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National Sorghum and Millet Crop Improvement
Project No.: 279-11-110-030

SUMMARY

The objectives of the University of Arizona sorghum and millet crop improvement Project in Yemen Arab Republic (YAR) were

a) to develop a diverse array of agronomically stable varieties and hybrids suitable for cultivation in many different microclimatic zones,

b) to develop a research station in the Tihama province and,

c) to train local personnel.

To achieve the objectives, selections were made of a range of genotypes in the fall of 1979. More than 4,500 plots were planted at Bir Al Gohum research farm at Sana'a, YAR. Selected entries were assigned to 21 different tests depending upon their status of selection and testing.

An out-reach test consisting of 50 entries was planted at nine different locations. Six of these out-reach tests were lost. Three were harvested by local people when the test material was still green. Three others did not mature due to lack of rain. The remaining three produced excellent results (See Tables 2.15, 2.16 and 2.17).

Progress in 1980 was increasingly good. Superior varieties were identified. The hybrid program began to produce results. More than 34% of the selected hybrids yielded significantly more grain than the local check variety (Table 2.10). In the Elite Yield Test (80-009), 43% of the experimental lines produced significantly more fodder than the local check variety (Table 2.12). In the same test, five selections produced higher grain yields as compared with the best local check variety.

In another advanced test (80-006), 69% of the experimental lines produced more forage than the best local check variety. In that same test, four advanced lines out-yielded the local check variety in grain production (Table 2.8).

In Short Grain Test (80-005), 88 lines were tested for grain yield. More than 28% of these lines yielded better than the local check variety. The best selected line produced almost three times more grain as compared with the local check variety.

In Early Maturity Test (80-004), lines which took only 54 days to 50% flowering and were medium-tall were identified. These early lines could prove very useful in crop rotations.

About 1028 selfed heads were selected in 1980 from Tests 80-001, 80-002, 80-003, 80-005, 80-006, 80-007, 80-008 and 80-009 for 1981 Head Row Test. Another 510 lines were selected on the basis of their performance for inclusion into the 1981 test plan.

Seed of all these selections and remnant seed from previous years was labeled, stored safely in metal or plastic containers and handed over to the Agriculture Division of AID. It should be checked periodically for insect infestation.

Entries 2, 8 and 21 of Test 80-006 (Advanced Yield Trial) and, Entries 23 and 25 of Test 80-009 (Elite Yield Trial) should be tested one or more years and then increased and released. Seed of Entries 48 and 66 of Test 80-007 hybrids could be increased directly and released for cultivation.

Information regarding the Al Jaroubah research station development, training, equipment acquisition are covered in the final report.

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1. Introduction

Following the path to self-sufficiency in agricultural products within economic limits is a goal of the Yemen Arab Republic (YAR). However, cultivable land is limited, and requirements for food, clothes, housing, education and health are increasing every day. To meet the increasing requirements, agricultural research plays a major role, particularly with respect to sorghum and millet because 55-67% of the cultivable land is under sorghum and millet, and 75% of the calories and 72% of the protein of the daily diet comes from sorghum and millet.

Some of the very important factors which emphasize the significance of sorghum and millet in Yemen Arab Republic are:

a) Low and uncertain rainfall. Sorghum and millet are crops which can face harsh, dry weather conditions and still give good returns. Sorghum and millet need a minimum of 250 mm and 150 mm rainfall respectively. Sorghum and millet both are dual purpose crops. Both are used for human consumption, as well as for feed for the growing cattle industry.

b) A declining water table is another factor which should be give a proper place in long-term planning of field crops.

c) High soil pH (8.3). pH directly limits the production of many other crops due to low solubilities of essential plant nutrients under alkaline conditions.

Considering these factors of high pH, low and uncertain rainfall, declining water table, large acreage and low yield, we think sorghum and millet research needs more attention than it gets today.

The yield of sorghum and millet could be increased both by developing superior varieties having broad adaptability as well as by improved agricultrual practices such as: moisture conservation, balanced use of fertilizer, insecticide, pesticide, herbicide, proper rotation of crops, intercrops, and improved agricultural tools.

The main objective of these breeding program was to develop high yielding, drought-tolerant sorghum and millet varieties, resistant to disease, insect pests and adapted to the high altitude of the Yemen Arab Republic. Significant progress has been made in this direction as improved, advanced lines which yielded almost two times more grain than the local types have been identified by this project.

In the Fall of 1979, selections were made of a range of genotypes based on phenotypic characteristics such as: plant height, days to 50% flowering, leaf angle, head type, drought-tolerance, leafiness, seed size, seed color, test weight, grain and stover yield, emergence, disease reactions and insect resistance.

More than 4,500 lines were planted at Bir Al Gohum research farm and these lines were assigned to 21 different tests depending upon their status of selection and testing. Outreach tests consisting of 50 superior genotypes were planted at nine different locations (Tables 2.15, 2.16 and 2.17, 100-150 plots per location), either at a farmer's field or at other donor's research farms or at Yemen Government farms. Objectives of the out-reach trials were to test advanced lines under different soil and climatic conditions of YAR.

Sixty-five advance generation early maturing sorghum genotypes from ISCRISAT (India) were added to this program. Thirty cold-tolerant advance lines of sorghum from CIMMYT (Al-Batan, Mexico) were also included in 1980 tests. Another 13 lines of sorhgum from South Dakota State University and several lines from Prairie Valley, Nebraska were included in different tests. One-hundred and thirty-six new lines of Pearl Millet were obtained from ICRISAT (India) to increase the genetic diversity of this crop.

Although this project was designed mainly for sorghum and Pearl Millet; three new crops, soybean, guar and maize were added to the testing program. One-hundred and thirty-six genotypes of soybean and twenty-four of maize were tested at Bir Al Gohum research farm to give additional information to the Ministry of Agriculture of Yemen Arab Republic. A crop of guar was planted at the Al Jaroubah farm in Tihama.

Land Preparation

Before planting, the land was ploughed, raked and leveled. A reversible mold-board plough was the most useful tool for initial ploughing. Before making ridges, each field was floated with a light float and then raked. In my opinion, all the four fields - A, B, C and D still need leveling to apply uniform irrigation water. A furrow opener was modified, and a marker was attached to guide me in opening uniform, straight furrows.

Irrigation Design

Considering the following three factors, we had to change our irrigation design:

1) discharge from the old well was less than 1/2 liter per second and it went dry after 3 hours. The new well produced 3 1/2 liters per second, whereas, previously it discharged 5 liters per second;

2) water would not reach the far end of the fields because the fields were not level; and

3) need to give water to the Government Nursery for 2-3 hours per day from the old well so it was tied up most of the time.

Instead of irrigating long furrows (100-150) meters, we made irrigation channels every 20 meters. From these irrigation channels, a set of 4, 10 meter long (2 plot length) rows were irrigated at a time on each side. Chances of having level 10 meter rows are fairly high as compared with a row of 100-150 meters in length.

Planting

Double pre-sowing irrigation was practiced to insure uniform germination. Hand cultivators were used to make 3 inch deep holes, and 3-4 seeds were planted in that hole. It was then covered with fine moist soil and pressed. A team of three workers was used: One opened the holes every 20 cm, a second person dropped 3-4 seeds per hole, and the third person covered the seeds with moist soil. The soil was pressed firmly so that there was no air pocket left between the seeds and the moist soil. This method was successful and a uniform stand was achieved.

Thinning

Sorghum: Hills were thinned to two healthy plants. If a hill was blank, then three plants were left per hill on either side of the blank hill. If there was only one plant in a hill, then three plants were left on either side of the single plant hill. Thinning was practiced when plants were 10-15 cm tall, and soil had enough moisture so that the whole plant could be pulled completely (a broken-off plant could grow out again). Corn and millet were thinned the same as sorghum.

Irrigation

As there was limited land and not enough water to irrigate even this

much land, we had to hold the numbers of replication to two-three. To accomodate more entries, plot length was reduced to 5 meters instead of the previous year's 6 meters. Hill to hill distance within a row was kept at 20 cm. Even with this arrangement, both the wells could not keep up with the minimum water requirement of the crops. Twice the pump motor failed, and each time it took more than a week to repair it. To procure the spare parts was the main obstacle each time. It happened during the month of Ramadan, when the shops open only at night.

Fertilizer

No basal fertilizer was applied at land preparation or at planting time. A new method of foliar application was used for the first time at the Bir Al Gohum research station. Results of this method were encouraging.

Weeding

Weeding had to be carried out especially in the early stages of growth so that plant competion was minimized and nutrients were not lost to weeds in the critical stage of growth. At the Bir Al Gohum research farm, weeds were kept under control by manual labor. All the test plots were weeded at least twice with hand cultivators.

Proper chemicals for weed control are not available in Yemen. If they are, then their rates of application are not well known under Yemen soil and climatic conditions. As there is a shortage of labor in Yemen, immediate attention should be given to this need.

Birds

Differential damage by birds or animals will nullify the value of any experiment. Generally birds are problems twice in the life cycle of sorghum and millet crops. Once after planting when seedlings emerge, and a second time when sorghum and millet starts blooming. Though birds eat all day

long, morning and evening are the most critical times. It was hard to find a responsible bird watcher. They worked only when we were present; once we left the site, they would be sitting under the shade of a lonely tree.

Insect Control

Aphids: Were observed in patches in different sections of the nursery. Two sprays of Thiodan 35 at one week intervals took care of this insect.

Stem Borer: Pink stem borer was widely distributed in sorghum fields in the 1980 crop season. Outreach tests at Damar, Jahana, Maf-Dan and Amran were sprayed twice at 15 day intervals. Nearby farmer's fields showed heavy infestation. Stalks, and sometimes entire plants, were killed by emerging larvae that entered the stalks and tunneled as they fed. Grain heads were distorted, stunted and sometimes sterile. Regrowth at nodes was common which delayed crop maturity. The stem borer was present at Bir Al Gohum farm but was kept under control by repeated sprays of Thiodan 35 at two week intervals.

Recording Data

Timely notes were taken on emergence, percent stand, blooming date, leaf habit, plant height, head type, bird damage, lodging and harvesting date. The following procedure was used:

Percent Stand - Plant stand within a row estimated in percent at the time of harvesting.

Days to 50% Blooming - Recorded as number of days from planting until half the plants had started blooming.

Lead Habit - Recorded as erect, semi-erect, or drooping.

Plant Height - Recorded as an average height of plants in a plot (one reading per plot) unless there were distinct height groups, in which case

an average of each group was recorded. The data was recorded after complete bloom.

Head Types - Recorded as; compact (C), sub-compact (S), and loose (L).

Lodging - Actual number of plants lodged was recorded at maturity and expressed as percentage of final population.

Ear Height - In the case of corn, average height in centimeters of five guarded plants (no gaps) per plot of the top ear node above ground level was recorded.

Days to Tassel - Number of days from planting until 50% of plants in a plot were shedding pollen halfway down the tassel.

Days to Maturity - Number of days from planting to maturity. In sorghum, it was when the grain was hard enough to be pressed in with a fingernail.

2. Plant Improvement Activities

Table 2.1 lists the twenty-five tests conducted in 1980 at the Bir Al Gohum Research Station in Sana'a. Each test is described in terms of the number of entries, number of replications, plot sizes and number of rows in each field. Tables 2.1 through 2.30 describe the results of each test in detail. More detailed information on the sources of seeds tested in 1980 is given in Section 4.

Table 2.1

Field Experiments Planted at Bir Al Gohum

Research Farm, Sana'a, Yemen Arab Republic - 1980

Test Number	Test Name	Number of Entries	Number of Replications	Plot Size	Total Field Rows
80-001	Head Rows	450	1	0.75x5m	450
80-002	Preliminary Yield Trial I	256	2	0.75x5m	512
80-003	Preliminary Yield Trial II	284	2	0.75x5m	568
80-004	Early Maturity Trial	22	2	0.75x5m	44
80-005	Short Grain Field Trial	88	3	1.50x5m	528
80-006	Advanced Yield Trial	54	3	1.50x5m	324
80-007	F_1 Populations	71	1	0.75x5m 1.50x5m 2.25x5m	179
80-008	Male Parents and Observation Test	54	1	1.50x5m	54
80-009	Elite Yield Test	31	3	2.25x5m	279
80-010	Out-Reach Test	50	2-3	1.5x5m	1,000
80-011	Seed Multiplication	8	4	5.25x5m	224
80-012	Maize Observation Test	24	3	2.25x5m	216
80-013	International Sorghum Pre-Yield Trial I	20	3	1.50x5m	120
80-014	International Sorghum Pre-Yield Trial II	45	3	1.50x5m	270
80-015	National Coop. Maize Observation Test	Seed for thest two tests was not received from UNDP			
80-016	National Coop. Pearl Millet Observation Test				
80-017	Pearl Millet Yield Nursery	9	3	1.50x5m	54
80-018	International Pearl Millet Adaptation Trial	21	3	1.50x5m	126
80-019	International Pearl Adaptation Trial	21	3	1.50x5m	126
80-020	International Pearl Millet DM Nursery	50	2	0.75x5m	100
80-021	Sorghum Introductions	54	2	1.50x5m	216

Table 2.1 (continued)

Test Number	Test Name	Number of Entries	Number of Replications	Plot Size	Total Yield Rows
80-023	International Pearl Millet Adaptation Trial (I)	22	3	0.75x5m	66
80-025	International Pearl Millet Adaptation Trial (II)	22	3	0.75x5m	66

Test 80-001 (Head Row Trial)

Purpose and Test Description:

Purpose of this test was to visually evaluate each of the 450 single head selections on a row basis for agronomic characteristics such as maturity, height days to 50% blooming, stalk stiffness, leafiness, head type, drought-tolerance, seed size, seed color, test weight, grain and forage yield.

Plot Size:

Plot size was one row, five meters long and 0.75 meters wide. Hills in each row were 20 cm apart. Four to five seeds were planted per hill. These seedlings were thinned to 2-3 healthy plants per hill when 10-15 cm tall. Design of this experiment was single unreplicated plots. Every 30th row was planted with a local check.

Seed Sources:

Seed for 1980 head row test (80-001) came from selected selfed single heads from the following 1979 tests and introductions:

Test	Test Description	No. Genotypes Planted	No. Heads Selected
79-001	Head to Row	447	115
79-002	Head to Row	498	189
79-003	Elite Yield Test	33	3
79-004	Advanced Yield Test	16	4
79-005	Preliminary Yield Trial	210	65
79-006	Short Grain Yield Trial	42	9
79-009	Sorghum/Sudan Grass Hybrid Forage Demonstration	53	1
Introduction	Miscellaneous	---	64
	Total		450

Results:

Grain yield, days to 50% flowering, plant height, percent stand, test weight of 36 selected head rows and one local check are described in Table 2.2. Days to 50% bloom ranged from 105-141 while local check took 150 days. Plant height ranged from 95-185 cms and grain yield ranged 8486 Kg/Ha to 967 Kg/Ha while local check produced only 728 Kg/Ha. Range of test weight was 62-70 kilograms/hectoliters.

Forage yield (Table 2.3) ranged from 31,154 Kg/Ha to 6525 Kg/Ha while two local checks, Wadi Nakhlan and Damar Selection, yielded 17,181 and 14,489 Kg/Ha respectively. Looking at these two Tables 2.2 and 2.3 it is apparent that selected entries significantly out-yielded both the local checks (Wadi Nakhlan and Damar) both in grain and in forage production. The wide range in grain and forage yield, days to 50 percent bloom, plant height and test weight clearly indicates that there are fairly good chances to improve the sorghum crop in YAR.

Selections:

More than 300 heads from test 80-001 were selected and selfed from selected rows at tip bloom to procure pure seed for further evaluation. After threshing, final seed selections were made on the basis of seed size, seed color, test weight. Only 198 entries were saved to include in the following 1981 tests:

Seed from 160 selected selfed heads will be tested in a head row trial in 1981. Eighteen selections will be included in short grain head row trial 81-005, seventeen selections will go into preliminary yield test 81-002 and three selections will be included in advance yield trail 81-003.

Table 2.2 Grain Yield of 37 Selected Genotypes Harvested out of 450 Entries Planted in Head Row Nursery (80-001) at Bir Al Gohum Research Farm at Sana's Yemen Arab Republic 1980

Rank	Entry No.	Source	Pedigree	Days 50% Bloom	Plant Ht. cm.	% Stand	Yield kg/ha	Test Weight kg/hl
1	224	79002-204	NES 2197xNES6979	128	175	33	8486	70
2	57	79001-238	78097-R-74	128	130	54	5946	69
3	107	79001-410-1	78(comp)-37	105	170	63	4855	64
4	77	79001-274	78099-R-12	128	150	63	4817	62
5	114	79001-432	76026-009-7	123	150	96	4567	61
6	198	79002-143	IS509xNES6978	124	150	71	4529	70
7	112	79001-426	76026-007-5	123	130	54	4306	-
8	217	79002-190	NES2197xNES6975	104	135	50	4289	-
9	80	79001-278-2	78099-R-16	105	140	88	4109	63
10	203	79002-157	IS509xNES6982	135	160	63	3941	70
11	84	79001-290	78099-R-28	141	155	79	3642	67
12	76	79001-271	78099-R-9	126	135	71	3628	63
13	110	79001-416	76026-005-10	105	100	88	3557	66
14	78	79001-275	78099-R-13	123	150	67	3439	-
15	102	79001-340	78099-R-76	123	170	83	3431	64
16	388	79006-116	79093-76-6	124	115	79	3163	63
17	125	79002-22	NES110XNES6977	123	120	100	3123	70
18	109	79001-413	76026-005-2	127	130	67	3057	-
19	123	79002-17	NES110XNES6976	140	95	96	2894	66
20	103	79001-342	78099-R-78	138	185	88	2776	67

Plot Size = 1 Row = 0.75mx5m
Replications = 1
Hill to Hill Distance Within a Row - 20 cm
Date Planted 5/3-8/80

Range Days to 50% Bloom = 105-141
Range Plant Height Cm = 95-185
Range Yield kg/ha = 8486-967
Range Percent Stand = 33-100%
Range Test Wt kg/hl = 62-70

Table 2.2 (Continued)

Rank	Entry No.	Source	Pedigree	Days 50% Bloom	Plant Ht. cm.	% Stand	Yield kg/ha	Test Weight kg/hl
21	166	79002-95	NES3329xNES6973	135	130	100	2720	66
22	117	79001-440	76026-011-1	115	120	92	2565	68
23	100	79001-334-2	78099-R-70	136	145	92	2446	-
24	5	79001-34	76026- 43-3	130	130	71	2430	-
25	161	79002-88	NES3329xNES6972	129	160	83	2281	-
26	74	79001-268	78099-R-7	140	130	88	2088	-
27	160	79002-87	NES3329xNES6972	124	170	88	2079	-
28	104	79001-353	78099-R-89	105	160	96	2069	-
29	72	79001-265-2	78099-R-4	134	170	83	1915	-
30	197	79002-141	IS509xNES6978	135	165	63	1663	-
31	127	79002-32	NES1500xNES6973	139	140	100	1565	-
32	97	79001-320-1	78099-R-57	134	155	100	1376	-
33	162	79002-89	NES3329xNES6972	122	175	96	1239	-
34	116	79001-439	76026-010-7	125	150	75	1188	-
35	81	79001-281	78099-R-19	139	105	75	1120	-
36	85	79001-292	78099-R-30	135	160	75	967	-
37	398	WADI NAKHLAN	Local Selection	150	180	58	726	-

Table 2.3 Forage Yield of 36 Selected Genotypes Harvested Out of 450 Entries Planted in a Head Row Nursery (80-001) planted at Bir Al Gohum Research Farm at Sana'a Yemen Arab Republic 1980.

Rank	Entry	Source	Pedigree	% Stand	Days for 50% Blooming	Height (cm)	Yield kg/ha
1	80-001-106	79001-380-2	78(comp)-8	63	105	165	31154
2	80-001-224	79002-204	NES2197XNES6979	33	128	175	26650
3	80-001-116	79001-439	76026-010-7	75	125	150	20885
4	80-001-78	79001-275	78039-R-13	67	123	150	20009
5	80-001-203	79002-157	IS509XNES6982	63	135	160	19968
6	80-001-67	79001-259-2	78097-R-94	67	139	165	19428
7	80-001-80	79001-278-2	78099-R-16	88	105	140	19410
8	80-001-398	WODI NAKHLAN	L-SELECTION	58	150	180	17181
9	80-001-85	79001-292	78099-R-30	75	135	160	17013
10	80-001-103	79001-342	78099-R-78	88	138	185	16438
11	80-001-218	79002-191	NES2197XNES6975	25	141	155	16426
12	80-001-201	79002-155-3	IS509XNES6982	67	137	160	16231
13	80-001-105	79001-380-1	78(comp)-8	100	125	195	15592
14	80-001-114	79001-432	76026-009-7	95	123	150	15489
15	80-001-161	79002-88	NES3329xNES6972	83	129	160	14690
16	80-001-84	79001-290	78099- 28	79	141	155	14505
17	80-001-401	DAMAR	L-SELECTION	83	135	145	14489
18	80-001-57	79001-238	78097-R-74	54	128	130	14479
19	80-001-77	79001-274	78099-R-12	63	128	150	14284
20	80-001-74	79001-268	78099-R-7	88	140	130	14250

Plot Size = 1 row = 0.75m x 5m
Replication = 1
Hill to hill distance within a row = 20cm
Date Planted 5/3-8/81

Table 2.3 (continued)

Rank	Entry	Source	Pedigree	% Stand	Days for 50% Blooming	Height (cm)	Yield kg/ha
21	80-001-109	79001-413	76026-0052	67	127	130	13901
22	80-001-160	79002-87	NES3329xNES6972	88	124	170	13897
23	80-001-102	79001-R-76	78099-R-76	83	123	170	13884
24	80-001-97	79001-320	78099-R-57	100	134	155	13853
25	80-001-127	79002-32	NES1500xNES6973	100	139	140	12693
26	80-001-72	79001-265-2	78099-R-4	83	134	170	12501
27	80-001-198	79002-143	IS509xNES6978	71	124	150	11890
28	80-001-76	79001-271	78099-R-9	71	126	135	10595
29	80-001-27	79001-126	77093-61-5	92	127	125	10541
30	80-001-81	79001-281	78099-R-19	75	139	105	9109
31	80-001-197	79002-141	IS509xNES6978	63	135	165	8567
32	80-001-100	79001-334-2	78099-R-70	92	136	145	8041
33	80-001-162	79002-89	NES3329xNES6972	96	122	175	7376
34	80-001-166	79002-95	NES3329xNES6973	100	135	130	6888
35	80-001-104	79001-353	78099-R-89	96	105	160	6781
36	80-001-117	79001-440	76026-011-1	92	115	120	6525

Test 80-002 (Preliminary Yield Trial I)

Purpose:

Purpose of this test was to evaluate each entry for grain yield and visual evaluation for other agronomic characteristics such as maturity, plant height, test weight of 256 entries planted in a replicated experiment.

Plot Size and Experimental Design:

Plot size was one row, five meters long and 0.75 meters wide. Hills in each row were 20 cm apart Four to five seeds were planted per hill. When 10-15 cm tall, these seedlings were thinned to 2-3 healthy plants per hill. Experiment design was randomized complete block design and each entry was replicated twice. Every 30th row was planted with a local check.

Seed Sources:

Seed for 1980 Preliminary Yield Test I (80-002) came from selected, selfed, single heads from the following 1979 tests and from introductions:

Test	Test Description	No. Genotypes Planted	No. Heads Selected
79-001	Head to Rows	447	113
79-002	Head to Rows	498	50
79-003	Elite Yield Test	33	21
79-004	Advanced Yield Test	16	3
79-005	Preliminary Yield Trial	210	60
79-006	Short Grain Yield Trial	42	1
Miscellaneous			8
	Total		256

Results:

Grain yield, days to 50% blooming, plant height, percent stand, test weight of 68 selected entries from preliminary yield trial are described in Table 2.4. Measurements for the above mentioned characters were taken for almost all the entries and are reported in field books. Results of selected entries are reported in this table.

Percent stand in this test ranges from 29 to 100%. This observation shows that some of the entries are better adapted than others in establishing stand under harsh climatic conditions. Plant height varied from 59 cm to 200 cm which shows enormous variability to select short, medium and tall lines for grain or fodder or dual purpose varieties. Short lines could be useful in future to develop combine type varieties which can stand higher fertilizer doses to improve yield.

Grain yield ranged from 12,146 kg/ha to 624 kg/ha. There is a significant difference in top yielder and the lowest yielder. This high range of variability in yield shows that there is good opportunity to select lines with higher yield under Yemen soil and climatic conditions.

Two-hundred-eighty-eight heads were selfed from selected lines at tip bloom to procure pure seed from Preliminary Yield Trial I (80-002). Selected heads were harvested individually and dried in screened room at room temperature. On further examination in the seed lab on the basis of seed color and seed size only 174 lines were saved. Out of these 174, one-hundred and eighteen selections will be included in two different head row trials (81-001 and 81-005). Twenty-seven selections wil be included in two Preliminary Yield Trials (81-002 and 81-006). Twenty-nine selections will be included in two different Advanced Yield Trials (80-003 and 80-007).

Table 2.4 Grain Yield of 68 Selected Genotypes Harvested out of 256 Entries Planted in Preliminary Yield Test (80-002) at Bir Al Gohum Research Farm at Sana'a Yemen Arab Republic 1980.

Rank	Entry No.	Source	Pedigree	Percent Stand	Plant Height cm	Yield kg/ha	Test Weight kg/hl	Remarks
1	78	79001-276	78099-R-14	42	130	12146	69	P
2	109	79001-383-2	78 (Comp.)-18	33	140	9898		P
3	146	79002-174	NES2197 xNES 6971	47	143	8114	65	P
4	241	79005-2143	76026-041-6	58	153	6235	67	P
5	141	79002-166	IS509 x6986	38	125	6139	70	P
6	144	79002-172	NES2197 x NES6970	46	140	5955	71	P
7	225	79005-2104	77093-39-7	42	125	5840	66	P
8	64	79001-241	78097-R-76	42	120	5339	63	P
9	125	79002-23	NES110 X NES6978	75	118	5277	70	AD
10	171	79005-2026	76026-061-4	42	145	5181	60	P
11	137	79002-142	IS509 x NES6978	81	158	5133	69	AD
12	108	79001-383-1	78 (comp.)-18	75	158	4843	66	AD
13	126	79002-25	NES110 x NES6978	92	150	4515	68	AD
14	110	79001-394	78 (Comp.)-21	71	138	4512	71	AD
15	224	79005-2102	76026-39-7	79	100	4485	67	AD
16	62	79001-233-1	78097-R-69	96	150	4411	57	AD
17	119	79002-7	NES 110 xNES6970	50	118	4389	67	P
18	124	79002-16	NES 110 xNES6976	29	100	4203		P
19	249	79005-2190	77093-65-1	83	95	4067	59	AD SG
20	159	79002-223	NES2197 x 6985	88	145	4035	69	AD

Remarks:
P - Selected for 1981 Primary Yield Test
AD - Selected for 1980 Advanced Yield Test
HD - Selected for 1981 Head to Row Test
SG - Selected for 1981 Short Grain Test

Range Percent Stand = 29-100%
Range Plant Height Cm = 59-200
Range Yield kg/ha = 624-12,146
Range Test Weight = 37-71 kg/hl

Table 2.4 (continued)

Rank	Entry No.	Source	Pedigree	Percent Stand	Plant Height (cm)	Yield (kg/ha)	Test Weight (kg/hl)	Remarks
21	244	79005-2151	77(Comp)-80	83	120	4003	67	AD
22	91	79001-301	78099-R-38	63	150	3984	69	P
23	53	79001-204	78097-R-41	83	145	3805	70	AD
24	131	79002-70-1	NES2141x9978	75	148	3776	65	AD
25	89	79001-299	78099-R-37	58	100	3707		P
26	219	79005-2080	77(Comp)-80	54	100	3651		P
27	147	79002-176	NES2197x6971	71	165	3584	69	AD
27		79001-86-1	76076-059-3	17	128	3534	70	AD
28	143	79002-170	NES2197xNES6970	67	128	3557	70	P
29	121	79002-9	NES110x6978	83	82	3544	67	AD
30	250	79005-2191	77093-69-3	79	100	3533		AD
31	103	79001-335	78099-R-71	92	123	3155	70	AD
32	122	79002-11	NES110xNES6974	81	140	3528	64	AD
33	236	79005-2130	77093-59-1	75	188	3347	63	AD
34	198	79003-333	75016-061	96	140	3331	67	AD
35	231	79005-2120	77(Comp)-113	83	170	3319	68	AD
36	138	79002-145	IS509xNES6978	79	150	3211	69	AD
37	174	79005-2168	76026-043-2	58	200	3112	37	P
38	17	79001-106	77093-09-1	67	103	3070		AD
39	77	79001-274	78099-R-12	75	145	3069	68	AD
40	238	79005-2133	77093-48-2	67	110	3053		P

Table 2.4 (continued)

Rank	Entry No.	Source	Pedigree	Percent Stand	Plant Height (cm)	Yield (kg/ha)	Test Weight (kg/hl)	Remarks
41	237	79005-2131	77093-56-3	148	148	3021	68	AD
42	105	79001-346	[illegible]99-R-82	54	105	3016		P
43	41	79001-163	78097-R-1	62	108	2925	65	P
44	63	79001-233-2	78097-R-69	43	145	2907	--	P
45	98	79001-315	78099-R-52	79	88	2853	64	P
46	234	79005-2125	Sana'a-6	100	143	2723	63	AD
47	104	79001-342	78099-R-78	79	120	2669	65	P
48	222	79005-2093	76026-050-6	92	120	2397	65	AD -P
49	106	79001-352	78099-R-88	63	113	2392		HD -P
50	255	79005-2082	77(Comp)-130	96	130	2360	65	HD
51	216	79005-2070	77093-55-3	69	130	2357		P
52	230	79009-2116	77093-72-4	85	138	2152	68	P
53	100	79001-322	78099-R-59	77	130	2144	64	P
54	99	79001-316	78099-R-74	83	138	1915		HD
55	123	79002-14	NES110xNES7976	83	108	1888		HD
56	16	79001-94	76026-068-10	63	103	1851	--	HD
57	217	79005-2072	77093-58-2	71	130	1680		HD
58	107	79001-371	78100-R-17	71	135	1664		HD
59	227	79005-2109	77093-56-2	94	145	1632		HD
60	188	79003-316	IBB-16-6	96	138	1605		HD

Table 2.4 (continued)

Rank	Entry No.	Source	Pedigree	Percent Stand	Plant Height (cm)	Yield (kg/ha)	Test Weight (kg/hl)	Remarks
61	218	79005-2073	77093-64-3	79	59	1541		HD
62	149	79002-184	NES2197xNES6973	92	150	1499		HD
63	215	79005-2061	76026-072-2	71	180	1456		HD
64	23	79001-111	77093-33-2-1	50	100	1083	--	HD
65	44	79001-164-3	78097-R-2	67	173	987		HD
66	31	79001-143-2	7709[illegible]-72-2	79	153	789		HD
67	242	79005-2147	76026-003-1	79	165	624		HD
68	229	79005-2115	77(Comp)-27	92	128			

25 entries selected for Preliminary Yield Trial 1981

28 entries selected for Advanced Yield Trial 1981

15 entries selected for Head to Row Trial 1981

Plot Size, 1R - 0.75m x 5m

Replications - 2

Hill to hill distance within a row - 20 cm

Date Planted - 5/5-6/81

Test 80-003 (Preliminary Yield Trial II)

Purpose:

Purpose of this experiment was to evaluate each of the 284 selected genotype for grain yield and agronomic characteristics such as maturity, height days to 50% bloom, seed size, seed color and test weight.

