT	AI	112	2808	2814	118	204	3182	306		306
2247	BULB FROM 101	AI	112	2809	2815	118	204	3182	306		306
				2810	2816	118	204	3182	306		306
				2811	2817	118	204	3182	306		306
				2812	2818	118	204	3182	306		306
				2813	2819	118	204	3182	306		306
				2814	2820	118	204	3182	306		306
				2815	2821	118	204	3182	306		306
				2816	2822	118	204	3182	306		306
				2817	2823	118	204	3182	306		306
				2818	2824	118	204	3182	306		306
				2819	2825	118	204	3182	306		306
				2820	2826	118	204	3182	306		306
				2821	2827	118	204	3182	306		306
				2822	2828	118	204	3182	306		306
				2823	2829	118	204	3182	306		306
				2824	2830	118	204	3182	306		306
				2825	2831	118	204	3182	306		306
				2826	2832	118	204	3182	306		306
				2827	2833	118	204	3182	306		306
				2828	2834	118	204	3182	306		306
				2829	2835	118	204	3182	306		306
				2830	2836	118	204	3182	306		306
				2831	2837	118	204	3182	306		306
				2832	2838	118	204	3182	306		306
				2833	2839	118	204	3182	306		306
				2834	2840	118	204	3182	306		306
				2835	2841	118	204	3182	306		306
				2836	2842	118	204	3182	306		306
				2837	2843	118	204	3182	306		306
				2838	2844	118	204	3182	306		306
				2839	2845	118	204	3182	306		306
				2840	2846	118	204	3182	306		306
				2841	2847	118	204	3182	306		306
				2842	2848	118	204	3182	306		306
				2843	2849	118	204	3182	306		306
				2844	2850	118	204	3182	306		306
				2845	2851	118	204	3182	306		306
				2846	2852	118	204	3182	306		306
				2847	2853	118	204	3182	306		306
				2848	2854	118	204	3182	306		306
				2849	2855	118	204	3182	306		306
				2850	2856	118	204	3182	306		306
				2851	2857	118	204	3182	306		306
				2852	2858	118	204	3182	306		306
				2853	2859	118	204	3182	306		306
				2854	2860	118	204	3182	306		306
				2855	2861	118	204	3182	306		306
				2856	2862	118	204	3182	306		306
				2857	2863	118	204	3182	306		306
				2858	2864	118	204	3182	306		306
				2859	2865	118	204	3182	306		306
				2860	2866	118	204	3182	306		306
				2861	2867	118	204	3182	306		306
				2862	2868	118	204	3182	306		306
				2863	2869	118	204	3182	306		306
				2864	2870	118	204	3182	306		306
				2865	2871	118	204	3182	306		306
				2866	2872	118	204	3182	306		306
				2867	2873	118	204	3182	306		306
				2868	2874	118	204	3182	306		306
				2869	2875	118	204	3182	306		306
				2870	2876	118	204	3182	306		306
				2871	2877	118	204	3182	306		306
				2872	2878	118	204	3182	306		306
				2873	2879	118	204	3182	306		306
				2874	2880	118	204	3182	306		306
				2875	2881	118	204	3182	306		306
				2876	2882	118	204	3182	306		306
				2877	2883	118	204	3182	306		306
				2878	2884	118	204	3182	306		306
				2879	2885	118	204	3182	306		306
				2880	2886	118	204	3182	306		306
				2881	2887	118	204	3182	306		306
				2882	2888	118	204	3182	306		306
				2883	2889	118	204	3182	306		306
				2884	2890	118	204	3182	306		306
				2885	2891	118	204	3182	306		306
				2886	2892	118	204	3182	306		306
				2887	2893	118	204	3182	306		306
				2888	2894	118	204	3182	306		306
				2889	2895	118	204	3182	306		306
				2890	2896	118	204	3182	306		306
				2891	2897	118	204	3182	306		306
				2892	2898	118	204	3182	306		306
				2893	2899	118	204	3182	306		306
				2894	2900	118	204	3182	306		306
				2895	2901	118	204	3182	306		306
				2896	2902	118	204	3182	306		306
				2897	2903	118	204	3182	306		306
				2898	2904	118	204	3182	306		306
				2899	2905	118	204	3182	306		306
				2900	2906	118	204	3182	306		306

Field: DP-11C

Proj. No.	Test No.	Name of the test	Entries including checks	Design	Reps	Plot Nos.	Date seen
103	06P34	MPAT (Sprayed)	12	RDD	4	-	23 June
103	06P35	PIRIT (Sprayed)	16	6x4 LAY.	4	-	23 June
103	06P36	Advanced Lines Test	14	RDD	4	-	23 June
103	06P37	LRG 30 M3 Progenies Test	14	RDD	3	-	23 June
103	-	P1's (DT)	36	-	-	3272-3307	24 June
103	-	P1's (for National Crossing Program)	51	-	-	3300-3350	24 June
103	-	P1's (for backcrosses)	5	-	-	3359-3363	24 June
103	-	BC2P1's	4	-	-	3364-3367	24 June
103	-	P1 and P2 for multiplication	0	-	-	3368-3375	24 June
103	-	P1's and parents (insect resistant)	131	-	-	3376-3506	24 June

BP11C



	3504				3430
	F ₁ 's & Parents (insect resistant)				3429
	F ₁ 's				3541
	F ₁ 's				3340
	(National Crosses)				
414	R-IV	408	3308	F ₁ 'S	3287
401		407	3272	(DT CROSSES)	
314	TEST 86P36	308	314	TEST 86P37	508
301	ALT-2	307	501	R-III	501
214	R-II	208	214	LRG-30 M3	208
201		207	201	PROG TEST	207
114	R-I	108	114	R-E	108
101		107	101	R-I	107
116	115 201	204	204	315 401	404
109	TEST 86P35				408
108	PIRJT				412
101	104 216	213	201	414	413
412	R-III	TEST 86P34			401
301	R-III	MPAY			302
212	R-III				201
101	R-I				112

AGRONOMY
EXPERIMENTS

AGRONOMY
EXPERIMENT

Field: BL-6A

Proj. No.	Test No.	Name of the test	Entries including checks	Design	Reps	Plot Nos.	Date sown
102	86P13	T-21 Group DT Lines	10	RBD	3	-	01 July
102	86P14	T-21 Group EDT Lines	14	RBD	3	-	01 July
102	86P15	AMDLT 86-4	16	4x4 LAT.	4	-	30 June
102	86P16	8x8 P1 Diallel	36	RBD	3	-	01 July
102	86P20	3. G x E study (Alfisol, normal planting, Unirrigated and Protected)	193	RBD	2	-	30 June
102	86P21	4. G x E study (Alfisol, delayed planting, Unirrigated and Protected)	193	RBD	2	-	17 July effective 25 July
102	-	Populations for SPD advance	10	-	-	3507-3516	01 July
102	-	Populations for disruptive sel.	3	-	-	3517-3519	02 July
102	-	Composite populations	2	-	-	3520-3521	02 July
103	86P38	Arhar Regional Test (Alfisol)	14	RBD	3	-	30 June
105	-	MS-Prabhat (DT) sibs	42	-	-	3522-3561	30 June
106A	86P57	Seed Size Variants in ICPL 87 (Unirrigated)	4	4x4 LS	4	-	30 June
106A	-	Mill plots	256	-	2	3600-3063	15 July
106B	86P69	Ming Protein G x E Study (Alfisol, Unirrigated)	14	RBD	4	-	30 June
106C	86P80	Early Vegetable DT P4 Bulks Test-I (Unirrigated)	25	5x5 TL	3	-	30 June
106C	-	Baroda selections	46	-	-	3562-3607	30 June
106C	-	Early veg. P4 DT bulks Rep-I (unirrigated)	133	-	-	3064-3996	15 July
106C	-	Early veg. P4 DT bulks Rep-II (irrigated)	153	-	-	3997-4149	15 July
106C	-	P4 bulk for mass selections (from unirrigated)	1	-	-	4150	15 July

