

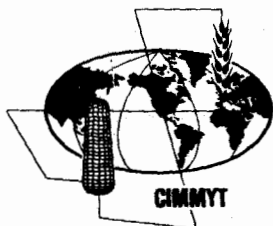
**RESULTS
OF
THE SECOND
INTERNATIONAL
BARLEY
YIELD
TRIAL**

IBYT 1979-80



CENTRO INTERNACIONAL DE MEJORAMIENTO DE MAIZ Y TRIGO
INTERNATIONAL MAIZE AND WHEAT IMPROVEMENT CENTER
Londres 40 Apartado Postal 6-641 México 6, D.F.; México

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INTERNATIONAL BARLEY YIELD TRIAL
(IBYT) 1979-80**



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**GLOSSARY OF VARIABLE NAMES USED IN THE TABLES.
GLOSARIO DE LOS NOMBRES DE LAS VARIABLES USADOS EN LAS TABLAS.
GLOSSAIRE DES NOMS DES VARIABLES UTILISES DANS LES TABLEAUX.**

TABLE ABBREVIATION	VARIABLE NAME	NOMBRE DE LA VARIABLE	NOM DE LA VARIABLE
ALT BLT	Alternaria blight (0-9 scale)	Tizón por Alternaria (escala 0-9)	Alternaria (échelle 0-9)
ANT DMGE	Ant Damage percentage	Porcentaje de daño de hormigas	Dégâts dûs aux fourmis en pourcentage
APHD DMGE	Aphid damage percentage	Porcentaje de daño de áfidos	Dégâts dûs aux pucerons en pourcentage
ARMY WORM	Army worm percentage	Porcentaje de gusano cogollero	Chenille soldat en pourcentage
BACT STRP	Bacterial stripe (0-9 scale)	Rayado bacteriano (escala 0-9)	Rayée bacterienne (échelle 0-9)
BIRD DMGE	Bird damage percentage	Porcentaje de daño de pájaros	Dégâts dûs aux oiseaux en pourcentage
BYDV	Barley yellow dwarf virus (0-9 scale)	Enanismo amarillo de la cebada (escala 0-9)	Virose jaune de l'orge (échelle 0-9)
COVD SMUT	Covered smut percentage	Porcentaje de carbón cubierto	Charbon couvert en pourcentage
EARS/M ²	Ears per square meter	Espigas o mazorcas por metro cuadrado	Epis par mètre ²
FALL NO	Falling number (seconds)	Actividad alfa amilasa (segundos)	Activité du α amylase (en secondes)
FERT %	Fertility percentage	Porcentaje de fertilidad	Fertilité en pourcentage
FLOW DAYS	Number days to flower	Días a floración	Nombre de jours a la floracion
FRST DMGE	Frost damage percentage	Porcentaje de daño por heladas	Dégâts par la gelée en pourcentage
FUS NIV	Fusarium nivale spot	Mancha foliar (Fusarium nivale)	Tache de la feuille (Fusarium nivale)
FUS WILT	Fusarium wilt percentage	Porcentaje de marchitez por Fusarium	Fusarium en pourcentage
GERM %	Germination percentage	Porcentaje de germinación	Germination en pourcentage
HAIL DMGE	Hail damage percentage	Porcentaje de daño por granizo	Dégâts dûs à la grêle en pourcentage
HELM	Helminthosporium (0-9 scale)	Helminthosporium (escala 0-9)	Helminthosporium (échelle 0-9)
HELM TERES	Leaf spot Helminthosporium teres	Mancha foliar (Helminthosporium teres)	Tache de la feuille (Helminthosporium teres)
KERN APP	Kernel appearance	Apariencia del grano	Apparence du grain
LEAF FIRE	Leaf fire (0-9 scale)	Tizón foliar (escala 0-9)	Sécheresse des feuilles (échelle 0-9)
LEAF RUST	Leaf rust (Cobb scale)	Roya de la hoja (escala de Cobb)	Rouille brune (échelle de Cobb)
LEAF RUST/P. HORDEI	Barley leaf rust (Puccinia hordei)	Roya de la hoja (cebada)	Rouille brune de l'orge
LODG %	Lodging percentage	Porcentaje de acame	Versé en pourcentage
LSE SMUT	Loose smut percentage	Porcentaje de carbón volador	Charbon nu en pourcentage
MAT DAYS	Number days to maturity	Número de días a la madurez	Nombre de jours à la maturation
MST %	Moisture percentage	Porcentaje de humedad	Humidité en pourcentage
NECK BRK	Neck break percentage	Porcentaje de rotura del cuello	Cassure du pédoncule en pourcentage
