CIMMYT REPORT

ALGERIA 1972-73 CAMPAIGN

I. INTRODUCTION

Summary of the 1972-73 season completes the second year of research results under the joint Government of Algeria contract. The Algerian Cereal Project receives technical assistance from three cooperating agencies, each charged with a specific section of the program as follows :

1. CIMMYT — Responsible for all phases of cereal research, preliminary multiplication of cereals through foundation seed and the preliminary research involving the reintroduction of annual medic species in rotation with cereals. There are four experts stationed in three regional centers covering the entire cereal production area. This area extends 150 Km inland from the Mediterranean sea and from Morocco on the west for 1000 Km to Tunisia on the east.

2- FAO — Responsible for all the extension and demonstration work in cereals. They have four agronomists stationed in the major cereal regions covering all of the cereal production.

3. CCCE (Caisse Centrale de Coopération Economique) — French technical assistance working in the three pilot zones in cooperation with the Algerian regional agricultural centers. They are providing assistance with demonstrations on pilot farms using recommended practices and advising for all cereals in the pilot regions.

II. WEATHER CONDITIONS

Since essentially all cereal production in Algeria is rainfed, the amount and distribution of seasonal rainfall are important factors in production. Rainfall during the past season ranged from below average in some of the more southern regions to above normal along the coastal areas near Algiers. More important to production was the poor distribution. Adequate rainfall was not received until late resulting in delayed seedbed preparation and seeding.

A heavy concentration of rain during December, January, February and March delayed wheat development and was favorable to continued weed growth, especially the grassy type weeds.

Wet soil prevented timely ground application of herbicides in many areas. The damage by the heavy weed competition was increased due to the late maturity combined with the dry and hot period of May and June. Some frost damage occured in the early seeded areas of the high plateau. Long, cool winter and spring were cut very suddenly in late April by hot southerly winds (Sirrocos), which were especially destructive in the high plateau and late seedings at lower elevations. Premature ripening caused reduced quality through grain shriveling. Large areas in the high plateau were almost total failures.

III. COMMERCIAL PRODUCTION

Although the area of high yielding varieties in Algeria was essentially doubled this year, the total production was reduced due to the adverse production factors. Of the 3.2 million hectares of cereals produced in Algeria in 1972-73, there were approximately 750,000 hectares of bread wheat, 1,550,000 hectares of durum wheat, 840,000 hectares of barley and 60,000 hectares of oats. There were approximately 600,000 hectares of high yielding varieties in commercial production. This is about 25 % of the total commercial wheat area.

The first production of high yielding wheat in Algeria was planted in 1969-70 on 5,000 hectares. Because of its superior performance, the area of commercial production rapidly increased in the next three years to 140,000, 320,000 and 600,000 hectares respectively.

Production this year is divided into 480,000 hectares in high yielding bread wheats, consisting roughly of 70 % of Siete Cerros, 25 % of Inia and 5 % of Tobari. The Italian variety Strampelli is performing equally as well as Siete Cerros but is still under seed multiplication. There were 120,000 hectares seeded to the high yielding durum variety Jori C 69 from imported seed.

With the increase in production of high yielding varieties, there has been a corresponding increase in nitrogenous and phosphate fertilizer usage. The major portion of the production of the high yielding varieties has been receiving the recommended inputs. This has greatly increased the national requirements and has resulted in greatly expanded Algerian production of both nitrogen and phosphorous fertilizer along with increased importations.

IV. DISEASES AND PESTS

Diseases, although present, were not a serious factor in overall production of wheat in Algeria. Septoria tritici developed on early plantings of wheat in some areas but dry weather stopped further development before major damage occured. The rusts were not a problem in any area of the country.

Insects were also present but in small populations and in isolated areas. Some losses were observed from Sawfly, Stink bug and wireworms. Birds continue to cause extensive damage in the early maturing varieties, especially near roosting areas.

V. SEED PRODUCTION

With increased production of high yielding varieties, CIMMYT's technical staff has emphasized the need for improvement in the production and processing of seed supplies. As a result, a program has developed in which CIMMYT will be responsible for the direction of the early generation multiplications while at the same time, training the technical Algerian staff for the future program of seed production.