BL-4A



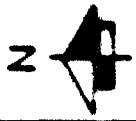
ICPX 830021	ICPX 830027	ICPX 830028	84 EPDT (MS) Comp	84 EP NDT (MS) Comp.	Notes	Agency
3513	3519	3520			4150	4150
ICPX 830024 F3	3512	301	314	314	4142	4106
3514	ICPX 830024 F3	214	201	ICPX 830033	4087	4004
	3512	101	114	F3	Early veg F3	4086 and 4089
	ICPX 830030 F3	301	310	301	Est. from untagged	4081
	3512	210	201	TEST 86P16	4030	4002
	ICPX 830030 F3	101	110	101	3976	3976
ICPX 830032	3511	116	201	316	3975	3948
3515	ICPX 830039 F3			401	Early veg F3	3920 and 3947
	3510				Est. from untagged	3919
ICPX 830040 F3	3510	AT 101	R II 214	F II 301	3864	3891
	ICPX 830010 F3	2166	2193	2166	3736	3865
3514	3509	2167	2158	2167	HILL PLANTING	3608
	ICPX 830008 F3	2105	2137	2104	3607	3980
	3508	2107	2078	2107 R-II	Barren	3662
	ICPX 830008 F3	2046	2077	2046	TEST 86P27	
	3507	2047 (NUIP)	2018	2047 (LUIP)	2018	
	ICPX 810063	1181	2017	1181	TEST 86P21	
314	306 F3	1180	1151	1180		
301	307	TEST 86P20	1121	1160	1121	1150
214	205	1120	R-I 1091	1120	R-I	1098
201	207	1106	1090	1106		1090
114	108	11060	1081	1060		1031
101	107	1001	1030	1001		1030

Field: BW-78

Proj. No.	Test No.	Name of the test	Entries including checks	Design	Reps	Plot Nos.	Date sown
105	-	ICPM 6 P2 bulk	1	-	-	4157	01 Aug
105	-	MS-lines from Misar	95	-	-	5166-5260	04 and 16 July
106A	86P61	Intergeneric Lines	10	RBD	4	-	24 July
106A	86P89	Perenniality Study	24	RBD	2	-	04 Aug
106A	-	Mutants	126	-	-	4800-4852)	01 July
106A	-	ICP 12752 (white seed) bulk	2	-	-	4855-4927)	01 July
106A	-	Leaf mutant SPP	60	-	-	5024-5857	04 Aug
106A	-	Hill plots	256	-	-	5797-5856	29 July
106B	86P70	High Protein GxE Study (Vertisol, Unirrigated)	14	RBD	4	5504-5759	19 July
106B	86P71	High Protein GxE Study (Delayed Planting)	14	RBD	4	-	01 July
106B	-	MPL-P2 bulks	6	-	-	4151-4156	01 July
106B	-	MPL-P3 bulk prog. (Rep-II)	20	-	-	4721-4740	01 July
106B	-	MPL-P4 bulk prog. (Rep-II)	31	-	-	4749-4779	01 July
106B	-	MPL-P9 and P10 prog. (Rep-II)	19	-	-	4780-4798	01 July
106B	-	MPL-40 bulk	1	-	-	4799	01 July
106B	-	MPL-40 prog. (VI group)	48	2	-	4928-5023	16 July
106C	-	Early ICPL's for maintenance	2	-	-	4158-4159	01 July
106C	-	Early P4 DT veg. bulk SPP's (white seed)	178	-	-	4160-4337	04 July
106C	-	Early P4 DT veg. bulk SPP's (Brown seed)	238	-	-	4338-4575	04 July
106C	-	Early P4 DT veg. bulk SPP's (white seed with speckles)	111	-	-	4576-4686	24 June
106C	-	Early P4 DT veg. bulk SPP's (others)	33	-	-	4687-4719	24 June
106C	-	ICPL 211 for maintenance	80	-	-	5025-5104	24 June
106C	-	ICP 7035 mutant	1	-	-	4720	01 July
106C	-	ICP 7035 for maintenance	1	-	-	4853	01 July
106C	-	Early P4 EDT veg. SPP (white seed)	26	-	-	4854	01 July
106C	-	Early P4 EDT veg. SPP (Brown seed)	35	-	-	5105-5130	04 July
106C	-	Sel. from ICPL SPP (Rep-I)	32	-	-	5131-5165	04 July
106C	-	Early veg. P4 DT SPP (OP seed)	77	-	-	5261-5292	16 July
106C	-	ICPL 120 for maintenance	1	-	-	5293-5369	16 July
106C	-	Early P4 DT bulk prog. Rep-II	133	-	-	5370	04 Aug
106C	-	Sel. from ICPL SPP (Rep-II)	32	-	-	5371-5503	15 July
106C	-	ICPL 87 early selections	5	-	-	5760-5791	21 July
106C	-			-	-	5792-5796	29 July

BM 7B

ICPL 151	4159	ICPL 117	4158	ICPL 115	ICPL 120	ICPL 1192 (L&U) 8024	ICPL 1192 (P&U) 5657	225	222
4179	4174	4167	4160	4152	4145	4138	4131	224	221
4178	4173	4166	4159	4151	4144	4137	4130	219	216
4177	4172	4165	4158	4150	4143	4136	4129	218	215
4176	4171	4164	4157	4149	4142	4135	4128	215	212
4175	4170	4163	4156	4148	4141	4134	4127	212	209
4174	4169	4162	4155	4147	4140	4133	4126	207	204
4173	4168	4161	4154	4146	4139	4132	4125	206	203
4172	4167	4160	4153	4145	4138	4131	4124	201	198
4171	4166	4159	4152	4144	4137	4130	4123	124	121
4170	4165	4158	4151	4143	4136	4129	4122	118	115
4169	4164	4157	4150	4142	4135	4128	4121	118	116
4168	4163	4156	4149	4141	4134	4127	4120	115	112
4167	4162	4155	4148	4140	4133	4126	4119	112	109
4166	4161	4154	4147	4139	4132	4125	4118	107	104
4165	4160	4153	4146	4138	4131	4124	4117	106	103
4164	4159	4152	4145	4137	4130	4123	4116	101	100
4163	4158	4151	4144	4136	4129	4122	4115	101	100
4162	4157	4150	4143	4135	4128	4121	4114	101	100
4161	4156	4149	4142	4134	4127	4120	4113	101	100
4160	4155	4148	4141	4133	4126	4119	4112	101	100
4159	4154	4147	4140	4132	4125	4118	4111	101	100
4158	4153	4146	4139	4131	4124	4117	4110	101	100
4157	4152	4145	4138	4130	4123	4116	4109	101	100
4156	4151	4144	4137	4129	4122	4115	4108	101	100
4155	4150	4143	4136	4128	4121	4114	4107	101	100
4154	4149	4142	4135	4127	4120	4113	4106	101	100
4153	4148	4141	4134	4126	4119	4112	4105	101	100
4152	4147	4140	4133	4125	4118	4111	4104	101	100
4151	4146	4139	4132	4124	4117	4110	4103	101	100