Plot Size:

Plot size in this experiment was one row, five meters long and 0.75 meters wide. Hill to hill distance within a row was 20 cm. Four to five seeds were planted per hill. When 10-15 cm tall these seedlings were thinned to 2-3 healthy plants per hill. Experiment design was randomized complete block design and each entry was replicated twice. Every 30th row was a local check.

Seed Sources:

Seed for 1980 Preliminary Yield Test II (80-003) came from selected, selfed single heads from the following 1979 tests and introductions:

Test	Test Description	No. Genotypes Planted	No. Heads Selected
79-001	Head Rows	447	38
79-002	Head Rows	498	83
79-003	Elite Yield Test	33	4
79-004	Advanced Yield Test	16	3
79-005	Preliminary Yield Trial	210	31
79-006	Short Grain Yield Trial	42	4
79-010	Nursery and Increase Plots	68	60
Introduction	Miscellaneous	---	61
	Total		284

Results:

Grain yield, days to 50% flowering, plant height, percent stand and test weight of 78 selected entries are given in Table 2.5. Measurements for the above mentioned characters were recorded in field books for all the entries. Only the results of selected entries to be included in 1981 testing program are described in this table.

Days to 50% bloom ranged from 82-165. It is very clear from the data that short duration lines, which have built in advantage for adverse climatic conditions and take only 82-100 days, could be selected and included in future plans. Though early maturing genotypes are generally low yielding but they produce a sure crop with less precipitation and by escaping early frost and rain or hail storms.

Grain yield of the selected genotypes ranged from 5912 Kg/Ha, the highest yielder to 739 Kg/Ha the lowest yielder. This shows there is a significant difference in grain yield which could be exploited gainfully to improve sorghum crop in YAR in the near future. Test weight of some of the entries is reported in Table 2.5 and it ranged from 59 to 73 K/hl.

Selections:

In this experiment 310 single selfed heads were selected in the field. Final selections were made after threshing heads and taking seed size, seed color into consideration. Out of 310 selected heads, 110 were included in 1981 head row test, twenty lines were selected for Preliminary Yield Trial, and 24 for 1981 Advanced Yield Trial.

Table 2.5 Grain Yield of 78 Selected Genotypes Harvested out of 284 Planted in Preliminary Yield Test (80-003).

Rank	Test Entry No.	Source	Pedigree	Days To 50% Bloom	Plant Height (cm)	Grain Yield (kg/ha)	Test Weight (kg/hl)	Remarks
1	216	79010-17-3	Sana'a 2	129	115	5912	66	Ad
2	175	79001-114-2	77093-33-2-4	140	140	5638	66	Ad
3	139	79005-1065-1	76026-036-4	156	160	5578	67	Ad
4	209	79010-14-3	Sana'a 10	132	150	4075	66	Ad
5	173	79006-137	NES 1789	142	145	4072	65	Ad
6	191	79010-9-2	Sana'a 4	131	135	3907	67	Ad
7	199	79010-13-1	Sana'a 9	129	135	3891	67	Ad
8	171	79006-115	77093-33-5	146	175	3875	65	Ad
9	204	79010-13-5	Sana'a 9	113	120	3764	68	Ad
10	237	79010-23-2	Sana'a 9	127	123	3630	67	Ad
11	21	79001-238	78097-R-74	126	155	3565	69	Ad
12	145	79005-2013	77093-63-2	119	130	3563	70	Ad
13	136	79005-1052	76026-065-5	145	145	3506	68	Ad
14	103	79002-315	(P866F_2 x Local)F_2	165	145	3499	60	Ad
15	84	79002-247	NES2197 x NES 6972	134	115	3441	71	Ad
16	188	79010-8-3	Sana'a 3	134	140	3358	59	Ad
17	273	FAO-11		118	100	3314	68	Ad
18	205	79010-13-6	Sana'a 9	134	125	3313	70	Ad
19	148	79005-2045	76026-026-8	156	145	3123	-	Ad
20	78	79002-187	NES2197 x NES 6975	100	120	3108	70	Ad

Remarks:

Ad - Selected for 1981 Advanced Yield Test

P - Selected for 1981 Preliminary Yield Test

Hd - Selected for 1981 Head to Row Test

Table 2.5 (continued)

Rank	Test Entry No.	Source	Pedigree	Days To 50% Bloom	Plant Height (cm)	Grain Yield (kg/ha)	Test Weight (kg/hl)	Remarks
21	194	79010-11-2	Sana'a 6	131	145	3099	67	Ad
22	68	79002-113	NES3329 xNES6980	128	135	3088	68	Ad
23	276	Ferry Hybrid A53a		104	85	3078	68	P
24	222	7901019-1	Sana'a 4	126	120	2979	54	P
25	192	79010-10	Sana'a 5	128	105	2923	64	Ad
26	105	79002-318	(P866F$_2$xLocal)F$_2$	131	160	2892	66	P
27	206	79010-13-7	Sana'a 9	135	100	2889	67	P
28	202	79010-13-3	Sana'a 9	128	145	2825	61	Hd
29	137	79005-1053	76026-066-6	144	160	2774	73	P
30	67	79002-112	NES3329 xNES6979	129	160	2719	63	P
31	4	79001-83	76026-056-1	127	155	2712	69	P
32	264	FAO-3		125	140	2694	63	Ad
33	65	79002-103	NES3329 xNES6973	10_	93	2689	65	P
34	94	79002-268	IS9958 x NES6979	131	160	2624	64	P
35	258	GSA-1586F		96	90	2551		Hd
36	99	79002-302-3	NES3329 xNES6970	145	150	2541	62	P
37	177	79001-297-2	78099-R-35	156	170	2536	69	P
38	221	79010-18-4	Sana'a 3	125	120	2460	-	Hd
39	112	79002-327-1	((P868I)F$_2$xLocal)F$_2$	130	85	2431	-	P
40	213	79010-16-	Sana'a 1	133	110	2426	-	Hd

Table 2.5 (continued)

Rank	Test Entry No.	Source	Pedigree	Days To 50% Bloom	Plant Height (cm)	Grain Yield (kg/ha)	Test Weight (kg/hl)	Remarks
41	168	79005-2208	77(Comp) 131	144	125	2371	-	Hd
42	266	FAO-5		112	90	2367	-	Hd
43	24	79001-268	78099-R7	136	115	2357	-	P
44	282	P.V. 729GT		127	178	2345	70	P
45	280	P.V. 708GR		122	80	2280	69	P
46	97	79002-302-1	NES3329 xNES6970	144	140	2235	63	P
47	64	79002-95	NES3329 xNES6973	117	90	2227	63	P
48	275	FAO-13		124	110	2213	-	Hd
49	163	79005-2	76026-036-3	150	185	2201	-	P
50	108	79002-321	(P8681)F_2xLocal)F_2	110	115	2193	60	P
51	257	PP-15		98	110	2126	-	Hd
52	258	GSA-1586F		96	90	2551	-	Hd
53	96	79002-287	NES110 xNES6970	147	150	1989	-	Hd
54	256	PP-14		125	105	1983	-	Hd
55	244	79010-25-3	Rada'a Local	122	145	1980	-	Hd
56	159	79005-2172	76026-065-5	149	140	1978	-	Hd
57	195	79010-11-3	Sana'a 6	133	155	1967	-	Hd
58	179	79010-6-2	Sana'a 1	117	120	1929	-	Hd
59	156	79005-2144	76026-037-11	115	140	1915	-	Hd
60	274	FAO-12		127	120	1899	-	Hd

Table 2.5 (continued)

Rank	Test Entry No.	Source	Pedigree	Days To 50% Bloom	Plant Height (cm)	Grain Yield (kg/ha)	Test Weight (kg/hl)	Remarks
61	165	79005-2201	76026-002-11	138	110	1887	-	Hd
62	25	79001-275	78099-R-13	126	145	1885	-	Hd
63	268	FAO-7		129	110	1844	-	Hd
64	155	79005-2134	77093-36-4	115	170	1709	-	Hd
65	259	GSA-30F		82	85	1661	-	Hd
66	277	Unknown-10		130	75	1603	-	Hd
67	162	79005-2183-1	76026-036-3	150	175	1556	-	Hd
68	141	79005-1065-2	76026-036-4	155	165	1453	-	Hd
69	128	79002-378	PB-1BR Dry x Local (Sens.)	138	145	1390	-	Hd
70	143	79005-1097	76026-074-4	138	142	1351	-	Hd
71	142	79005-1096	76026-074-3	150	175	1268	-	Hd
72	144	79005-2011	77093-69-1	145	140	1205	70	Hd
73	126	79002-368	PB-1BR Dry x Local (Sens.)	157	160	1201	-	Hd
74	154	79005-2129	77093-63-3	121	165	1153	-	Hd
75	269	FAO-8		121	65	1130	-	Hd
76	116	79002-337-1	NK233 F_2 xLocal F_2	145	140	1119	-	Hd
77	234	79010-21-3	Sana'a 6	128	160	888	-	Hd
78	117	79002-337-2	NK233F_2 xLocal F_2	145	150	739	-	Hd

24 Selected for Advanced Test

20 Selected for Preliminary Test

34 Selected for Head to Row

Plot size =1 Row 0.75m x 5m
Replications =2
Hill to hill distance within a row 20 cm
Date Planted 4/26/80 - 4/27/81

Range Days to 50% Bloom = 82-165
Range Plant Height Cm = 65-185
Range Grain Yield = 5912-739
Range Test Weight = 59-73

80-004 Early Maturity Test

Purpose

The purpose of this test was to evaluate the maturity of 22 selected lines. Agronomic characters such as plant height, percent stand, lodging, grain yield, and susceptibility to disease were also studied in detail (see Table 2.6).

Plot Size and Experiment Design

Plot size in this experiment was 5 meters long and 0.75 meters wide (one row plots, rows were 0.75 meters apart). Each entry was replicated twice and a randomized, complete block design was used in this experiment. Hills within a row were 20 cm apart and 4-5 seeds were planted per hill. When the seedlings were 10-15 cm tall, 2-3 healthy plants were retained per hill.

Seed Source

Seed for this test came from selected selfed or non-selfed heads from the following 1979 tests:

Test	Test Description	No. of Entries Planted	No. of Entries Selected
79001	Head-Rows	447	13
79004	Advanced Yield Trial	16	3
79005	Preliminary Yield Trial	210	6

Results

Days to 50% flowering ranged from 54-163. There was large variation in maturity. Lines which took 54 days to 50% flowering and were medium tall should be selected for further testing. Plant height ranged from 70-150 cms. There were short, medium and tall in all three classes of genotypes. Percent stand ranged from 23-94%.

Table 2.6 Agronomic Data and Grain Yield of 22 Advanced Genotypes and Their Rank in an Early Maturity Test (80-004) Planted at Bir-Al-Gohum Research Farm at Sana'a in Yemen Arab Republic, 1980

Entry	Source	Pedigree	Days for 50% Bloom	Plant Height (cm)	% Stand
1	79001-14	76026-027-2	138	90	75
2	79001-24	76026-065-9	153	70	73
3	79001-92	76026-061-2	143	105	52
4	79001-107	77093-15-4	149	90	75
5	79001-128	77093-55-4	162	107	73
6	79001-131	77093-58-5	54	102	83
7	79001-134-1	77093-60-2	84	95	44
8	79001-1342	77093-60-2	54	87	23
9	79001-228-1	78097-R-64	120	95	62
10	79001-228-2	78097-R-64	134	80	62
11	79001-295	78099-R-33	116	97	50
12	79001-306-1	78099-R-43	154	92	88
13	79001-306-2	78099-R-43	154	97	75
14	79004-106	Radah Local	161	150	64
15	79004-406	76026-025-2	163	140	48
16	79004-415	76026-025-6	150	145	60
17	79005-1021	76026-037-1	140	88	79
18	79005-1026	76026-037-6	137	95	94
19	79005-1123	77093-50-1	145	100	
20	79005-1199	76036-059	119	85	75
21	79005-2117	77093-65-2	113	100	39
22	79005-2132	77093-52-427	130	107	67

Range Days 50% Flowering = 54-163
Range Plant Height(cm) = 70-150
Range Percent Stand = 23-94

Test 80-005 Short Grain Yield Trial

Purpose

The purpose of this test was to evaluate each of the 88 selected entries for grain and forage yield. The high grain yielder could be used in future hybrid development programs. Other agronomic characters such as days to 50% flowering, plant height, test weight, seed size, seed color, lodging and disease reactions were studied in detail (see Table 2.7).

Plot Size and Experiment Design

The plot size in this experiment was 5 meters long and 1.5 meters wide (two row plots, rows 0.75 meters apart). There were three replications. A randomized, complete block design was used in this experiment. Within a row, hills were 20 cm apart. Four to five seeds were planted per hill. When seedlings were 10-15 cm tall, 2-3 healthy plants were saved per hill. Every 30th row was planted with a local variety as a standard check.

Seed Sources

Seed for this experiment came from selected selfed or non-selfed heads from the following 1979 tests and introductions:

Test	Test Description	No. of Entries Planted	No. of Entries Selected for 80-005 Test
79001	Head Rows	447	17
79002	Head Rows	498	13
79003	Elite Yield Test	33	5
79004	Advanced Yield Trial	16	4
79005	Preliminary Yield Trial	210	9
79006	Short Grain Yield Trial	42	38
Miscellaneous Introductions			2
	Total		88

Results

Average height in this test was 91.5 cm, while range was 60-135 cm and local check variety was 135 cm tall. Days to 50% bloom ranged from 87-144 cm. Earliest maturing entry took 57 days less than the latest one. Earliest line took 43 days less to 50% bloom as compared with the local standard check variety. Entry 36 ranked Number One by producing 24,549 kg grain per hectare, while the local check produced only 8381 kg/ha. More than 28% of the lines in this experiment yielded better than the local check variety. Test weight of all the entries ranged between 58-74 kg/hl.

Selections

One-hundred and forty-two selfed/non-selfed heads were selected from Test 80-005 (Short Grain Yield Trial). Sixty-one selected entries, (from these 142), were discarded in the seed laboratory on the basis of seed size, seed color and test weight. Twenty-eight of these remaining selections will go into two different 1981 Head Row Tests. Twenty-four entries were selected for two different 1981 Preliminary Yield Trials. Another twenty entries were selected for two different 1981 Advanced Yield Tests. Nine selections from this Short Grain Test will go into two different Elite Tests.

One selection, Entry 36 (79004-109), produced 24,549 kg grain per hectare. This is significantly higher than the grain yield of local check. It took one day more to 50% bloom, as compared with local check. It is 15 cm shorter than the local check but, tillers significantly more thus producing more forage and grain. Seed of this line (Entry 36) should be increased and released for cultivation at the high altitude of Sana'a province.

Table 2.7 Grain Yield of 73 Selected Advanced Genotypes Harvested out of 88 Planted in Short Grain Yield Trial (80-005) at Bir-Al-Gohum Research Farm at Sana'a in Yemen Arab Republic 1980

Rank	Entry No.	Source	Pedigree	Days 50% Bloom	Plant Height (cm)	Grain Yield (kg/ha)	Test Weight (kg/hl)
1	36	79004-109	76026-019-	131	115	24549	66
2	44	79005-2140	76026-067-3	120	100	18896	67
3	42	79005-2110	77093-56-6	126	103	16282	68
4	37	79005-1058	76019-001-4	129	73	14125	61
5	31	79002-283	NES9958XNES6984	121	125	12613	72
6	87	79003-325	76026-033	124	122	12237	67
7	48	79006-236	NES 1789	109	95	11373	64
8	84	79006-342	77(comp)-60	109	70	11136	66
9	46	79006-202	NES 1559	120	93	10904	65
10	67	79006-323	76026-032-2	128	88	10805	65
11	45	79005-2178	76026-024-9	102	65	10613	74
12	26	79002-146	IS509XNES6979	125	130	10597	64
13	53	79006-305	77(comp)-58	120	85	10466	69
14	68	79006-324	77(comp)-1	109	75	10429	66
15	14	79001-398	78(comp)-18	109	120	10301	64
16	52	79006-304	77(comp)-20	103	110	9746	69
17	58	79006-313	77093-33-5	138	108	9469	60
18	86	79003-328	76026-032	102	105	8928	61
19	15	79001-403	78(comp)-28	138	90	8864	67
20	23	79002-106	NES3329XNES6977	137	108	8760	62

Plot size = 2 rows 1.50m x 5m
Replications = 3
Hill to Hill distance within a row = 20cm
Date Planted 4/22-30/81

Range Days 50% Bloom = 87-144
Range Plant Height Cm = 60-135 (Average Ht 91.5)
Range Grain Yield kg/ha = 24,549-3485
Range Test Wt. kg/hl = 58-74

Table 2.7 (continued)

Rank	Entry No.	Source	Pedigree	Days 50% Bloom	Plant Height (cm)	Grain Yield (kg/ha)	Test Weight (kg/hl)
21	77	79006-335-1	77(comp)-1	120	80	8530	59
22	30	Local Check		130	135	8381	67
23	9	79001-310	78099-R-47	120	73	8376	66
24	80	79006-337	IS410	122	65	8368	69
25	17	79001-430	76026-009-4	130	85	8320	63
26	27	79002-186	NES197XNES6974	113	90	8317	67
27	81	79006-338	NES1570	98	90	8312	67
28	22	79002-67-2	NES2141XNES6975	109	75	8304	65
29	54	79006-306	77(comp)-75	109	90	8178	68
30	39	79005-1207	SANA'A 1	104	95	7826	61
31	13	79002-374	PB-IBR-DAY Neutral X Local	134	90	7733	66
32	56	79006-309	IS2927	132	95	7728	63
33	49	79006-301	77093-76-6	130	75	7712	66
34	73	79006-332	77093-05-4	99	100	7696	70
35	85	79003-322	76016-057-	95	100	7618	68
36	50	79006-302	77093-03-5	107	95	7560	66
37	19	79002-21	NES110XNES6977	133	73	7552	64
38	70	79006-328	NES1421	98	70	7424	67
39	51	79006-303	76026-068-12	117	100	7352	62
40	40	79005-2043	76026-002-2	121	80	7296	60
41	18	79001-434	76026-010-1	130	85	6882	63
42	32	79003-320	NES1773	103	80	6829	67
43	55	79006-307	77(comp)-128	127	93	6768	64
44	6	79001-153-2	1977(comp)-	109	100	6757	68
45	65	79006-321	76026-074-11	107	93	6581	58

Table 2.7 (continued)

Rank	Entry No.	Source	Pedigree	Days 50% Bloom	Plant Height (cm)	Grain Yield (kg/ha)	Test Weight (kg/hl)
46	83	79006-341	77093-22-2	117	83	6579	65
47	74	79006-333	76026-070-5	134	80	6403	68
48	66	79006-322	76026-068-6	87	80	6331	66
49	59	79006-314	77(Comp)-1	109	80	6243	64
50	47	79006-223	76026-039-3	113	101	6213	67
51	34	79004-101	76026-019-6	104	90	6083	69
52	60	Local Check		137	125	6051	64
53	3	79001-114	77093-33-2-4	137	70	5995	58
54	8	79001-307	78099-R-44	120	83	5925	67
55	10	79001-327	78099-R-64	122	88	5880	68
56	28	79002-239	IS9958X 6971	127	118	5859	65
57	38	79005-1199	76036-059	98	88	5613	66
58	25	79002-133	IS509XNES6971	98	110	5573	68
59	63	79006-318	IS-410	113	63	5496	64
60	12	79001-355	78100-R-1	96	93	5387	61
61	16	79001-411	78(Comp)-38	133	83	5355	68
62	61	79006-315	77(Comp)-39	98	80	5237	70
63	41	79005-2079	77(Comp)-84	117	85	5147	68
64	7	79001-237	78097-R-73	144	120	5125	65
65	20	79002-42	NES1500XNES6976	128	85	5085	66
66	1	79001-29	76026-071-3	125	93	2480	65
67	88	79004-402	NES7000	96	110	4797	59
68	62	79006-316	77(Comp)-72	136	90	4531	64
69	11	79001-329	78099-R-66	127	87	4440	64
70	24	79002-126	NES3329XNES6982	98	72	4397	63

Table 2.7 (continued)

Rank	Entry No.	Source	Pedigree	Days 50% Bloom	Plant Height (cm)	Grain Yield (kg/ha)	Test Weight (kg/hl)
71	82	79006-339	77(Comp)92	98	60	4301	68
72	2	79001-40	76019-003-1	142	95	1796	60
73	43	79005-2126	77(Comp)-104	135	83	3485	60

Test 80-006 Advanced Yield Trial

Purpose

The purpose of this test was to evaluate each of the 54 selected genotypes for grain and forage yield. Agronomic characteristics such as days to 50% bloom, plant height, percent stnad and test weight were also studied in detail (see Table 2.8).

Plot Size and Experiment Design

Plot size in this experiment was 5 meters long and 1.5 meters wide (two rows per plot, rows 0.75 meters apart). A randomized, complete block design was used in this experiment. Each entry was replicated three times. Hill to hill distance within a row was 20 cm. Four to five seeds were planted per hill. Later, when seedlings were 10-15 cm tall, 2-3 healthy seedlings were kept per hill. Every 30th entry was planted with a local variety as a standard check.

Seed Sources

Seed for this test came from selected, selfed heads from the following 1979 tests and introductions:

Test	Test Description	Number of Entries Planted	Number of Entries Selected
79003	Elite Yield Test	33	2
79004	Advanced Yield Trial	16	3
79005	Preliminary Yield Trial	210	44
79006	Short Grain Yield Trial	42	4
	Miscellaneous/Introduction	--	1
	Total		54

Results

Days to 50% bloom in this Advanced Yield Trial ranged from 96-146. Early maturing lines in this test took 50 days less to 50% bloom than the late ones. This variability in maturity could be used to select early maturing lines. Generally, early maturity is associated with lower yield but, in this experiment, Entry 2, which ranked first in yield took only 107 days to 50% blooming as compared with a late one which took 146 days.

The range for plant height was 103 cm to 190 cm. On the basis of height, we can group genotypes into three categories: a) Short, b) Medium, and c) Tall. The short line could be used in the future to develop combine-type grain sorghum whereas the tall line will be useful for forage production. Medium height lines will be useful to develop dual-purpose (grain and fodder) varieties.

The range for percent stand in this experiment was 53-90%. Eighty-seven percent of the entries had 60% or better stand. Grain yield ranged from 6997 kg/ha for the highest to 399 kg/ha for the lowest, while the local check yielded 4244 kg/ha. Four lines tested in this experiment yielded better than the local variety. Test weight of almost all the lines were better than the local check.

While comparing the forage yield (Table 2.9, 69% of the experimental genotypes produced more forage than the local check. Entry 80-006-13 produced 17,733 kg/ha as compared with the local check which produced only 8122 kg/ha.

From these results it is very clear that some of these lines, after one or more years testing, could be multiplied and released for cultivation.

Selections

More than 136 selfed and non-selfed heads were selected from this test. After visual examination of seed characteristics, only 61 were retained to include in the 1981 Head/Row Test. Nine selections were advanced to 1981 Elite Yield Trial, while one will be included in the 1981 Advanced Trial. Twenty-four selected entries will be included in the Preliminary Yield Trial. Seed of three entries; 80-006-2, 80-006-8 and 80-006-21, should be increased for possible release in 1981 or 1982.

Table 2.8 (80-006) Grain Yield of 54 Experimental Advanced Genotypes and Their Rank in an Advanced Yield Test Planted at Bir-Al-Gohum Research Farm at Sana'a

Rank	Entry No.	Source	Pedigree	Days 50% Bloom	Plant Height (cm)	Percent Stand	Yield (kg/ha)	Test Weight (kg/hl)
1	2	79003-330	76025-052	107	128	60	6997	67
2	8	79005-2008	77 (comp)-56	131	180	71	4935	70
3	21	79005-2099	76026-061-6	102	165	78	4905	71
4	33	79005-2152	77(comp)-77	135	145	74	4545	68
5	30	79005-2152	Local check	121	135	70	4244	63
6	14	79005-2065	77093-33-4	115	145	72	4221	66
7	31	79005-2145	76026-037-1	113	138	90	4147	61
8	34	79005-2157	77093-56-1	119	172	76	4135	68
9	22	79005-2100	76026-070-13	132	160	72	4103	69
10	11	79005-2047	76026-037-7	139	160	55	3967	69
11	7	79005-1161	77093-64-1	118	135	75	3959	61
12	10	79005-2115	77093-57-1	131	133	70	3893	66
13	25	79005-2108	77093-55-2	135	165	79	3712	68
14	9	79005-2012	77093-65-3	119	133	58	3399	68
15	12	79005-2050	76026-047-7	119	145	60	3219	66
16	23	79005-2105	76026-074-5	135	170	82	3181	69
17	1	79003-329	76026-024	130	160	62	3088	68
18	5	79004-113	Sana'a 4	114	143	76	2985	65
19	18	79005-2088	76026-037-1	126	132	56	2955	64
20	16	79005-2071	77093-56-4	113	155	85	2941	69

Plot Size = 2 Row = 1.50m x 5 m

Replications = 3

Hill to hill distance within a row - 20 cms

Date Planted 4/22-27/80

Range Days to Bloom = 96-146
Range Plant Height cm = 103-190
Range Percent Stand = 53-90
Range Yield kg/ha = 6997-399
Range Test Wt. kg/hl = 61-71

Table 2.8 (continued)

Rank	Entry No.	Source	Pedigree	Days 50% Bloom	Plant Height (cm)	Percent Stand	Yield (kg/ha)	Test Weight (kg/hl)
21	20	79005-2098	76026-057-4	120	138	78	2940	67
22	28	79005-2128	77(comp)-7	100	135	76	2849	64
23	49	79005-2205	NES-6983	135	190	87	2715	68
24	37	79005-2165	76026-06-4	96	120	53	2669	66
25	32	79005-2150	77(comp)-117	129	138	74	2663	65
26	36	79005-2160	77093-42-1	138	148	88	2611	65
27	3	79004-111	IBB 24-1	130	150	79	2604	70
28	46	79005-2193	77093-57-3	136	153	90	2596	69
29	27	79005-2118	77093-061-3	117	133	86	2579	64
30	35	79005-2158	77093-53-1	121	135	68	2572	66
31	53	79006-312	76026-074-8	122	133	81	2571	67
32	15	79005-2069	77093-52-3	130	160	69	2485	69
33	4	79004-112	Sana'a - 1	96	150	78	2467	64
34	26	79005-2113	77(comp)-79	132	123	72	2364	62
35	19	79005-2095	76026-036-2	137	130	58	2219	-
36	51	79006-211	77 (comp)-72	130	110	84	2208	65
37	48	79005-2199	76026-063	127	165	68	2179	70
38	54	79006-340	76026-074-10	130	100	72	2163	63
39	13	79005-2057	76026-053-1	143	193	56	2143	-
40	40	79005-2182	76026-067-3	127	123	81	2068	65
41	17	79005-2077	77(comp)-37	132	120	58	1929	-
42	38	79005-2166	76026-06-8	142	180	74	1887	65
43	47	79005-2196	76026-060-4	137	160	74	1837	69
44	52	79006-311	76026-039-3	120	108	88	1815	65
45	50	79005-2209	76026-024-2	96	115	81	1607	63

Table 2.8 (continued)

Rank	Entry No.	Source	Pedigree	Days 50% Bloom	Plant Height (cm)	Percent Stand	Yield (kg/ha)	Test Weight (kg/hl)
46	43	79005-2186	76026-072-3	131	147	82	1545	67
47	39	79005-2171	76019-001-3	145	143	75	1433	68
48	6	79005-1-14	76026-02605	137	175	81	1431	61
49	41	79005-2184	77093-057-4	133	103	84	1332	-
50	29	79005-2135	76026-075-6	137	160	83	1151	62
51	24	79005-2106	76026-072-7	130	190	81	1149	66
52	42	79005-2185	77093-38-3	137	110	69	771	-
53	45	79005-2192	77(Comp)-35	146	160	80	399	-
54	44	79005-2008	77(Comp)-126	146	140	72	-	-

Table 2.9 Forage Yields of 54 Experimental Advanced Genotypes and Their Rank in an Advanced 80-006 Test Planted at Bir-Al-Gohum Research Farm Sanaa, Yemen Arab Republic 1980

Rank	Entry	Source	Pedigree	Days 50% Bloom	Plant Height (cm)	Percent Stand	Yield (kg/ha)
1	80-006-13	79005-2057	76026-053-1	143	193	56	17733
2	80-006-24	79005-2106	76026-072-7	130	190	81	16247
3	80-006-47	79005-2196	76026-060-4	137	160	74	15832
4	80-006-36	79005-2160	77093-42-1	138	148	88	15856
5	80-006-48	79005-2199	76026-063	127	165	68	15832
6	80-006-8	79005-2008	77(comp)-56	131	180	71	15306
7	80-006-[illegible]	79005-1-14	76026-026-[illegible]	137	175	81	15231
8	80-006-44	79005-2006	77(comp)-126	131	180	79	15068
9	80-006-1	79003-329	76026-024	130	160	62	14662
10	80-006-38	79005-2166	76026-06-8	142	180	74	14576
11	80-006-45	79005-2192	77(comp)-35	146	160	80	14480
12	80-006-3	79004-111	IBB-24-1	130	150	79	13924
13	80-006-35	79005-2158	77093-53-1	121	135	68	13862
14	80-006-49	79005-2205	NES6983	135	190	87	13174
15	80-006-22	79005-2100	76026-070-13	132	160	72	13118
16	80-006-10	79005-2115	77093-57-1	131	133	70	12800
17	80-006-9	79005-2012	77093-65-3	119	133	58	12319
18	80-006-32	79005-2150	77(comp)-117	129	138	74	12020
19	80-006-39	79005-2171	76019-061-3	145	143	75	11534
20	80-006-11	79005-2047	76026-037-7	139	160	55	11464

Plot Size = 2 Rows = 1.5m x 5m
Replications = 3
Hill to hill distance within a row -=20 cm
Date Planted 4/22-27/80

Table 2.9 (continued)

Rank	Entry No.	Source	Pedigree	Days 50% Bloom	Plant Height (cm)	Percent Stand	Yield (kg/ha)
21	80-006-21	79005-2099	76026-061-6	102	165	78	10941
22	80-006-18	79005-2088	76026-037-1	126	132	56	10507
23	80-006-31	79005-2145	76026-037-1	113	138	90	10241
24	80-006-34	79005-2157	77093-56-1	119	172	76	10196
25	80-006-12	79005-2050	76026-047-7	119	145	60	10091
26	80-006-43	79005-2186	76026-072-3	147	82	82	9792
27	80-006-14	79005-2065	77093-33-4	115	145	72	9789
28	80-006-7	79005-1161	77093-64-1	118	135	75	9379
29	80-006-46	79005-2193	77093-57-3	136	153	90	9336
30	80-006-29	79005-2135	76026-075-6	137	160	83	9295
31	80-006-33	79005-2152	77(comp)-77	135	145	74	9158
32	80-006-20	79005-2098	76-026-057-4	120	138	78	8954
33	80-006-19	79005-2095	76-026-036-2	137	130	58	8952
34	80-006-28	79005-2128	77(comp)-7	100	135	76	8459
35	80-006-54	79006-340	76026-074-10	130	100	72	8159
36	80-006-26	79005-2113	77(comp)-79	132	123	72	8141
37	80-006-15	79005-2069	77093-52-3	130	160	69	8123
38	80-006-30	79005-2152	Local Check	121	135	70	8122
39	80-006-17	79005-2077	77(comp)-37	132	120	58	8004
40	80-006-41	79005-2184	77093-57-4	133	103	83	7863
41	80-006-51	79006-211	77(comp)-72	130	110	84	7838
42	80-006-42	79005-2185	77093-38-3	137	110	69	7780
43	80-006-16	79005-2071	77093-56-4	113	155	85	7779
44	80-006-37	79005-2165	76026-06-4	96	120	53	7746
45	80-006-5	79004-113	Sana'a-4	114	143	70	7463

Table 2.9 (continued)

Rank	Entry No.	Source	Pedigree	Days 50% Bloom	Plant Height (cm)	Percent Stand	Yield (kg/ha)
46	80-006-27	79005-2118	77093-61-3	117	133	86	7418
47	80-006-53	79006-312	76026-039-3	122	133	81	6543
48	80-006-50	79005-2209	76026-024-2	96	115	81	6523
49	80-006-52	79006-311	76026-039-3	120	108	88	6412
50	80-006-2	79003-330	76025-052	107	128	60	6351
51	80-006-23	79005-2105	76026-074-5	135	170	82	6338
52	80-006-40	79005-2182	76026-067-3	127	123	81	6140
53	80-006-4	79004-112	Sana'a-1	96	150	78	5379

Test 80-007 F_1 Population

Purpose

More than 200 crosses were made in late November, 1979. Seed from 71, F_1 Populations was selected for testing in this experiment. Grain yield and other phenotypic characters such as plant height, days to 50% blooming, test weight, lodging, drought-tolerance and disease reactions were observed in detail.