VI. PRODUCTION MANAGEMENT RESEARCH

Data were obtained from twenty variety demonstrations seeded in the major wheat producing areas of Algeria. These demonstrations received the recommended fertilizer and weed control practices. All were planted on state farms with the land preparation by the farm. A total of 36 varieties of wheat and four varieties of triticale were planted, but only 16 to 20 varieties were planted at each location. The new varieties came from the Algerian wheat breeding program, Mexico, Tunisia, France, Yugoslavia, Italy and US. Very limited seed supply of many varieties restricted their planting to only a few trials.

The results of these trials reflected the adverse weather conditions previously reported. The average yield of the high yielding varieties was between 19 and 28 qx/ha, while local varieties averaged 17-18 qx/ha. The yield of half of the demonstrations was below 20qx/ha. The summary of the yield of 21 varieties is given in the table 1. Only the yield of those grown at five or more locations are listed.

TABLE 1

SUMMARY OF THE YIELD OF TWENTY VARIETIES OF WHEAT AND ONE VARIETY OF TRITICALE FROM DEMONSTRATION PLANTINGS IN ALGERIA.

Variety	Source	No. demonstration	Yield qx/ha	Yield % local check
	Bread Wheat			
Zaafrane	Tunisia	7	28.4	166
Inia 66	Mexico	8	22.2	137
Strampelli	Italy	19	22.7	136
Soltane	Tunisia	18	23.5	126
Siete Cerros	Mexico	20	20.2	120
Tobari 66	Mexico	16	20.6	119
Cajeme 71	Mexico	16	19.0	119
Yecora 71	Mexico	11	20.4	115
Era	U.S.A.	5	22.3	118
Utique	Tunisia	9	18.4	110
Fletcher	U.S.A.	9	15.9	101
Mahon Demias	Algeria	17	17.3	100
	Durum Wheat			
Jori C 69	Mexico	18	21.1	134
Cocorit 71	Mexico	20	21.2	130
Capeiti	Italy	16	19.3	119
Inrat 69	Italy	17	18.7	115
Mandon	France	6	17.1	114
Montanari	Italy	6	22.6	113
Ranieri	Italy	7	19.0	111
Oued Zenati	Algeria	16	17.8	100
	Triticale			
Cinnamon	Mexico	8	23.5	130

In general, early varieties were superior this season, with the exception of areas affected by frost. Cajeme 71 was rather severely damaged by frost in several locations. Soltane, which is a few days later than Cajeme, had much less damage.

Test weights were low at many locations, due to premature ripening from hot wind and late drought. The later varieties were more heavily damaged by these conditions with the yields reduced by the shriveling.

Strampelli, which is a few days earlier than Siete Cerros, had the best yield record of the varieties included in most demonstrations. There is a large seed increase of this variety. It will be recommended for the high plateau region with Siete Cerros and the high rainfall area where Septoria causes the most damage. Soltane is being increased to replace Inia 66 and Tobari 66. It has wide range of adaptability and performs quite well under Septoria conditions. Era looks promising for the high plateau region for early seeding. Zaafrane and Inia 66 gave excellent yields, but were only tested in regions of good adaptation. At the same locations, Soltane performed similar to Zaafrane and was superior to Inia 66. Siete Cerros was damaged by the hot winds more than Strampelli or Soltane.

Cajeme 71 and Yecora were tested in many demonstrations this year. The three gene height is too short for much of the rainfed area. This plant height does not compete well with grass type weeds. Under low rainfall it is too short (50-60 cm) causing harvest problems, especially in rocky soils. The two gene height level is better adapted to most of the rainfed area. The yield overall for these varieties was not outstanding, however, in some demonstrations, Cajeme and Yecora were top yielders in high rainfall regions when Septoria was not present.