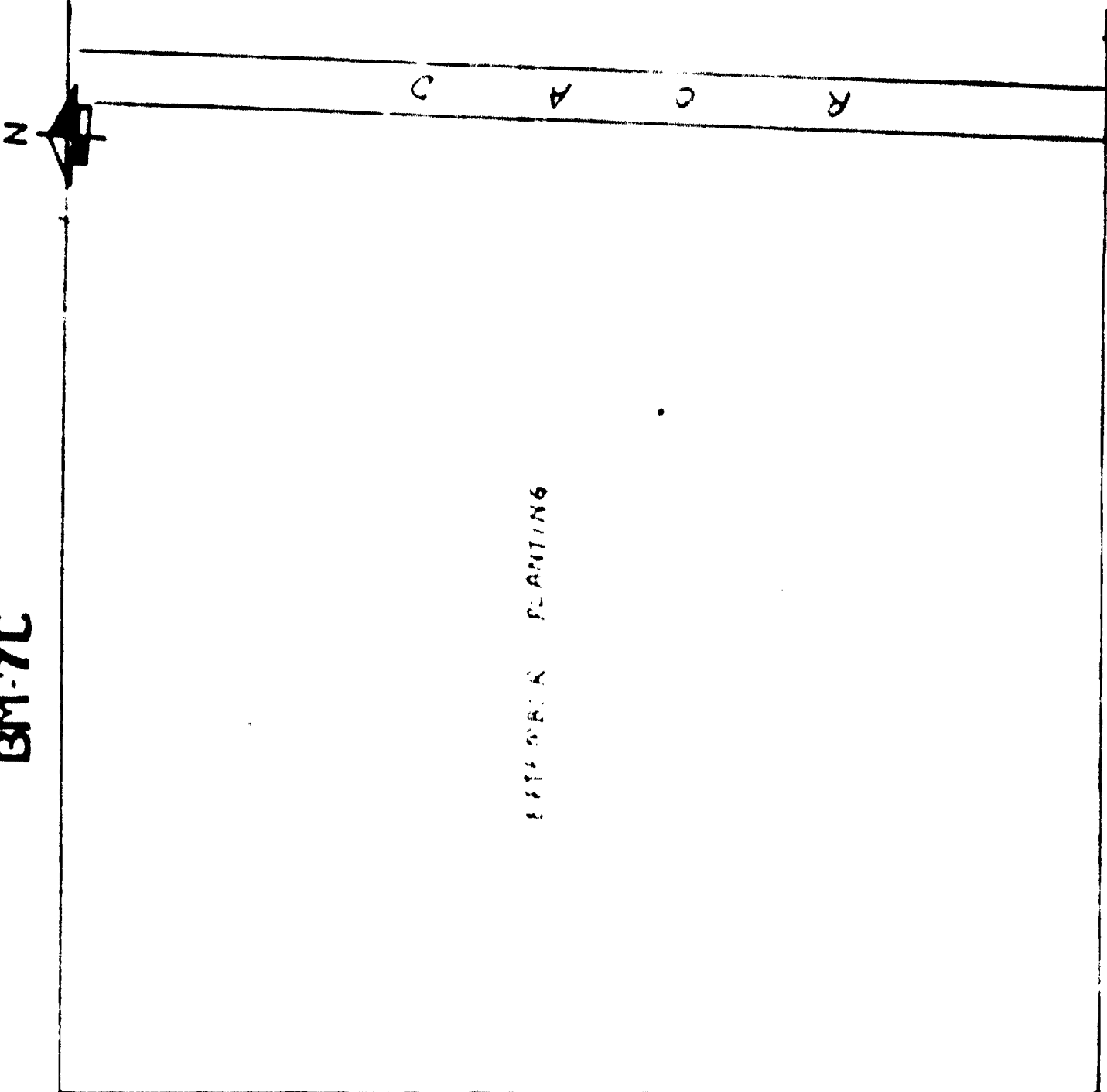


FOOD

Field: BN-7C

Proj No.	Test No.	Name of the test	Entries including checks	Design	Reps	Plot Nos.	Date sown
103	06939	P2 Yield Test (Sept. Planting)	12	200	4	-	Sept
103	-	Advanced lines for multiplication	102	-	-	5050-5059	16 July
106A	06990	Perenniality Study	24	200	2	-	Sept
106C	-	Early veg. test entries for maintenance	98	-	-	5960-6057	20 July
106C	-	Med. veg. test entries for maintenance	120	-	-	6050-6177	20 July
106B	-	NPL-test entries	34	-	-	6170-6211	20 July
106B	-	NPL's for maintenance	11	-	-	6212-6222	20 July

BM-7C



6222	MPL's for maintenance	6212
6163	MPL test entries for maintenance	6211
6182	6177	6162
6136	Med veg test entries for maintenance	6161
6137		6112
6085		6111
6084		6064
6014	6057 6058 and	
6016	Early veg test entries for maintenance	5960
5959	5960	5975
5958		5952
5939		5923
5936	ADVANCED LINES FOR MULTIPLICATION	5922
5908		6066
5907		5885
5875		5865
5872		5865
5858		5865

K

A D

Field: BUS-3D

Proj. No.	Test No.	Name of the test	Entries including checks	Design	Reps	Plot Nos.	Date sown
102	86P08	ICRISAT Entries in AICPIP	17	RBD	3	-	24 June
102	86P09	Testing (Unsprayed)	18	RBD	3	-	23 June
102	86P10	SPAY 06(DT) (Unsprayed)	18	RBD	3	-	23 June
102	86P11	SPAY 06(MDT) (Unsprayed)	16	6x4 LAT.	2	-	24 June
102	86P12	SPPMLT 06(DT) (Unsprayed)	16	6x4 LAT.	2	-	24 June
102	86P24	7. G x B study (Vertisol, normal planting, Unirrigated and Unprotected)	193	RBD	2	-	26 June
102	86P25	8. G x B study (Vertisol, delayed planting, Unirrigated and Unprotected)	193	RBD	2	-	25 July
102	-	74 Heliothis resistant SPP's	290	-	-	6226-6515	24 June
102	-	73 Heliothis resistant SPP's	295	-	-	6516-6810	24 June
103	86P41	MPAY (Unsprayed)	12	RBD	4	-	24 June
103	86P42	PIRYT (Unsprayed)	16	6x4 LAT.	4	-	24 June
103	-	LPG-30 lime	3	-	-	6223-6225	24 June
103	-	74 Heliothis resistant SPP's	314	-	-	6811-7124	25 June
103	-	PIAYR	76	-	2	7125-7200	24 June