Plot Size

Depending upon the quantity of seed available, plot size in this experiment varied from 0.75 meters wide to 2.25 meters wide and 5 meters long. Each entry was replicated only once. Hill to hill distance within a row was 20 cm. Four to five seeds were planted per hill. When seedlings were 10-15 cm tall, thinning was done and only 2-3 healthy seedlings were retained per hill. Every tenth entry was planted with a local check variety.

Seed Sources

Seed for this experiment came from the crosses made at Bir Al Gohum research farm in November, 1979. Check variety seed was obtained from 1979 remanant seed stored at the Project site.

Results

Grain yield, days to 50% flowering, plant height and test weight of 26 selected F_1 Populations are given in Table 2.10. Days to 50% bloom ranged from 91-136. Early maturing lines took 45 days less for 50% flowering as

compared with the late ones. This wide range of blooming could be exploited to select early and medium maturity cultivars. Plant height in this experiment ranged from 70-140 cm. On the basis of height, entries could be classified as short, medium and tall. Short lines could be used in the future to develop combine-type grain sorghum, while medium will be useful to develop dual-purpose varieties.

Grain yield showed wide variation: Range for grain yield was 14,858 kg per hectare to 1788 kg per hectare. More than 34% of the lines yielded more grain per acre than the local check variety (8037 kg/ha). Test weight of almost all the test lines was better than the local check variety and range for test weight was 61-72 kilograms/hectoliters.

Selections

Forty-two heads were selected and selfed in the field. Twenty-seven of these will go into two different Head/Row Tests to be planted in 1981. Two entries were selected for two different Preliminary Yield Trials. Two more were selected for 1981 Short Grain Advanced Yield Trials. Twenty-one selections from this test will be included into two different Elite Yield Trials.

Table 2.10 Grain Yield and Agronomic Data of 26 Selected F_1 Populations Harvested out of 73 Entries Planted in Test 80-007(F_1 Populations) Planted at Bir-Al-Gohum Research Farm Sana'a Yemen Arab Republic 1980.

Rank	Entry	Source	Pedigree	Days to 50% Bloom	Plant Height (cm)	Grain Yield (kg/ha)	Test Weight (kg/hl)
1	48	79010-47,33	CK60A/76026-070-5	111	110	14858	67
2	66	79010-47,59	CK60A/NES-1421	98	90	13253	68
3	51	79010-47,36	CK60A/76-074-11	97	140	11869	72
4	32	79010-68,31	CK60A/068-6	108	110	10762	69
4	46	79010-47,31	068-6	116	95	10762	64
5	70	79010-47,66	CK60A/2927	100	120	9037	67
6	54	79010-47,39	CK60A/77093-08-8	100	120	8952	72
7	47	79010-47,32	CK60A/-12	105	130	8497	70
8	45	79010-47-30	CK60A/76026-061-1	91	110	8194	73
9	30	1979 Seed	Local Check	108	135	8037	63
10	71	79010-47,67	CK60A/CIMMYT 76BJ	96	120	8010	68
11	56	79010-47,42	CK60A75-6	100	90	7540	68
12	68	79010-47-63	CK60A/1760	95	110	6833	72
13	57	79010-47,43	CK60A/77comp-1	104	90	5762	68
14	29	79010-68,27	60A/76026-004	100	95	5725	70
15	23	79010-26,56	CK60A/77Comp-75	98	80	5562	71
16	55	79010-47,40	CK60A/22-2	100	90	5508	70
17	64	79010-47,50	CK60A/-39	98	85	5503	68
18	41	79010-68,59	CK60A/NES-1421	94	95	5212	66
19	69	79010-47,65	CK60A/TS-410	103	80	4938	70
20	38	79010-68,54	CK60A/-72	135	100	4571	61

Plot Size = 1-3 Rows 0.75mx5m —— 2.25mx5.0m
Replication = One
Hill to hill distance within a row = 20cm

Range of Days to 50% bloom: 91-136
Range of Plant Height: 70-140
Range of Test Weight: 61-72
Range of Grain Yield: 14858-1788

Table 2.10 (continued)

Rank	Entry	Source	Pedigree	Days to 50% Bloom	Plant Height (cm)	Grain Yield (kg/ha)	Test Weight (kg/hl)
21	43	79010-68,64	CK60A/1S410	99	80	4379	69
22	33	79010-68,35	CK60A/074-10	136	130	4053	62
23	65	79010-47,57	CK60A/-90	94	80	4011	68
24	42	79010-68,61	CK60A/NES 1510	96	90	3134	72
25	31	79010-68,29	CK60A/039-3	105	110	2492	70
26	37	79010-68,51	CK60A/Comp-46	96	70	2482	65
27	28	79010-26,64	CK60A/IS-410	96	80	1788	70

Test 6J-008 Male Parents and Observation Test

Purpose

The purpose of this test was two-fold. The first was to evaluate each of the 54 entries for grain and forage yield, days to 50% flowering, plant height, test weight, head type, drought tolerence and disease reactions. The second was to use the most promising lines as pollen parent on selected male sterile plants.

Plot Size and Experiment Design

The plot size in this experiment was 5 meters long and 0.75 meters wide (one row plot, rows were 0.75 meters apart). Each entry was replicated only once. Hills were 20 cm apart within a row and 4-5 seeds were planted per hill. Later on when seedlings were 10-15 cm tall, 2-3 healthy seedlings were retained per hill. Entry 30 was planted with a local check variety.

Seed Sources

Seed of 53 entries came from Test 79010 (Nursery and Increase Plots) and one entry was from 1980 introductions.

Results

Out of 54 entries tested, 5 lines were harvested in bulk for further testing and their results are presented in Table 2.11. Days to 50% blooming of selected entries ranged from 98-123 and plant height ranged from 85-110 cm. Test weight of selected entries ranged from 63-68 kg/hl. Grain yield of selected entries ranged from 4238 kg/ha to 2786 kg/ha.

Selections

Twenty-nine selfed single heads were selected for 1981 Head Row Test (81-001). Another 29 selfed single heads were selected for Short Grain Head Row Test (81-005) to be planted in 1981. One entry was selected for Short Grain Preliminary Yield Trial (81-006). Two entries were selected for Advanced Yield Tests (81-003) and two entries were selected for Elite Yield Tests (81-004, 81-008).

Table 2.11 Grain Yield of 5 Selected Genotypes Harvested Out of 54 Entries Planted in Male Parents and Observation Test (80-008) at Bir-Al-Gohum Research Farm at Sana'a in Yemen Arab Republic 1980.

Rank	Entry	Source	Pedigree	Days to 50% Blooming	Plant Height (cm)	Yield (kg/ha)	Test Weight (kg/hl)	Remarks
1	52	79010-2	IS2927	111	100	4238	65	El.
2	11	79010-35-1	76026-074-10	123	110	3597	63	El.
3	51	79010-66-1	IS2927	111	100	3317	66	Ad.
4	50	79010-65	IS410	113	100	3277	68	El.
5	20	79010-43	77(comp)-1	98	85	2786	63	P-SG

Plot Size = 1R = 0.75m x 5m
Replication = One
Hill to hill distance within a row = 20cm

P = Preliminary
SG = Short Grain
El = Selected for Elite Yield Test
Ad = Selected for Advanced Yield Test
P-SG = Selected for Short Grain Preliminary Yield Test

Range Days to 50% Blooming = 98-123
Range Plant Height cm = 85-110
Range Yield kg/ha = 4238-2786
Range Test Weight = 63-68

80-009 Elite Yield Test

Purpose

The purpose of this test was to evaluate 31 advanced genotype for grain and forage yield. Agronomic characters such as days to 50% bloom, plant height, percent. stand, test weight and leaf habit and arrangement were also studied in detai

Plot Size

Plot size in this experiment was five meters long and 2.25 meters wide (3 row plot, 0.75 meter apart). Each entry was replicated three times, and a randomized complete block design was used in this test. Hill to hill distance within a row was 20 cm, and 4-5 seeds were planted per hill. When the seedlings were 10-15 cm tall, 2-3 healthy plants were kept per hill. Every tenth line was planted with a local variety as a standard check.

Seed Sources

Seed for this test came from selected selfed or non-selfed heads from the following 1979 tests or introductions:

Test	Test Description	Number of Entries Planted	Number of Entries Selected
79003	Elite Yield Test	33	10
79004	Advanced Yield Trial	16	4
79005	Preliminary Yield Trial	210	9
79006	Short Grain Yield Trial	42	3
	Miscellaneous/Introduction	--	
	Total		31

Results

Days to 50% bloom in Elite Test ranged from 90-134. Early maturing line in this test took 44 days less to 50% bloom as compared with the late ones. This variability in earliness could be used to select early maturing lines. As mentioned in the description of Test 80-006, earliness is generally associated with lower yield. But that does not mean that these early lines could not be used as parents to incorporate earliness in high yielding late lines. Also, early lines have built-in advantages to escape adverse climatic conditions and produce seed before running out of available soil moisture.

Plant height in this experiment ranged from 73 cm to 168 cm. On the basis of height, genotypes can be grouped into three classes; short, medium and tall. Short type will be useful to produce combine-type sorghum varieties. Medium height varieties will be useful to develop dual purpose varieties, while tall will be useful for forage production.

Percent stand in this experiment ranged from 60-91%. Eighty-seven percent of the entries had 60% or better stand. Grain yield ranged from 4974 kg/ha for the highest to 859 kg/ha for the lowest (Table 2.12). Three local checks yielded 3181, 2760 and 1918 kg/ha respectively. Test weight of the tested lines ranged from 59-71 kg/hl. While comparing the forage yield (Table 2.13), 43% of the experimental lines produced more fodder than the local check. Entry 80-009-23 produced 18,075 kg/ha as compared with the local check which produced only 6930 kg/ha.

These results show very clearly that with a little more effort, superior lines could be multiplied and released to farmers.

Selections

Twelve heads from this experiment will be included in the 1981 Head/Row Test and ten entries will be retained for retesting in the 1981 Elite Yield Trial. Seed of two entries 80-009-25 and 80-009-23 should be multiplied so that after another year of testing, there will be enough seed for releasing the new varieties.

Table 2.12 Grain Yield of 31 Experimental Genotypes and Their Ranks in an Elite Field Test (80-009) Planted at Sana'a, Yemen Arab Republic 1980.

Rank	Test Entry No.	Source	Pedigree	Days to 50% Bloom	Plant Height (cm)	Percent Stand	Grain Yield (kg/ha)	Test Weight (kg/hl)
1	25	79005-2190	77093-65-1	109	93	75	4974	69
2	31	79005-2148	Sana'a-7	109	125	31	4840	63
3	21	79006-337	IS410	118	77	51	4834	69
4	13	79004-115	Sana'a-7	116	130	66	4711	-
5	5	79003-318	NES7003	98	112	62	3286	62
6	20		Local check	113	123	73	3181	62
7	2	79003-320	NES1773	120	78	58	3115	68
8	18	79006-308	NES1570	96	133	80	2973	64
9	12	79004-106	FAHDA Local	134	168	86	2972	70
10	3	79003-306	75012-136	127	128	72	2964	65
11	19	79006-315	77(comp)-39	112	77	81	2817	67
12	10		Local	123	117	75	2760	64
13	29	79005-2186	76026-072-3	134	153	74	2570	71
14	26	79005-2157	77093-56-1	133	150	84	2389	68
15	15	79004-105	76026-025-6	119	158	84	2272	63
16	8	79003-332	IS825	110	92	84	2262	69
17	17	79006-322	76026-068-12	90	73	74	2259	66
18	23	79005-2199	76026-063	127	150	75	2239	67
19	7	79003-327	Sana'a 7	124	118	65	2206	63
20	27	79005-2162	77093-09-3	110	140	72	2149	62

Plot size = 3 rows 2.25m x 5m
Replications = 3
Hill to Hill distance in a row = 20 cm
Date Planted - 4/21/80

Range Days to 50% Bloom = 90-134
Range Plant Height cm = 73-168
Range Percent Stand = 60-91
Range Grain Yield kg/ha = 4974-859
Range Test Weight = 59-71

Table 2.12 (Continued)

Rank	Test Entry No.	Source	Pedigree	Days to 50% Bloom	Plant Height (cm)	Percent Stand	Grain Yield (kg/ha)	Test Weight (kg/hl)
21	30		Local	125	130	67	1915	63
22	6	79003-302	Sana'a-1	112	110	91	1818	62
23	16	79006-331	77(comp)-1	119	78	56	1803	60
24	4	79003-331	76025-017	99	117	86	1640	68
25	14	79004-112	Sana'a-1	105	142	83	1606	59
26	28	79005-2055	76026-011-6	130	137	63	1602	57
27	11	79003-329	76026-024	133	150	89	1537	66
28	9	79003-328	76026-032	105	82	82	1342	66
29	24	79005-2095	76026-036-2	130	125	90	1205	63
30	1	79003-303	76026-041	119	120	81	1038	69
31	22	79005-2127	77(comp)-74	137	137	81	859	67

Table 2.13 Forage Yield of 31 Experimental Advanced Genotypes and Their Rank in an Elite Yield Test (80-009) Planted at Bir-Al-Gohum Research Farm Sana'a, Yemen Arab Republic, 1980

Rank	Entry	Source	Pedigree	Days To 50% Bloom	Plant Height (cm)	Percent Stand	Fodder Yield (kg/ha)
1	80-009-23	79005-2199	76026-063	127	150	75	18075
2	80-009-13	79004-115	Sana'a 7	116	130	6	14939
3	80-009-12	79004-106	Radha Local	134	168	86	9842
4	80-009-31	79005-2148	Sana'a-7	109	125	31	9647
5	80-009-11	79003-329	76026-024	133	150	89	8802
6	80-009-3	79003-306	75012-136	127	128	72	7692
7	80-009-16	79006-331	Sana'a-7	119	78	56	7583
8	80-009-29	79005-2186	76026-072-3	134	153	74	7510
9	80-009-27	79005-2162	77093-09-3	110	140	72	7501
10	80-009-18	79006-308	NES 1570	96	133	80	7449
11	80-009-18	79004-105	76026-025-6	119	158	84	7418
12	80-009-28	79005-2055	76026-011-6	130	137	63	7339
13	80-009-22	79005-2127	77 (comp.)-74	137	137	81	6992
14	80-009-30		Local Check	125	130	67	6930
15	80-009-18		Local Check	113	123	73	6847
16	80-009-10		Local Check	123	117	75	6574
17	80-009- 7	79003-327	Sana'a -7	124	118	65	6036
18	80-009-26	79005-2157	77093-56-1	133	150	84	5921
19	80-009-25	79005-2190	77093-65-1	109	93	75	5858
20	80-009-24	79005-2095	76026-036-2	130	125	90	5349

Table 2.13 (continued)

Rank	Entry	Source	Pedigree	Days To 50% Bloom	Plant Height (cm)	Percent Stand	Fodder Yield (kg/ha)
21	80-009-6	79003-302	Sana'a- 1	112	110	91	5225
22	80-009-4	79003-331	76025-017	99	117	86	5167
23	80-009-2	79003-320	NES 1773	120	78	58	5166
24	80-009-14	79004-112	Sana'a-1	105	142	83	4991
25	80-009-21	79006-337	IS 410	118	77	51	4344
26	80-009-5	79003-318	NES 7003	98	112	62	4006
27	80-009-1	79003-303	76026-041	119	120	81	3884
28	80-009-9	79003-328	76026-032	105	82	82	3834
29	80-009-8	79003-332	IS 825	110	92	84	3674
30	80-009-17	79006-322	76026-068-12	90	73	74	3504
31	80-009-19	79006-315	77 (comp.)-39	112	77	81	3367

Plot Size = 3 rows 2.25 m x 5 m

Replications = 3

Hill to Hill distance within a row = 20 cm

Date Planted 4/21/80

80-010 Outreach Test

Purpose

Forty-five selected entries from 1979 tests and 5 local checks were planted at 9 different locations to evaluate each entry for grain and forage production in nine different micro-climatic zones. Tests were planted both under limited irrigation conditions as well as rainfed conditions. Observations were taken on agronomic characteristics such as plant height, percent stand, lodging, maturity, test weight, seed color, seed size, leaf habit, bird damage, disease reactions, grain and fodder yield. Table 2.14 identifies the test locations. Results are summarized in the following sections.

OR80-2

Location - Damar, British Farm, 75 km south of Sana'a

Plot Size and Experiment Design

Plot size in this experiment was 5 meters long and 1.5 meters wide (two row plots, rows were 0.75 meters apart). Four to five seeds were planted per hill and hills were 20 cm apart. Thinning was done when seedlings were 10-15 cm tall. Only 2-3 healthy seedlings were kept per hill. Each entry was replicated three times and a randomized, complete block design was used in this experiment. Every 10th line was planted with a local variety as a standard check. The test material was sprayed twice with Thiodan 35 to keep the insects under control. Test was planted on 5/18/80 and irrigated on 5/25/80. Harvested on Nov. 10, 1980.

Table 2.14 Out-reach Tests 80-010 and Their Location

Test Number	Location	Number of Entries	Number of Replications	Plot Size
OR80-1	Al-Rasah (Maf-Dan)	50	3	0.75x5m
OR80-2	Damar (British Farm)	50	3	0.75x5m
OR80-3	Mahaweit	50	2	0.75x5m
OR80-4	Jahana (Ministry Farm)	50	2	0.75x5m
OR80-5	May Moon	50	2	0.75x5m
OR80-6	Raydah (Dutch Project)	50	2	0.75x5m
OR80-7	Amran (German Farm)	50	2	0.75x5m
OR80-8	Sana'a	50	2	0.75x5m
OR80-9	Al Jaroubah (Tihama)	50	2	0.75x5m
	Head Row Test in Al Jaroubah (Tihama)			
	Al Jaroubah (Tihama)	450	1	0.75x5m

Seed Sources

Seed to plant this experiment came from selected selfed or non-selfed heads or from the selected entries from 1979 crop.

Test	Test Description	No. Entries Planted	No. Entries Selected for this Test
79003	Elite Yield Test	33	13
79004	Advanced Yield Test	16	2
79005	Preliminary Yield Test	210	19
79006	Short Grain Yield Trial	42	10
Miscellaneous-Introductions		--	6
	Total		50

Results

Percent stand ranged from 14-87%. Entry 17 (Sana'a-7) had very poor emergence at all the locations. Number of days taken to 50% flowering ranged from 106-118. This narrow range shows that most of the lines fall in the same maturity group. Grain yield ranged from 4528 kg/ha to 593 kg/ha. The best entry yielded 4528 kg grain per hectare, while the best local check variety yielded only 3022 kg per hectare. Eight entries yielded better than the local check variety (Table 2.15).

Table 2.15 Grain Yield of 50 Experimental Advanced Genotypes and Their Ranks in an Outreach Test (80-010) Planted at British Farm, Damar, Yemen Arab Republic, 1980

RANK	ENTRY	PEDIGREE	SOURCE	STAND	NO. OF DAYS 50% FLOWERING	YIELD KG/HA
1	35	77(comp)-121	79005-2190	54	106	4528
2	8	76026-033	79003-324	76	108	3610
3	18	77(comp)-74	79005-2176	39	112	3535
4	16	RAHDA Local	79004-106	67	110	3459
5	23	76026-064-4	79005-2055	46	110	3449
6	14	Local	79003-316	44	109	3382
7	13	75016-061	79003-310	67	114	3291
8	24	76026-074-1	79005-2095	62	112	3140
9	30	Local CHECK 3	Local CHECK 3	54	108	3022
10	36	NES 6984	79005-2204	46	112	3003
10	39	NES 6984	79005-2204	61	111	3003
11	2	76025-052	79003-318	79	108	2815
12	37	77093-52-2	79005-2127	57	111	2812
13	4	IS 825	79003-306	61	108	2623
14	9	Local	79003-328	50	110	2571
15	12	SANAA-7	79003-327	35	109	2438
16	11	NES 864	79003-302	37	109	2386
17	22	76036-059	79005-2199	56	115	2376
18	7	NES 1773	79003-303	76	107	2365
19	6	IBB 17-1	79003-331	74	107	2335
20	32	77093-32-5	79005-2108	64	114	2312
21	33	77(comp)-130	79005-2194	58	114	2294
22	48	76026-074-8	79006-308	79	111	2208
23	5	NES 7000	79003-304	64	113	2167
24	20	Local CHECK 2	Local CHECK 2	50	110	2160
25	38	77093-50-6	79005-2125	72	109	2078

Plot size = 2 rows 1.5m x 5m
Replications = 3
Hill to Hill distance within a row 20 cms.
Date Planted 5/18/80
Date Irrigated 5/25/80
Date Harvested 11/10/80

Range Percent Stand = 14-87%
Range Days to 50% Flowering = 106-118
Range Yield kg/ha = 4528-593

Table 2.15 (continued)

RANK	ENTRY	PEDIGREE	SOURCE	% STAND	NO. OF DAYS 50% FLOWERING	YIELD KG/HA
26	50	Local CHECK 5	Local CHECK 5	49	110	1937
27	31	77093-68-3	79005-2159	50	114	1840
28	17	SANAA-7	79004-115	14	111	1829
28	34	77093-65-3	79005-2157	56	119	1829
29	10	Local CHECK 1	Local CHECK 1	46	110	1814
30	15	SANAA-6	79003-326	53	110	1811
31	40	Local CHECK 4	Local CHECK 4	64	111	1771
32	44	77093-33-5	79006-315	87	110	1723
33	21	IS 10788	79005-2200	60	110	1716
34	3	IBB-19-1	79003-332	67	110	1691
35	25	76026-036-4	79005-2165	51	112	1684
36	46	76026-070-5	79006-307	72	110	1622
37	41	77(comp)-31	79006-322	69	110	1488
38	45	77(comp)-75	79006-329	83	111	1407
39	28	77093-30-1	79005-2105	47	116	1362
40	19	IS 15075	79005-2201	40	118	1140
41	26	76026-061-8	79005-2186	40	113	1027
42	29	79093-69-3	79005-2162	51	115	978
43	1	76026-023	79003-320	67	116	939
44	47	IS 410	79006-338	77	110	893
45	42	IS 2927	79006-340	85	112	756
46	43	77(comp)-92	79006-331	72	110	678
47	49	NES 1789	79006-337	62	115	602
48	27	77093-31-2	79005-2106	54	113	593

Outreach Test (continued)

OR80-4

Location - Jahana, Ministry of Agriculture Farm 50 km south-east of Sana'a

Purpose, plot size, experiment design and seed sources were the same as Damar Out-reach Test. It was planted on 5/31/80.

Results

Percent stand of Outreach Test located at Jahana was better than the other locations. Range in this case was 83-100%, except that Entry 17 (Sana'a-7) did not germinate at this location. Grain yield ranged from 5050 kg/ha to 755 kg/ha. Entry 29 (79005-2162) yielded better than the best local check at this location (see Table 2.16).

OR80-8

Location - Sana'a, Bir Al Gohum Research Farm, 3 km from USAID

Purpose, Plot Size, Experiment Design

The purpose, plot size and seed source was the same as in the case of Damar and Jahana. Experiment design was the same except each entry was replicated twice instead of three times. Test was planted on May 13, 1980.

Results

Percent stand in this experiment ranged from 33-98%. Entry 17 (Sana'a-7) which did not germinate at Jahana, had 33% stand at Bir Al Gohum research farm. Grain yield ranged from 4161 kg/ha to 636 kg per hectare. Entry 32 (4161 kg/ha) and 35 (3764 kg/ha) yielded higher than the best local check (2989 kg/ha) (see Table 2.17).

Table 2.16 Grain Yield of 50 Experimental Advanced Genotypes and Their Ranks in an Outreach Test (80-010) Planted at Government Farm, Jahana, Yemen Arab Republic, 1980

Rank	Entry No.	Source	Pedigree	Percent Stand	Yield/ Plot (kg)	Yield (kg/ha)
1	29	79005-2162	79005-2162	98	1894	5050
2	20	Local Check 2	Check 2	100	1818	4848
3	16	79004-106	RAHDA Local	98	1673	4462
4	40	Local Check 4	Local Check 4	100	1539	4104
5	15	79003-326	SANAA-6	98	1226	3268
6	36	79005-2204	NES 6984	100	1218	3248
7	35	79005-2190	77 (Comp.)-121	100	1200	3200
8	30	Local Checks 3	Local Check 3	100	1198	3195
9	50	Local Check 5	Local Check 5	100	1115	2973
10	37	79005-2127	77093-52-2	96	1061	2830
11	24	76026-074-1	79005-2095	100	1058	2081
12	44	77093-335	79006-315	100	1056	2816
13	23	79005-2055	76026-064-4	100	978	2608
14	14	79003-316	Local	100	941	2509
15	38	79005-2125	79005-2125	98	920	2454
16	9	79003-328	Local	98	887	2414
17	11	79003-302	NES 864	100	903	2408
17	26	79005-2186	76026-061-8	100	903	2408
18	31	79005-2159	77093-68-3	100	899	2397
19	45	79006-329	77 (comp.)-75	94	883	2355
20	32	79005-2108	77093-68-3	100	866	2309
21	47	79006-338	IS 410	98	840	2239

Range Percent Stand = 83-100%
Range Yield kg/ha = 5050-755

Table 2.16 (continued)

Rank	Entry	Source	Pedigree	% Stand	Yield/ Plot (kg)	Yield (kg/ha)
22	12	79003-327	SANA'A 7	92	821	2188
23	42	79006-340	IS-2927	100	771	2056
24	4	79003-306	IS-825	96	757	2019
25	13	79005-2165	76026-036-4	96	750	2000
26	27	79005-2106	77093-31-2	92	725	1933
27	21	79005-2200	IS 10788	100	692	1845
28	19	79005-2201	IS 15075	100	691	1843
29	1	79003-320	76026-023	83	680	1812
30	28	79005-2105	77093-30-1	98	663	1769
31	39	79006-323	77 (comp.)-39	98	663	1687
32	34	79005-215	77093-65-3	100	624	1664
33	25	79005-2165	76076-036-4	96	616	1642
34	7	79003-303	NES 1773	100	595	1587
35	48	79006-308	76026-074-8	96	583	1556
36	8	79003-324	76026-033	83	578	1542
37	22	79005-2199	76026-059	100	578	1541
38	2	79003-318	76025-052	99	535	1428
39	41	79006-322	77 (comp.)-31	98	495	1328
40	46	79006-307	76026-070-5	100	462	1232
40	18	79006-307	76026-070-5	100	462	1232
41	6	79003-331	IBB-17-1	100	437	1165
42	43	79006-331	77 (comp.)-92	100	436	1163
43	33	79005-2194	77 (comp.)-130	100	374	997
44	10	Local c.1	Local Check 1	96	370	986
45	5	79003-304	NES 7000	98	355	947
46	3	79003-332	IBB-19-1	100	328	875
47	49	79006-337	NES 1789	100	283	755
50	17	79004-115	SANA'A 7	-	-	-

Plot Size = 2 Rows = 1.5m x 5 m
Replication = 2

Hill to Hill distance within a row = 20 cm
Date Planted 5/31/80 - entry 17 did not germinate

Table 2.17 Grain Yield of 50 Experimental Advanced Genotypes and Their Rank in an Outreach Test (80-010) Planted at Bir Al Gohum Research Farm, Sana'a, Yemen Arab Republic, 1980.

Rank	Entry No.	Pedigree	Source	Percent Stand	Yield (kg/ha)
1	32	77093-32-5	79005-2108	52	4161
2	35	77 (comp.) 130	79005-2190	77	3764
3	14	Local Sel.	79003-316	75	3307
4	1	76026-023	79003-320	67	3264
5	39	77 (comp.)-39	79006-323	55	3088
6	20	Local Check	79005-LCh-2	43	2989
7	24	76026074-1	79005-2095	54	2914
8	8	76026-033	79003-324	78	2803
9	41	77 (comp.)-31	79006-322	71	2727
10	40	Local Check 4	Local Ch 4	56	2586
11	13	75016-061	79003-310	88	2576
12	47	IS 410	79006-338	79	2427
13	22	76026-059	79005-2199	77	2372
14	23	Local Check	79003-316	46	2336
15	2	76025-052	79003-315	90	2320
16	28	77093-30-1	79005-2105	67	2312
17	42	IS-2927	79006-340	96	2283
18	25	76026-0364	79005-2186	71	2201
19	34	77093-65-3	79005-2157	69	2106
20	9	Local	79003-328	78	2017
21	7	NES 1773	79003-303	96	2000
22	6	IBB-17-1	79003-331	85	1973
23	10	Local Check 1	Local Check 1	67	1966
24	30	Local Check 3	Local Check 3	67	1946
25	16	RAHDA Local	79004-106	67	1938

Range Percent Stand = 33-98%
Range Grain Yield = 4161-636

Table 2.17 (continued)

Rank	Entry No.	Pedigree	Source	Percent Stand	Yield (kg/ha)
26	36	NES 6984	79005-2204	73	1932
27	33	77 (comp.)-130	79005-2194	71	1882
28	15	SANA'A-6	79003-326	69	1878
29	18	77(comp.) 74	79005-2176	81	1834
30	48	76026-074-8	79006-308	69	1716
31	46	76026-0705	79006-307	87	1713
32	3	IBB-19-1	79003-332	81	1712
33	44	77093-33-5	79006-315	98	1575
34	49	NES 1789	79006-337	75	1504
35	38	77093-50-6	79005-2125	71	1502
36	21	IS-10788	79005-2200	73	1490
37	50	Local Check 5	Local Check 5	56	1471
38	11	NES 864	79003-302	65	1440
39	19	IS 15075	79005-2201	60	1427
40	4	IS 825	79003-306	85	1380
40	5	IS 825	79003-306	85	1380
41	17	SANA'A-7	79004-115	33	1317
42	31	77093-68-3	79005-2159	79	1249
43	12	SANA'A-7	79003-327	75	1077
44	27	77093-31-2	79005-2106	56	962
45	45	77 (comp.)-75	79006-329	56	943
46	29	77093-3	79005-2162	65	890
47	43	77 (comp.)-92	79006-331	65	866
48	26	76026-061-8	79005-2186	75	860
49	37	77093-52-2	79005-2127	83	636

Plot Size = 2 Rows = 1.5m x 5m
Replication = 2
Hill to Hill distance within a row = 20 cm.
Date Planted: 5/13/80

Results of Outreach Tests Not Harvested

Outreach Tests planted at Naf-Dan and Al Jaroubah were harvested by local people before the test material was ready for harvesting. Due to political reasons, we could not visit Mahaweit research site.