Cocorit 71 and Jori C 69 were the outstanding durum wheat varieties. Capeiti and Inrat 69 also yielded well when compared to local varieties. Inrat 69 has a limited region of adaptation. It does well in the 400-500 mm rainfall region below 500 meters altitude. Jori C 69 is too short for regions below 400 mm of rainfall and is very susceptible to Septoria. Cocorit 71 is a little taller, has better overall adaptability, disease resistance and equal or better yielding ability than Jori. Cocorit 71 is being increased for commercial production. The quality of Cocorit 71 may limit the period it will be useful as new high yielding, better quality durums are developed. Capeiti is earlier maturing than the local varieties, performs well in poor soils, and under conditions which limit the maximum potential of higher yielding varieties.

Cinnamon (triticale) was tested in eight trials. It out yielded the local durum variety Cued Zenati by 30 percent. The test weight was very poor, averaging about 10 Kilo/hectoliter below the test weight of wheat. The triticales need further testing in comparison with barley for feed grain possibilities. The rapid growth of triticales may offer some potential for cereal pasture.

The high yielding varieties were outstanding when the yield of the demonstration averaged more than 20 qx/ha. At this level of production, the high yielding varieties averaged 7 to 12 qx/ha more than local varieties. When the average yield of the demonstration was below 20 qx/ha, there was very little difference in the yields of all varieties. The high yielding varieties were equal to slightly better at this level of production than local varieties, but all varieties tested have the capability to yield 20 qx/ha or more. The real value of the high yield potential of the high yielding varieties is reflected when management and climatic conditions are condusive to high yield. These results are summarized in tables 2 and 3.

TABLE 2

COMPARATIVE YIELDS OF HIGH YIELDING VARIETIES AND LOCAL CHECK VARIETIES WITH AVERAGE YIELD BELOW 20 QX/HA.

Variety	No. location	Av. yield qx/ha	Yield check same locat.	% check	Yield difference
Mahon Demias or Florence Aurore	9	13.6	13.6	100	0.0
Strampelli	9	14.5	13.6	106.8	0.9
Siete Cerros	9	13.7	13.6	100.4	0,1
Soltane	9	15.9	13.4	116.7	2.3
Tobari 66	8	14.3	14.3	100.0	0.0
Cajeme 71	8	12.8	13.4	95.6	-0.6
Oued Zenati or Mohamed B. Bachir	8	11.2	11.2	100	0.0
Cocorit 71	8	13.7	11.2	122.6	2.5
Jori 69	6	11.5	9.1	125.1	2.4
Inrat 69	6	11.0	9.7	113.4	1.3
Capeiti	7	13.0	10.4	124.8	2.6

TABLE 3

COMPARATIVE YIELDS OF HIGH YIELDING VARIETIES AND LOCAL CHECK VARIETIES WITH AVERAGE YIELD ABOVE 20 QX/HA.

Variety	No. location	Ave. Yield qx/ha	Yield check same locat.	% check	Yield difference
Mahon Demias or Florence Aurore	10	20.8	20.8	100.0	0.0
Strampelli	9	30.7	21.7	145.9	9.0
Siete Cerros	10	28.9	20.8	133.2	8.1
Soltane	10	30.4	20.8	145.7	9.6
Inia 66	5	27.7	19.4	142.6	8.3
Tobari 66	8	27.6	20.6	134.3	7.0
Zaafrane	5	34.0	21.7	156.3	12.3
Cajeme 71	7	28.8	20.4	141.2	8.4
Cued Zenati	10	21.7	21?7	100.0	0.0
Cocorit 71	10	28.4	21.7	130.9	6.7
Jori 69	10	29.2	21.7	134.5	7.5
Inrat 69	10	24.6	21.7	113.3	2.9
Capeiti	8	27.0	23.3	116.0	3.7

The data summarized in tables 2 and 3 emphasize the importance of improving management to benefit from the high potential of a variety. Although continued variety improvement is necessary, the major yield improvement in Algeria will come from improvement of cultural practices of land preparation, weed control and timely seeding. Varieties are now available with the capability of yielding twice as much as is now being produced.

VII. FERTILIZER EXPERIMENTS

Four fertilizer trials were harvested comparing the date and rate of nitrogen fertilizer application. The fertilizer was applied all at seeding, all at tillering and a split application at seeding and tillering. Three of the trials gave a significant rate of fertilizer response and one gave no response. The date of application was not significant in these trials. Table 4 summarizes the rate of nitrogen response. All nitrogen applications were made by broadcasting with Ammonium Nitrate.