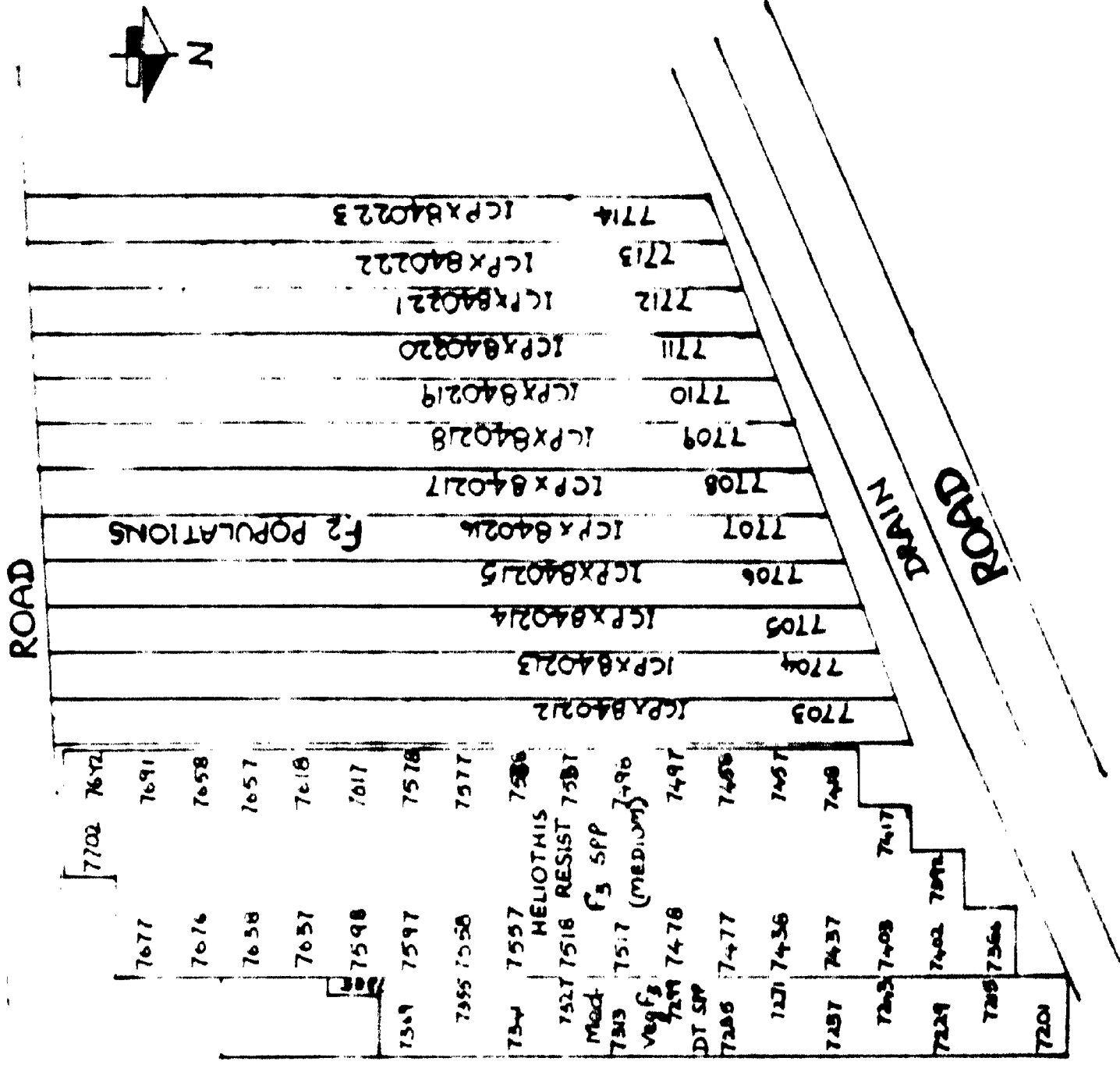
BUS-3D



Field: OUS-7D

Proj. No.	Test No.	Name of the test	Entries including checks	Design	Tags	Plot Nos.	Date sown
103	-	P3 Meliothis resistant spp's	117	-	-	7706-7702	27 June
103	-	Insect resistant P2 pops.	12	-	-	7703-7714	27 June
106C	-	Medium vegetable P3 spp	105	-	-	7701-7705	27 June

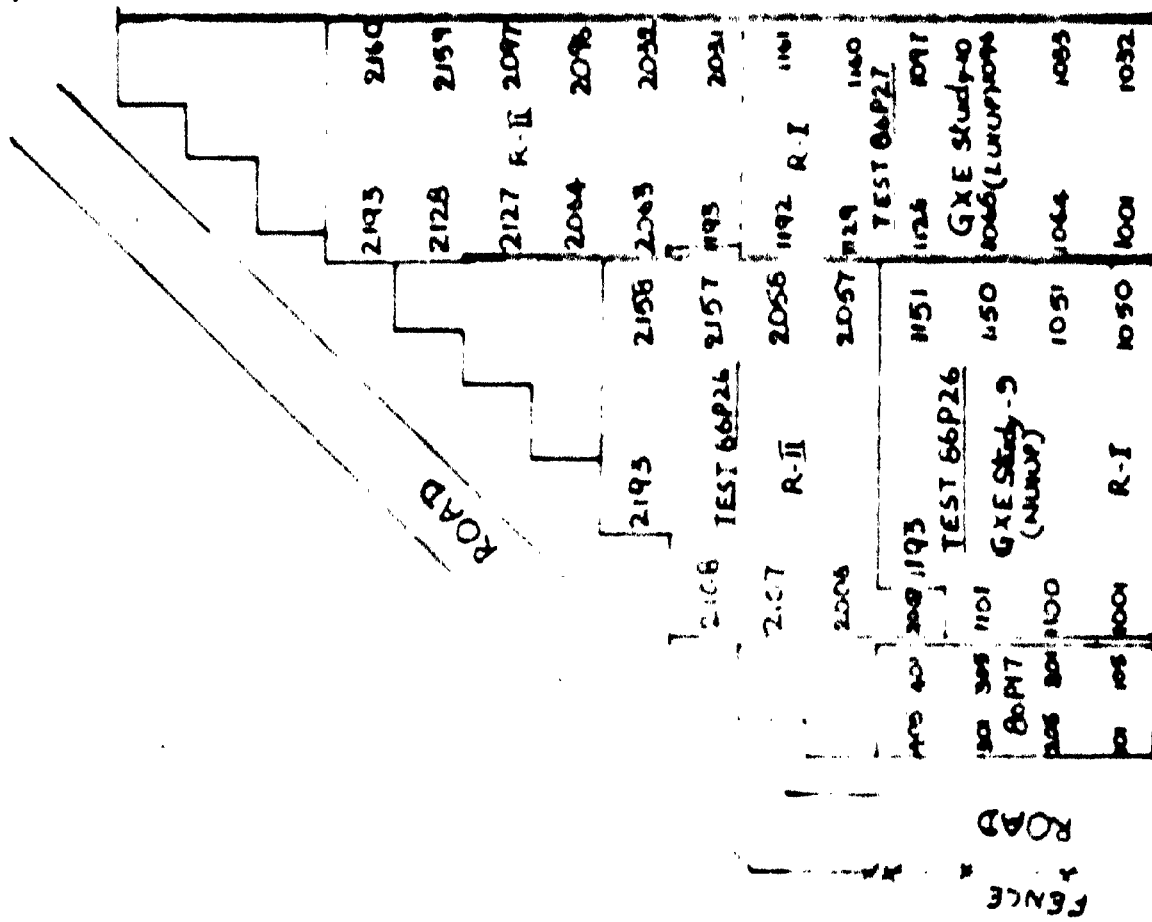
BUS-7D



Field: RUS-6D

Proj. No.	Test No.	Name of the test	Entries including checks	Design	Reps	Plot Nos.	Date sown
102	86P17	Test of lines of different bedding behaviour in Unsprayed condition	5	RBD	4	-	30 June 17 July
102	86P26	9. G x E study (Alfisol, normal planting, Unirrigated and Unprotected)	193	RBD	2	-	effective 30 June 17 July
102	86P27	10. G x E study (Alfisol, delayed planting, Unirrigated and Unprotected)	193	RBD	2	-	effective 04 Aug

RUS-6D



Field: NCB-21

Proj. No.	Test No.	Name of the test	Entries including checks	Design	Reps	Plot No.	Date sown
106A	-	Entries for multiplication	21	-	-	7072-7092	06 Aug
106A	-	Photo-period sensitivity study (extended light)	157	-	-	7715-7071	30 July
106A	-	Photo period sensitivity study (normal light)	154	-	-	7093-0006	30 July