Rainfed tests planted at May Noon, Amran and Raydan did germinate, but there was no rain in the early part of sorghum production season. All the entries died when plants were 10-15 cm tall.

Head Row Test - Al Jaroubah

Purpose

The purpose of this test was to evaluate the performance of 450 selected entries in Tihama Province (near Red Sea).

Plot Size and Experiment Design

Plot size, seed source and experiment design was the same as in Test 80-001, Head-Row Test in Sana'a.

Result

This test also was harvested by local people before it was ready for harvesting.

Test 80-011 Seed Multiplication and Observation

Purpose

The purpose of this experiment was to test the selected entries in bigger test plots and increase the seed at the same time. Superior entries from this test were planned for release as new cultivars in 1981.

Plot Size and Experiment Design

The plot size in this experiment was 5.25 meters long and 5 meters wide. Seven rows, 0.75 meters apart were planted per plot. Each entry was replicated four times and a randomized, complete block design was used. Hills within the rows were 20 cm apart and 4-5 seeds were planted per hill. When the seedlings were 10-15 cm tall, 2-3 healthy plants were kept per hill. Entry One was a local check variety.

Seed Source

Seed of this experiment came from seven selected entries of Elite Yield Test (79003).

Results

A new road passed through the farm and the test and test material was completely destroyed (see Table 2.18).

Table 2.18 Test 80-011 Seed Multiplication and Observation

Entry Number	Source	Replication I	Replication II	Replication III	Replication IV
1	Local	101	207	302	407
2	79003-17	102	204	308	405
3	79003-3	103	206	305	408
4	79003-7	104	201	303	406
5	79003-14	105	203	301	402
6	79003-27	106	205	306	404
7	79003-25	107	208	304	403
8	79003-6	108	202	307	401

80-012 Maize (Corn) Observation Test

Purpose

Purpose of this test was to evaluate 24 selected genotypes for grain yield and agronomic characters such as plant height, days to 50% bloom, percent stand, average ear node height, lodging percentage, disease and insect incidence and tolerance to drought.

Plot Size and Experiment Design

Plot size in this experiment was 5 meters long and 2.25 meters wide. Three rows were planted 0.75 cm apart. Each entry was replicated three times. A randomized, complete block design was followed in this experiment. Hill to hill distance within a row was 20 cm. Two seeds were planted per hill and later on thinned to one healthy plant per hill. One local variety was included in this test as a local check. No basal fertilizer was applied to this test.

Seed Sources

Four entries of this test were introduced from Nebraska, USA; nineteen were obtained from FAO project; and one was local check.

Results

Percent stand in maize observation test ranged from 48-86%. The plant height in this experiment ranged from 83-133 cm. All four lines introduced from Nebraska (USA) were 100 cm or shorter. In the United States, these lines will reach a height of about 150-180 cm. This may be due to sensitivity to day light. Days to 50% bloom ranged from 83-107. The Nebraska entries took

less than 96 days to 50% bloom. Yield of these test entries ranged from 6187 kg/ha to 2377 kg/ha. Entry 23, which was introduced from Nebraska (USA), out-produced the rest of the experimental lines by yielding 6187 kg grain per hectare, while local check yielded only 3307 kg grain per hectare. This Nebraska introduction, Entry 23, was 3 days earlier than the local check variety and tolerated moisture stress better than the other entries in this experiment (Table 2.19).

Table 2.19 Agronomic Data and Grain Yield of 24 Selected Genotypes and Their Rank in Maize Observation Test (80-012) Planted at Bir Al Gohum Research Farm at Sana'a, Yemen Arab Republic 1980.

Rank	Entry	Source	Percent Stand	Height cm	Days to 50% Bloom	Yield (kg/ha)
1	23	Nebraska PV-959	57	100	95	6187
2	6	FAO	61	97	89	4606
3	5	FAO	67	118	88	4578
4	15	FAO	82	117	94	4211
5	13	FAO	60	118	104	3921
6	17	FAO	55	128	103	3906
7	3	FAO	67	100	89	3891
8	24	Nebraska-PV-765	75	83	84	3810
9	21	Nebraska-PV-375F6	65	90	93	3736
10	18	FAO	74	103	97	3618
11	19	FAO	69	102	85	3569
12	20	Local Ck.	64	130	98	3307
13	13	FAO	61	112	106	3130
14	22	Nebraska-PV-818	75	100	93	3075
15	16	FAO	71	118	105	3070
16	2	FAO	86	105	91	2948
17	14	FAO	73	133	97	2938
18	7	FAO	73	87	83	2928
19	11	FAO	48	113	103	2839
20	12	FAO	60	113	103	2702

Plot Size = 3 rows = 2.25mx5.0m
Replications - 3
Hill to hill distance within a row = 20cm
Date Planted 5/7-10/80

Range of % Stand = 48-86%
Range of Plant Height = 83-133 cm
Range of Days to Bloom = 83-103
Range of Yield kg/ha = 6187-2377

Table 2.19 (continued)

Rank	Entry	Source	Percent Stand	Height cm	Days to 50% Bloom	Yield (kg/ha)
21	8	FAO	72	108	91	2691
22	9	FAO	77	83	83	2524
23	10	FAO	75	115	107	2402
24	4	FAO	63	97	98	2377

Test 80-013 International Sorghum Preliminary Yield Trial I

Purpose

The purpose of this test was to evaluate agronomic performance of 20 genotypes of early maturing, advanced generation lines from the breeding populations and their crosses with other elite material.

Plot Size and Experiment Design

The plot size in this experiment was 5 meters long and 1.5 meters wide (two rows per plot, rows were 0.75 meters apart). Hills within a row were 20 cm apart. Four to five seeds were planted per hill. When the seedlings were 10-15 cm tall, plots were thinned to 2-3 healthy plants per hill. Each entry was replicated twice and a randomized, complete block design was used. Every tenth row was planted with a local check variety.

Seed Source

Seed for this test was obtained from ICRISAT (India). Seed of local check was from 1979 crop.

Results

Field was staked either for road or for some other construction purpose. Thus, only data on percent stand are available (Table 2.20).

Table 2.20 Test 80-013 International Sorghum Preliminary Yield Trial I

Entry	Source/Origin	Pedigree	Percent Stand Rep I	Percent Stand Rep II
1	ICRISAT/A-6352	FLR-266xCSV-44-3-7-2	73	83
2	ICRISAT/A-6533	FLR-168/CSV-4-1-1-1	40	71
3	ICRISAT/A-6556	E35-1/US/B-287-2-1-2	67	96
4	ICRISAT/A-6557	E35-1/US/B-275-1-3	75	65
5	ICRISAT/A-3739	E35-1/US/B-275-1-1-1-3	67	85
6	ICRISAT/A-6529	E35-1/CUIA/Nigerian-3-2	58	75
7	ICRISAT/A-3732	E35-1/RS/B-342-2-2-3-1	98	90
8	ICRISAT/A-6535	E35-1/FLB-204-1-2	96	90
9	ICRISAT/A-2913	CSV-U/Bulk-Y/D-181-5-1	98	69
10	ICRISAT/A-3115	SC-108/ACL-2-1-1	63	90
11	ICRISAT/A-3187	1735-1/RS/R-195-3-2	75	38
12	ICRISAT/A-6559	PP5/RS,/VGC-1-9-1-2	48	42
13	ICRISAT/A-3940	Indian Synthetic-323-1-3	63	73
14	ICRISAT/A-6511	Indian Synthetic-3-2	85	38
15	ICRISAT/A-6425	Indian Synthetic Tall 600-2-1	92	71
16	ICRISAT/A-6359	FLR-1379-1-1-2	65	29
17	ICRISAT/A-6460	KS/1B-8785-1-1-3	88	67
18	---	CSV-4	69	88
19	---	CSH-6	85	73
20	---	Local	96	81
21	---	Local	96	86

Test 80-014 International Sorghum Preliminary Yield Trial II

Purpose

The purpose of this experiment was to evaluate agronomic performance of 45 medium to medium-late maturing genotypes of advanced generation lines from the breeding populations and their crosses with other elite material.

Plot Size and Experiment Design

The plot size in this experiment was 5 meters long and 1.5 meters wide. Plots had 2 rows with rows 0.75 meters apart. Hills within a row were 20 cm apart. Four to five seeds were planted per hill. When the seedlings were 10-15 cm tall, 2-3 healthy plants were retained per hill. Each entry was replicated two times and a randomized, complete block design was used.

Seed Source

Seed for this test was obtained from ICRISAT (India). Seed of local check was from 1979 crop.

Results

This field also was staked either for a road or for some other construction purpose. Whole test was lost. Only observation recorded was percent stand which ranged from 37-97% (Table 2.21).

Table 2.21 Test 80-014 International Sorghum Preliminary Yield Trial II

Entry No.	Origin	Pedigree	Percent Stand 1	2	Total	Mean % Stand
1	ICRISAT-A-6392	FLR-101/IS-1082-4-4-2-2	56	90	146	73
2	ICRISAT-A-6394	FLR-101/IS-1082	85	73	158	79
3	ICRISAT-A-6398	FLR-101/IS-1082-4-5-3	77	98	175	88
4	ICRISAT-A-6387	FLR-101/CSV-4-3-2-1	44	75	119	60
5	ICRISAT-A-6373	FLR-141/CSV-4-8-2-1-1	85	88	173	87
6	ICRISAT-A-6374	FLR-141/CSV-4-8-2-1-2	90	48	138	69
7	ICRISAT-A-6370	FLR-141/CSV-4-3-3-5	100	54	154	77
8	ICRISAT-A-6453	FLR-266-2265-1-2	71	85	156	78
9	ICRISAT-A-3844	FLR-266/CSV-4-10-1-1-1	81	94	175	88
10	ICRISAT-A-4041	FLR-266/CSV-4-3-3-3-1-3	75	90	165	83
11	ICRISAT-A-4028	FLR-274/CSV-4-1-2-3-2-2	98	75	173	87
12	ICRISAT-A-2509	CSV-4/U51R-408-1-6	50	85	135	68
13	ICRISAT-A-2515	CSV-4/U51R-408-6-3	58	97	155	78
14	ICRISAT-A-2612	CSV-4/FLR-53-2-3-6	92	94	186	93
15	ICRISAT-A-2613	CSV-4/FLR-53-2-3-7	81	83	164	82
16	ICRISAT-A-2828	CSV-4/Bulk-Y-55-1-1-2	85	85	170	85
17	ICRISAT-A-2830	CSV-4/Bulk-Y-55-1-1-4	83	96	179	90
18	ICRISAT-A-2832	CSV-4/Bulk-Y-55-1-2	100	94	194	97
19	ICRISAT-A-3667	E35-1/R51B-253-2-1-1-2	83	92	175	88
20	ICRISAT-A-3699	E35-1/R51B-394-1-1-2	81	94	175	88
21	ICRISAT-A-3705	E35-1/R51A-5-1-3	15	58	73	37
22	ICRISAT-A-6416	RS/1B-8785-1-1-1	31	90	121	61
23	ICRISAT-A-3263	CSV-4/R51/VGC-1-1	29	85	114	57
24	ICRISAT-A-2902	$VCLV_2$/Bulk-4-55-2-1-3	35	83	118	59
25	ICRISAT-A-3643	E35-1/U51B-487-1-1-2-2	25	77	102	51
26	ICRISAT-A-3647	E35-1/U51B-487-1-1-3-3	13	67	80	40
27	ICRISAT-A-3649	E35-1/U51B-487-2-1-1-4-2	56	92	148	74
28	ICRISAT-A-6465	R51R/CSV-4-1525-1-1	63	96	159	80
29	ICRISAT-A-6466	R51R/CSV-4-1525-2-1	96	90	186	93
30	ICRISAT-A-6280(79K)	R51R/CSV-4-1525-3-2-1	92	81	173	87

Table 2.21 Test 80-014 (continued)

Entry No.	Origin	Pedigree	Percent Stand 1	2	Total	Mean % Stand
31	ICRISAT-A-6401	R51R/CSV-4-1525-1-1-3	90	77	167	84
32	ICRISAT-A-6402	R51R/CSV-4-1515-1-1-4	96	65	161	82
33	ICRISAT-A-3922	Indian Synthetic-66-2-1-2-4	83	67	150	75
34	ICRISAT-A-6505	Indian Synthetic-412-1-1	75	15	90	45
35	ICRISAT-A-6421	Indian Synthetic(Tall)-112-1	73	96	169	85
36	ICRISAT-A-6521	Indian Synthetic(Tall)-4-1	98	40	148	69
37	ICRISAT-A-6423	Indian Synthetic(Tall)-387-1	75	73	148	74
38	ICRISAT-A-6424	Indian Synthetic(Tall)-387-3-1	73	54	127	64
39	ICRISAT-A-6503	Indian Synthetic(Tall)-387-3-3	88	25	113	57
40	ICRISAT-A-6474	Daillel-475-746-4-5-2-1	90	94	184	92
41	ICRISAT-A-6429	Good Grain-1483	88	56	144	72
42	ICRISAT-A-12748(78R)	Good Grain-1485	94	83	177	89
43	ICRISAT	CSV-4	92	52	144	72
44	ICRISAT	CSH-6	79	90	169	85
45	---	Local Check	58	96	154	72

Range for % Stand - 37-97%

Test 80-015 National Cooperative Maize Observation Test

and

Test 80-016 National Cooperative Pearl Millet Observation Test

Both these were regional tests. Different donor agricultural research organizations were to send their best entries to be tested in different climatic zones of YAR. The Ministry of Agriculture and UNDP researchers were responsible for distribution of seed. In 1980, seed was not received for these tests. Thus, the two tests were not planted.

Test 80-017 Pearl Millet Yield Trial

Purpose

The purpose of this test was to evaluate nine selected genotypes of pearl millet for grain yield. Other agronomic characteristics such as percent stand, plant height, days to 50% flowering, bird damage, seed size, seed color, lodging and disease reactions were studied in detail.

Plot Size and Experiment Design

Plots of this experiment were 5 meters long and 1.5 meters wide (two rows per plot; rows were 0.75 meters apart). Each entry was replicated three times. Randomized, complete block design was used in this experiment. Hill to hill distance within a row was 20 cm. Four to five seeds were planted per hill. When the seedlings were 15 cm tall, 2-3 healthy plants were saved per hill. Every ninth plot was planted with a local check.

Seed Source

Seed for eight entries came from FAO. Local check variety seed was obtained from 1979 remnent seed.

Results

Percent stand in this experiment ranged from 36-98%. Plant height ranged from 157-177 cms. Days to 50% bloom ranged from 121-130. Plant height and days to 50% bloom have a very narrow range. Grain yield ranged from 1947 kg/ha to 537 kg/ha. Entry Four and Eight seem to do better than the rest of the lines. Five test lines yeilded better than the local check (Table 2.22).

Table 2.22 Grain Yield and Agronomic Data of 9 Selected Genotypes and Their Rank in a Pearl Millet Yield Trial (80-017) Planted at Bir-Al-Gohum Research Farm at Sana'a in Yemen Arab Republic 1980.

Rank	Entry No.	Source	% Stand	Plant Height (cm)	Days to 50% Bloom	% Bird Damage	Yield (kg/ha)
1	4	FAO-77	36	155	121	68	1947
2	8	FAO-77	65	163	125	70	1824
3	7	FAO-77	98	175	126	75	1475
4	3	FAO-77	78	173	125	73	1357
5	6	FAO-77	83	177	125	83	1339
6	9	Local Check	72	167	130	77	1135
7	2	FAO-77	87	170	125	73	1021
8	1	FAO-77	76	158	126	83	709
9	5	FAO-77	98	157	129	55	537

Plot Size = 2 Rows = 1.5m x 5m
Replications = 3
Hill to hill distance within a row = 20 cm
Date Planted 5/14/80

Range of Percent Stand = 36-98%
Range of Height = 157-177 cm
Range of Days to 50% Bloom = 121-130
Range of Yield kg/ha = 1947-537
Range of Bird Damage = 55-83

Test 80-018 International Pearl Millet Adaptation Trial

Purpose

The purpose of this experiment was

a) to evaluate the performance of a spectrum of representative genotypes from several breeding programs in different countries,

b) to select superior genotypes on the basis of agronomic characteristics such as plant height, maturity, percent stand, days to 50% flowering, lodging, disease reaction, grain and stover yield and,

c) to increase the genetic diversity of pearl millet crop in YAR by incorporating selected genotypes introduced from other countries.

Plot Size and Experiment Design

The plot size in this experiment was 5 meters long and 1.5 meters wide (two rows per plot, rows were 0.75 meters apart). A randomized, complete block design was used and each entry was replicated three times. Hill to hill distance within a row was 20 cm and 4-5 seeds were planted per hill. When seedlings were 10-15 cm tall, thinning was done and 2-3 healthy seedlings were retained per hill. One local variety was planted as a standard check.

Seed Source

Seed of this test was obtained from ICRISAT (India).

Results

A road was built through the farm and the whole test was lost. (See Table 2.23).

Table 2.23 Test 80-018 International Pearl Millet Adaptation Trial 1980

Entry	Pedigree	Source	Rep I	Rep II	Rep III
1	3/4 EX Bornu	ICRISAT 77	116	208	301
2	3/4 Souna	ICRISAT 77	118	214	313
3	PSB-8	ICRISAT 77	112	212	305
4	ICS-7605	ICRISAT 77	103	219	319
5	EX Bornu	ICRISAT 77	105	205	310
6	World Composite	ICRISAT 77	102	217	307
7	PHB-14	ICRISAT 77	115	204	312
8	NHB-3	ICRISAT 77	108	215	314
9	BD-11	ICRISAT 77	113	213	316
10	ICH-107	ICRISAT 77	109	201	315
11	ICH-108	ICRISAT 77	111	210	303
12	ICH-118	ICRISAT 77	107	207	306
13	ICH-190	ICRISAT 77	117	211	302
14	WC-CX 75	ICRISAT 77	104	203	309
15	NC-SX-75	ICRISAT 77	121	202	318
16	IVS-AX-75	ICRISAT 77	120	221	317
17	SSC-CX-75	ICRISAT 77	119	216	311
18	Lc-CX-75	ICRISAT 77	114	209	321
19	KB-436	ICRISAT 77	101	220	304
20	LO-6	ICRISAT 77	106	206	308
21	Local Check	1979 Check Seed	110	218	320

Test 80-019 International Pearl Millet Adaptation Trial

Purpose

The purpose of this experiment was

a) to evaluate the performance of a spectrum of representative genotypes from several breeding programs in different countries,

b) to select superior genotypes on the basis of agronomic characteristics such as plant height, maturity, percent stand, days to 50% flowering, lodging, disease reaction, grain and stover yield and,

c) to increase the genetic diversity of pearl millet crop in YAR by incorporating selected genotypes introduced from other countries.

Plot Size and Experiment Design

The plot size, experiment design, replications, hill to hill distance was the same as in Test 80-018.

Seed Source

Seed of this experiment was obtained from ICRISAT (India) in 1978 but was not planted for a variety of reasons.

Results

A road was built through the research farm and the whole test was lost. (See Table 2.24).

Table 2.24 80-019 International Pearl Millet Adaptation Trial

Entry	Description	Source
1	Hybrid (5054A/B-282)	ICRISAT 78 (India)
2	Hybrid (111A/Sounab)	ICRISAT 78 (India)
3	Hybrid (5054A/700452029)	ICRISAT 78 (India)
4	Hybrid (111A/Sereme Composit 14(m))	ICRISAT 78 (India)
5	Hybrid GAU Jamnagar	India
6	Maharaytra Hyb. Sud Co. Jalna	India
7	Hybrid PAU hudhiana	India
8	AICMIP 5141A/J104	India
9	AICMIP 5071A/J104	India
10	Selected at Hissas	ICRISAT (India)
11	Selected at Hissas	ICRISAT (India)
12	Selected at ICRISAT	ICRISAT (India)
13	S1 of RF Synthetic	ICRISAT (India)
14	Selected from Intervaariotal Synthetic	ICRISAT (India)
15	Coimbatore World Composit Selection	ICRISAT (India)
16	Coimbatore Medrum Composit	ICRISAT (India)
17	West African/Indian Crosses	ICRISAT (India)
18	Iari New Delhi	ICRISAT (India)
19	Super Serene (Bulk Ci Generation)	ICRISAT (India)
20	Bulk C2 Generation	ICRISAT (India)
21	Local Check	

Test 80-020 International Pearl Millet Downey Mildew Nursery

Purpose

The purpose of this test was a) to evaluate resistance of a spectrum of representative genotypes from several breeding programs in different countries to Downey Mildew (*Sclerospora sp.*), b) to select superior genotypes, resistance to Downey Mildew, on the basis of agronomic characteristics such as plant height, maturity, percent stand, days to 50% flowering, lodging, grain and stover yield and, c) to increase the genetic diversity of pearl millet crop in YAR by incorporating selected resistant genotypes introduced from other countries.

Plot Size, Experiment Design

The plot size in this experiment was 5 meters long and 0.75 meters wide (one row per plot, rows were 0.75 meters apart). A randomized, complete block design was used and each entry was replicated twice. Hill to hill distance within a row was 20 cm and 4-5 seeds were planted per hill. When the seedlings were 10-15 cm tall, thinning was done and 2-3 healthy plants were saved per hill. Entry 50 was included as a local check.

Seed Source

Seed of this test was obtained from ICRISAT (India) in 1978, but was not planted for a variety of reasons.

Results

Plants were screened for *Sclerospora*. No incidence of Downey Mildew disease was observed. This may be due to dry weather conditions of Sana'a. Almost all the entries were weak from agronomic point of view. Reason may be that genotypes were not acclimatized to YAR conditions (Table 2.25).

Table 2.25 Test 80-020 International Pearl Millet Downey Mildew Nursery

Entry No.	Source	Rep I	Rep II
1	ICRISAT	1022	2068
2	ICRISAT	1032	2605
3	ICRISAT	1044	2043
4	ICRISAT	1026	2040
5	ICRISAT	1011	2011
6	ICRISAT	1034	2018
7	ICRISAT	1033	2048
8	ICRISAT	1047	2025
9	ICRISAT	1010	2013
10	ICRISAT	1004	2006
11	ICRISAT	1019	2012
12	ICRISAT	1027	2016
13	ICRISAT	1030	2034
14	ICRISAT	1039	2019
15	ICRISAT	1015	2001
16	ICRISAT	1037	2049
17	ICRISAT	1041	2041
18	ICRISAT	1006	2003
19	ICRISAT	1042	2038
20	ICRISAT	1036	2003
21	ICRISAT	1001	2024
22	ICRISAT	1016	2020
23	ICRISAT	1031	2031
24	ICRISAT	1007	2038
25	ICRISAT	1028	2010
26	ICRISAT	1014	2022
27	ICRISAT	1017	2037
28	ICRISAT	1038	2026
29	ICRISAT	1049	2015
30	ICRISAT	1025	2009

Table 2.25 (continued)

Entry No.	Source	Rep I	Rep II
31	ICRISAT	1002	2033
32	ICRISAT	1020	2004
33	ICRISAT	1013	2018
34	ICRISAT	1043	2007
35	ICRISAT	1045	2039
36	ICRISAT	1003	2045
37	ICRISAT	1024	2023
38	ICRISAT	1005	2045
39	ICRISAT	1021	2021
40	ICRISAT	1023	2027
41	ICRISAT	1046	2047
42	ICRISAT	1009	2029
43	ICRISAT	1048	2014
44	ICRISAT	1018	2044
45	ICRISAT	1035	2042
46	ICRISAT	1029	2032
47	ICRISAT	1040	2030
48	ICRISAT	1012	2036
49	ICRISAT	1008	2046
50	Local Check	1050	2050

Test 80-021 Sorghum Introduction

Purpose

This test was comprised of 54 lines introduced from different countries. Purpose was to assess the adaptability so that the genetic diversity of sorghum in YAR could be increased by introducing promising genotypes from other sorghum producing countries. Grain production and other phenotypic characteristics such as days to 50% flowering, lodging, plant height, test weight and disease reaction were studied in detail.

Plot Size and Experiment Design

Plot size in this experiment was 5 meters long and 1.5 meters wide (two rows per plot; rows were 0.75 meters apart). A randomized, complete block design was used in this experiment Each entry was replicated twice. Hills within a row were 20 cm apart. Four to five seeds were planted per hill. Thinning was done when seedlings were 10-15 cm tall and only 2-3 healthy seedlings were retained per hill. Every tenth row was planted with a local variety as a standard check.

Seed Sources

No. Lines	Source
12	South Dakota State University - Brookings, S.D. (USA) (Drought Tolerant)
7	Prairie Valley, Nebraska, USA (Drought Tolerant)
29	Al-Batan, New Mexico (Day-Neutral, Cold-Tolerant)
6	Sorghum Improvement Project, USAID, Sana'a

Results

Out of 54 entries planted, only 17 showed some acclimatization to the YAR environmental conditions. Results of these 17 entries are described in Table 2.26. Days to 50% flowering ranged from 72-111. There was a difference of 39 days between the early and the late blooming lines. This range gave enough variability to select early and medium maturity lines.

Plant height ranged from 65-143 cm. Difference between the tallest and shortest entries was 78 cms. Grain yield ranged from 8970 kg/ha to 1717 kg/ha. Yield of local check varieties ranged from 7778 kg/ha to 2208 kg/ha. Test weight of these 17 entries ranged from 61-73 kg/hl.

Entry 23 (PV530-GR) which was introduced from Nebraska, USA, ranked Number 1 and produced 8970 kg grain per hectare. In comparison, the best local check variety produced only 7778 kg grain per hectare. Test weight of Entry 23 was also significantly better (7 kg/hl) than the best local check.

Selections

Thirty-seven selfed heads were selected from these introductions to be included into two different 1981 Head Row Tests. Four lines were selected for 1981 Preliminary Yield Trial and one was selected for Short Grain Advanced Yield Trial. Eight lines were selected for two different Elite Yield Trials to be planted in 1981.

Table 2.26 Grain Yield of 17 Selected Genotypes Harvested out of 54 Introductions Planted in Test 80-021 at Bir Al Gohum Research Farm at Sana'a in Yemen Arab Republic 1980.

Rank	Test Entry No.	Source	Days to 50% Bloom	Height (cm)	Grain Yield (kg/ha)	Test Weight (kg/hl)	Remarks
1	23	PV 530-GR	89	80	8970	73	SG-EL
2	42	C.T.L. MX-12	85	105	8669	71	EL
3	40	Local Check	78	143	7778	64	EL
4	24	PV 731 GR	107	75	7682	68	SG-EL
5	38	PV MX-9	85	108	7474	73	EL
6	37	PV MX-8	83	110	6469	66	EL
7	27	PV 703 GR	105	70	6189	69	SG-P
8	50	Local Check	103	125	5709	64	EL
9	25	PV 729 GT	107	65	5291	64	SG-EL
10	41	C.T.L. MX-11	80	90	4768	70	SG-P
11	11	SD 104	77	90	4347	73	SG-P
12	9	SD 102	74	70	3653	69	SG-EL
13	1	Local Check	106	110	3571	61	AD
14	22	PV 657 Y	106	65	3445	59	SG-P
15	10	Local Check	111	115	2208	61	P
16	48	C.T.L. MX-18	76	120	1851	-	HD
17	14	SD 106 MS	72	70	1717	-	SG-HD

Plot Size = 2 rows, 1.50 m x 5 m
Replications 2
Hill to Hill Distance Within a Row - 20 cm

Range of Days to 50% Bloom = 72-111
Range of Plant Height cm = 65-143
Range of Grain Yield kg/ha = 8970-1717
Range of Test Wt Kg/hl = 61-73

Remarks:
SG-EL=Selected for 1981 Short Grain Elite Yield Test
EL=Selected for 1981 Elite Yield Test
SG-P=Selected for 1981 Short Grain Preliminary Yield Test
AD=Selected for 1981 Advanced Yield Test
HD=Selected for 1981 Head Row Test
SG-HD=Selected for 1981 Short Grain Head Row Test

Test 80-023 International Pearl Millet Adaptation Trial

Purpose

The purpose of this experiment was to

a) evaluate the performance of a spectrum of representative genotypes from several breeding programs carried out in different countries,

b) select superior genotypes on the basis of agronomic characteristics such as plant height, maturity, percent stand, days to 50% flowering, lodging, disease reaction, grain and stover yield and,

c) increase the genetic diversity of pearl millet crop in YAR by growing selected genotypes introduced from other countries.

Plot Size and Experiment Design

The plot size in this experiment was 5 meters long and 1.5 meters wide (two rows per plot; rows were 0.75 meters apart). Each entry was replicated three times and a randomized complete block design was followed in this test. Hill to hill distance within a row was 20 cm and 4-5 seeds were planted per hill. When plants were 10-15 cm tall, thinning was practiced and 2-3 healthy plants were retained per hill. One local variety was planted as a standard check.

Seed Source

Seed of this test was obtained from ICRISAT (India).

Results

This field was staked and surveying team badly damaged the test material. Only observation recorded was percent stand and it ranged from 44-92% (Table 2.27).

Table 2.27 Test 80-023 International Pearl Millet Adaptation Trial

Entry No.	Pedigree	Origin	Rep I	Rep II	Rep III	Average % Stand
1	20-CO-6	ICRISAT (India)	101	211	320	61
2	11-ICH-108	ICRISAT (India)	102	215	319	92
3	13-ICH-190	ICRISAT (India)	103	219	321	54
4	5-EXBORNU/C2	ICRISAT (India)	104	220	311	68
5	18-LC-Cx75	ICRISAT (India)	105	221	314	63
6	2-3/4 SOUNA	ICRISAT (India)	106	212	317	44
7	1-3/4 EXBORNU	ICRISAT (India)	107	216	309	78
8	14-WC-Cx75	ICRISAT (India)	108	218	315	75
9	10-ICH-107	ICRISAT (India)	109	217	313	92
10	16-IVC-Ax75	ICRISAT (India)	110	213	312	77
11	7-PHB-14	ICRISAT (India)	111	214	301	72
12	9-BD-111	ICRISAT (India)	112	201	303	66
13	15-NC-Sx75	ICRISAT (India)	113	205	307	72
14	8-NHB-3	ICRISAT (India)	114	207	308	61
15	3-PSB-8	ICRISAT (India)	115	209	304	71
16	4-IVS-7605	ICRISAT (India)	116	204	310	74
17	21-Local Check	ICRISAT (India)	117	203	305	80
18	17-SSC-Cx75	ICRISAT (India)	118	202	307	64
19	12-ICH-118	ICRISAT (India)	119	208	302	90
20	6-World Comp.	ICRISAT (India)	120	206	318	78
21	19-KB-436	ICRISAT (India)	121	210	316	67
22	Local Check	---	122	222	322	77

Range for % Stand = 44-92%

Test 80-025 International Pearl Millet Adaptation Trial

Purpose

The purpose of this experiment was the same as in Test 80-023.

Plot Size and Experimental Design

Same as in Experiment 80-023.