TABLE 4

YIELD OF WHEAT IN QX/HA AT DIFFERENT RATES OF NITROGEN AT FOUR LOCATIONS IN ALGERIA IN 400 TO 500 mm RAINFALL REGION.

Location	Variety	Rate of Nitrogen				Max. increase
		0	33	67	100	
Beni Slimane	Siete Cerros	23.0	28.2	27.3	29.1	6.1
Bouira	Strampelli	24.8	26.7	26.9	27.1	2.3
Sfisef	Siete Cerros	28.4	31.1	34.0	36.4	8.0
El Asnam	Siete Cerros	20.7	18.1	19.7	20.7	-

When reviewing the fertilizer data for two years in Algeria and four years in Tunisia, at least two factors are significant for wheat production. First, the date of application does not normally influence the yield of wheat significantly when application is made at seeding, or tillering, or a split application at seeding and tillering. There does not appear to be any advantage to split application when rainfall is below 550 mm.

Second, the preceeding crop influences the fertilizer response on wheat. Wheat following nitrogen depleting crops like oats and vetch for hay, vetch for seed, sunflowers, wheat and chick peas, responds well to nitrogen application. When wheat follows melons, potatoes, sugar beets, peas, tomatoes and green manure, the residual nitrogen is usually higher and nitrogen fertilizer response is reduced.

Fertilizer recommendations in regions below 550 mm of rainfall should require the application of all nitrogen before seeding the wheat. The application should be made with fertilizer spreaders for uniform application. The rate should be adjusted to balance the residual carry-over normally expected from the preceeding crop. These factors will improve the efficiency of nitrogen fertilizer and improve the uniformity and timeless of application.

No further work is planned by the CIMMYT team on fertilizer application on wheat in Algeria. Enough data are available to make production recommendations. Other sections of cereal research in Algeria are working in the fertility field.

VIII. DATE OF SEEDING

Heavy rainfall in December and January made it impossible to finish all but one date of seeding trial. At El Khemis a trial with five varieties at two dates was completed. The results of this trial are summarized in table 5.

TABLE 5

YIELD IN QX/HA OF FIVE VARIETIES OF WHEAT SEEDED AT TWO DATES AT EL KHEMIS, ALGERIA.

Variety	Date of seeding		Ave.	Yield
	Nov. 21	Dec. 19	Yield	difference
Siete Cerros	20.6	16.8	18.7	3.8
Soltane	20.0	18.4	19.2	1.6
Cajeme	10.0	16.9	13.5	6.9
Fletcher	19.5	12.9	16.2	6.6
Cocorit 71	19.7	16.4	18.1	3.3
Ave. (date)	18.0	16.3	17.1	1.7
L.S.D. Var.	3.3			
Var. x dates	3.3			

Although the total rainfall was adequate for high yield, it was concentrated in the four months of December to April. Siroccos winds in May and June reduced yields and hastened maturity. Under these conditions, the later seedings yielded less, especially with the late varieties. Soltane was not affected by the date of seeding. Siete Cerros, Fletcher and Cocorit 71 yielded significantly higher at the first seeding date. Cajeme was early and was injured by frost at the first date of seeding, reducing the yield.

At Bouira, the fertilizer trial was seeded one month before the demonstration. The yield of Strampelli was 15 qx/ha more in the fertilizer trial than in the demonstration. The yield increase was due mainly to the date of seeding and more than doubled the yield.

Timely seeding is an extremely important management factor in wheat production under rainfed conditions. Variety selection is also an important factor to consider at a given date of seeding. Early seedings should use longer maturing varieties, while later seedings benefit from shorter maturing varieties. Proper selection of variety to match seeding date helps avoid the risk from frost and early drought.

IX. HERBICIDE TRIALS

Preliminary experiments with herbicide treatments for wheat were started in 1972-73. Late arrival of chemicals limited the treatments. The results from this year's work suggest ways to improve the accuracy of the experiments and what chemicals to test in the coming year.