RCE-21



MILLET

ROAD

8046	8013
7973 ICPL & GPL'S	8012
7972	7959
7893 - Light	7962

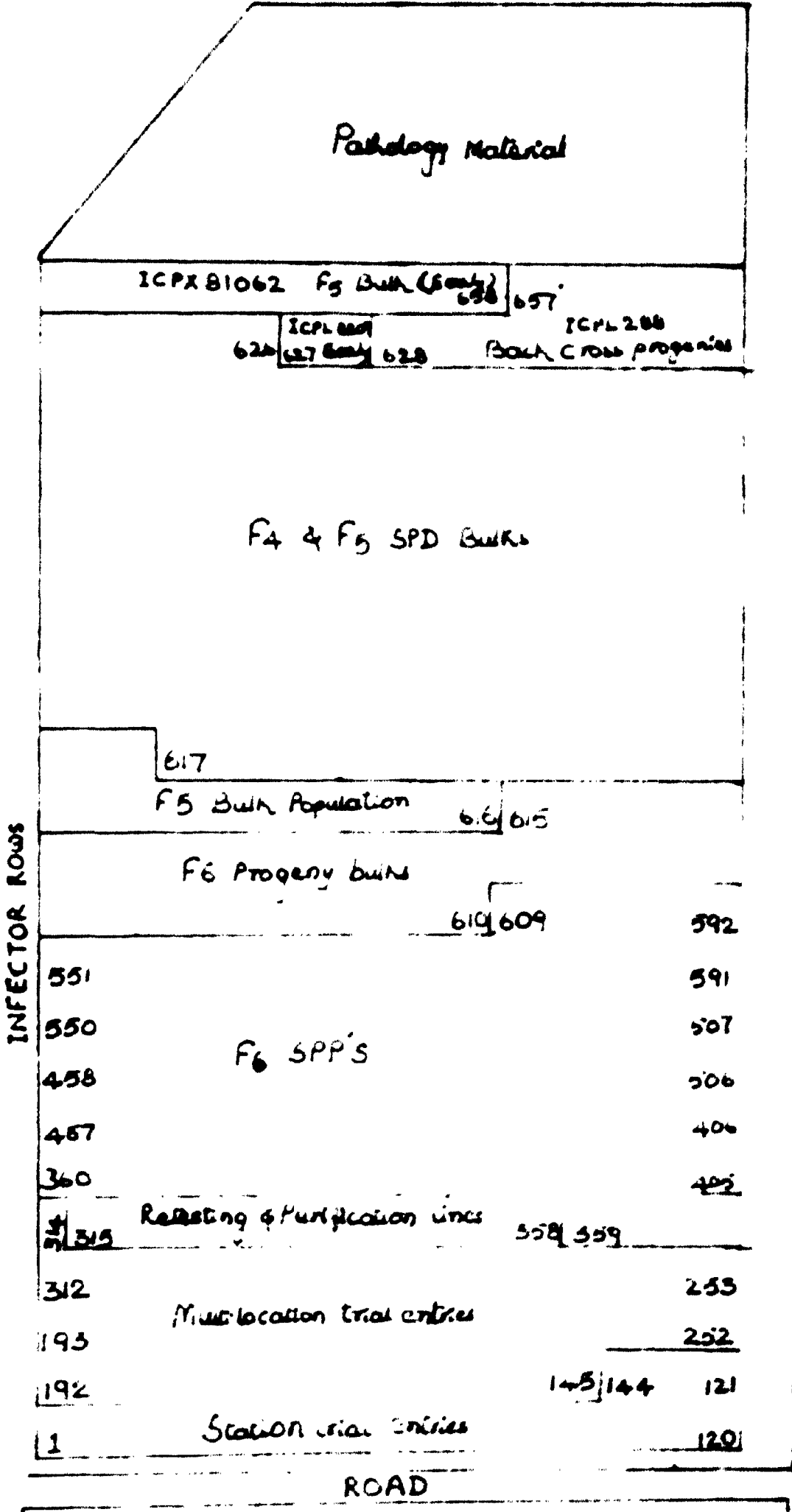
7892	7889
7865	7849
7669	7676
GPL Entries for Multiplication	
7572	7877

7871	7885
7795	7834
7794	7755
ICPL & GPL'S	
7775 + light	7754

ROAD

N O T E S

(Multiple Disease Nursery)

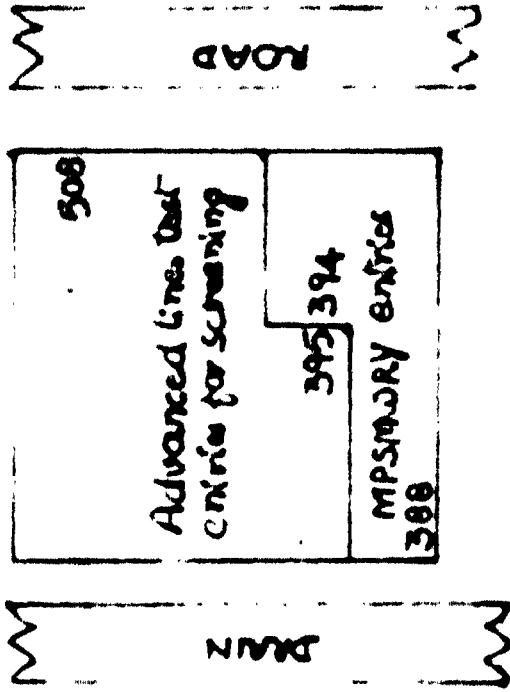


Will check ICP 2576 every 2 test rows
 Will check ICP 8603
 Phytophthora blight check ICP 7119 } every 6 test rows

NOTES

RM-3C

(W + SM NURSERY)



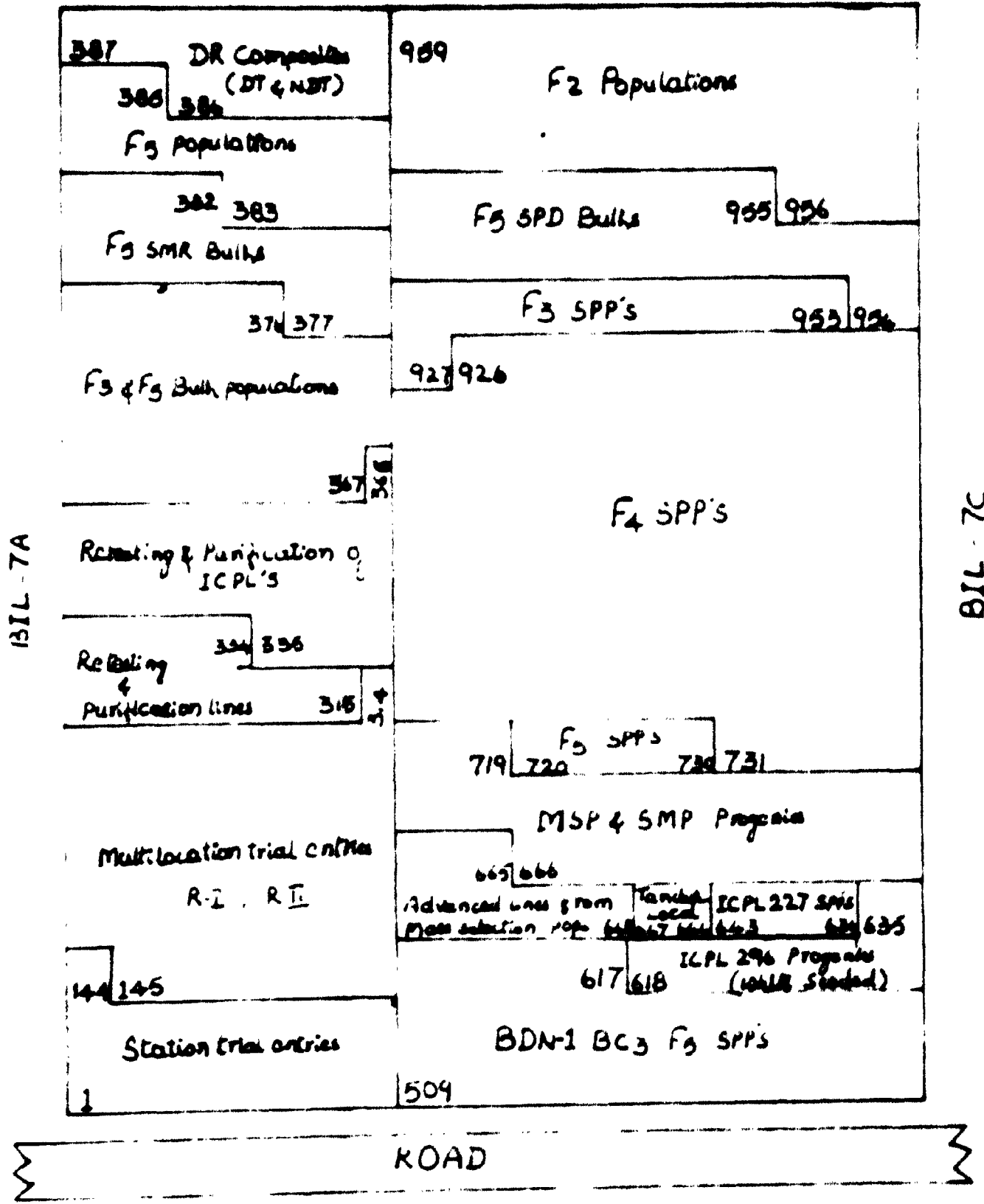
GRU Seed store

SM check - ICP8863 } Alternating after every 4 test rows
WLT check - ICP2376 }

2

N O T E S

BIL-7B(A) (W+SM NURSERY)