Seed Source

Seed of this test also was obtained from ICRISAT (India).

Results

Part of this field was staked and surveyed either for a road or for some other construction purpose. The whole test was lost (Table 2.28).

Table 2.28 Test 80-025 International Pearl Millet Adaptation Trial

Planted May 6, 1980 - Seed Source 1979

Entry No.	Designation	Origin	Rep I	Rep II	Rep III
1	ICH-165	ICRISAT (India)	101	219	306
2	ICH-226	ICRISAT (India)	102	218	301
3	MBH-110	India	103	208	302
4	MBH-124	India	104	203	320
5	ICH-241	ICRISAT (India)	105	211	307
6	UCH-4	India	106	214	318
7	PHB-12	India	107	213	311
8	NHB-3	India	108	220	315
9	ICMS-7703	ICRISAT (India)	109	212	312
10	ICMS-7803	ICRISAT (India)	110	216	317
11	ICMS	ICRISAT (India)	111	202	309
12	ICMS-7318	ICRISAT (India)	112	201	321
13	WC-C75	ICRISAT (India)	113	209	304
14	IVS-P77	ICRISAT (India)	114	210	310
15	SSC-H76	ICRISAT (India)	115	221	313
16	WC-B77	ICRISAT (India)	116	217	316
17	NEC-H77	ICRISAT (India)	117	207	303
18	MC-K77	ICRISAT (India)	118	215	308
19	IVS-5454	ICRISAT (India)	119	205	305
20	PSB-8	India	120	206	319
21		Local	121	204	314

Table 2.29 Source of 1980 Entries

Test No.	Total	79001	79002	79003	79004	79005	79006	79009	79010	Misc.
80-001	443	115	180	3	4	65	9	1	---	57
80-002	256	113	50	21	3	60	1	---	---	8
80-003	284	38	83	4	3	31	4	---	60	61
80-004	22	13	---	---	3	6	---	---	---	---
80-005	88	17	13	5	4	9	38	---	---	2
80-010	50	---	---	13	2	19	10	---	---	6
80-006	54	---	---	2	3	44	4	---	---	1
80-007	71	---	25	---	---	---	---	---	44	2
80-008	54	---	---	---	---	---	---	---	53	1
80-009	31	---	---	10	4	9	5	---	---	3
80-012	24	---	---	---	---	---	---	---	---	24
80-013	21	---	---	---	---	---	---	---	---	21
80-014	45	---	---	---	---	---	---	---	---	45
80-017	9	---	---	---	---	---	---	---	---	9
80-018	21	---	---	---	---	---	---	---	---	21
80-019	21	---	---	---	---	---	---	---	---	21
80-020	50	---	---	---	---	---	---	---	---	50
80-021	61	---	---	6	---	---	---	---	---	61
80-025**	21	---	---	---	---	---	---	---	---	21

* Maize

** Pearl Millet

Table 2.30 No. of Heads Selfed and Selected in 1980

Test	Test Description	No. of Heads Selected
80-001	Head Rows	198
80-002	Preliminary Yield Trial I	217
80-003	Preliminary Yield Trial II	291
80-005	Short Grain Yield Trial	102
80-006	Advanced Yield Trial	83
80-007	F_1 Population Nursery	42
80-008	Pollen Parents	58
80-009	Elite Yield Trial	37
	TOTAL	1028

3. Planting Plan for 1981

At the end of the 1980 season, seeds were selected and prepared for the 1981 season. The following tables present an overview of all tests and the specific genotypes selected for each test. Table 3.1 lists the tests prepared for the 1981 planting. Tables 3.2 - 3.9 detail the sources of seed and the seed pedigrees for each test.

Table 3.1. Tests Proposed for 1981 Planting

Test	Title	# of Entries	Plot Size Rows/Plot	Replications	# Rows
81-001	Head to row test	554	1	1	554
81-002	Preliminary Yield Trial	100	2	3	600
81-003	Advanced Yield Trial	72	3	3	648
81-004	Elite Yield Trial	42	4	4	672
81-005	Short Grain Head Rows	124	1	1	124
81-006	Short Grain Preliminary Yield Trial	34	2	3	204
81-007	Short Grain Advanced Yield Trial	16	3	3	144
81-008	Short Grain Elite Yield Trial	22	4	3	352

Table 3.2. Head to row test (81-001)

5 seeds/hill--1 row/plot

Entry No.	Source	Pedigree	Entry No.	Source	Pedigree
1	80-001-5	76026-043-3	47	80-003-156	77026-037-11
2	80-001-57	78097-R-74	48	80-003-159	77026-065-5
3	80-001-72	78099-R-4	49	80-003-162	77026-036-3
4	80-001-81	78099-R-19	50	80-003-165	77026-002-11
5	80-001-85-1	78099-R-30	51	80-003-168	77(Comp) 131
6	80-001-97	78099-R-57	52	80-003-179	Sanaa - 1
7	80-001-107	78(comp)-37	53	80-003-195	Sanaa - 6
8	80-001-109	76026-005-2	54	80-003-202	Sanaa - 9
9	80-001-112	76026-007-5	55	80-003-213	Sanaa - 1
10	80-001-116	76026-010-7	56	80-003-221	Sanaa - 3
11	80-001-127	NES1500xNES6973	57	80-003-234	Sanaa - 6
12	80-001-161	NES3329xNES6972	58	80-003-244	RADAA Local
13	80-001-162	NES3329xNES6972	59	80-003-256	P-P-14
14	80-001-197	I5509xNES6978	60	Local check	Local check
15	80-001-203	I5509xNES6978	61	80-003-258	GSA-1586F
16	80-001-217	NES2197xNES6975	62	80-003-259	GSA-30F
17	80-001-224	NES2197xNES6979	63	80-003-266	FAO-5
18	80-001-398	Local Selection	64	80-003-268	FAO-7
19	80-002-16	76026-008-10	65	80-003-269	FAO-8
20	80-002-23	79093-2-1	66	80-003-274	FAO-12
21	80-002-31	77093-72-2	67	80-003-275	FAO-13
22	80-002-44	78097-R-2	68	80-003-277	UNKNOWN - 10
23	80-002-99	78099-R-74	69	80-005-6	1977 (comp)
24	80-002-106	78099-R-88	70	80-005-7	78097-R-73
25	80-002-107	78100-P-17	71	80-005-25	IS509xNES6971
26	80-002-123	NES110xNES6976	72	80-005-28	IS9958xNES6971
27	80-002-149	NES2197xNES6973	73	80-005-73	77093-05-4
28	80-002-188	IBB-16-6	74	80-005	7616-057
29	80-002-215	76026-072-2	75	80-006-6	76026-026-5
30	80-002-217	77093-58-2	76	80-006-13	76026-053-1
31	80-002-218	77093-64-3	77	80-006-17	77(Comp)-37
32	80-002-227	77093-56-2	78	80-006-19	76026-036-2
33	80-002-242	76026-003-1	79	80-006-29	76026-075-2
34	80-002-255	77(comp)-30	80	Local check	Sanaa 7
35	80-003-25	78099-R-13	81	80-006-38	76026-06-8
36	80-003-96	NES110xNES6970	82	80-006-39	76019-001-3
37	80-003-116	NK233F_2xLocal F_2	83	80-006-40	76026-067-3
38	80-003-117	NK233F_2xLocal F_2	84	80-006-41	77093-057-4
39	80-003-126	PB-1BRxLocal	85	80-001-174-2	NES3329xNES6977
40	Local Check	Local Check	86	80-006-43	76026-072-3
41	80-003-141	76026-036-4	87	80-001-176-2	NES3329xNES6979
42	80-003-142	76026-074-3	88	80-006-47	76026-060-4
43	80-003-143	76026-074-4	89	80-006-50	76026-024-2
44	80-003-144	77093-69-1	90	80-006-52	76026-039-3
45	80-003-154	77093-63-3	91	80-006-54	76026-074-10
46	80-003-155	77093-36-4	92	80-001-1	76019-001-9

Table 3.2 (continued)

Entry No.	Source	Pedigree	Entry No.	Source	Pedigree
93	80-001-2-1	76019-003-6	141	80-001-63-2	78097-R-86
94	80-001-2-2	76019-003-6	142	80-001-63-3	78097-R-86
95	80-001-2-3	76019-003-6	143	80-001-65	78097-R-89
96	80-001-3-1	76019-004-1	144	80-001-66	78097-R-94
97	80-001-3-2	76019-004-1	145	80-001-75	78099-R-8
98	80-001-4-1	76026-043-3	146	80-001-79-1	78099-R-16
99	80-001-4-2	76026-043-3	147	80-001-79-2	78099-R-16
100	Local check	Local check	148	80-001-79-3	78099-R-16
101	80-001-7-1	76026-053-2	149	80-001-82	78099-R-24
102	80-001-7-2	76026-053-2	150	80-001-85-2	78099-R-30
103	80-001-9	76026-064-6	151	80-001-86	78099-R-32
104	80-001-10	76026-055-1	152	80-001-87	78099-R-35
105	80-001-12	76026-059-3	153	80-001-98	78099-R-57
106	80-001-13	76026-059-7	154	80-001-99	78099-R-70
107	80-001-14	76026-060-6	155	80-001-100-2	78099-R-70
108	80-001-17	76026-070-10	156	80-001-105-1	78-(Comp)-8
109	80-001-18	76026-070-15	157	80-001-105-2	78-(Comp)-8
110	80-001-19	76026-070-16	158	80-001-106	78-(Comp)-8
111	80-001-20	77093-24-1	159	80-001-108	78-(Comp)-37
112	80-001-22	77093-24-1	160	Local check	Local check
113	80-001-23	76093-24-4	161	80-001-113	76026-008-5
114	80-001-24-1	76093-24-6	162	80-001-115	76026-010-10
115	80-001-24-2	76093-24-6	163	80-001-118	78-(Comp)-39
116	80-001-25-1	76093-39-4	164	80-001-124	NES110xNES6973
117	80-001-25-2	76093-39-4	165	80-001-128	NES1500xNES6973
118	80-001-27	76093-61-5	166	80-001-167	NES3329xNES6975
119	80-001-28	76026-71-4	167	80-001-171	NES3329xNES6976
120	Local check	Local check	168	80-001-174	NES3329xNES6977
121	80-001-29	1977 (comp)	169	80-001-176	NES3329xNES6979
122	80-001-35	1977 (comp)	170	80-001-177	NES3329xNES6980
123	80-001-36	1977 (comp)	171	80-001-178	NES3329xNES6980
124	80-001-37	78097-R-11	172	80-001-179-1	NES3329xNES6980
125	80-001-38	78097-R-16	173	80-001-179-2	NES3329xNES6980
126	80-001-40	78097-R-23	174	80-001-185	NES3329xNES6985
127	80-001-42	78097-R-26	175	80-001-191	IS509xNES6970
128	80-001-43	78097-R-30	176	80-001-192	IS509xNES6971
129	80-001-44	78097-R-30	177	80-001-201	IS509xNES6982
130	80-001-45	78097-R-42	178	80-001-202	IS509xNES6982
131	80-001-46-1	78097-R-43	179	80-001-204	IS509xNES6982
132	80-001-46-2	78097-R-43	180	Local check	Local check
133	80-001-47-1	78097-R-43	181	80-001-208	IS509xNES6986
134	80-001-47-2	78097-R-43	182	80-001-212	NES2197xNES6970
135	80-001-49	78097-R-46	183	80-001-216-1	NES2197xNES6975
136	80-001-50	78097-R-50	184	80-001-216-2	NES2197xNES6475
137	80-001-52	78097-R-54	185	80-001-218	NES2197xNES6475
138	80-001-61	78097-R-81	186	80-001-219	NES2197xNES6475
139	80-001-63-1	78097-R-86	187	80-001-220	NES2197xNES6475
140	Local check	Local check	188	80-001-221-1	NES2197xNES6977

Table 3.2 (continued)

Entry No.	Source	Pedigree	Entry No.	Source	Pedigree
189	80-001-221-2	NES2197xNES6977	230	80-001-388-2	79093-76-6
190	80-001-222	NES2197xNES6977	231	80-001-389	77(Comp)-1
191	80-001-223	NES2197xNES6977	232	80-001-393	77(Comp)-1
192	80-001-225	NES2197xNES6979	233	80-001-395	NES1789
193	80-001-232	NES2197xNES6985	234	80-001-396	L-Selections
194	80-001-267	(P894F_2xLocal)F_2	235	80-001-399	L-Selections
195	80-001-275	(P8681F_2xLocal)F_2	236	80-001-400	L-Selections
196	80-001-287	(NK233F_2xLocal)F_2	237	80-001-401	L-Selections
197	80-001-288	(NK233F_2xLocal)F_2	238	80-001-402	Dekalb-516
198	80-001-292-1	PB-IBR-Day	239	80-001-405	NES3392xNES6976
		NeutralxLocal	240	Local check	Local check
199	80-001-292-2	PB-IBR-Day	241	80-002-49	78097-R-25
		NeutralxLocal	242	80-002-50-1	78097-R-28
200	Local check	Local check	243	80-002-50-2	78097-R-28
201	80-001-303	PB-IBR-Day	244	80-002-52-1	78097-R-32
		NeutralxLocal	245	80-002-54-1	78097-R-44
202	80-001-305	PB-IBR-Day	246	80-002-54-2	78097-R-44
		NeutralxLocal	247	80-002-65	78097-R-79
203	80=001-307	PB-IBR-Day	248	80-002-72	78099-R-2
		SensitivexLocal	249	80-002-74-1	78099-R-6
204	80-001-322-2	76026-066-6	250	80-002-74-2	78099-R-6
205	80-001-333	77093-63-2	251	80-002-79	78099-R-17
206	80-001-355	76026-026-5	252	80-002-85	78099-R-29
207	80-001-361	77093-63-3	253	80-002-101	78099-R-61
208	80-001-365-1	76026-037-11	254	80-002-108-2	78(Comp)-18
209	80-001-365-2	76026-037-11	255	80-002-111-1	78(Comp)-24
210	80-001-367	77093-68-4	256	80-002-111-2	78(Comp)-24
211	80-001-369	77093-56-7	257	80-002-112	78(Comp)-27
212	80-001-370	76026-033-6	258	80-002-113	78(Comp)-2[illegible]
213	80-001-371	76026-065-5	259	80-002-114	78(Comp)-34
214	80-001-111	76026-005-11	260	Local check	Local check
215	80-001-206	IS509xNES6982	261	80-002-118-2	NES110xNES6972
216	80-001-294	PB-IBR-Day	262	80-002-127-1	NES1500xNES6972
		NeutralxLocal	263	80-002-127-2	NES1500xNES6973
217	80-001-374	76026-036-3	264	80-002-129	NES2141xNES6975
218	80-001-375	76026-036-3	265	80-002-130	NES2141xNES6978
219	80-001-376	76026-036-3	266	80-002-132	NES2141xNES9978
220	Local check	Local check	267	80-002-133-1	NES2141xNES6983
221	80-001-377	76026-072-2	268	80-002-133-2	NES2141xNES6983
222	80-001-378	76026-053-4	269	80-002-134	NES3329xNES6971
223	80-001-379	76026-002-11	270	80-003-2112	Wadi Nakhiw
224	80-001-381	76026-032-5	271	80-002-118-1	NES110xNES6972
225	80-001-382	77093-56-5	272	80-002-135-1	NES3329xNES6975
226	80-001-383	77093-56-5	273	80-002-135-2	NES3329xNES6975
227	80-001-386-1	76026-004-4	274	80-002-138-2	IS509xNES6978
228	80-001-386-2	76026-004-4	275	80-002-139	IS509xNES6982
229	80-001-387	79093-33-5	276	80-002-140	IS509xNES6982

Table 3.2 (continued)

Entry No.	Source	Pedigree	Entry No.	Source	Pedigree
277	80-002-141-2	IS509xNES6986	324	80-002-246-2	77093-09-3
278	80-002-142	IS509xNES6986	325	80-002-252-1	76026-052-4
279	80-002-145	NES2197xNES6971	326	80-002-252-2	76026-052-4
280	80-002-153-1	NES2197xNES6975	327	80-002-254	77093-57-5
281	80-002-153-2	NES2197xNES6975	328	80-002-23	77093-33-2-1
282	80-002-155	NES2197xNES6978	329	80-001-146-2	NES2141xNES6982
283	80-002-163	IS9958xNES6970	330	80-002-256	77093-03-5
284	80-002-164	IS9958xNES6971	331	80-002-47	78097-R-25
285	80-002-165-1	IS9958xNES6971	332	80-002-48	78097-R-25
286	80-002-165-2	IS9958xNES6971	333	80-002-49	78097-R-25
287	80-002-166	IS9958xNES6973	334	80-002-50	78097-R-28
288	80-002-168	NES3329xNES6976	335	80-002-58	78097-R-62
289	80-002-172	76026-054-1	336	80-002-69	78097-R-91
290	Local check	Local check	337	80-002-71	78097-R-95
291	80-002-173	76019-001-3	338	80-002-72	78099-R-2
292	80-002-175	76019-037-10	339	80-002-75-1	78099-R-8
293	80-002-178	Sana'a-6	340	Local check	Local check
294	80-002-184	76026-023	341	80-003-75-2	IS509xNES6982
295	80-002-186	IBB-16-2	342	80-003-77-1	NES2197xNES6974
296	80-002-187-1	76026-025	343	80-002-77-2	NES2197xNES6974
297	80-002-187-2	76026-025	344	80-003-79	NES2197xNES6975
298	80-002-194-1	76026-033	345	80-002-82	NES2197xNES6981
299	80-002-194-2	76026-033	346	80-003-85	NES2197xNES6972
300	80-002-195	Takill	347	80-003-92	IS9958xNES6973
301	80-002-196	Sana'a-7	348	80-003-97-2	NES3329xNES6976
302	80-002-202-1	76026-026-10	349	80-003-101-1	$(P894F_2xLocal)F_2$
303	80-002-202-2	76026-026-10	350	80-003-101-2	$(P894F_2xLocal)F_2$
304	80-002-204	76026-063-1	351	80-003-102	$(P894F_2xLocal)F_2$
305	80-002-205	76026-50-4	352	80-003-104	$(P866F_2xLocal)F_2$
306	80-002-207	76026-019-9	353	80-003-106	$(P8681F_2xLocal)F_2$
307	80-002-210	76026-052-4	354	80-003-111	$(P8681F_2xLocal)F_2$
308	80-002-212	76026-011-6	355	80-003-114	$(P8681F_2xLocal)F_2$
309	80-002-213	76026-061-4	356	80-003-121-1	PB-IBR-Day NeutralxLocal
310	Local check	Local check			
311	80-002-214	76026-070-2	357	80-003-121-2	PB-IBR-Day NeutralxLocal
312	80-002-218-2	77093-64-3			
313	80-002-221	76026-063-2	358	80-003-125	PB-IBR-Day NeutralxLocal
314	80-002-226	77093-50-6			
315	80-002-228	77093-57-4	359	80-003-127	PB-IBR-Day NeutralxLocal
316	80-002-232	(Comp)-113			
317	80-002-233-1	NES6986	360	Local check	Local check
318	80-002-233-2	NES6986	361	80-003-138	76026-067-6
319	80-002-233-3	NES6986	362	80-003-143-2	76026-074-4
320	80-003-2076	Wadi Nakhian	363	80-003-149	76026-030-1
321	80-002-235	77(Comp)-74	364	80-003-151	76026-059-4
322	80-002-237-2	77093-56-3	365	80-003-152	76026-026-5
323	80-002-246-1	77093-09-3	366	80-003-153-1	76026-044-4

Table 3.2 (continued)

Entry No.	Source	Pedigree	Entry No.	Source	Pedigree
367	80-003-153-2	76026-044-4	414	80-006-12-2	76026-047-7
368	80-003-158-1	77093-68-4	415	80-001-185-2	NES3329xNES6985
369	80-003-158-2	77093-68-4	416	80-006-13-2	76026-053-1
370	80-003-163-2	76026-036-3	417	80-006-14-1	77093-33-4
371	80-003-163-3	76026-036-3	418	80-006-14-2	77093-33-4
372	80-003-169	76026-032-2	419	80-006-15-1	77093-52-3
373	80-003-172	77093-33-6	420	Local check	Local check
374	80-003-173-2	NES1789	421	80-006-15-2	77093-52-3
375	80-003-174	76-26-060-6	422	80-006-16-1	77093-56-4
376	80-003-176	78097-R-23	423	80-006-16-2	77093-56-4
377	80-003-177-2	78099-R-35	424	80-003-196-2	Sana'a-7
378	80-003-178	Sana'a-1	425	80-006-18	76026-037-1
379	80-003-187	Sana'a-3	426	80-005-128-2	IS9958xNES6971
380	Local check	Local check	427	80-006-20	76026-057-4
381	80-003-129	76015-110	428	80-006-21	76026-061-6
382	80-003-193	Sana'a-6	429	80-006-22	76026-070-13
383	80-003-195-2	Sana'a-6	430	80-006-23	76026-074-5
384	80-003-196	Sana'a-7	431	80-006-24	76026-072-7
385	80-003-201	Sana'a-9	432	80-006-25-1	77093-55-2
386	80-003-202-2	Sana'a-9	433	80-006-25-2	77093-55-2
387	80-003-207	Sana'a-9	434	80-006-26	77(Comp)-79
388	80-003-211	Radah Local	435	80-006-27	77093-61-3
389	80-003-212	Radah Local	436	80-006-28-1	77(Comp)-7
390	80-003-217-1	Sana'a-3	437	80-006-28-2	77(Comp)-7
391	80-003-217-2	Sana'a-3	438	80-003-1202-2	Sana'a-9
392	80-003-241	Sana'a-10	439	80-006-29-2	76026-075-6
393	80-003-242	Radah Local	440	Local check	Local check
394	80-003-243	Radah Local	441	80-006-30	Local check
395	80-003-252-1	79001-302	442	80-006-31	76026-075-1
396	80-003-252-2	79001-302	443	80-006-32-1	77(Comp)-117
397	80-003-263	FAO-2	444	80-006-32-2	77(Comp)-117
398	80-006-1-1	76026-024	445	80-006-33	77(Comp)-77
399	80-006-1-2	76026-024	446	80-006-34	77093-56-1
400	Local check	Local check	447	80-006-35	77093-53-1
401	80-006-2	76025-052	448	80-006-36	77093-42-1
402	80-006-3	IBB24-1	449	80-006-37	76026-06-4
403	80-006-4	Sana'a-1	450	80-002-1189-1	IVESS-7003
404	80-006-5	Sana'a-4	451	80-002-1189-2	IVESS-7003
405	80-002-179	IBB-17-1	452	80-006-39-2	76019-001-3
406	80-006-7	77-093-64-1	453	80-003-195-2	Sana'a-6
407	80-006-8	77(Comp)-56	454	80-002-1218-2	77093-64-3
408	80-006-9	77093-65-3	455	80-001-100-2	78099-R-70
409	80-006-10-1	77093-57-1	456	80-003-1143-2	76026-074-4
410	80-006-10-2	77093-57-1	457	80-002-1141	IS509xNES6986
411	80-006-11-1	76026-037-7	458	--	--
412	80-006-11-2	76026-037-7	459	80-002-46	78097-R-20
413	80-006-12-1	76026-047-7	460	Local check	Local check

Table 3.2 (continued)

Entry No.	Source	Pedigree	Entry No.	Source	Pedigree
461	--	--	508	80-008-38-2	77093(Comp)128
462	80-002-48	78097-R-25	509	80-008-39	77093(Comp)128
463	80-006-49-1	NES-6983	510	80-008-40-1	NES1421
464	80-006-49-2	NES-6983	511	80-008-40-2	NES1421
465	80-021-34	CTL MX-5	512	80-008-42-1	NES1570
466	80-021-51	CTL MX-20	513	80-008-42-2	NES1570
467	80-001-6	76026-053-2	514	80-008-44-1	NES1570
468	80-001-[illegible]3-1	78097-R-56	515	80-008-44-2	NES1570
469	80-001-[illegible]3-2	78097-R-56	516	80-008-44-3	NES1570
470	Local check	Local check	517	80-008-45	NES1570
471	80-007-8	CK60A/76026-061-1	518	80-008-46-1	NES1570
472	80-007-13	CK60A/76026-074-8	519	80-008-46-2	NES1570
473	80-007-14	CK60A/76026-074-10	520	Local check	Local check
474	80-007-24	CK60A/76026-074-92	521	80-008-47	NES1570
475	80-007-26	CK60A/NES-1570	522	80-008-50-1	IS410
476	80-007-31	CK60A/76026-039-3	523	80-008-50-2	IS410
477	80-007-32	CK60A/76026-068-6	524	80-008-51	IS2927
478	80-007-33	CK60A/76026-074-10	525	80-008-52	IS2927
479	80-007-38	CK60A/(Comp)-72	526	80-009-1	76026-041
480	Local check	Local check	527	80-009-4-1	76025-017
481	80-007-39-1	CK60A/Comp-73	528	80-009-4-2	76025-017
482	80-007-44	CK60A/76026-032-2	529	80-009-11	76026-024
483	80-007-45	CK60A/76026-061-1	530	80-009-12	Rahda-Local
484	80-007-47-1	CK60A/76026-061-12	531	80-009-14	Sana'a-1
485	80-007-47-2	CK60A/76026-061-12	532	80-009-15	76026-025-6
486	80-007-47-3	CK60A/76026-061-12	533	80-009-18	NES1570
487	80-007-48	CK60A/76026-070-5	534	80-009-23	76026-063
488	80-007-49	CK60A/76026-074-8	535	80-009-26	77093-56-1
489	80-007-51	CK60A1/76026-074-11	536	80-021-5	79003-14
490	80-007-52	CK60A/77093-03-5	537	80-021-2-1	79003-17
491	80-007-54	CK60A/77093-08-8	538	80-021-2-2	79003-17
492	80-007-68	CK60A/NES-1780	539	80-021-2-3	79003-17
493	80-007-70	CK60A/IS-2927	540	Local check	Local check
494	80-007-71	CK60A/CIMMYT76BJ197	541	80-021-2-4	79003-17
495	80-008-9-1	76026-070-5	542	80-021-3-1	79003-3
496	80-008-9-2	76026-070-5	543	80-021-3-2	79003-3
497	80-008-9-3	76026-070-5	544	80-021-15	Dual Sorghum HSS-1
498	80-008-11-1	76026-074-10	545	80-021-16	Rancher HSS-2
499	80-008-11-2	76026-074-10	546	80-021-32	CTL MX-3
500	Local check	Local check	547	80-021-33	CTL MX-4
501	80-008-12	76026-074-10	548	80-021-38	CTL MX-9
502	80-008-13	76026-074-10	549	80-021-44	CTL MX-14
503	80-008-15	77093-05-4	550	80-021-45-1	CTL MX-15
504	80-008-18-1	77093-33-5	551	80-021-59	CTL MX-28
505	80-008-18-2	77093-33-5	552	80-021-48	CTL MX-18
506	80-008-24	77093(Comp)21	553	80-021-49	CTL MX-19
507	80-008-38-1	77093(Comp)128	554	80-021-50	Local Check

Table 3.3. Preliminary Yield Trial (81-002)

5 Seeds/Hill--1 Row/Plot

Entry No.	Source	Pedigree	Replications R1	R2	R3
1	80-001-74	78099-R-7	1001	2039	3019
2	80-001-76	78099-R-9	1002	2033	3096
3	80-001-77	78099-R-12	1003	2088	3083
4	80-001-78	78099-R-13	1004	2064	3093
5	80-001-80	78099-R-16	1005	2058	3069
6	80-001-84	78099-R-28	1006	2060	3098
7	80-001-100	78099-R-70	1007	2078	3034
8	80-001-102	78099-R-76	1008	2054	3074
9	80-001-103	78099-R-78	1009	2062	3023
10	Local check	Local check	1010	2023	3046
11	80-001-110	76026-005-10	1011	2050	3095
12	80-001-114	76026-009-7	1012	2005	3016
13	80-001-117	76026-011-1	1013	2029	3064
14	Local check	Local check	1014	2063	3055
15	80-001-125	NES110xNES6977	1015	2059	3099
16	80-001-160	NES3329xNES6972	1016	2073	3050
17	80-001-166	NES3329xNES6973	1017	2026	3052
18	80-001-198	IS509xNES6978	1018	2061	3043
19	80-001-388	79093-76-6	1019	2035	3100
20	Local check	Local check	1020	2030	3026
21	80-002-63	79093-R-69	1021	2075	3020
22	80-002-64	79093-R-76	1022	2084	3035
23	80-002-78	78099-R-14	1023	2057	3080
24	80-002-89	78099-R-37	1024	2043	3047
25	80-002-91	78099-$-38	1025	2046	3045
26	80-002-100	78099-R-59	1026	2098	3082
27	80-002-104	78099-R-78	1027	2090	3018
28	80-002-105	78099-R-82	1028	2045	3037
29	80-002-106	78099-R-88	1029	2093	3087
30	Local check	Local check	1030	2001	3094
31	80-002-119	NES110xNES6970	1031	2027	3003
32	80-002-124	NES110xNES6976	1032	2021	3024
33	80-002-141	IS509xNES6986	1033	2025	3021
34	80-002-143	NES2197xNES6970	1034	2074	3053
35	80-002-144	NES2197xNES6970	1035	2085	3072
36	80-002-146	NES2197xNES6971	1036	2053	3059
37	80-002-171	76026-061-4	1037	2031	3084
38	80-002-174	76026-043-2	1038	2008	3051
39	80-002-216	77093-55-3	1039	2077	3091
40	Local check	Local check	1040	2092	3062
41	80-002-222	76026-056-6	1041	2065	3092
42	80-002-225	77093-39-7	1042	2096	3039
43	80-002-230	77093-72-4	1043	2012	3054
44	80-002-238	77-93-48-2	1044	2051	3049
45	80-002-241	76026-041-6	1045	2087	3061
46	80-003-4	76026-056-1	1046	2015	3058

Table 3.3 (continued)

Entry No.	Source	Pedigree	Replications R1	R2	R3
47	80-003-12	78099-R-7	1047	2020	3005
48	80-003-37	NES3329xNES6973	1048	2004	3067
49	80-003-94	IS9958xNES6979	1049	2022	3090
50	Local check	Local check	1050	2070	3007
51	80-003-99	NES3329xNES6970	1051	2019	3001
52	80-003-105	((P866)F_2xLocal)F_2	1052	2024	3086
53	80-003-108	((P8681)F_2xLocal)F_2	1053	2010	3025
54	80-003-136	76026-065-5	1054	2032	3071
55	80-003-137	76026-066-6	1055	2042	3006
56	80-003-163	76026-036-3	1056	2003	3013
57	80-003-177	78099-R-35	1057	2081	3078
58	80-003-206	Sana'a-9	1058	2018	3011
59	80-003-222	Sana'a-4	1059	2100	3004
60	Local check	Local check	1060	2049	3036
61	80-005-14	78(Comp)-18	1061	2068	3075
62	80-005-30	Local check	1062	2014	3085
63	80-005-88	NES7000	1063	2040	3038
64	80-006-3	IBB-24-1	1064	2072	3066
65	80-006-4	Sana'a-1	1065	2076	3028
66	80-006-5	Sana'a-4	1066	2038	3056
67	80-006-9	77093-65-3	1067	2056	3029
68	80-006-11	76026-037-7	1068	2097	3057
69	80-006-12	76026-047-7	1069	2071	3079
70	Local check	Local check	1070	2094	3012
71	80-006-16	77-93-56-4	1071	2028	3076
72	80-006-18	76026-037-1	1072	2002	3015
73	80-006-20	76026-057-4	1073	2069	3031
74	80-006-24	76026-072-7	1074	2007	3008
75	80-006-26	77(Comp)-79	1075	2083	3089
76	80-006-27	77093-061-3	1076	2016	3027
77	80-006-28	77(Comp)-7	1077	2086	3032
78	80-006-32	77(Comp)-117	1078	2095	3033
79	80-006-37	76026-06-4	1079	2034	3081
80	Local check	Local check	1080	2052	3030
81	80-006-46	77093-57-3	1081	2047	3068
82	80-006-48	76026-063	1082	2099	3044
83	80-006-49	NES6983	1083	2037	3060
84	80-006-51	77(Comp)-72	1084	2011	3073
85	80-006-53	76026-074-8	1085	2079	3063
86	80-007-31	CK60A/76026-039-3	1086	2036	3088
87	80-001-104		1087	2044	3042
88	80-002-41-2		1088	2017	3040
89	80-003-07		1089	2041	3014
90	Local check	Local check	1090	2091	3077
91	80-006-15		1091	2066	3041
92	80-002-41-4		1092	2089	3017
93	80-003-282		1093	2006	3010