The herbicide work is primarily designed to evaluate herbicides already in general or limited use in other areas. Herbicides used were selected with the view to extend the possible period of treatment. The application of 2,4-D is limited to a short period after tillering stage to before boot stage. Earlier application will help reduce weed competition with wheat and extend the use of limited equipment available for spraying. Herbicides were applied according to the recommendations of the product.

In preliminary tests at five locations, several formulations of herbicides gave good control of broad leaf weeds (dicotyledons) when applied in the tillering (3 to 5 leaves) stage of wheat. These products were formulations of MCPA or MCPP with other herbicides like Dicamba, Bromoxynil, Ioxynil, Dinoterbe and Dicuron. The cost of these products is two to four times the cost of 2,4-D. More testing is necessary to evaluate the net return in comparison to 2,4-D. When applied as recommended, there was little phytotoxic effect on wheat.

With heavy populations of wild oats in Algeria, a chemical for control of wild oats in wheat would be desirable, if it were reasonably priced. Preliminary tests in Algeria indicate Suffix may be useful for the control of wild oats in wheat. It was successful in controlling wild oats when applied between tillering and boot stage of the wild oats. Table 6 summarizes the yield data from four applications of Suffix.

TABLE 6

YIELD OF SUFFIX TREATED WHEAT COMPARED TO UNTREATED WHEAT IN FOUR TRIALS IN ALGERIA.

Location	Yield in qx/ha				Remarks
	Check	Suffix	Difference	% increase	
Guelma	20.5	26.0	5.5	26.8	Siete Cerros-field application
El Khemis	11.0	14.6	3.6	32.7	Oued Zenati-field application
El Khemis	7.3	11.0	3.7	50.6	Siete Cerros-experiment
El Asnam	11.0	16.2	5.2	45.9	Siete Cerros-experiment
Average	12.5	17.0	4.5	36.0	

At all the locations presented in table 6, wild oats was the dominate species of weeds, however, other weeds were present. The Suffix prevented any seed development and stopped the growth of wild oats. Considerable competition before and after the application occurs, reduces the benefits of Suffix. The absence of any seed production by wils oats on the Suffix treated area will decrease volunteer wild oats in succeeding crops extending the benefit of the treatment for more than one year. At present prices, it takes a yield increase of 3 qx of wheat to pay for the Suffix treatment.

In one demonstration, reduction in yield from wild oat infestation was approximately proportional to the ratio of wild oats and wheat. At Tafraoui, near Oran, one replication of a twenty variety demonstration was infested with wild oats and the other replication was relatively free. A visual estimate of the wild oats infestation was made at harvest. The visual estimate averaged 27 % infestation of wild oats and the reduction in yield was 30%. These data support previous data obtained in Tunisia where a reduction in yield was also proportioned to the wild oat infestation.

The emphasis in production research is now being focused on the management problems in wheat production. Methods of controlling wild oats and the other weeds by cultural methods will be researched and demonstrated. Improving management practices in all crops in the rotation will be necessary. The reintroduction of the annual Medicago sp into the rotation will be part of the overall management program under study.

Particular emphasis will be placed on timely tillage and seed bed preparation to improve weed control, timely seeding, stand establishment, timely herbicide application, and management to improve moisture utilization for wheat production.

X. VARIETAL IMPROVEMENT SECTION

The general poor distribution of rainfall during the winter and spring accompanied by continuous cool weather and followed closely by early hot winds (Siroccos) greatly complicated selection within the breeding material at all research stations. Approximately 95% of the large nurseries of winter and winter x spring crosses on the high plateau of Setif (1150 meters) were lost due to the Siroccos. The high plateau is a large cereal region subject to snow, late frost, early Siroccos and annual average rainfall ranging from 250 to 650 millimeters.

The breeding section of the Cereal Project under CIMMYT direction was further expanded during the 1972-73 crop season with the return of three additional trainees from the CIMMYT breeding and pathology program in Mexico. Major emphasis during 1971-72 was directed toward development of the bread wheat program, however, the durum wheat program has been enlarged this year and is expected to equal the scope of the bread wheat program during the next crop season. The presently introduced commercial bread varieties Siete Cerros, Inia and Strampelli are not ideal in all aspects, however, their use will provide the fascility for large potential yield increases and allow time for developing more disease resistant and locally adapted varieties. On the other hand, the introduced durum varieties do not have the same level of adaptation and disease resistance present in the bread wheats.