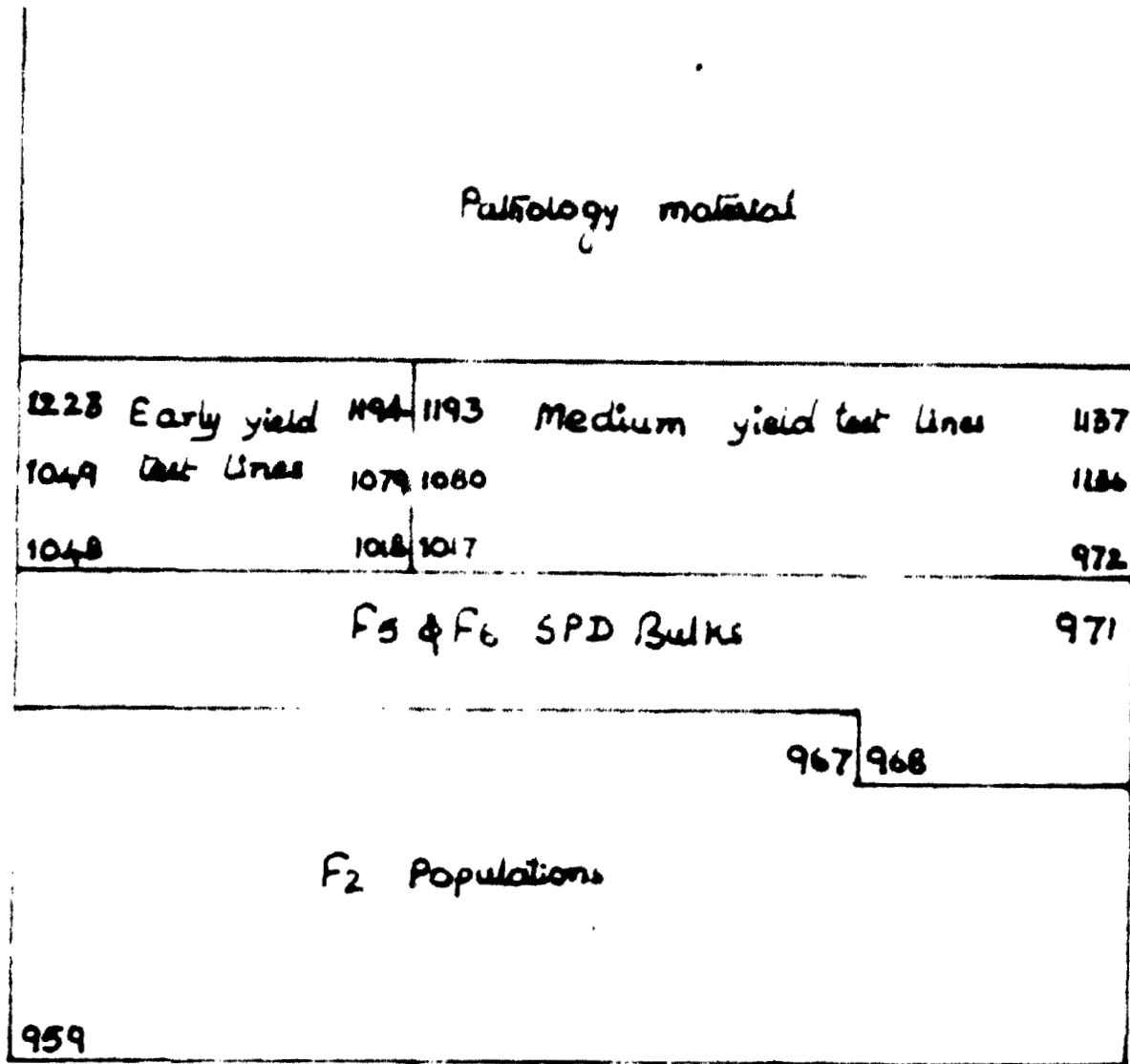


N O T E S

BIL-7B(B)
(W+SM Nursery)



BIL-7A

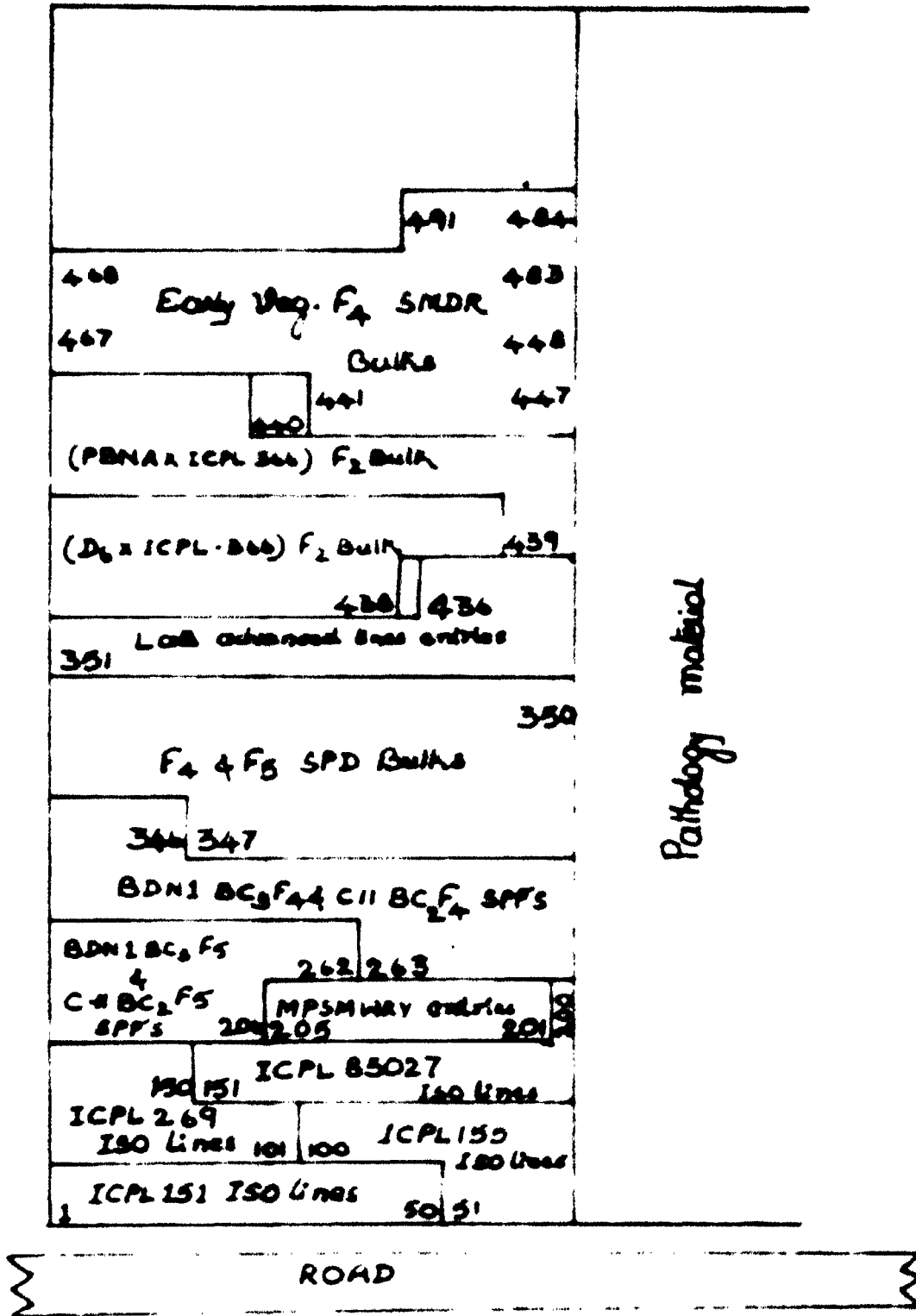


BIL-7C

Wilt check - ICP 2376 at 1/2 every 2 test rows
 SM Check - ICP 8863 at 1/2 every 11 test rows