Table 3.3 (continued)

Entry No.	Source	Pedigree	Replications R1	R2	R3
94	80-006-36		1094	2067	3048
95	80-002-219		1095	2013	3022
96	80-003-1094-2		1096	2009	3070
97	80-003-1094-3		1097	3080	3097
98	80-005-88-2		1098	2055	3002
99	80-006-111-2		1099	2082	3065
100	80-006-112-2		1100	2048	3009

Table 3.4. Advanced Yield Trial (81-003)

5 Seeds/Hill--2 Rows/Plot

Entry No.	Source	Pedigree	Replications R1	R2	R3
1	80-001-80	78099-R-16	101	258	335
2	80-001-114	76026-009-7	102	249	334
3	80-001-125	NES110xNES6977	103	255	336
4	80-002-14	76026-059-3	104	238	354
5	80-002-53	78097-R-41	105	252	328
6	80-002-62	78097-R-69	106	272	367
7	80-002-77	78099-R-12	107	201	305
8	80-002-103	78099-R-71	108	239	301
9	80-002-108	78(Comp)-18	109	271	356
10	Local check		110	256	312
11	80-002-121	NES110xNES6978	111	216	357
12	80-002-122	NES110xNES6974	112	225	310
13	80-002-17	77093-09-1	113	212	347
14	80-002-125	NES110xNES6978	114	206	315
15	80-002-126	NES110xNES6978	115	204	345
16	80-002-131	NES2141xNES9978	116	260	369
17	80-002-137	IS509xNES6978	117	227	329
18	80-002-138	IS509xNES6978	118	269	308
19	80-002-147	NES2197xNES6971	119	226	351
20	Local check		120	267	339
21	80-002-198	78016-061	121	244	341
22	80-002-222	76026-050-6	122	268	326
23	80-002-224	76026-39-7	123	264	349
24	80-002-231	77(Comp)-113	124	236	366
25	80-002-234	Sana'a-6	125	240	303
26	80-002-236	77093-59-1	126	253	314
27	80-002-237	77093-56-3	127	234	330
28	80-002-244	77(Comp)-80	128	247	311
29	80-002-249	77093-65-1	129	243	360
30	Local check		130	245	364
31	80-003-21	78097-R-74	131	213	333
32	80-003-68	NES3329xNES6980	132	246	348
33	80-003-78	NES2197xNES6975	133	207	370
34	80-003-84	NES2[illegible]7xNES6972	134	250	322
35	80-003-103	(P855F_2xLocal)F_2	135	229	363
36	80-003-139	76026-036-4	136	237	353
37	80-003-145	77093-63-2	137	215	304
38	80-003-171	77-93-33-5	138	218	317
39	80-003-173	NES1789	139	263	323
40	Local check		140	219	372
41	80-003-188	Sana'a-3	141	223	362
42	80-003-191	Sana'a-4	142	209	350
43	80-003-192	Sana'a-5	143	220	344
44	80-003-194	Sana'a-6	144	259	338
45	80-003-199	Sana'a-9	145	217	358
46	80-003-204	Sana'a-9	146	265	359

Table 3.4 (continued)

Entry No.	Source	Pedigree	Replications R1	R2	R3
47	80-003-205	Sana'a-9	147	208	368
48	80-003-209	Sana'a-10	148	241	337
49	80-003-216	Sana'a-2	149	261	327
50	Local check		150	232	343
51	80-003-237	Sana'a-9	151	214	302
52	80-003-264		152	262	365
53	80-003-273		153	257	361
54	80-005-36	76026-019	154	221	306
55	80-005-42	77093-56-6	155	228	316
56	80-005-44	76026-067-3	156	270	346
57	80-005-47	76026-039-3	157	211	332
58	80-005-51	76026-068-12	158	266	342
59	80-005-60	Local check	159	202	313
60	Local check		160	248	307
61	80-005-7	77093-64-1	161	205	324
62	80-005-10	77093-57-1	162	254	320
63	80-005-23	76026-074-5	163	235	321
64	80-005-25	77093-55-2	164	233	309
65	80-008-50	IS410	165	242	371
66	80-008-51	IS2927	166	210	318
67	80-002-110	78(Comp)-21	167	222	331
68	80-002-159	NES2197xNES6985	168	224	340
69	80-002-250	77093-69-3	169	203	355
70	80-003-175	77093-33-24	170	230	352
71	80-003-236	Sana'a-9	171	231	319
72	80-006-1	76026-024	172	251	335

Table 3.5. Elite Yield Trial (81-004)

5 Seeds/Hill--3 Rows/Plot

Entry No.	Source	Pedigree	Replications R1	R2	R3
1	80-005-26	IS509xNES6979	101	242	336
2	80-005-31	NES9958xNES6984	102	238	325
3	80-005-52	77(Comp)-20	103	224	316
4	80-005-58-1	77093-33-5	104	218	305
5	80-005-86	76026-032	105	206	337
6	80-005-87	76026-033	106	237	324
7	80-006-2	76025-052	107	225	317
8	80-006-8	77(Comp)-56	108	215	304
9	80-006-14	77093-33-4	109	207	338
10	Local check		110	233	323
11	80-006-22	76026-070-13	111	239	318
12	80-006-30	Local check	112	223	303
13	80-006-31	76026-037-1	113	217	339
14	80-006-33	77(Comp)-77	114	205	322
15	80-006-34	77093-56-1	115	240	319
16	80-007-32	CK60A/76026-068-6	116	222	302
17	80-007-33	CK60A/76026-074-10	117	216	342
18	80-007-38	CK60A(Comp)-72	118	204	340
19	80-007-45	CK60A/76026-061-1	119	221	301
20	Local check		120	219	341
21	80-007-47	CK60A/76026-068-12	121	203	321
22	80-007-48	CK60A/76026-074-5	122	220	335
23	80-007-51	CK60A/76026-074-11	123	202	326
24	80-007-54	CK60A/77093-08-8	124	208	315
25	80-007-68	CK60A/NES1780	125	231	306
26	80-007-70	CK60A/IS410	126	214	320
27	80-007-71	CK60A/CIMMYT 76/BJ197	127	226	334
28	80-008-11	76026-074-10	128	236	327
29	80-009-3	76012-136	129	209	314
30	Local check		130	213	307
31	30-009-10	Local check	131	227	333
32	80-009-12	RAHDA Local	132	235	328
33	80-009-18	NES1570	133	210	313
34	80-009-29	76026-072-3	134	212	308
35	80-021-37	CTL-MX-8	135	228	332
36	80-021-38	CTL-MX-9	136	234	329
37	80-021-40 (selection)	Local check	137	211	312
38	80-021-42	CTL-MX-12	138	229	309
39	80-021-50 (selection)	Local check	139	241	331
40	Local check		140	232	311
41	80-006-21	76026-061-6	141	230	330
42	80-009-5	NES7003	142	201	310

Table 3.6. Short Grain (Dwarf) Head Row Test (81-005)

5 Seeds/Hill--1 Row/Plot

Entry No.	Source	Pedigree	Replication
1	80-001-122	NES110xNES6975	1001
2	80-001-139	NES2141xNES6975	1002
3	80-001-274	(P8681F_2xLocal)F_2	1003
4	80-001-304	PB-IBR-DAY Neutral x Local	1004
5	80-001-315	76026-019	1005
6	80-001-322-1	76026-066-6	1006
7	80-001-322-2	76026-066-6	1007
8	80-001-354	77093-70-2	1008
9	80-001-391	77(Comp)-1	1009
10	Local check	Local check	1010
11	80-001-411	F-P-15	1011
12	80-001-418	FAO-3	1012
13	80-001-421	FAO-5	1013
14	80-001-422	FAO-6	1014
15	80-001-423	FAO-7	1015
16	80-001-426	FAO-10	1016
17	80-001-427	FAO-11	1017
18	80-001-428	FAO-12	1018
19	80-001-430	Ferry Morris (A 53A)	1019
20	Local check	Local check	1020
21	80-002-23	77-93-33-2-1	1021
22	80-002-98	78099-R-52	1022
23	80-002-105	78099-R-82	1023
24	80-002-177	76026-032	1024
25	80-003-19	78097-R-60	1025
26	80-003-34	76026-009-7	1026
27	80-003-36	78(Comp)39	1027
28	80-003-112	(P8681F_2xLocal)F_2	1028
29	80-003-258	GSA1586F	1029
30	Local check	Local check	1030
31	80-003-266	FAO-5	1031
32	80-003-268	FAO-7	1032
33	80-003-276	Ferry Morris (A 53A)	1033
34	80-003-277	Unknown-10	1034
35	80-003-278	PV-530-GR	1035
36	80-001-279	PV-535-GR	1036
37	80-003-280	PV-708-GR	1037
38	80-003-281	PV-677-GR	1038
39	80-003-282	PV-729-GT	1039
40	Local check	Local check	1040
41	80-003-283	PV-6574	1041
42	80-003-284	PV-734-GR	1042
43	80-005-1	76026-071-3	1043
44	80-005-3	77093-33-2-4	1044
45	80-005-10	78-099-R-64	1045

Table 3.6 (continued)

Entry No.	Source	Pedigree	Replication
46	80-005-11	78-009-R-66	1046
47	80-005-12	78-100-R-1	1047
48	80-005-16	78(Comp)-38	1048
49	80-005-18	76026-010-1	1049
50	Local check	Local check	1050
51	80-005-24	NES3329xNES6982	1051
52	80-005-32	NES1773	1052
53	80-005-39	Sana'a-1	1053
54	80-005-41	77(Comp)-84	1054
55	80-005-43	77(Comp)-104	1055
56	80-005-61	77(Comp)-39	1056
57	80-005-62	77(Comp)-72	1057
58	80-005-63-1	IS-410	1058
59	80-005-63-2	IS-410	1059
60	Local check	Local check	1060
61	80-005-34	NES1421	1061
62	80-006-29	NES9958xNES6983	1062
63	80-005-78-1	77(Comp)-20	1063
64	80-005-78-2	77(Comp)-20	1064
65	80-007-7	CK60A/76026-032-21	1065
66	80-007-9-1	CK60A/76026-004-41	1066
67	80-007-9-2	CK60A/76026-004-41	1067
68	80-007-23	CK60A/77(Comp)-75	1068
69	80-008-8	76026-068-12	1069
70	Local check		1070
71	80-008-16-1	77-93-08-8	1071
72	80-008-16-2	77-93-08-8	1072
73	80-008-16-3	77-93-08-8	1073
74	80-008-17	77-93-22-2	1074
75	80-008-19-1	77-93-76-6	1075
76	80-008-19-2	77-93-76-6	1076
77	80-008-22	77(Comp)-20	1077
78	80-008-23	77(Comp)-20	1078
79	80-008-25	77(Comp)-31	1079
80	Local check		1080
81	80-008-28	77(Comp)-46	1081
82	80-008-30	Local check	1082
83	80-008-31	77(Comp)-58	1083
84	80-008-32	77(Comp)-60	1084
85	80-008-33	77(Comp)-72	1085
86	80-008-34	77(Comp)-73	1086
87	80-008-35	77(Comp)-75	1087
88	80-008-36	77(Comp)-92	1088
89	80-008-37-1	77(Comp)-92	1089
90	Local check		1090
91	80-008-37-3	77(Comp)-92	1091
92	80-008-41	NES1559	1092

Table 3.6 (continued)

Entry No.	Source	Pedigree	Replication
93	80-008-43-1	NES1570	1093
94	80-008-43-2	NES1570	1094
95	80-008-49	IS410	1095
96	80-008-53	IS2927	1096
97	80-008-54	CIMMYT76EJ197	1097
98	80-021-8-1	SD100	1098
99	80-021-8-2	SD100	1099
100	Local check		1100
101	80-021-12	SD-106	1101
102	80-021-13	SD-106 Maintainer	1102
103	80-021-26	PV-667-GR	1103
104	80-021-39	CTL-MX-10	1104
105	80-021-46	CTL-MX-16	1105
106	80-021-14	CTL-MX-22	1106
107	80-021-54	CTL-MX-23	1107
108	80-021-22	CTL-MX-24	1108
109	80-021-23	CTL-MX-25	1109
110	Local check	Local check	1110
111	80-021-24	PV-734-GR	1111
112	80-021-25	Local check	1112
113	80-021-27	CTL-MX-29	1113
114	80-021-21	SD-873-HSS-6	1114
115	80-021-28	PV-535-GR	1115
116	80-021-35	CTL-MX-13	1116
117	80-009-8	IS825	1117
118	80-009-9	76026-032	1118
119	80-008-24	77(Comp)-21	1119
120	80-003-259	GSA-30F	1120
121	80-005-20	NES1500xNES6976	1121
122	80-008-14	77093-03-5	1122
123	80-008-37-2	77(Comp)-92	1123
124	80-021-32	CTL-MX-3	1124

Table 3.7. Short Grain (Dwarf) Preliminary Yield Test

5 Seeds/Hill--2 Rows/Plot

Entry No.	Source	Pedigree	Replications R1	R2	R3
1	80-001-123	NES110xNES6976	101	217	320
2	80-002-98	78099-R-52	102	225	308
3	80-003-64	NES3329xNES6973	103	210	311
4	80-003-65	NES3329xNES6976	104	210	325
5	80-003-112	(P8681 F_2xLocal)F_2	105	209	305
6	80-005-8	78099-R-44	106	215	329
7	80-005-9	78099-R-47	107	223	309
8	80-005-13	PB-TBR-DAY Neutral x Local	108	214	326
9	80-005-15	78(Comp)-28	109	216	334
10	Local check		110	233	312
11	80-005-22	NES2141xNES6975	111	222	302
12	80-005-27	NES2197xNES6974	112	227	327
13	80-005-34	76026-019-6	113	211	321
14	80-005-37	76019-001-4	114	221	318
15	80-005-38	76036-059	115	232	317
16	80-005-50	77093-03-5	116	230	303
17	80-005-54	77(Comp)-75	117	218	319
18	80-005-55	77(Comp)-128	118	204	324
19	80-005-59	77(Comp)-1	119	207	307
20	Local check		120	212	306
21	80-005-65	76026-074-11	121	229	328
22	80-005-66	76026-068-6	122	219	315
23	80-005-74	76026-070-5	123	226	330
24	80-005-80	IS410	124	205	301
25	80-005-81	NES1570	125	213	304
26	80-005-83	77093-22-2	126	231	332
27	80-005-19	CK60A/77(Comp)90	127	220	323
28	80-007-64-2	77(Comp)-1	128	202	322
29	80-021-11	SD-104	129	228	331
30	Local check		130	208	313
31	80-021-27	PV-708 GR	131	234	310
32	80-021-41	CTL-MX-11	132	203	316
33	80-008-20	NES110xNES6977	133	224	314
34	80-021-22	PV-657-Y	134	206	333

Table 3.8. Short Grain (Dwarf) Advanced Yield Trial

5 Seeds/Hill--3 Rows/Plot

Entry No.	Source	Pedigree	Replications R1	R2	R3
1	80-002-121	NES110xNES6978	101	215	313
2	80-002-249	77093-65-1	102	213	315
3	80-005-17	76026-009-4	103	206	308
4	80-005-23	NES3329xNES6977	104	208	304
5	80-005-40	76026-002-2	105	204	314
6	800005-46	NES1559	106	201	307
7	80-005-49	77093-76-6	107	211	301
8	80-005-53	77(Comp)-58	108	202	306
9	80-005-67	76026-032-2	109	203	302
10	Local check		110	209	310
11	80-005-77	77(Comp)-20	111	210	311
12	80-005-84	77(Comp)-60	112	216	316
13	80-007-42	CK60A/NES1570	113	207	303
14	80-007-55	CK60A/77093-22-2	114	212	309
15	80-021-9	SD-102	115	214	305
16	80-005-68	77(Comp)-1	116	205	312

Table 3.9. Short Grain (Dwarf) Elite Yield Trial

5 Seeds/Hill--4 Rows/Plot

Entry No.	Source	Pedigree	Replications R1	R2	R3
1	80-005-45	76026-024-9	101	213	311
2	80-005-48	NES1789	102	205	303
3	80-005-56	IS2929	103	214	309
4	80-007-23	CK60A/77(Comp)-75	104	220	301
5	80-007-29	CK60A/76026-004	105	210	317
6	80-007-41	CK60A/NES1421	102	204	319
7	80-007-43	CK60A/IS410	107	207	304
8	80-007-46	CK60A/76026-068-6	108	215	308
9	80-007-56	CK60A/77-93-76-6	109	206	310
10	Local check		110	201	321
11	80-007-64	CK60A/77(Comp)-39	111	222	302
12	80-007-66	CK60A/NES1421	112	216	320
13	80-007-69	CK60A/IS410	113	218	313
14	80-009-2	NES1773	114	221	316
15	80-009-19	77(Comp)-39	115	217	322
16	80-009-21	IS410	116	212	312
17	80-009-25	76026-036-2	117	203	307
18	80-021-23	PV-530-GR	118	208	306
19	80-021-24	PV-734-GR	119	202	315
20	Local check		120	219	305
21	80-021-25	PV-729-GT	121	211	314
22	80-007-57	CK60A/77(Comp)-1	122	209	318

4. Pedigree information for 1980 tests

This section presents data which allow plant breeders to trace the history of the sorghum lines being improved. By associating entries in the 1980 tests and the proposed tests for 1981 with tests made in previous years, the reader will learn the experimental history of the genetic materials being tested. Descriptions of 1979, 1978 and 1977 tests are published in the respective annual reports. Table 4.1 provides an overview of the 1980 tests. Tables 4.2 through 4.22 present pedigree details.

Table 4.1. 1980 Test Plan

Test No.	Test Title	No. of Entries	Rep.	Plot Size	No. of Rows
80-001	Head Rows	443	1	1	443
80-002	Preliminary Yield Trial I	256	2	2	1024
80-003	Preliminary Yield Trial II	284	2	2	1136
80-004	Early Maturity Trial	22	2	1	44
80-005	Short Grain Yield Trial	88	3	2	538
80-006	Advanced Yield Trial	54	3	2	324
80-007	F_1 Populations	71	-	-	179
80-008	Male Parents	54	1	1-3	100
80-009	Elite Yield Test	31	3	3	279
80-010	Out-Reach Test	50	2	1	100
80-011	Seed Multiplication	--	-	-	
80-012	Maize (corn) Observation Test	24	3	3	216
80-013	International Sorghum Preliminary Yield Trial I	--	-	-	
80-014	International Sorghum Preliminary Yield Trial II	--	-	-	108
80-015	National Coop. Maize Observation Test	--	-	-	
80-016	National Coop. Pearl Millet Observation Test	--	-	-	
80-017	Regional Cooperative Pearl Millet Yield Nursery	9	3	2	54
80-018	International Pearl Millet Adaptation Trial 1980	21	3	2	126
80-019	International Preliminary Adaptation Trial 1978	21	3	2	126
80-020	International Preliminary Downey Mildew	50	2	1	100
80-021	Sorghum Introductions	54	2	1	108
80-022	F_3 Populations	3	1	3	
80-023	International Pearl Millet Adaptation Trial 1980	--	-	-	
80-024	International Pearl Millet Adaptation Trial 1980	Seed Not received			
80-025	International Pearl Millet Adaptation Trial 1980	22	3	1	66

Table 4.2. Head Rows (80-001)

Entry No.	PEDIGREE	SOURCE	PLOT SIZE	REP.
1	76010-001-9	72001-34	5m x 0.75m	1
2	003-6	" -40	"	"
3	004-1	41	"	"
4	76026-043-2	59	"	"
5	051-1	74	"	"
6	053-2	75	"	"
7	7	77	"	"
8	054-4	79	"	"
9	6	81	"	"
10	055-1	82	"	"
11	056-1	83	"	"
12	059-3	87	"	"
13	7	89	"	"
14	060-6	91-1	"	"
15	060-6	91-2	"	"
16	060-6	91-3	"	"
17	070-10	98	"	"
18	070-15	99	"	"
19	- 16	100	"	"
20	77003-24-1	109	"	"
21	33-2-1	111	"	"
22	4	114-1	"	"
23	4	114-2	"	"
24	6	116	"	"
25	39-4	121	"	"
26	55-6	129	"	"
27	61-5	136	"	"
28	71-4	142	"	"
29	1077(Comp)	151	"	"
30	Local ck.	-	"	"

Table 4.2 (continued)

Entry No.	Pedigree	SOURCE	PLOT SIZE	REP.
31	1977(Comp)	79001-155	5m x 0.75m	1
32	"	160-1	"	"
33	"	160-2	"	"
34	"	161	"	"
35	"	164-1	"	"
36	"	164-2	"	"
37	78097-3-11	173	"	"
38	15	177	"	"
39	16	178	"	"
40	23	196-1	"	"
41	23	196-2	"	"
42	26	199	"	"
43	30	193-1	"	"
44	30	193-2	"	"
45	42	205	"	"
46	43	206-1	"	"
47	"	206-2	"	"
48	44	207	"	"
49	46	209	"	"
50	50	214-1	"	"
51	"	214-2	"	"
52	54	219	"	"
53	56	220	"	"
54	60	224	"	"
55	70	234	"	"
56	71	235	"	"
57	74	238	"	"
58	75	239	"	"
59	80	245	"	"
60	Local ck.			
61	78097-3-31	79001-246	"	"
62	32	247	"	"
63	36	251	"	"

Table 4.2 (continued)

Entry No.	PEDIGREE	SOURCE	PLOT SIZE	REP.
64	78097-R-33	79001-253	5m x 0.75m	1
65	39	254	"	"
66	94	259-1	"	"
67	"	2	"	"
68	95	260	"	"
69	78098-R-3	264-1	"	"
70	"	264-2	"	"
71	4	265-1	"	"
72	"	265-2	"	"
73	5	266	"	"
74	R-7	268	"	"
75	8	269	"	"
76	9	271	"	"
77	12	274	"	"
78	13	275	"	"
79	16	278-1	"	"
80	"	278-2	"	"
81	"19	281	"	"
82	24	286	"	"
83	26	288	"	"
84	28	290	"	"
85	30	292	"	"
86	32	294	"	"
87	35	297-1	"	"
88	"	297-2	"	"
89	40	303	"	"
90	Local check			
91	78099-12-41	79001-304	5m x 0.75m	1
92	42	305	"	"
93	46	309	"	"
94	49	312	"	"
95	55	318	"	"
96	56	319	"	"

Table 4.2 (continued)

ENTRY NO.	PEDIGREE	SOURCE	PLOT SIZE	REP.
97	78099-2-59	79001-320	5m x 0.75m	1
98	63	326	"	"
99	70	334-1	"	"
100	"	334-2	"	"
101	72	336	"	"
102	76	340	"	"
103	78	342	"	"
104	89	353	"	"
105	78(comp) -3	380-1	"	"
106	"	380-2	"	"
107	37	410-1	"	"
108	"	410-2	"	"
109	76026-005-2	413	"	"
110	10	416	"	"
111	006-11	422	"	"
112	007-5	426	"	"
113	008-5	429	"	"
114	009-7	432	"	"
115	010-2	435	"	"
116	-7	432	"	"
117	011-1	440	"	"
118	78(comp)-39	445	"	"
119	IITS110xIITS6971	79002-3	"	"
120	Local check			
121	IITS110xIITS6975	79002-13	5m x 0.75m	"
122	6976	15	"	"
123	"	17	"	"
124	6977	19	"	"
125	"	22	"	"
126	Local variety	30	"	"
127	IITS1500xIITS6973	32	"	"
128		35	"	"
129	6975	38	"	"
130	6983	44	"	"

Table 4.2 (continued)

ENTRY NO.	PEDIGREE	SOURCE	PLOT SIZE	REP.
131	NPS2141xNPS6971	79002-48	5m x .75m	1
132	"	50	"	"
133	6972	52	"	"
134	"	53	"	"
135	"	59	"	"
136	NPS2141xNPS6975	61	"	"
137	"	62	"	"
138	"	63-1	"	"
139	"	63-2	"	"
140	6976	65-1	"	"
141	"	65-2	"	"
142	6978	68-1	"	"
143	"	68-2	"	"
144	"	70-1	"	"
145	"	70-2	"	"
146	6982	71	"	"
147	"	72-1	"	"
148	"	72-2	"	"
149	" 6983	73	"	"
150	Local check			
151	NPS2141xNPS6983	79002-74-1	5m x .75m	1
152	"	74-2	"	"
153	"	75	"	"
154	"	77-1	"	"
155	"	77-2	"	"
156	NPS2141xNPS6983	79002-78-1	"	"
157	"	78-2	"	"
158	NPS3329xNPS6971	82	"	"
159	"	83	"	"
160	6972	87	"	"
161	"	88	"	"
162	"	89	"	"
163	"	91	"	"

Table 4.2 (continued)

Item No.	PROGRAM	SOURCE	PLOT SIZE	REP.
164	ITS3309:ITS6973	79002-72-92	5m x .75m	1
165	"	93	"	"
166	"	95	"	"
167	6975	99	"	"
168	"	100	"	"
169	6976	101	"	"
170	"	02	"	"
171	"	103	"	"
172	"	104	"	"
173	6977	108-1	"	"
174	"	108-2	"	"
175	6979	112-1	"	"
176	"	112-2	"	"
177	6980	113	"	"
178	"	114	"	"
179	"	116	"	"
180	Local check			
181	ITS3309:ITS6982	79002-118	5m x .75m	1
182	"	119-1	"	"
183	"	1A-2	"	"
184	"	121	"	"
185	6985	124-1	"	"
186	" 6985	124-2	"	"
187	6982	127	"	"
188	"	128	"	"
189	"	129	"	"
190	"	130	"	"
191	ITS509:ITS6970	132	"	"
192	6971	134	"	"
193	"	135	"	"
194	6974	137	"	"
195	"	138	"	"
196	"	139	"	"

Table 4.2 (continued)

ENTRY NO.	PEDIGREE	SOURCE	PLOT SIZE	REP
197	TS509xCTS6978	79002-141	5m x .75m	1
198	"	142	"	"
199	6982	155-1	"	"
200	"	155-2	"	"
201	"	155-3	"	"
202	"	156	"	"
203	"	157	"	"
204	"	158-1	"	"
205	"	158-2	"	"
206	6983	160	"	"
207	"	163	"	"
208	6986	164	"	"
209	"	165	"	"
210	Local check			
211	TS2197xCTS6970	79002-172	"	"
212	6971	175	"	"
213	"	177	"	"
214	6972	178	"	"
215	6974	187	"	"
216	6975	188	"	"
217	"	190	"	"
218	"	191	"	"
219	"	192-1	"	"
220	"	192-2	"	"
221	6977	199	"	"
222	"	200	"	"
223	TS2197xCTS6977	79002-201	"	"
224	6979	204	"	"
225	"	205	"	"
226	" 6980	209	"	"
227	6981	212	"	"
228	"	216	"	"
229	6982	217	"	"

Table 4.2 (continued)

ENTRY NO.	PEDIGREE	SOURCE	PLOT SIZE	REP.
230	MDS2197xMDS6982	79002-220	5m x .75m	1
231	"	221	"	"
232	6985	224	"	"
233	6986	231	"	"
234	IS9958xMDS6970	234	"	"
235	"	236	"	"
236	6971	241	"	"
237	6972	247	"	"
238	"	248	"	"
239	6973	249-1	"	"
240	Local check			
241	IS9958xMDS6973	79002-249-2	"	"
242	"	250	"	"
243	"	251	"	"
244	6974	253	"	"
245	"	254	"	"
246	"	256	"	"
247	6975	257-1	"	"
248	"	257-2	"	"
249	"	258	"	"
250	6977	262	"	"
251	6978	264	"	"
252	"	265	"	"
253	IS9958xMDS6979	268	"	"
254	6981	274	"	"
255	6982	277	"	"
256	MDS110xMDS6970	286	"	"
257	"	287	"	"
258	MDS3329xMDS6976	289	"	"
259	"	295	"	"
260	"	297	"	"
261	"	298	"	"
262	"	302-1	"	"
263	"	302-2	"	"

Table 4.2 (continued)

Entry NO.	PEDIGREE	SOURCE	PLOT SIZE	REP.
264	MES3329xMES6976	79002-302-3	5m x .75m	1
265	(P894F2xLocal)F2	306	"	"
266	"	308	"	"
267	"	309	"	"
268	"	311	"	"
269	"	313	"	"
270	Local check			
271	(P866F2xLocal)F2	79002-315	"	"
272	"	316	"	"
273	"	318	"	"
274	P8681F2xLocal)F2	319-1	"	"
275	"	319-2	"	"
276	"	320	"	"
277	"	321	"	"
278	"	322	"	"
279	"	323	"	"
280	"	326-1	"	"
281	"	326-2	"	"
282	"	327-1	"	"
283	"	327-2	"	"
284	"	331	"	"
285	(NK233F2xLocal)F2	333	"	"
286	"	334	"	"
287	"	335	"	"
288	"	337-1	"	"
289	"	337-2	"	"
290	"	338	"	"
291	"	339	"	"
292	FB-IBR-DAY NEUTRAL x LOCAL	341	"	"
293	"	342	"	"
294	"	344	"	"
295	"	348	"	"

Table 4.2 (continued)

ENTRY NO.	PEDIGREE	SOURCE	PLOT SIZE	REP.
296	PB-IBR-DAY NEUTRAL x LOCAL	79002-350	5m x .75m	1
297	"	352	"	"
298	"	356	"	"
299	"	357	"	"
300	Local check			
301	PB-IBR-DAY NEUTRAL x LOCAL	79002-359	"	"
302	"	361	"	"
303	"	362	"	"
304	"	363	"	"
305	"	364	"	"
306	PB-IBR-DAY SENSITIVE x LOCAL	368	"	"
307	"	369	"	"
308	PB-IBR-DAY NEUTRAL x LOCAL	372	"	"
309	"	375	"	"
310	"	377	"	"
311	"	378	"	"
312	76015-110	79003-307	"	"
313	NTS7000	313	"	"
314	IBB-19-1	319	"	"
315	76026-019	79004-408	"	"
316	023-1	413	"	"
317	025-2	104	"	"
318	6	105	"	"
319	76026-029-10	79005-1017	"	"
320	032-5	1019	"	"
321	065-5	1052	"	"
322	066-6	1053	"	"
323	067-3	1054	"	"
324	036-4	1065-1	"	"
325	"	1065-2	"	"
326	040-1	1067	"	"

Table 4.2 (continued)