The triticale program has been increased during the past year from strictly micro-yield trials to include screening nurseries and segregating populations. The numbers and sizes of these different nurseries will be further expanded during the 1973-74 season. Several of the most promising advanced lines have been and will continue to be tested in the larger production research plots. The performance of the best

triticale, Cinnamon, can be observed in table 1 of the production research section.

Barley is an important crop in area (850,000 hectares) and is used mainly for livestock production. The two local varieties Saida and Tichedrett have good adaptation and yielding ability. For the present, it is more important to select, screen and yield test the large collection of barley segregating populations, lines and varieties available rather than launch a premature breeding effort.

BREAD WHEATS

The results of micro-yield trials shown in table 7 support those obtained during the two previous years in Algeria. The two varieties Strampelli and Siete Cerros continue to dominate first place in overall adaptation and yielding ability. This is true when averaging the trials from the lower elevations and the high plateau separately or together. As stated earlier, Siete Cerros is recommended for the high plateau and in rainfall zones below 500 mm, where Septoria is no problem. Due to lack of a heavy Septoria attack in the past 3 years and its preference by the farmer, Siete Cerros has moved into the higher rainfall zones. When seed quantities of Strampelli are sufficient, this variety will be recommended as a replacement for Siete Cerros in the higher rainfall zones due to its good Septoria resistance. The major weakness of Strampelli is its susceptibility to stem rust. Siete Cerros has good stem rust resistance, therefore, the two varieties compliment each other in large scale production.

Soltane was not tested as widely in the micro-trials and its general yield level was low compared with Strampelli and Siete Cerros. This is contrary to the large scale production research trials reported earlier as well as the previous years results. Soltane has shown a

good level of tolerance to Septoria tritici and stem rust. Although its yield potential is less than the other two mentioned varieties, it is being considered as a replacement for Inia in the low elevation, high rainfall zones. Soltane has good general adaptation with a good yielding ability, characteristics that are desirable to stabilize production.

The various screening nurseries for general observation and disease evaluation were distributed across 7 research stations in the cereal area of Northern Algeria. Only two of the stations, Guelma and El Khroub, had conditions favorable for selection. The best advanced lines from the nurseries at these stations are compared with Strampelli and Siete Cerros in table 8.

DURUM WHEATS

The durum wheats generally suffered more from the fluctuating climatic conditions than did the bread wheats. Only the Guelma station in eastern Algeria expressed the yield potential of the advanced lines and varieties. The results are shown in table 9 in comparison with the local variety Bidi 17. The two commercial varieties of Mexican durum wheat were the highest yielder followed closely by two Anhinga Sibs selected earlier in Algeria. The Cisne "S" which is a sister of Cocorit also performed well. Under good climatic conditions, these varieties and selections express their true yield potential. The varities Cocorit 71 and Jori 69 also expressed equally good adaptation with the local durum varieties under stress. There was more than 100,000 hectares of Jori 69 seeded in Algeria this year and results were generally favorable. The variety Cocorit 71 is only in initial stages of multiplication at this time.

TABLE 7

SUMMARY OF THE BEST COMMERCIAL BREAD WHEAT VARIETIES

OVER ALL EXPERIMENT STATIONS 1972-73

Variety	Location	No. of trials	Average yield (Qx/ha)	% of check
Strampelli	Algiers	8	43.00	133
Siete Cerros	"	8	40.60	126
Soltane	"	6	32.86	102
Florence Aurore	"	8	32.42	100
Average of all trials	"	8	33.78	-
Strampelli	Avg. of Algiers and Guelma	13	48.58	123
Siete Cerros	"	13	47.71	121
Soltane	"	9	41.24	104
Florence Aurore	"	13	39.68	100
Average of all trials	"	13	39.94	-
Strampelli	All trials at all stations	29	30.83	113
Siete Cerros	"	29	31.00	113
Soltane	"	23	26.63	98
Florence Aurore	"	29	27.44	100
Average of all trials	"	29	26.65	-