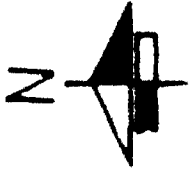
N O T E S

BIL-7C (SMD NURSERY)



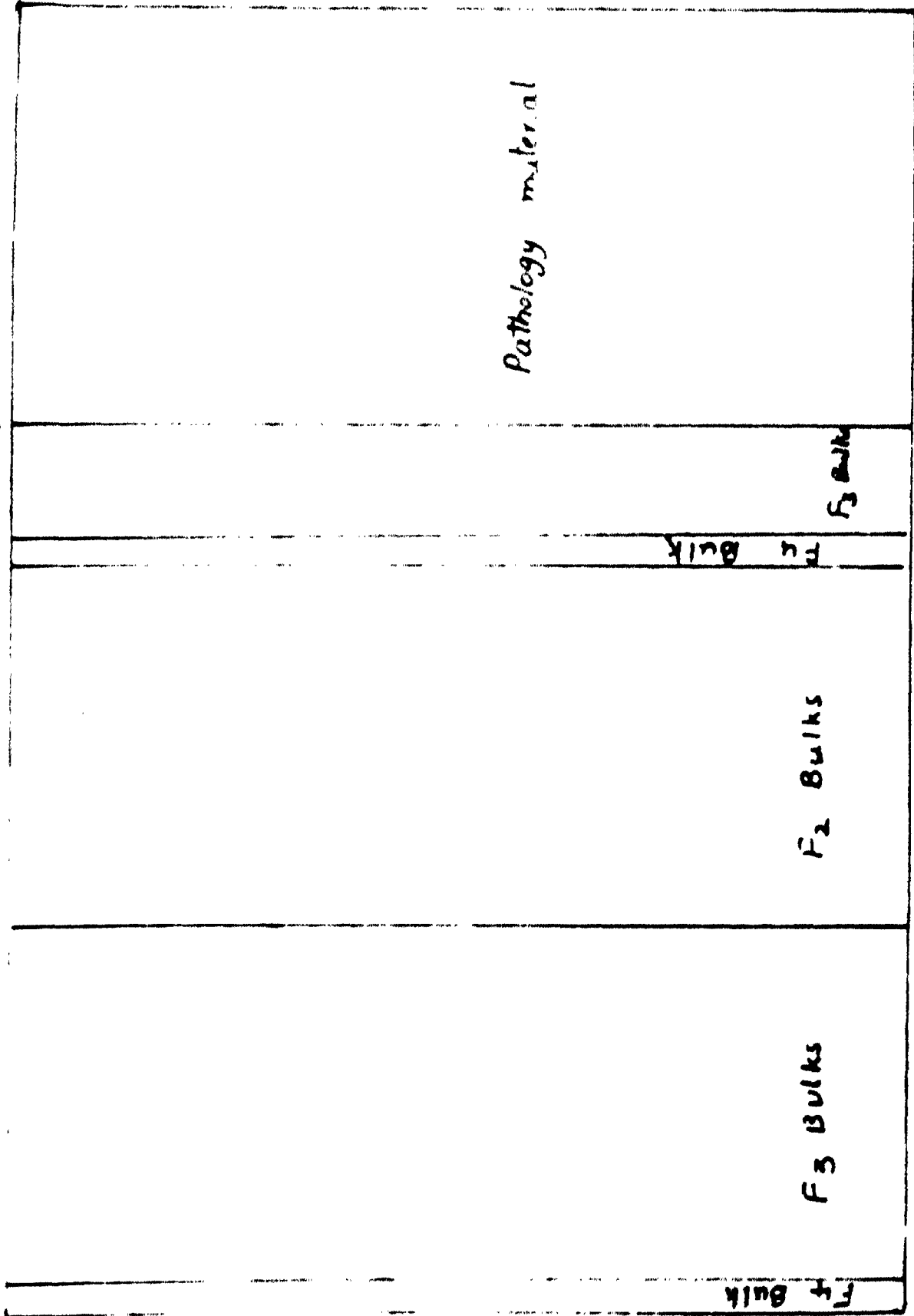
SM CHECK - ICP 8863 of the copy of the road

N O T E



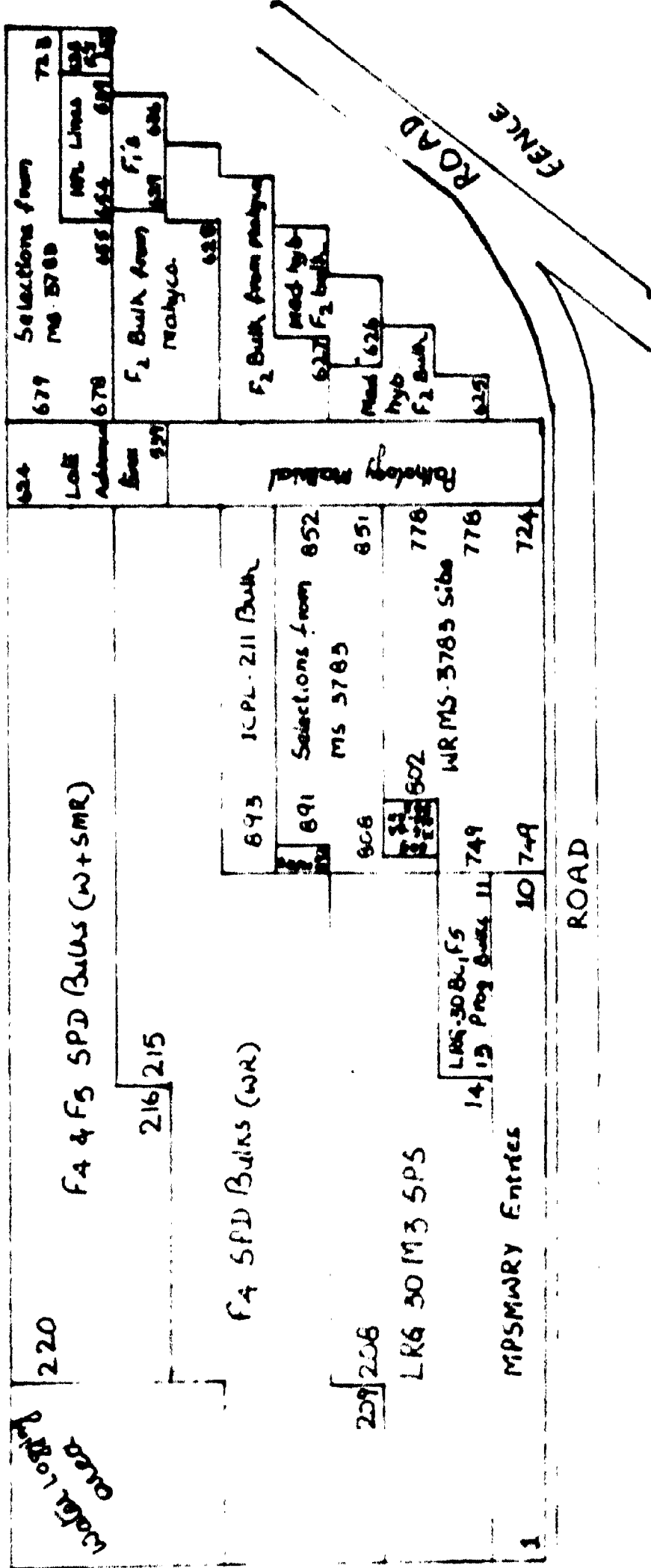
BM-16C

(with HELICOPTER NURSERY)



