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Table 1 describes the average of yielding ability of each strain in the pure stand and in the mixed stand. Yielding ability of (*speltoides*)-CS strain in the mixed stand was higher than that in the pure stand. (*Juvenalis*)-CS strains in the mixed stand showed similar yields to the pure stand. The yielding ability of the other strains in the pure stand were less than that in the mixed stands. (*Squarrosa*)-CS strain and (*longissima*)-CS strain were very weak competitors with euplasmic CS. The yielding ability in the pure stand was negatively correlated with the competitive gain ($r=-0.672$). By introduction of alien cytoplasm, it should be noted that the alien cytoplasm shows a strong influence on the competitive ability.

Table 1. Effects of cytoplasm on the competitive ability.

Strain	No. of BC	Yield (g/plant)		Competitive gain (%) ¹⁾
		Pure	Mixture	
(<i>squarrosa</i>)-CS	12	16.9	9.5	-43.8
(<i>unialistata</i>)-CS	7	14.1	12.4	-12.1
(<i>speltoides</i>)-CS	14	11.7	16.9	+35.9
(<i>longissima</i>)-CS	9	17.8	11.2	-37.1
(<i>cylindrica</i>)-CS	13	10.0	9.6	- 4.0
(<i>ovata</i>)-CS	19	10.3	8.5	-17.5
(<i>kotschy</i>)-CS	15	11.7	9.8	-16.2
(<i>variabilis</i>)-CS	15	15.5	12.7	-18.1
(<i>juvenalis</i>)-CS	13	11.0	13.2	+20.0
Normal CS	-	11.3	11.3	0.0
L.s.d. (d.f.=38, p=0.05)		3.27		-

1) Competitive gain=(Mixture-Pure)/Pure x100

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ITEMS FROM MEXICO

CIMMYT, Mexico, D. F.

Pedro Brajcich and Lucy Gilchrist

Durum Wheat Program, resistance to three rusts. The rusts, leaf, stem and stripe, are limiting factors for the production of durum wheat in several developing countries where CIMMYT is helping the National Agricultural Research Systems.

One of the objectives of the CIMMYT Durum Wheat Program has been to introduce disease resistance to the germplasm. The levels of leaf, stem and stripe rust resistance has shown major improvement as is demonstrated by disease scores of international nurseries.

Rust readings were received for the 17th International Durum Wheat Screening Nursery from different durum wheat areas localized in Europe, East Africa, Middle East, North and South America (Table 1). The rust average coefficient of infection of the advanced lines with the best level of resistance for those environments compared to three check cultivars are presented in Table 2. These advanced lines illustrate the current level of rust resistance in the program. All the entries have good agronomic type and high yield potential. Seed samples are available on request.

TABLE 1. RUST SCORES RECEIVED FROM THIRTEEN LOCATIONS FOR THE 17th INTERNATIONAL DURUM WHEAT SCREENING NURSERY

LOCATION	R U S T		
	LEAF	STEM	STRIPE
Rift Valley, Njoro, Kenya	X	X	X
Thessaloniki, Greece	X	X	-
Elvas, Portugal	X	X	X
Rinconada, Sevilla, Spain	-	-	X
Valconi Center, Bet Dagan, Israel	X	-	-
El Batan, Mexico	X	X	-
CIANO, Sonora, Mexico	X	X	-
Tlaxcala, Mexico	X	-	X
Balcarce, Buenos Aires, Argentina	-	X	-
Entre Rios, Argentina	X	X	-
Palatina, Parana, Brazil	-	X	-
La Platina, Santiago, Chile	X	X	-
Cajamarca, Peru	-	X	-
TOTAL	9	10	4

TABLE 2. RUST AVERAGE COEFFICIENT OF INFECTION (ACI)* FOR THE ENTRIES WITH THE BEST LEVEL OF RESISTANCE IN THE 17th INTERNATIONAL DURUM WHEAT SCREENING NURSERY

ENTRY No.	ADVANCED LINE OR VARIETY	RUST		
		LEAF	STEM	STRIPE
1	GTA'S'/DUR69 HRL-0Y-6M-0Y	2.8	1.4	5.3
16	CARCOMUN'S' CD24831-A-1Y-3M-1Y-4Y-0M	3.1	4.8	3.5
46	SOMORGUJO'S' CD32038-B-1Y-4Y-3M-0Y	3.7	4.8	0.0
51	DIVER'S' CD34874-E-2Y-3M-1Y-1M-2Y-1M-0Y	3.4	2.9	5.3
90	RU'S'/CNDO CD45999-4B-3Y-2M-1Y-1M-0Y	0.7	3.7	0.0
131	MO'S'/YAV79 CD52723-8B-3Y-1M-0Y	5.7	1.0	0.0
20	MEXICALI 75	37.6	5.9	10.0
40	YAVAROS 79	5.3	4.3	5.0
60	ALTAR 84	1.6	3.9	2.8
	NUMBER OF LOCATIONS	9	10	4

*ACI = Average score of percent severity x constant (R=0.2, MR=0.4, MS=0.8, S=1.0).
Lowest scores are best.

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R. L. Villareal and E. R. Olmedo

CIMMYT wheat improvement in-service training course of 1987. The fact that breeders and pathologists trained by CIMMYT are active in more than 100 national programs indicates the importance of Wheat Improvement In-Service Training course for increasing the research capacity of personnel from crop institutions throughout the world.

Several events of special interest occurred during the year:

- * The addition of Dr. Lucy Gilchrist to the wheat training program will bring special expertise in the area of plant pathology.
- * Eminent visiting scientists came to serve as guest lecturers and interact with trainees; e.g., Drs. J. S. Quick of Colorado State University in plant breeding, A. E. Roelfs of Cereal Rust Laboratory at St. Paul, Minnesota on wheat rust and L. R. Singleton of Oklahoma State University on soilborne diseases.
- * Recognizing the importance of high quality seed, together with other CIMMYT training programs a full week was devoted to a concentrated program, "Seed Week". Drs. Johnson E. Douglas and S. T. Peske from the International Center for Tropical Agriculture (CIAT) seed unit very ably conducted this course.
- * An integrated pest management course was offered by Dr. H. D. Thurston of Cornell University to strengthen trainees' knowledge of general pest control measures.

In 1987, 25 trainees from 15 countries attended the wheat improvement in-service course and became familiar with methods of crossing, selection, disease inoculation and scoring, harvesting, nursery management, and grain quality evaluation (Table 1). CIMMYT places heavy emphasis on selecting disease-resistant materials, and trainees learn how to induce artificial rust epidemics to ensure the selection of such materials.

The number of trainees from countries where wheat is not a traditional crop continues to increase. Those colleagues bring to CIMMYT's training program different viewpoints and requirements, all of which enlarge the scope of CIMMYT training, making it into a truly international exchange and not a mere series of classroom and field exercise.