NET BLOT	Net blotch (0-9 scale)	Mancha reticular (escala 0-9)	Helminthosporium de l'orge (échelle 0-9)
PLNT DENS	Plant density (stems/square meter)	Densidad de plantas (tallos/metro cuadrado)	Population des plantes (tiges/mètre ²)
PLNT HT	Height (cm)	Altura (cm)	Hauteur (cm)
PLNT WT	Plant weight (grams)	Peso de la planta (gramos)	Poids de la plante (grames)
POWD %	Powdery mildew percentage	Porcentaje de mildiú polvoriento	Oidium en pourcentage
PROT %	Protein percentage	Porcentaje de proteína	Protein en pourcentage
ROOT ROT	Root rot percentage	Porcentaje de pudrición de maíz	Putréfaction du maïs en pourcentage
SCAB %	Scab percentage	Porcentaje de roña	Fusarium de l'épi en pourcentage
SCLD %	Scald percentage	Porcentaje de escaldadura	Rhynchosporium en pourcentage
SDMT INDX	Sedimentation index (cc)	Índice de sedimentación (cc)	Indice de sédimentation (cc)
SEED TYPE	Seed type (L=large, M=medium, S=small)	Tipo de semilla (L=grande, M=mediano, S=pequeño)	Type de grain (L=large, M=moyen, S=petit)
SEPT NODO	Septoria nodorum (0-9 scale)	Septoria nodorum (escala 0-9)	Septoria nodorum (échelle 0-9)
SEPT SPP.	Septoria spp. (0-9 scale)	Septoria spp. (escala 0-9)	Septoria spp. (échelle 0-9)
SEPT TRIT	Septoria tritici (0-9 scale)	Septoria tritici (escala 0-9)	Septoria tritici (échelle 0-9)
SHTR %	Shattering percentage	Porcentaje de desgrane	Chute de grains en pourcentage
SMLS SMUT	Semi-loose smut percentage	Porcentaje de carbón semi-volador	Charbon semi-nu en pourcentage
SPOT BLOT	Spot blotch (0-9 scale)	Tizón de la hoja (escala 0-9)	Tache de la feuille (échelle 0-9)
SPOT BLOTCH/HELM SATV	Spot blotch (0-9 scale)	Tizón de la hoja (escala 0-9)	Tache de la feuille (échelle 0-9)
STEM RUST	Stem rust (Cobb scale)	Roya del tallo (escala de Cobb)	Rouille noire (échelle de Cobb)
STRP RT.H	Stripe rust (head) percentage	Porcentaje de roya lineal (espiga)	Rouille jaune sur l'épi en pourcentage
STRP RT. L	Stripe rust (leaf) (Cobb scale)	Roya lineal (hoja) (escala de Cobb)	Rouille jaune sur feuilles (échelle de Cobb)
TEST WT	Test weight (kg/hi)	Peso hectolítrico (kg/hi)	Poids spécifique (kg/hi)
1000 G.W.	1000 grain weight (grams)	Peso de 1000 granos (gramos)	Poids de 1000 grains (grames)
YELL BERR	Yellow berry percentage	Porcentaje de panza blanca	Mitadinage en pourcentage
YIELD KG/HA	Yield kg/ha	Rendimiento kg/ha	Rendement kg/ha

RESULTS OF THE 2ND. INTERNATIONAL BARLEY YIELD TRIAL (IBYT) 1979-80

The 2nd. International Barley Yield Trial (IBYT) was sent in the fall of 1979, to be grown by cooperators in the 1979-80 growing cycle. Sixty-three nurseries went to cooperators in 47 countries. The 24 advanced lines and varieties included in the nursery had been chosen from among CIMMYT's best materials and nominations from plant breeders in different parts of the world. All had been grown and observed under a high yield environment with pressure from major diseases at the CIANO Experiment Station in the Yaqui Valley in Northwest Mexico. The selected lines thus comprised a collection of the world's best lines or varieties which cooperators could compare under the specific conditions of their own sites. Seed for this international nursery was multiplied in plots on the CIANO Experiment Station, and the seed was cleaned and treated with insecticide and organic fungicide before shipment.