N O T E S

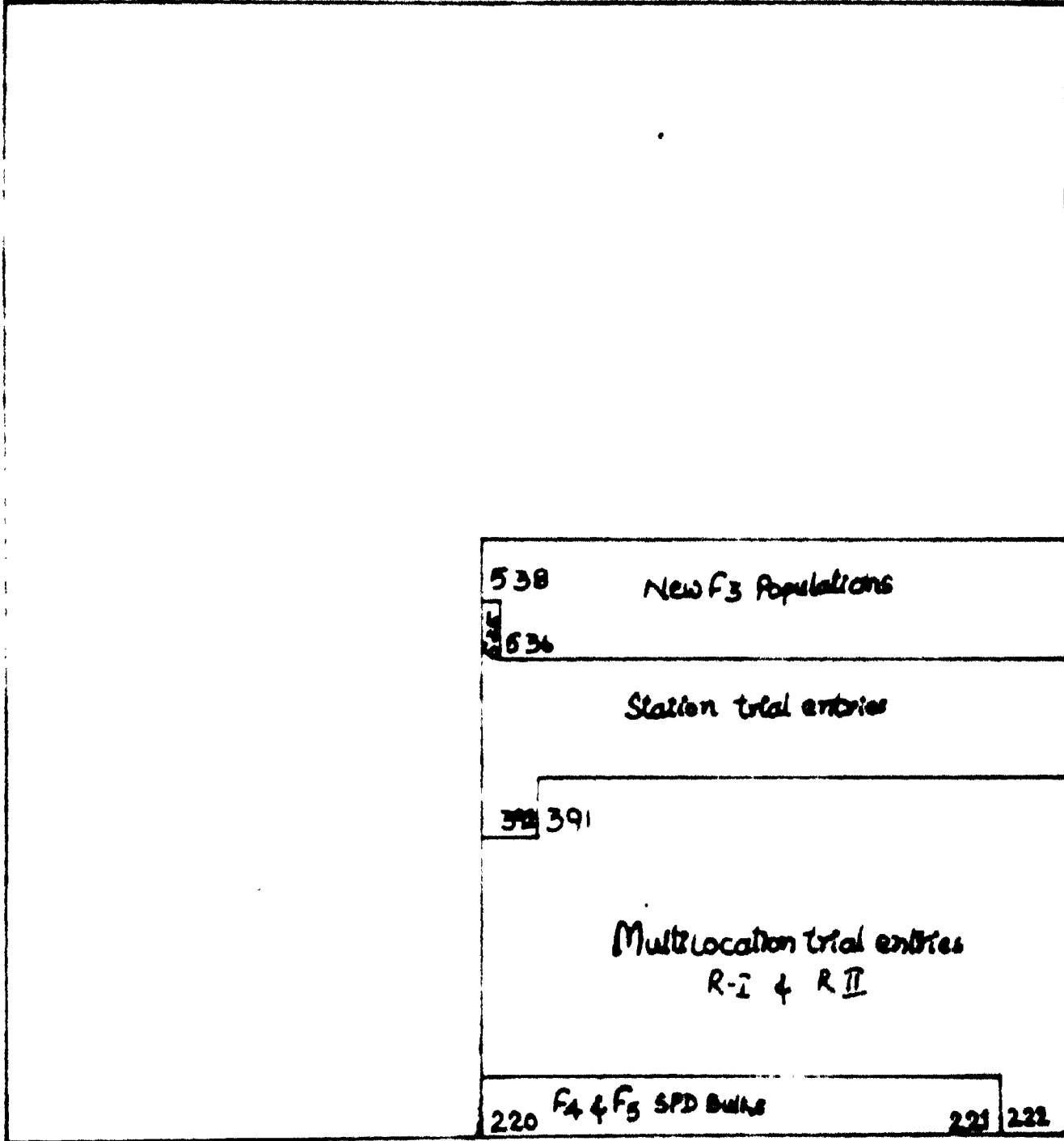
BIL-2A
(WILT NURSEARY)



Wilt check - ICP 2576 after every 2 test rows

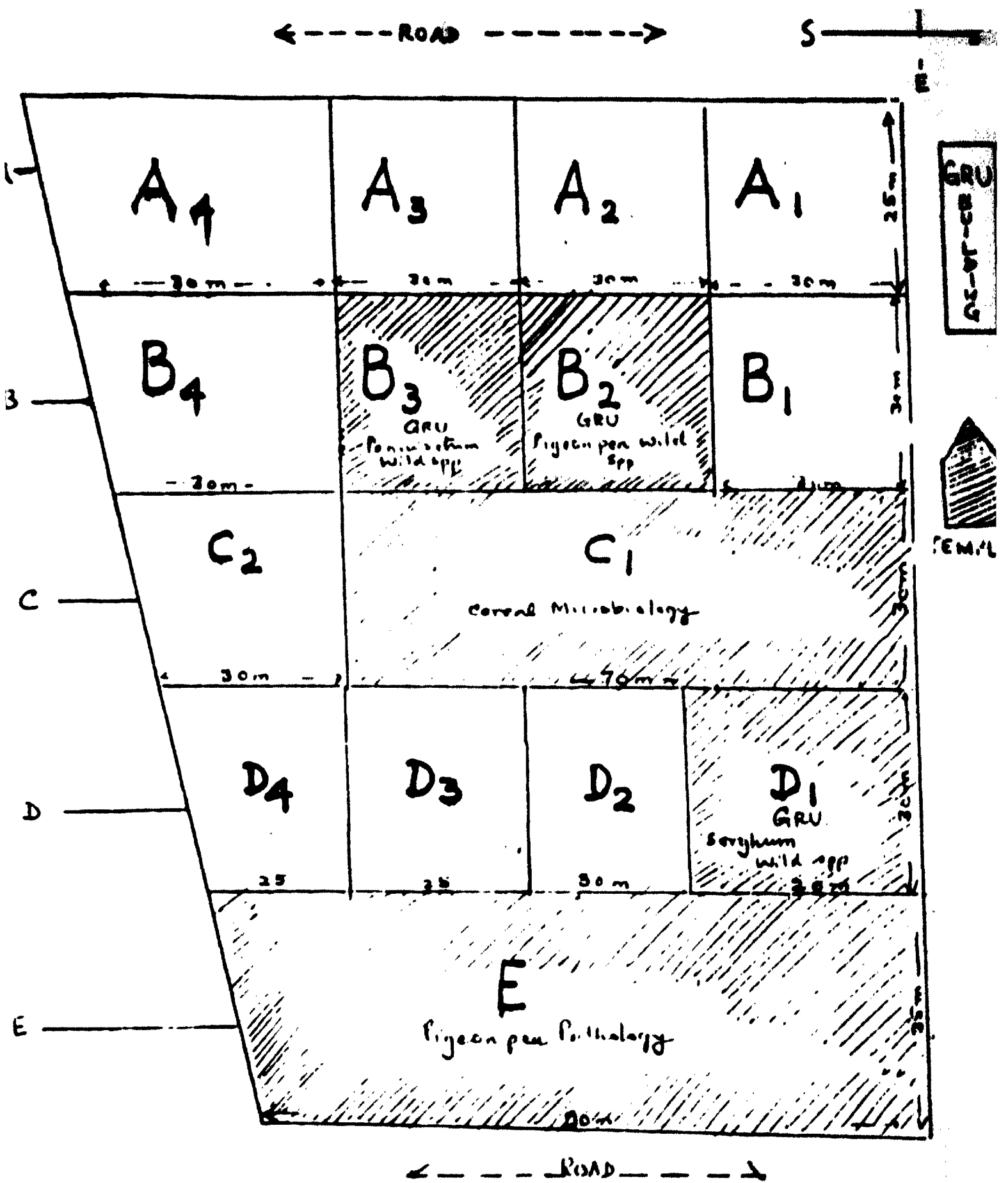
N O T E S

BIL-2B (WILT NURSERY)



Wilt Sus. check- ICP 2376 after every 2 test rows

N O T E S



PLAN OF RM8 - BOTANICAL GARDEN
MANMOL