ENTRY NO.	PEDIGREE	SOURCE	PLOT SIZE	REP.
327	76026-074-3	79005-1096	5m x 0.75m	1
328	074-1	1097	"	"
329	77(Comb)-124	2004		
330	Local check			
331	77(comb)-27	2009	"	"
332	77093-69-1	2011	"	"
333	63-2	2013	"	"
334	60-4	2014	"	"
335	55-7	2016	"	"
336	39-5	2021	"	"
337	32-4	2022	"	"
338	13-1	2023	"	"
339	76026-072-10	2025	"	"
340	061-7	2026	"	"
341	045-3	2029	"	"
342	063	2033	"	"
343	026-3	2045	"	"
344	030-1	2046	"	"
345	041-6	2049	"	"
346	064-4	2053	"	"
347	071-2	2054	"	"
348	042-4	2056-1	"	"
349	"	2056-2	"	"
350	053-1	2057	"	"
351	053-1	2058	"	"
352	061-4	2059	"	"
353	77093-68-3	2074	"	"
354	70-2	2075	"	"
355	76026-026-5	2087	"	"
356	044-4	2094	"	"
357	043-5	2097	"	"
358	77093-42-3	2101	"	"
359	77(comb)-102	2121	"	"
360	Local check			

Table 4.2 (continued)

ENTRY NO.	PEDIGREE	SOURCE	PLOT SIZE	REP.
361	77093-63-3	79005-2129	5m x 0.75m	1
362	36-4	2134	"	"
363	76026-063-6	2141	"	"
364	76026-050-2	2142	"	"
365	037-11	2144	"	"
366	025-10	2149	"	"
367	77093-63-4	2154	"	"
368	58-2	2155	"	"
369	56-7	2156	"	"
370	76026-033-6	2170	"	"
371	065-5	2172	"	"
372	046-3	2175	"	"
373	015-1	2177	"	"
374	036-3	2183-1	"	"
375	036-3	2183-2	"	"
376	036-3	2183-3	"	"
377	072-2	2186	"	"
378	053-4	2197	"	"
379	002-11	2201	"	"
380	032-5	2202-1	"	"
381	032-5	2202-2	"	"
382	77093-56-5	2203-1	"	"
383	56-5	2203-1	"	"
384	65-5	2207	"	"
385	77(comp)-121	2208	"	"
386	76026-004-4	79006-102	"	"
387	79093-33-5	115	"	"
388	76-6	116	"	"
389	77(comp)-1	118-1	"	"
390	Local check			
391	77(comp)-1	118-3	"	"
392	1	118-3	"	"
393	1	118-4	"	"
394	"	121	"	"

Table 4.2 (continued)

ENTRY NO.	PEDIGREE	SOURCE	PLOT SIZE	REP.
395	ICDS1789	79006-137	5m x 0.75m.	1
396	Local	WADI HAMHIAN	"	"
397	"	DAMAR	"	"
398	"	WADI HAMHLAN	"	"
399	"	ALMANZI	"	"
400	"	DAMAR	"	"
401	"	"		
402	DTKALB-ST6	79009-5	"	"
403	Local	Selection from local checks		
404	ICDS2197/ICDS6982	79002-221-2	"	"
405	ICDS3329/ICDS6976	301	"	"
406	IS509/ICDS6980	152	"	"
407	"	HK300	"	"
408	"	CS35A1	"	"
409	"	MS1097	"	"
410	"	PP14	"	"
411	"	" 15	"	"
412	"	1GSA1586F	"	"
413	"	2 " 30F	"	"
414	"	3 " FFR 74A	"	"
415	"	"	"	"
416	"	FAO 1	"	"
417	"	" 2	"	"
418	"	" 3	"	"
419	"	" 4	"	"
420	"	Local check	"	"
421	"	FAO 5	"	"
422	"	6	"	"
423	"	7	"	"
424	"	8	"	"
425	"	9	"	"
426	"	10	"	"
427	"	11	"	"

Table 4.2 (continued)

ENTRY NO.	PEDIGREE	SOURCE	PLOT SIZE	REP.
428	IS509/MS6980	FAC 12	5m x 0.75m.	1
429	"	13	"	"
430	"	Ferry Moris A53A	"	"
431	"	Unknown 10	"	"
432	"	MP3R-1Dry Sterile	"	"
433	"	MP3R2 "	"	"
434	"	SAFFORD	"	"
435	"	Snow Flakes	"	"
436	"	MP3Rwet Sterile	"	"
437	"	MPOBR	"	"
438	"	YUMA	"	"
439	"	S1	"	"
440	"	S2	"	"
441	"	S3	"	"
442	"	S4	"	"
443	"	S5	"	"
444	"	S6	"	"

Table 4.3 Preliminary Yield Trial I (80-002)

Entry No.	Pedigree	Source	Rep I	Rep II
1	76026-037-5	79001-16	1001	2115
2	073-2	" 31	1002	2106
3	76019-002-7	" 35-1	1003	2150
4	002-7	" 35-2	1004	2046
5	10	" 38-	1005	2164
6	004-5	" 44	1006	2013
7	76026-035-2	" 57	1007	2123
8	040-4	" 62	1008	2111
9	042-1	" 66	1009	2075
10	043-1	" 69	1010	2130
11	053-7	" 77	1011	2107
12	054-2	" 78	1012	2210
13	-6	" 81	1013	2058
14	059-3	" 86-1	1014	2001
15	" " "	" 86-2	1015	2228
16	060-10	" 94	1016	2184
17	77093-09-1	" 106	1017	2102
18	20-3	" 108-1	1018	2187
19	"	" 108-2	1019	2063
20	"	" 108-3	1020	2074
21	"	" 108-4	1021	2245
22	26-3	" 110	1022	2093
23	33-2-1	" 111	1023	2105
24	" " 2	" 112	1024	2200
25	" 5	" 115	1025	2036
26	61-5	" 136	1026	2203
27	64-4	" 139	1027	2230
28	66-2	" 141	1028	2140
29	72-1	" 143-1	1029	2144
30			1030	2147

Table 4.3 (continued)

Entry No.	Pedigree	Source	Rep I	Rep II
31	77093-72-1	79001-143-2	1031	2051
32	" "	" 143-3	1032	2137
33	74-5	" 146	1033	2237
34	1977 Composite	" 156-1	1034	2109
35	" "	" 156-2	1035	2121
36	" "	" 157-1	1036	2133
37	" "	" 157-2	1037	2181
38	" "	" 157-3	1038	2252
39	" "	" 159	1039	2011
40	" "	" 162	1040	2020
41	73097-R-1	" 163	1041	2078
42	R-2	" 164-1	1042	2255
43	"	" 164-2	1043	2203
44	"	" 164-3	1044	2136
45	R-17	" 179	1045	2148
46	R-20	" 183	1046	2112
47	R-25	" 188-1	1047	2040
48	"	" 188-2	1048	2064
49	"	" 188-3	1049	2225
50	R-28	" 191	1050	2189
51	R-32	" 195-1	1051	2047
52	"	" 195-2	1052	2059
53	R-41	" 204	1053	2034
54	R-44	" 207	1054	2197
55	R-52	" 216	1055	2030
56	R-62	" 226-1	1056	2079
57	"	" 226-2	1057	2183
58	"	" 226-3	1058	2206
59	"	" 226-4	1059	2166
60			1060	2238

Table 4.3 (continued)

Entry No.	Pedigree	Source	Rep I	Rep II
61	73097-R-66	79001-230	1061	2026
62	R-69	" 233-1	1062	2088
63	" "	" 233-2	1063	2173
64	" 76	" 241	1064	2223
65	" 79	" 244	1065	2151
66	" 82	" 247	1066	2045
67	" 84	" 249	1067	2180
68	" 85	" 250	1068	2247
69	" 91	" 256	1069	2039
70	" 95	" 260-1	1070	2041
71	" 95	" 260-2	1071	2053
72	73099-R-2	" 263	1072	2065
73	5	" 266	1073	2216
74	6	" 267	1074	2249
75	8	" 267	1075	2012
76	10	" 272	1076	2060
77	12	" 274	1077	2155
78	14	" 276	1078	2190
79	17	" 279	1079	2043
80	22	" 284	1080	2013
81	23	" 285	1081	2017
82	25	" 287	1082	2049
83	26	" 288	1083	2134
84	28	" 290	1084	2170
85	29	" 291	1085	2098
86	30	" 292	1086	2062
87	34	" 296	1087	2227
88	36	" 298	1088	2243
89	37	" 299	1089	2149
90			1090	2174

Table 4.3 (continued)

Entry No.	Pedigree	Source	Rep I	Rep II
91	79099-R-33	79001-301	1091	2240
92	78099-R-39	" -302	1092	2229
93	" 40	" 303	1093	2126
94	" 46	" 309	1094	2070
95	" 47	" 310	1095	2152
96	" 50	" 313	1096	2199
97	" 51	" 314	1097	2092
98	" 52	" 315	1098	2022
99	" 74	" 316	1099	2006
100	" 59	" 322	1100	2003
101	" 61	" 324	1101	2118
102	" 62	" 325	1102	2236
103	" 71	" 335	1103	2239
104	" 73	" 342	1104	2117
105	" 32	" 346	1105	2162
106	" R-33	" 352	1106	2101
107	78100-R-17	" 371	1107	2123
108	78(comp)-18	" 383-1	1108	2103
109	"	" 383-2	1109	2009
110	" 21	" 394	1110	2175
111	" 24	" 397	1111	2153
112	" 27	" 400	1112	2083
113	" 29	" 402	1113	2077
114	34	" 407	1114	2207
115	76026-008-3	" 423	1115	2214
116	011-9	" 443	1116	2120
117	MES110xMS6970	79002-1	1117	2035
118	6972	" 5	1118	2004
119	"	" 7	1119	2035
120	"	"	1120	2159

Table 4.3 (continued)

Entry No.	Pedigree	Source	Rep I	Rep II
121	NES110xNES6973	79002-9	1121	2221
122	" 6974	" 11	1122	2234
123	" 6976	" 14	1123	2165
124	" 6976	" 16	1124	2201
125	" 6978	" 23	1125	2094
126	" 6978	" 25	1126	2087
127	NES1500xNES6973	" 33	1127	2055
128	NES2141xNES6971	" 49	1128	2211
129	" 6975	" 64	1129	2177
130	" 6978	" 68	1130	2131
131	" 9978	" 70-1	1131	2007
132	" 9978	" 70-2	1132	2071
133	" 6933	" 74	1133	2141
134	NES3329xNES6971	" 85	1134	2129
135	" 6975	" 98	1135	2057
136	NES " 6932	" 122	1136	2033
137	IS509xNES6978	" 142	1137	2104
138	"	" 145	1138	2139
139	" 6982	" 153	1139	2138
140	" "	" 154	1140	2127
141	" 6986	" 166	1141	2116
142	" "	" 168	1142	2091
143	NES2197xNES6970	" 170	1143	2021
144	" "	" 172	1144	2186
145	" 6971	" 173	1145	2222
146	" 6971	" 174	1146	2254
147	" 6971	" 176	1147	2251
148	NES2197xNES6973	" 183	1148	2156
149	" 6973	" 184	1149	2096
150			1150	2132

Table 4.3 (continued)

Entry No.	Pedigree	Source	Rep I	Rep II
151	ITS2197xITS6974	79002-185	1151	2179
152	" 6974	" 187	1152	2172
153	" 6975	" 188	1153	2124
154	" 6977	" 198	1154	2027
155	" 6978	" 202	1155	2232
156	" 6981	" 212	1156	2002
157	" 6981	" 215	1157	2031
158	" 6985	" 222	1158	2188
159	" 6985	" 223	1159	2010
160	" 6985	" 225	1160	2224
161	IS9558xITS6970	" 237	1161	2037
162	" 6970	" 238	1162	2205
163	" 6971	" 242-1	1163	2194
164	" 6971	" 242-2	1164	2054
165	" 6971	" 245	1165	2005
166	" 6973	" 252	1166	2014
167	" 6975	" 259	1167	2163
168	ITS3329xITS6976	" 293	1168	2081
169	76026-002-11	79005-1004	1169	2023
170	77093-47-5	" 2020	1170	2192
171	76026-061-4	" 2026	1171	2198
172	054-1	" 2028	1172	2209
173	76019-001-3	" 2139	1173	2220
174	76026-043-2	" 2168	1174	2246
175	037-10	" 2180	1175	2024
176	041-1	" 2181	1176	2048
177	76026-032	79003-328	1177	2143
178	Sana'a-6	" 421	1178	2202
179	Ibb-17-1	" 301	1179	2119
180			1180	2072

Table 4.3 (continued)

Entry No.	Pedigree	Source	Rep I	Rep II
181	76025-041	79003-303	1181	2114
182	76014-077	" 304	1182	2161
183	75012-136	" 306	1183	2052
184	76026-023	" 308	1184	2029
185	From local check	" 309	1185	2019
186	Ibb-16-2	" 310	1186	2176
187	76026-025	" 315	1187	2212
188	Ibb-16-6	" 316	1188	2213
189	MESS7003	" 318	1189	2168
190	76014-071	" 321	1190	2142
191	76016-057	" 322	1191	2095
192	From local check	" 323	1192	2034
193	76026-014	" 324	1193	2248
194	" -033	" 325	1194	2226
195	Takil	" 326	1195	2028
196	Sana'a 7	" 327	1196	2025
197	76025-017	" 331	1197	2073
198	75016-061	" 333	1198	2157
199	Local Sana'a 7	79004-107	1199	2044
200	76041-004	-108	1200	2113
201	Sana'a 7	79004-115	1201	2185
202	76026-026-10	79005-1015	1202	2196
203	041-1	" 1028	1203	2241
204	063	" 1048	1204	2015
205	76026-059-4	" 1079	1205	2008
206	77093-02-1	" 1100	1206	2039
207	76026-019-9	" 2003	1207	2050
208	77(comp)87	" 2006	1208	2066
209	76026-052-4	" 2034	1209	2215
210			1210	2167

Table 4.3 (continued)

Entry No.	Pedigree	Source	Rep I	Rep II
211	76026-063-3	79005-2052	1211	2191
212	011-6	" 2055	1212	2204
213	061-4	" 2059	1213	2244
214	070-2	" 2060	1214	2235
215	072-2	" 2061	1215	2253
216	77093-55-3	" 2070	1216	2218
217	53-2	" 2072	1217	2100
218	64-3	" 2073	1218	2069
219	77(comp)-30	" 2080	1219	2080
220	76026-002-2	" 2086	1220	2103
221	063-2	" 2092	1221	2154
222	050-6	" 2093	1222	2076
223	040-1	" 2096	1223	2110
224	39-7	" 2102	1224	2233
225	77093-39-7	" 2104	1225	2250
226	50-6	" 2107	1226	2125
227	56-2	" 2109	1227	2160
228	57-4	" 2111	1228	2195
229	77(comp)27	" 2115	1229	2219
230	77093-72-4	" 2116	1230	2242
231	77(comp)113	" 2120	1231	2256
232	" 142	" 2122	1232	2146
233	MS6936	" 2124	1233	2063
234	Sana'a-6	" 2125	1234	2090
235	77(comp)-74	" 2127	1235	2217
236	77093-59-1	" 2130	1236	2231
237	" 56-3	" 2131	1237	2082
238	48-2	" 2133	1238	2032
239	76026-670-2	" 2136	1239	2099
240			1240	2122

Table 4.3 (continued)

Entry No.	Pedigree	Source	Rep I	Rep II
241	76026-041-6	79005-2143	1241	2171
242	003-1	" 2147	1242	2169
243	Sana'a 7	" 2148	1243	2135
244	77(comp) 30	" 2151	1244	2085
245	77093-50-5	" 2159	1245	2061
246	09-3	" 2162	1246	2016
247	76026-052-6	" 2173	1247	2042
248	002-2	" 2176	1248	2056
249	77093-65-1	" 2190	1249	2067
250	69-3	" 2191	1250	2086
251	55-5	" 2194	1251	2097
252	76026-052-1	" 2200	1252	2145
253	77093-75-4	" 2204	1253	2182
254	" 57-5	" 2210	1254	2193
255	77(comm)130	79005-2032	1255	2153
256	77093-03-5	79006-302	1256	2178

Table 4.4. Preliminary Yield Trial II (80-003)

ENTRY	PEDIGREE	SOURCE	REP I	REP II
1	76019-001-9	79001-34	1001	2138
2	76019-004-1	41	1002	2200
3	76026-055-1	82	1003	2271
4	76026-056-1	83	1004	2201
5	76026-059-7	89	1005	2141
6	76026-060-6	91-1	1006	2106
7	76026-070-16	100	1007	2009
8	77093-33-2-4	114-1	1008	2272
9	1977 Composite	151	1009	2233
10	Local check	No. 1	1010	2162
11	1977 composite	155	1011	2046
12	" "	160	1012	2165
13	78097-R-16	178	1013	2273
14	" -R-23	186-1	1014	2089
15	" -R-43	206-1	1015	2216
16	" -R-43	206-2	1016	2024
17	" -R-46	209	1017	2274
18	" -R-50	214	1018	2251
19	" -R-60	224	1019	2084
20	Local check	No. 2	1020	2275
21	78097-R-74	238	1021	2204
22	" -R-81	246	1022	2048
23	" -R-86	251	1023	2276
24	78099-R-7	268	1024	2192
25	" -R-13	275	1025	2277
26	" -R-19	281	1026	2072
27	" -R-35	297-1	1027	2120
28	" -R-41	304	1028	2108
29	" -R-56	319	1029	2012
30	Local check	No. 2	1030	2144

Table 4.4 (continued)

ENTRY	PEDIGREE	SOURCE	REP I	REP II
31	78099-R-63	79001-326	1031	2156
32	78(COMP) -37	410	1032	2096
33	76026-007-5	426	1033	2036
34	76026-009-7	432	1034	2180
35	76026-010-7	439	1035	2245
36	78(COMP) 39	445	1036	2006
37	NES110xNES-6971	79002-03	1037	2090
38	NES110xNES-6976	15	1038	2174
39	LOCAL	30	1039	2114
40	LOCAL CHECK	No. 4	1040	2054
41	NES1500xNES6973	32	1041	2102
42	" " " 6975	38	1042	2198
43	NES2141xNES6971	50	1043	2222
44	" " " 6975	59	1044	2018
45	" " " "	61	1045	2066
46	" " " "	65	1046	2150
47	" " " 6976	65-1	1047	2210
48	" " " 6978	68	1048	2186
49	" " " 6982	71	1049	2126
50	Local check	No. 5	1050	2030
51	NES2141xNES6982	72-1	1051	2078
52	" " " "	72-2	1052	2225
53	" " " 6983	73	1053	2001
54	" " " "	74	1054	2240
55	" " " "	75	1055	2133
56	" " " "	77-1	1056	2181
57	" " " "	-2	1057	2073
58	" " " "	78-1	1058	2037
59	" " " "	78-2	1059	2205
60	Local check	No. 6	1060	2228
61	NES3329xNES6971	79002-83	1061	2121
62	NES3329xNES6973	92	1062	2109

Table 4.4 (continued)

ENTRY	PEDIGREE	SOURCE	REP I	REP II
63	NES3329xNES6973	79002-93	1063	2013
64	" " " "	95	1064	2215
65	" " " 6976	103	1065	2193
66	" " " 6977	108	1066	2145
67	" " " 6979	112	1067	2085
68	" " " 6980	113	1068	2061
69	" " " "	114	1069	2169
70	Local check	No. 7	1070	2025
71	NES3329xNES6985	124-1	1071	2097
72	" " " "	124-2	1072	2157
73	" " " 6982	129	1073	2217
74	IS509xNES6982	155-1	1074	2158
75	" " " "	155-2	1075	2062
76	" " " 6986	165	1076	2074
77	NES2197xNES6974	187	1077	2241
78	" " " 6975	188	1078	2229
79	" " " "	191	1079	2002
80	Local check	No. 8	1080	2110
81	NES2197xNES6980	212	1081	2122
82	" " " 6981	216	1082	2026
83	" " " 6982	217	1083	2014
84	" " " 6972	247	1084	2182
85	" " " "	248	1085	2218
86	" " " 6973	249-1	1086	2086
87	" " " "	249-2	1087	2038
88	" " " "	250	1088	2098
89	IS9958xNES6973	251	1089	
90	Local check	No. 9	1090	2146
91	IS9958xNES6973	79002-254	1091	2194
92	" " " 6975	258	1092	2170
93	" " " 6977	262	1093	2050
94	" " " 6979	268	1094	2206
95	NES9958xNES6981	274	1095	2242

Table 4.4 (continued)

ENTRY	PEDIGREE	SOURCE	REP I	REP II
96	NES110xNES6970	79002-287	1096	2003
97	NES3329xNES6976	302-1	1097	2195
98	" " " "	302-2	1098	2099
99	" " " "	302-2	1099	2230
100	Local check	No. 10	1100	2147
101	(P894F2xLocal)F2	306	1101	2135
102	" " "	313	1102	2111
103	(P866F2xLocal)F2	315	1103	2027
104	" " "	316	1104	2219
105	" " "	318	1105	2207
106	(P8681F2xLocal)F2	319-1	1106	2159
107	" " "	319-2	1107	2039
108	" " "	321	1108	2015
109	" " "	322	1109	2063
110	Local check	No. 11	1110	2022
111	(P8681F2xLocal)F2	326	1111	2087
112	" " "	327-1	1112	2171
113	" " "	327-2	1113	2183
114	(P8681F2xLocal)F2	331	1114	2075
115	NK233F2xLocal)F2	333	1115	2051
116	" " "	337-1	1116	2010
117	" " "	337-2	1117	2249
118	" " "	338	1118	2202
119	" " "	339	1119	2118
120	Local check	No. 12	1120	2058
121	PB-IBR-DRY NeutralxLocal	79002-344	1121	2070
122	" " "	348	1122	2226
123	" " "	356	1123	2166
124	" " "	363	1124	2130
125	" " "	264	1125	2190
126	PB-IBR-DRY Sensitive x Local	368	1126	2094
127	PB-IBR-DRY Neutral x Local	377	1127	2142

Table 4.4 (continued)

ENTRY	PEDIGREE	SOURCE	REP I	REP II
128	PB-IBR-DRY NEURTAL x LOCAL	378	1128	2034
129	76015-110	79003-307	1129	2082
130	Local check		1130	2154
131	NES 7000	-313	1131	2042
132	IBB 19-1	-319	1132	2178
133	76026-023-1	79004-413	1133	2237
134	" -025-2	104	1134	2214
135	76026-025-6	105	1135	2011
136	76026-065-5	79005-1052	1136	2119
137	76026-066-6	1053	1137	2107
138	76026-067-3	1054	1138	2191
139	76026-036-4	1065-1	1139	2203
140	Local check		1140	2227
141	76026-036-4	1065-2	1141	2143
142	" -074-3	1096	1142	2071
143	" " 4	1097	1143	2049
144	77093-69-1	2011	1144	2023
145	77093-69-1	2013	1145	2238
146	" -39-5	2021	1146	2250
147	" -32-4	2022	1147	2167
148	76026-026-8	2045	1148	2179
149	76026-030-1	2046	1149	2035
150	Local check		1150	2059
151	76026-059-4	79005-2058	1151	2083
152	" -026-5	2087	1152	2095
153	" -044-4	2094	1153	2155
154	77093-63-3	2129	1154	2131
155	" 36-4	2134	1155	2021
156	76026-037-11	2144	1156	2248
157	76026-025-10	2149	1157	2263
158	77093-68-4	2154	1158	2189
159	76026-065-5	2172	1159	2177
160	Local check		1160	2153
161	76026-046-3	2175	1161	2129

Table 4.4 (continued)

ENTRY	PEDIGREE	SOURCE	REP I	REP II
162	76026-036-3	79005-2183-1	1162	2117
163	" " "	2183-2	1163	2105
164	" 072-2	2186	1164	2093
165	" 002-11	229	1165	2031
166	76026-032-5	2202-1	1166	2069
167	77093-65-5	2207	1167	2057
168	77(comp)131	2208	1168	2045
169	76026-032-2	79006-102	1169	2033
170	Local check		1170	2213
171	77093-33-5	115	1171	2236
172	" " 6	116	1172	2128
173	NRS1739	137	1173	2212
174	76026-060-6	79001-91-2	1174	2152
175	77093-33-2-4	114-2	1175	2235
176	78097-R-23	186-2	1176	2092
177	78099-R-35	297-2	1177	2104
178	Sana'a 1	79010-6-1	1178	2080
179	" "	" -6-2	1179	2164
180	Local check		1180	2056
181	Sana'a 1	79010-6-3	1181	2188
182	" "	" -6-4	1182	2044
183	" "	" -6-5	1183	2116
184	Sana'a 2	" -7-1	1184	2224
185	" "	" -7-2	1185	2140
186	Sana'a 3	" -8-1	1186	2247
187	" "	" -8-2	1187	2032
188	" "	" -8-3	1188	2261
189	Sana'a 4	" -9-1	1189	2266
190	Local check		1190	2176
191	Sana'a 4	79010-9-2	1191	2246
192	Sana'a 5	" -10	1192	2007
193	" 6	" -11-1	1193	2268
194	" "	" -11-2	1194	2264

Table 4.4 (continued)

ENTRY	PEDIGREE	SOURCE	REP I	REP II
195	Sana'a 6	79010-11-3	1195	2115
196	" 7	" -12-1	1196	2223
197	" "	" -12-2	1197	2211
198	" "	" -12-3	1198	2265
199	" 9	" -13-1	1199	2163
200	Local check		1200	2067
201	Sana'a 9	79010-13-2	1201	2079
202	" "	" -13-3	1202	2055
203	" "	" -13-4	1203	2043
204	" "	" -13-5	1204	2267
205	" "	" -13-6	1205	2187
206	" "	" -13-7	1206	2151
207	" 10	" -14-1	1207	2269
208	" "	" -14-2	1208	2019
209	" "	" -14-3	1209	2139
210	Local check		1210	2260
211	RADAH LOCAL	79010-15-1	1211	2252
212	" "	" -15-2	1212	2244
213	Sana'a 1	" -16	1213	2259
214	" 2	" -17-1	1214	2253
215	" "	" -17-2	1215	2017
216	" "	" -17-3	1216	2209
217	" 3	" -18-1	1217	2161
218	" "	" -18-2	1218	2185
219	" "	" -18-3	1219	2232
220	Local Check		1220	2053
221	Sana'a 3	79010-18-4	1221	2255
222	" 4	" -19-1	1222	2173
223	" "	" -19-2	1223	2221
224	" 5	" -20-1	1224	2149
225	" "	" -20-2	1225	2125
226	" "	" -20-3	1226	2256
227	" "	" -20-4	1227	2101

Table 4.4 (continued)

ENTRY	PEDIGREE	SOURCE	REP I	REP II
228	Sana'a 5	79010-20-5	1228	2065
229	" "	" -20-6	1229	2257
230	Local check		1230	2041
231	Sana'a 5	79010-20-7	1231	2004
232	" 6	" -21-1	1232	2243
233	" "	" -21-2	1233	2196
234	" "	" -21-3	1234	2124
235	" 7	" -22	1235	2016
236	" 9	" -23-1	1236	2220
237	" "	" -23-2	1237	2172
238	" 10	" -24-1	1238	2100
239	" "	" -24-2	1239	2208
240	Local check		1240	2184
241	Sana'a 10	79010-24-3	1241	2253
242	Radak local	" -25-1	1242	2052
243	" "	" -25-2	1243	2028
244	" "	" -25-3	1244	2254
245	Wadi Maidhian	Local	1245	2076
246	Damar	Local	1246	2047
247	Wadi Maidhian	Local	1247	2112
248	Almanzi R.	Local	1248	2136
249	Damar	Local	1249	2262
250	76026-032-5	79005-2202-2	1250	2231
251	Sana'a	79003-302	1251	2270
252	77093-33-3	79001-113	1252	2127
253		NK 300	1253	2137
254		CS 3541	1254	2064
255		MS 1297	1255	2029
256		PP 14	1256	2113
257		15	1257	2077
258		GSA 1586 F	1258	2160
259		" 30 F	1259	2005
260		" FER 74 A	1260	2031

Table 4.4 (continued)

ENTRY	PEDIGREE	SOURCE	REP I	REP II
261		GSA FFR 74 A	1261	2020
262		FAO 1	1262	2148
263		2	1263	2091
264		3	1264	2103
265		4	1265	2199
266		5	1266	2033
267		6	1267	2234
268		7	1268	2008
269		8	1269	2175
270			1270	2040
271		FAO -9	1271	2068
272		10	1272	2123
273		11	1273	2197
274		12	1274	2168
275		13	1275	2132
276		Ferrymor15A53A	1276	2239
277		Unknown-10	1277	2060
278		PV530GR	1278	2283
279		PV535GR	1279	2284
280		PV708GR	1280	2282
281		PV677GR	1281	2279
282		PV729GT	1282	2278
283		PV657Y	1283	2281
284		PV734GR	1284	2280

Table 4.5. Early Maturity Trial (80-004)

Entry No.	Pedigree	Source	Rep I	Rep II
1.	76026-027-2	79001-14	101	209
2.	065-9	" -24	102	215
3.	061-2	" -92	103	222
4.	77093-15-4	" —107	104	217
5.	55-4	" -128	105	210
6.	58-5	" -131	106	203
7.	60-2	"-134-1	107	213
8.	" " "	"-134-2	108	201
9.	73097-R-64	"-228-1	109	220
10	" " "	"-228-2	110	203
11	73099-3-33	"-295	111	206
12	" "-43	"-306-1	112	204
13	" " "	" 306-2	113	216
14	Radah Local	79004-106	114	219
15	76026-025-2	" -406	115	218
16	" " -6	" -415	116	221
17	" 037-1	79005-1021	117	205
18	037-6	" - 1026	118	214
19	77093-50-1	" -1123	119	207
20	76036-059-	" -1199	120	212
21	77093-65-2	" -2117	121	211
22	" -52-427	" -2132	122	202

Table 4.6. Short Grain Yield Trial

Entry No.	Pedigree	Source	Rep I	Rep II	Rep III
1	76026-071-3	79001-29	101	249	381
2	76019-003-1	" -40	102	254	366
3	77093-33-2-4	" -114	103	278	352
4	1977 Composite	" -148	104	222	337
5	" "	" -153-1	105	231	323
6	" "	" -153-2	106	211	310
7	78097-R-73	" -237	107	236	380
8	78099-R-44	" -307	108	284	365
9	" R-47	" -310	109	270	351
10	" R-64	" -127	110	265	338
11	" R-66	" -329	111	243	325
12	78100-R-1	" -355	112	218	313
13	PB-IBR-DAY NEUTRALX LOCAL	79002-174	113	279	385
14	78 (Comp) - 13	79001-393	114	287	369
15	-28	" -403	115	262	355
16	38	" -411	116	241	340
17	76026-009-4	" -430	117	238	326
18	" -001-1	" -434	118	261	314
19	NES 110xNES 6977	79002-21	119	258	327
20	" 1500x" 6976	" -42	120	201	341
21	NES 2141 x NES 6975	" -67-1	121	210	356
22	" " " "	" -67-2	122	266	370
23	NES 3329 x NES 6977	" -106	123	269	386
24	" " " 6982	" -126	124	271	342
25	IS 509x NES 6971	" -133	125	251	328
26	" " " 6979	" -146	126	228	316
27	NES 2197 x NES 6974	" -186	127	281	372
28	IS 9958 x 6971	" -239	128	273	387
29	NES 9958 x 6983	" -279	129	233	301