TABLE 8

BEST ADVANCED LINES FROM THE SCREENING NURSERIES AT TWO STATIONS 1972-73

Line	Guelma (Qx/ha)	Khroub (Qx/ha)
Cno x Son 64 23582-12M-2Y-1M-0Y-0MB	43.20	24.00
CC - Cno "S" II-25024-23M-3Y-0M-0MB	44,80	32.05
S948 x Mxp 65 PK 2834-6a-0a-0MB	42.13	27.31
Cal/Cno"S"x $LR64^{2}$-Son 64 27172-146M-3Y-1M-0Y-0MB	43.73	30.72
Napo 63 x Tzpp-Son64/8156 28071-7M-3Y-1M-0Y-0MB	44.80	37.07
Inia-Cal x Inia"S"-CC 28647-67Y-1M-0M	51.73	26.67
$Y50_{E}$-Kal^{3} 35188-5M(F_1)-31Y-0M	43.20	24.00
Inia 66-RL 4220x7C 35038-7Y-1M-0Y	44.80	17.60
Tob 66-B Man x Bb 25998-5B-3J-101J-4Y-1M-0Y	51.20	33.07
Son 64xTzpp-Y54/Tzpp-Son 64A Mic 63-1649-78	42.67	31.31
$My54_{E}$-$Yt54_{A}$ X Nor 67	48.00	29.07
LR 64-$P4160^{3}_{E}$ (BT 2354)	48.53	24.32
Cno "S" - Inia "S" 23959-13T-1M-1Y-0M-0MB	51.20	21.60
Strampelli	48.58	**20.27**
Siete Cerros	47.71	22.94

There were two selections from the screening nurseries that were of particular interest for agronomic type and yielding ability in comparison with Cocorit 71. These were :

a) Gs"S"-AA"S" D27660-6M-1Y-1M-2Y-1M-0Y.

b) D21563-AA"S" D27625-5M-2Y-2M-1Y-1M-0Y.

They also have essentially the same maturity range and plant height as Cocorit 71.

TABLE 9

TOP YIELDING VARIETIES AND ADVANCED LINES FROM NATIONAL DURUM YIELD TRIALS IN GUELMA, ALGERIA 1972-73

Variety or line	Yield Qx/ha	% of check
Cocorit 71	55.6	139
Jori C 69	54.3	136
Anhinga"S" II	52.2	130
Anhinga"S" I	52.0	130
Cisne "S"D27617-21M-300Y-0B	51.8	129
Jo"S"-Cr"S" D27591-6M-4Y-0M	51.2	128
Cr"S"BD23055-56M-5Y-1M	50.2	126
66DM x 0329-Jori "S"	49.3	123
Brant "S" I	48.7	122
Bidi 17	40.0	100

TABLE 10

PROMISING POPULATIONS FROM MEXICO AND TUNISIA SELECTED IN ALGIERS, ALGERIA 1972-73

Population	Seed classif.	Yellow Berry	Shriveling	Yield Qx/ha
D70-5=BD1831 x BD1771-BD1708	1A	10%	0	34.5
Cr "S"-F3Tun x AA"S"/Fg"S" CM 10200-1BK-0BK	2A	0	20%	43.9
DM71-126=(Stw63-GII"S"/CI8133-2h x Cpt8)(Gs"S"/D. Buck x TME-Tc^2/Lak)	1A	10%	30%	39.4
DM71-249=Jo"S"-Cr"S" x Fg"S"	1^+A	tr	5%	39.4
DM71-250=Jo"S"-Cr"S" x Cit"S"	1^+A	40%	5%	38.2
D69-40-6A=BD1706 x Kyp-Yral (BD1419/AD5 x Mahon-Kokkini)	1R-B	5%	40%	37.5
DM71-103=Fg"S"(Jo"S"/LD357-Tc^2 x GII "S")	1A	0	10%	35.6
D70-9=BD1831 - BD1835	1^+A	80%	0	34.5
D69-73-8A=BD1407A x BD1749	1A	5%	5%	33.2