Table 4.6 (continued)

Entry No.	Pedigree	Source	Rep I	Rep II	Rep III
30		Local Check	130	246	309
31	NES 9953xNES 6984	79002-233	131	264	376
32	NES 1773	79003-320	132	280	361
33	IS 825	" -332	133	256	346
34	76026-019-6	79004-101	134	244	379
35	" " -13	" -102	135	212	333
36	" -019-	" -109	136	224	330
37	76019-001-4	79005-1053	137	240	305
38	76036-059	" -1199	138	219	308
39	Sanaa I	" -1207	139	205	322
40	76026-002-2	" -2043	140	216	334
41	77 (Comp) 34	" -2079	141	229	349
42	77093-56-6	" -2110	142	208	364
43	77 (comp) -104	" -2126	143	214	382
44	76026-067-3	" -2140	144	237	357
45	" -024-9	" -2178	145	221	343
46	NES 1559	79006-202	146	252	329
47	76026-039-3	" -223	147	283	318
48	NES 1789	" -236	148	277	362
49	77093-76-6	" -301	149	267	321
50	77093-03-5	" -302	150	242	311
51	76026-068-12	" -303	151	274	324
52	77 (comp) -20	" -304	152	263	339
53	" " -38	" -305	153	207	353
54	" " -75	" -306	154	213	358
55	" " -128	" -307	155	230	312
56	IS 2927	" -309	156	275	368
57	76026-004-4	" -310	157	286	384
58	77093-33-5	" -313	158	272	371
59	77 (comp) -1	" -314	159	288	377
60		Local Check	160	268	344
61	77 (Comp) -39	79006-315	161	250	306

Table 4.6 (continued)

Entry No.	Pedigree	Source	Rep I	Rep II	Rep III
62	77 (Comp) -72	79006-316	162	239	331
63	IS 410	" -318	163	223	347
64	77093-08-3	" -320	164	203	307
65	76026-074-11	" -321	165	215	335
66	76026-063-5	" -322	166	227	350
67	" -032-2	" -323	167	235	363
68	77 (Comp) -1	" -324	168	255	348
69	CIMMYT 76 BS 197	" -326	169	247	354
70	NES 1421	" -328	170	232	332
71	77 (Comp) -60	" -329	171	276	345
72	" " -31	" -330	172	260	359
73	77093-05-4	" -332	173	245	367
74	76026-070-5	" -333	174	248	383
75	" -061-1	" -334-1	175	285	373
76	" " "	" -334-1	176	253	388
77	77 (Comp) -20	" -335-1	177	257	360
78	" " "	" -335-2	178	220	304
79	" (") 46	" -336	179	202	315
80	IS 410	" -337	180	217	330
81	NES 1570	" -338	181	259	319
82	77 (Comp) -92	" -339	182	206	303
83	77093-22-2	" -341	183	225	375
84	77 (Comp)-60	" -342	184	204	336
85	76016-057	79003-322	185	232	317
86	76026-032	-328	186	209	302
87	" -033	-325	187	226	374
88	NES 7000	79004-402	188	234	378

Table 4.7. Advanced Yield Trial (80-006)

Entry No.	Pedigree	Source	Rep I	Rep II	Rep III
1	76026-024	79003-329	101	220	319
2	76025-052	" 330	102	239	334
3	Ibb 24-1	79004-111	103	225	348
4	Sana'a 1	" -112	104	243	333
5	Sana'a 4	" -113	105	231	318
6	76026-026-5	79005-1014	106	216	347
7	77093-62-1	" -1161	107	227	316
8	77Comp-56	" 2008	108	250	332
9	77093-65-3	" 2012	109	245	346
10	" 57-1	" 2015	110	221	317
11	76026-037-7	" 2047	111	238	331
12	" 047-7	" 2050	112	218	345
13	" 053-1	" 2057	113	235	330
14	77093-33-2	" 2065	114	241	344
15	" 52-3	" 2069	115	233	329
16	" 56-4	" 2071	116	226	311
17	77(comp)-37	" 2077	117	210	350
18	76026-037-1	" 2088	118	201	338
19	" 036-2	" 2095	119	243	307
20	" 057-4	" 2098	120	224	314
21	" 061-6	" 2099	121	213	336
22	" 070-13	" 2100	122	219	324
23	" 074-5	" 2105	123	240	343
24	" 072-7	" 2106	124	223	313
25	77093-55-2	" 2108	125	211	328
26	77(comp)-79	" 2113	126	229	342
27	77093-61-3	" 2118	127	237	315
28	77(comp)-7	" 2128	128	209	312
29	76026-075-6	" 2135	129	242	339
30	Local check		130	215	322
31	76026-037-1	79005-245	131	205	341
32	77(comp)-117	" -2150	132	222	337
33	77	" 2152	133	214	323

Table 4.7 (continued)

Entry No.	Pedigree	Source	Rep I	Rep II	Rep III
34	77093-56-1	79005-2157	134	202	304
35	" -53-1	" -2158	135	244	310
36	" -42-1	" -2160	136	230	302
37	76026-060-4	" -2165	137	207	320
38	" " 3	" -2166	138	246	335
39	76019-001-3	" -2171	139	217	349
40	76026-067-3	" -2182	140	232	305
41	77093-57-1	" -2184	141	236	309
42	" -38-3	" -2185	142	247	326
43	76026-072-3	" -2186	143	234	340
44	77(comp)-126	" -2189	144	249	325
45	" " 35	" -2192	145	206	308
46	77093-57-3	" -2193	146	228	327
47	76026-060-4	" -2196	147	254	357
48	" -063	" -2199	148	208	303
49	MES6933	" -2205	149	253	354
50	76026-024-2	" -2209	150	204	352
51	77(comp)-72	79006-211	151	252	353
52	76026-039-3	" -311	152	251	301
53	" .074-3	" -312	153	212	306
54	" " -10	" -340	154	203	321

Table 4.8. F_1 Populations (80-007)

ENTRY	PEDIGREE	SOURCE	REP I	POLLEN PARENT
1	CK60A/Hydro Kafir	79010-1,2	101	79010-2
2	CK60A/Hydro Kafir	" -1,5	102	-5
3	CK60A/2 Hydro Kafir	" -3,5	103	-5
4	CK60A/2Hydro Kafir	" -3,2	104	-2
5	CK60A/1Hydro Kafir	" -4,2	105	-2
6	CK60A/1 Hydro Kafir	" -4,5	106	-5
7	CK60A/76026-032-2	" 26,28	107	-28
8	CK60A/76026-061-1	" 26,30	108	-30
9	CK60A/76026-004-4	" 26,27	109	-27
10	CK60A " 068-6	" 26,31	110	-31
11	CK60A/ " " -6	" 26,32	111	-32
12	CK60A/76026-070-5	" 26,33	112	-33
13	CK60A/76026-074-8	" 26,34	113	-34
14	CK60A/ " - " 10	" 26,35	114	-35
15	CK60A/77093-03-5	" 26,37	115	-37
16	CK60A/ " 08-8	" 26,39	116	-39
17	CK60A/ " 22-2	" 26,40	117	-40
18	CK60A/ " 33-5	" 26,41	118	-41
19	CK60A/77Comp -58	" 26,52	119	-52
20	CK60A/ " -60	" 26,53	120	-53
21	CK60A/ " -72	" 26,54	121	-54
22	CK60A/ " -73	" 26,55	122	-55
23	CK60A/ " -75	" 26,56	123	-56
24	CK60A/ " -92	" 26,57	124	-57
25	CK60A/ " -128	" 26,58	125	-58
26	CK60A/NES1570	" 26,62	126	-62
27	CK60A/ " 1789	" 26,63	127	-63
28	CK60A/IS 410	" 26,64	128	-64
29	CK60A/76026-004-4	" 68,27	129	-27
30	Local check		130	

Table 4.8 (continued)

Entry	Pedigree	SOURCE	REP I	POLLEN PARENT
31	CK60A/76026-039-3	79010-68J29	131	79010-29
32	CK60A/ " -068-6	" -68,31	132	" -31
33	CK60A/ " -074-10	" -68,35	133	" -35
34	CK60A/ " -33-5	" -68,41	134	" -41
35	CK60A/77 Comp -21	" -68,48	135	" -48
36	CK60A/Comp-31	" -68,49	136	" -49
37	CK60A/ " -46	" -68,51	137	" -51
38	CK60A/ " -72	" -68,54	138	" -54
39	CK60A/ " -73	" -68,55	139	" -55
40	CK60A/ " -128	" -68,58	140	" -58
41	CK60A/NES1421	" -68,59	141	" -59
42	CK60A/ " 1570	" -68,61	142	" -61
43	CK60A/IS410	" -68,64	143	" -64
44	CK60A/76026-032-2	" -47,28	144	" -28
45	CK60A/ " -061-1	" -47,30	145	" -30
46	CK60A/ " -068-6	" -47,31	146	" -31
47	CK60A/ " " -12	" -47,32	147	" -32
48	CK60A/ " 070-5	" -47,33	148	" -33
49	CK60A/ " 074-8	" -47,34	149	" -34
50	CK60A/ " " -10	" -47,35	150	" -35
51	CK60A/ " " -11	" -47,36	151	" -36
52	CK60A/77093-03-5	" -47,37	152	" -37
53	CK60A/77093-05-4	" -47,38	153	" -38
54	CK60A/ " -08-3	" -47,39	154	" -39
55	CK60A/ " -22-2	" -47,40	155	" -40
56	CK60A/ " -76-6	" -47,42	156	" -42
57	CK60A/77Comp-1	" -47,43	157	" -43
58	CK60A/ " -5	" -47,44	158	" -44
59	CK60A/ " -8	" -47,45	159	" -45
60	Local Check		160	
61	CK60A/77Comp-20	79010-47-46	161	79010-46
62	CK60A/ " -21	" -47-48	162	-48
63	CK60A/ " -31	" -47,49	163	-49

Table 4.8 (continued)

Entry	Pedigree	Source	Rep I	POLLEN PARENT
64	CK60A/77Comp.-39	79010-47-50	164	79010-50
65	CK60A/ " 90	" 47-57	165	57
66	CK60A/NES1421	" 47-59	166	59
67	CK60A/NES1559	" 47-60	167	60
68	CK60A/ " 1780	" 47-63	168	63
69	CK60A/75-410	" 47-65	169	65
70	CK60A/" -2927	" 47-66	170	66
71	CK60A/CIMMYT76BJ97	" 47,67	171	67

Table 4.9. Male Parents (80-008)

ENTRY NO.	PEDIGREE	SOURCE	REP I
1	76026-004-4	79010-27	101
2	" 030-2	28	102
3	" 039-3	29	103
4	" 061-1	30	104
5	" 063-6	31.1	105
6	" " "	2	106
7	" " 12	32.1	107
8	" " "	2	108
9	" 070.5	33	109
10	" 074.3	34	110
11	" " .10	35.1	111
12	" " "	2	112
13	" " 11	36	113
14	77093-03-5	37	114
15	05-4	38	115
16	03-8	39	116
17	22-2	40	117
18	33-5	41	118
19	76-6	42	119
20	77(comp)-1	43	120
21	-3	45	121
22	20	46.1	122
23	20	2	123
24	21	48	124
25	31	49	125
26	39	50.1	126
27	39	2	127
28	46	51.1	128
29	53	52.1	129
30	Local check		130
31	77(comp)58	52.2	131
32	" " 60	53	132

Table 4.9 (continued)

ENTRY NO.	PEDIGREE	SOURCE	REP I
33	77(comp)72	79010-54	133
34	" " 73	55	134
35	" " 75	56	135
36	" " 92	57.1	136
37	" " 92	2	137
38	" " 128	58.1	138
39	" " 128	2	139
40	NES1421	59	140
41	" 1559	60	141
42	" 1570	61	142
43	" 1570	62.1	143
44	" "	2	144
45	" "	3	145
46	" "	4	146
47	" "	5	147
48	1739	63	148
49	IS 410	64	149
50	" "	65	150
51	" 2927	66.1	151
52	" "	2	152
53	" "	3	153
54	CINEXT76BJ197	67	154

Table 4.10. Elite Yield Test (80-009)

ENTRY No.	PEDIGREE	SOURCE	REP I	REP II	REP III
1	76025-041	79003-303	101	210	324
2	NES1773	" -320	102	217	325
3	75012-136	" -306	103	212	320
4	76025-017	" -331	104	208	330
5	NES7003	" -318	105	230	315
6	SANA'A -1	" -302	106	226	310
7	" -7	" -327	107	213	319
8	IS825	" -332	108	221	317
9	76026-032	" -328	109	219	328
10	Local		110	228	326
11	76026-024	79003-329	111	201	321
12	Rahda local	79004-106	112	220	316
13	Sana'a -7	" -115	113	202	305
14	Sana'a 1	" -112	114	206	301
15	76026-025-6	" -105	115	218	312
16	77comp-1	79006-331	116	209	318
17	76026-025-6	" -322	117	204	329
18	NES1570	" -308	118	207	322
19	77comp-39	" -315	119	227	327
20	Local		120	225	323
21	IS 410	79006-337	121	231	311
22	77comp-74	79005-2127	122	224	306
23	76026063	" -2199	123	229	304
24	76026036-2	" -2095	124	222	331
25	77093-65-1	" -2190	125	215	307
26	" 56-1	" -2157	126	205	302
27	" 09-3	" -2162	127	203	308
28	76026011-6	" -2055	128	223	303
29	76026072-3	" -2186	129	214	314
30	Local		130	211	309
31	Sana'a 7	79005-2148	131	216	313

Table 4.11. Outreach Test (80-010)

ENTRY	PEDIGREE	SOURCE	REP I	REP II
1	76026-023	79003-320	101	235
2	76025-052	318	102	219
3	IBB-19-1	332	103	240
4	IS-825	306	104	220
5	NES-7000	304	105	216
6	IBB-17-1	331	106	238
7	NES-1773	303	107	245
8	76026-033	324	108	233
9	Local	328	109	229
10	Local Check 1	Local check 1	110	231
11	NES-864	302	111	227
12	Sana'a-7	327	112	236
13	75016-061	310	113	232
14	Local	316	114	224
15	Sana'a-6	326	115	244
16	Rahda Local	79004-106	116	250
17	Sana'a-7	115	117	234
18	77-Comp-74	79005-2176	118	226
19	IS-15075	2201	119	222
20	Local Check 2	Check 2	120	237
21	IS-19788	2200	121	208
22	76036-059	2199	122	210
23	76026-064-4	2055	123	247
24	76026-074-1	2095	124	243
25	76026-036-4	2165	125	239
26	76026-061-8	2186	126	242
27	77093-31-8	2106	127	246
28	77093-31-2	2105	128	249
29	77093-69-3	2162	129	201
30	Local Check 3	Local check 3	130	212

Test 4.11 (continued)

ENTRY	PEDIGREE	SOURCE	REP I	REP II
31	77093-68-3	79005-2159	131	202
32	77093-32-5	2108	132	248
33	77-Comp-130	2194	133	211
34	77093-65-3	2157	134	207
35	77-Comp-121	2190	135	209
36	NES-6984	2204	136	206
37	77093-52-2	2127	137	217
38	77093-50-6	2125	138	214
39	77-Comp-39	79006-323	139	218
40	Local Check 4	Local check 4	140	223
41	77-Comp-31	322	141	221
42	IS-2927	340	142	205
43	77-Comp-92	331	143	203
44	77093-33-5	315	144	204
45	77-Comp-75	329	145	215
46	76026-070-5	307	146	225
47	IS-410	338	147	228
48	76026-074-8	308	148	230
49	NES-1789	337	149	213
50	Local Check 5	Local check 5	150	241

Table 4.12. Seed Multiplication (80-011)

S. No.	Source	Rep I	Rep II	Days to 50% Bloom	Plant Height Cm	Yield kg/ha	Test Wt. k/hl
1	Local	101	207				
2	79003-17	102	204				
3	79003-3	103	206				
4	79003-7	104	201	Road passed through research farm			
5	79003-14	105	203	Test was lost.			
6	79003-27	106	205				
7	79003-25	107	208				
8	79003-6	108	202				

Table 4.13. Maize (corn) Observation Test (80-012)

Entry No.	Pedigree	Source	Rep I	Rep II	Rep III
1			105	218	313
2			113	201	306
3			115	216	318
4			107	220	305
5			106	204	312
6			118	211	320
7			112	214	308
8			111	208	301
9			110	217	314
10			114	202	309
11			120	206	303
12			104	215	310
13			117	207	319
14			116	210	317
15			102	212	307
16			108	219	304
17			101	213	316
18			103	203	311
19			109	205	302
20		Local check	119	209	315
21		PV375F6	124	222	321
22		PV818F4	122	224	323
23		PV959	123	221	324
24		PV765	121	223	322

Table 4.14. International Sorghum Preliminary Yield Trial I (80-013)

Entry	Source/Origin	Pedigree	Percent Stand Rep I	Percent Stand Rep II
1	ICRISAT/A-6352	FLR-266xCSV-44-3-7-2	73	83
2	ICRISAT/A-6533	FLR-168/CSV-4-1-1-1	40	71
3	ICRISAT/A-6556	E35-1/US/B-287-2-1-2	67	96
4	ICRISAT/A-6557	E35-1/US/B-275-1-3	75	65
5	ICRISAT/A-3739	E35-1/US/B-275-1-1-1-3	67	85
6	ICRISAT/A-6529	E35-1/CUIA/Nigerian-3-2	58	75
7	ICRISAT/A-3732	E35-1/RS/B-342-2-2-3-1	98	90
8	ICRISAT/A-6535	E35-1/FLB-204-1-2	96	90
9	ICRISAT/A-2913	CSV-U/Bulk-Y/D-181-5-1	98	69
10	ICRISAT/A-3115	SC-108/ACL-2-1-1	63	90
11	ICRISAT/A-3187	1735-1/RS/R-195-3-2	75	38
12	ICRISAT/A-6559	PP5/RS,/VGC-1-9-1-2	48	42
13	ICRISAT/A-3940	Indian Synthetic-323-1-3	63	73
14	ICRISAT/A-6511	Indian Synthetic-3-2	85	38
15	ICRISAT/A-6425	Indian Synthetic Tall 600-2-1	92	71
16	ICRISAT/A-6359	FLR-1379-1-1-2	65	29
17	ICRISAT/A-6460	KS/1B-8785-1-1-3	88	67
18	---	CSV-4	69	88
19	---	CSH-6	85	73
20	---	Local	96	81
21	---	Local	96	86

Table 4.15. International Sorghum Preliminary Yield Trial II (80-014)

Entry No.	Origin	Pedigree	Percent Stand 1	Percent Stand 2	Percent Stand Total	Mean % Stand
1	ICRISAT-A-6392	FLR-101/IS-1082-4-4-2-2	56	90	146	73
2	ICRISAT-A-6394	FLR-101/IS-1082	85	73	158	79
3	ICRISAT-A-6398	FLR-101/IS-1082-4-5-3	77	98	175	88
4	ICRISAT-A-6387	FLR-101/CSV-4-3-2-1	44	75	119	60
5	ICRISAT-A-6373	FLR-141/CSV-4-8-2-1-1	85	88	173	87
6	ICRISAT-A-6374	FLR-141/CSV-4-8-2-1-2	90	48	138	69
7	ICRISAT-A-6370	FLR-141/CSV-4-3-3-5	100	54	154	77
8	ICRISAT-A-6453	FLR-266-2265-1-2	71	85	156	78
9	ICRISAT-A-3844	FLR-266/CSV-4-10-1-1-1	81	94	175	88
10	ICRISAT-A-4041	FLR-266/CSV-4-3-3-3-1-3	75	90	165	83
11	ICRISAT-A-4028	FLR-274/CSV-4-1-2-3-2-2	98	75	173	87
12	ICRISAT-A-2509	CSV-4/U51R-408-1-6	50	85	135	68
13	ICRISAT-A-2515	CSV-4/U51R-408-6-3	58	97	155	78
14	ICRISAT-A-2612	CSV-4/FLR-53-2-3-6	92	94	.186	93
15	ICRISAT-A-2613	CSV-4/FLR-53-2-3-7	81	83	164	82
16	ICRISAT-A-2828	CSV-4/Bulk-Y-55-1-1-2	85	85	170	85
17	ICRISAT-A-2830	CSV-4/Bulk-Y-55-1-1-4	83	96	179	90
18	ICRISAT-A-2832	CSV-4/Bulk-Y-55-1-2	100	94	194	97
19	ICRISAT-A-3667	E35-1/R51B-253-2-1-1-2	83	92	175	88
20	ICRISAT-A-3699	E35-1/R51B-394-1-1-2	81	94	175	88
21	ICRISAT-A-3705	E35-1/R51A-5-1-3	15	58	73	37
22	ICRISAT-A-6416	RS/1B-8785-1-1-1	31	90	121	61
23	ICRISAT-A-3263	CSV-4/R51/VGC-1-1	29	85	114	57
24	ICRISAT-A-2902	$VCIV_2$/Bulk-4-55-2-1-3	35	83	118	59
25	ICRISAT-A-3643	E35-1/U51B-487-1-1-2-2	25	77	102	51
26	ICRISAT-A-3647	E35-1/U51B-487-1-1-3-3	13	67	80	40
27	ICRISAT-A-3649	E35-1/U51B-487-2-1-1-4-2	56	92	148	74
28	ICRISAT-A-6465	R51R/CSV-4-1525-1-1	63	96	159	80
29	ICRISAT-A-6466	R51R/CSV-4-1525-2-1	96	90	186	93
30	ICRISAT-A-6280(79K)	R51R/CSV-4-1525-3-2-1	92	81	173	87

Table 4.15 (continued)

Entry No.	Origin	Pedigree	Percent Stand 1	Percent Stand 2	Percent Stand Total	Mean % Stand
31	ICRISAT-A-6401	R51R/CSV-4-1525-1-1-3	90	77	167	84
32	ICRISAT-A-6402	R51R/CSV-4-1515-1-1-4	96	65	161	82
33	ICRISAT-A-3922	Indian Synthetic-66-2-1-2-4	83	67	150	75
34	ICRISAT-A-6505	Indian Synthetic-412-1-1	75	15	90	45
35	ICRISAT-A-6421	Indian Synthetic(Tall)-112-1	73	96	169	85
36	ICRISAT-A-6521	Indian Synthetic(Tall)-4-1	98	40	148	69
37	ICRISAT-A-6423	Indian Synthetic(Tall)-387-1	75	73	148	74
38	ICRISAT-A-6424	Indian Synthetic(Tall)-387-3-1	73	54	127	64
39	ICRISAT-A-6503	Indian Synthetic(Tall)-387-3-3	88	25	113	57
40	ICRISAT-A-6474	Daillel-475-746-4-5-2-1	90	94	184	92
41	ICRISAT-A-6429	Good Grain-1483	88	56	144	72
42	ICRISAT-A-12748(78R)	Good Grain-1485	94	83	177	89
43	ICRISAT	CSV-4	92	52	144	72
44	ICRISAT	CSH-6	79	90	169	85
45	---	Local Check	58	96	154	72

Range for % Stand - 37-97%

Table 4.16. Regional Cooperative Pearl Millet Yield Trial (80-017)

Entry No.	PEDIGREE	SOURCE	REP I	REP II	REP III
1		FAO 77	106	202	307
2		"	103	204	305
3		"	104	203	301
4		"	108	209	309
5		"	102	205	306
6		"	105	207	302
7		"	101	208	304
8		"	107	206	303
9		Local Check	109	201	308

Table 4.17. International Pearl Millet Adaptation Trial 1980 (80-018)

ENTRY	PEDIGREE	SOURCE	REP I	REP II	REP III
1	¾ EX Bornu	Icrisat 77	116	208	301
2	¾ Souna	"	118	214	313
3	PSB - 8	"	112	212	305
4	ICS 7605	"	103	219	319
5	EX Bornu	"	105	205	310
6	World Composite	"	102	217	307
7	PHB - 14	"	115	204	312
8	NHB - 3	"	108	215	314
9	BD 111	"	113	213	316
10	ICH 107	"	109	201	315
11	" 108	"	111	210	303
12	" 118	"	107	207	306
13	" 190	"	117	211	302
14	NC - CX 75	"	104	203	309
15	NC - SX 75	"	121	202	318
16	IVS - AX 75	"	120	221	317
17	SSC - CX 75	"	119	216	311
18	Lc - CX 75	"	114	209	321
19	KB 456	"	101	220	304
20	LO 6	"	106	206	308
21	Local check	"	110	218	320

Table 4.18. International Pearl Millet Adaptation Trial 1978 (80-019)

ENTRY	DESCRIPTION	SOURCE
1	Hybrid (5054A/B 282)	Icrisat 78 (India)
2	" (111A/Sounab)	"
3	" (5054A/700452029)	"
4	" (111A/Sereme Composit 14(m)	"
5	" GAU Jamnagar	India
6	Maharaytra Hyb. Sud Co. Jalna	"
7	Hybrid PAU hudhiana	"
8	AICMIP 5141A/J104	"
9	AICMIP 5071A/J104	"
10	Selected at Hissas	Icrisat (India)
11	" " "	" "
12	" " Icrisat	" "
13	S1 of RF Synthetic	" "
14	Selected from Intervaarictal Synthetic	" "
15	Coimbatore World Composit Selection	" "
16	Coimbatore Medrum Composit	" "
17	Wafrican/Indian Crosses	" "
18	Iarf New Delhi	" "
19	Super Serene (Bulk Ci Generation)	" "
20	Bulk C2 Generation	" "
21	Local Check	

Table 4.19. International Pearl Millet Downey Mildew Nursery (80-020)

Entry No.	Source	Rep I	Rep II
1	ICRISAT	1022	2063
2	"	1032	2605
3	"	1044	2043
4	"	1026	2040
5	"	1011	2011
6	"	1034	2013
7	"	1033	2043
8	"	1047	2025
9	"	1010	2013
10	"	1004	2006
11	"	1019	2012
12	"	1027	2016
13	"	1030	2034
14	"	1039	2019
15	"	1015	2001
16	"	1037	2049
17	"	1041	2041
18	"	1006	2003
19	"	1042	2038
20	"	1036	2003
21	"	1001	2024
22	"	1016	2020
23	"	1031	2031
24	"	1007	2023
25	"	1023	2010
26	"	1014	2022
27	"	1017	2037
28	"	1038	2026
29	"	1049	2015
30		1025	2009

Table 4.19 (continued)

Entry No.	Source	Rep I	Rep II
31	ICRISAT	1002	2033
32	"	1020	2004
33	"	1013	2017
34	"	1043	2007
35	"	1045	2039
36	"	1003	2035
37	"	1024	2023
38	"	1005	2045
39	"	1021	2021
40	"	1023	2027
41	"	1046	2047
42	"	1009	2029
43	"	1048	2014
44	"	1018	2044
45	"	1035	2042
46	"	1029	2032
47	"	1040	2030
48	"	1012	2036
49	"	1008	2046
50	Local check	1050	2050

Table 4.20. Sorghum Introductions (80-021)

Entry No.	Source	Plot size	Rep.
1	SD 100	1r, 5m	2
2	SD 102		
3	Local check		
4	SD 104		
5	SD 106		
6	SD 106 Maintainer		
7	SD 106 ME		
8	Dual Sorghum HSS-1		
9	Rancher HSS-2		
10	Reliance HSS-3		
11	Reliance HSS-4		
12	39-30-S HSS-5		
13	Local check		
14	SD 873 HSS-6		
15	PV 657 Y		
16	PV 530 GR		
17	PV 734 GR		
18	PV 729 GT		
19	PV 677 GR	1	2
20	PV 708 GR		
21	PV 535 GR		
22	CTL-MX-1		
23	Local ck		
24	CTL-MX-2		
25	CTL-MX-3		
26	CTL-MX-4		
27	CTL-MX-5		
28	CTL-MX-6		
29	CTL-MX-7		
30	CTL-MX-8		

Table 4.20 (continued)

Entry No.	Source	Plot size	Rep.
31	CTL-MX-9	1	2
32	CTL-MX-10		
33	Local ck.		
34	CTL-MX-11		
35	CTL-MX-12		
36	CTL-MX-13		
37	CTL-MX-14		
38	CTL-MX-15		
39	CTL-MX-16		
40	CTL-MX-17		
41	CTL-MX-18		
42	CTL-MX-19		
43	Local ck.		
44	CTL-MX-20		
45	CTL-MX-21		
46	CTL-MX-22		
47	CTL-MX-23		
48	CTL-MX-24		
49	CTL-MX-25		
50	CTL-MX-26		
51	CTL-MX-27		
52	CTL-MX-28		
53	Local ck.		
54	CTL-MX-29		

Table 4.21. International Pearl Millet Adaptation Trial (80-023)

Entry No.	Pedigree	Origin	Rep I	Rep II	Rep III	Average % Stand
1	20-CO-6	ICRISAT (India)	101	211	320	61
2	11-ICH-108	ICRISAT (India)	102	215	319	92
3	13-ICH-190	ICRISAT (India)	103	219	321	54
4	5-EXBORNU/C2	ICRISAT (India)	104	220	311	68
5	18-LC-Cx75	ICRISAT (India)	105	221	314	63
6	2-3/4 SOUNA	ICRISAT (India)	106	212	317	44
7	1-3/4 EXBORNU	ICRISAT (India)	107	216	309	78
8	14-WC-Cx75	ICRISAT (India)	108	218	315	75
9	10-ICH-107	ICRISAT (India)	109	217	313	92
10	16-IVC-Ax75	ICRISAT (India)	110	213	312	77
11	7-PHB-14	ICRISAT (India)	111	214	301	72
12	9-BD-111	ICRISAT (India)	112	201	303	66
13	15-NC-Sx75	ICRISAT (India)	113	205	307	72
14	8-NHB-3	ICRISAT (India)	114	207	308	61
15	3-PSB-8	ICRISAT (India)	115	209	304	71
16	4-IVS-7625	ICRISAT (India)	116	204	310	74
17	21-Local Check	ICRISAT (India)	117	203	305	80
18	17-SSC-Cx75	ICRISAT (India)	118	202	307	64
19	12-ICH-118	ICRISAT (India)	119	208	302	90
20	6-World Comp.	ICRISAT (India)	120	206	318	78
21	19-FB-436	ICRISAT (India)	121	210	316	67
22	Local Check	---	122	222	322	77

Table 4.22. International Pearl Millet Adaptation Trial - Seed Source 1979 (80-025)

Entry No.	Designation	Origin	Rep I	Rep II	Rep III
1	ICH-165	ICRISAT (India)	101	219	306
2	ICH-226	ICRISAT (India)	102	218	301
3	MBH-110	India	103	208	302
4	MBH-124	India	104	203	320
5	ICH-241	ICRISAT (India)	105	211	307
6	UCH-4	India	106	214	318
7	PHB-12	India	107	213	311
8	NHB-3	India	108	220	315
9	ICMS-7703	ICRISAT (India)	109	212	312
10	ICMS-7803	ICRISAT (India)	110	216	317
11	ICMS	ICRISAT (India)	111	202	309
12	ICMS-7818	ICRISAT (India)	112	201	321
13	WC-C75	ICRISAT (India)	113	209	304
14	IVS-P77	ICRISAT (India)	114	210	310
15	SSC-H76	ICRISAT (India)	115	221	313
16	WC-B77	ICRISAT (India)	116	217	316
17	NEC-H77	ICRISAT (India)	117	207	303
18	MC-K77	ICRISAT (India)	118	215	308
19	IVS-5454	ICRISAT (India)	119	205	305
20	PSB-8	India	120	206	319
21		Local	121	204	314