Instructions accompanied the mailing of seed to each cooperator; the plot sizes, replications and similar procedures were specified. It is recommended that each plot should consist of six 3.0 m rows planted 30 cm apart and that each line should be grown in three replications. However, plot configuration may differ to conform to local equipment. A field book accompanied each nursery set, providing a format for recording data desired by CIMMYT. Twenty-three of the cooperators receiving the IBYT returned field books reporting performance at their location in time to be included in this report. In receiving and processing the data, CIMMYT assumes that instructions were carried out and that accurate results were reported. We cannot, however, attest to the rigor with which the trials were grown and results were obtained.

The choice of variables measured and the data returned rests with the individual cooperator. We have included in this summary all measures of all variables reported to us. Some variables are presented for which a limited number of observations were made. The user of these tables should be aware of the importance of the number of locations and the number of observations in interpreting data on a given variable; summary tables for regional and international results specify both for the guidance of the reader.

Presentation of Results

So that data in this report will be of optimal use to the reader, we present the results in three forms:

1. All data provided from *each trial site* are reported in a single table for that site. Each reports latitude and longitude coordinates as supplied by the cooperator. With these points, the reader can determine an exact location and, if desired, relate to it environmental data from other sources.
2. *Regional summaries* of means have been computed from data aggregated from individual sites in several countries grouped by geographic criteria. Each regional table lists the names of all countries and locations from which site data were drawn for that table.
3. *Two international summaries* presenting (a) the variables for which data were reported, by trial site, and (b) the means computed for all sites.

Statistical coefficients^{1/} accompany the international summary and each of the regional summaries to assist the reader in evaluating and interpreting the data. While we assume accuracy in the data supplied to us, we encourage users of this report to approach specific elements with the reasonable skepticism of their own standard of proof.

Feedback

Feedback of two kinds from cooperators is vital to the quality of this and other CIMMYT international nursery reports: First, the prompt return of carefully recorded data from each and every trial site; second, identification of errors that become part of our cooperators' station files—location coordinates, etc. We ask for feedback of both kinds.

Nominations of lines or varieties for future IBYTs are always welcomed from breeders. A sample of 200 g of seed will join 150 or more other nominations in PMI plots (*Parcela multiplicacion internacional*). Those showing favorable yield, agronomic and disease reaction characteristics will appear in a subsequent international yield nursery. Seed samples should be sent to:

International Wheat Nurseries, CIMMYT
Londres 40, Apdo. Postal 6-641
Mexico 6, D.F., Mexico

^{1/} Details of the statistical analyses (by a computer program called NAP) may be obtained from the computer Services unit at CIMMYT. The procedure was described in CIMMYT Information Bulletin 40, 13th IBWSN for 1976-77.

Variety or cross, pedigree, and origin of 2nd IBYT entries.

	VARIETY OR CROSS	PEDIGREE	ORIGIN
1	ENSENADA		MEXICO (INIA)
2	PUEBLA		MEXICO (INIA)
3	Tra-1038 x DL 70	CMB74A-432-25B-1Y-1B-1Y-OB	MEXICO (CIMMYT)
4	ARIVAT		U.S.A.
5	Pro-Gva x DL 70	CMB74A-950-3B-1Y-1B-2Y-1B-0Y	MEXICO (CIMMYT)
6	MANKER		U.S.A.
7	LARKER		U.S.A.
8	MARTIN		FRANCE
9	CONQUEST		CANADA
10	Api-CM67xOre	CMB75-94-27Y-1B-2Y-1B-3Y-OB	MEXICO (CIMMYT)
11	CM 67		U.S.A.
12	ATHENAIS		GREECE
13	CARLSBERG II		DENMARK
14	MOREX		U.S.A.
15	Bamba x Jo-Galt/Api-CM67 x 11012.2	CMB74A-1597-E-4B-1Y-1B-1Y-OB	MEXICO (CIMMYT)
16	KLAGES		GERMANY
17	EMIR		HOLLAND
18	CLIPPER		AUSTRALIA
19	MASURKA		HOLLAND
20	Api-CM 67 x B 1	CMB75-88-4Y-1M-1Y-1B-2Y-OB	MEXICO (CIMMYT)
21	ZEPHYR		U.S.A.
22	MARIS CANON		ENGLAND
23	BETZES		U.S.A.
24	KRISTINA		SWEDEN
25	LOCAL CHECK		

SUMMARY FOR ALL LOCATIONS

2ND INTERNATIONAL BARLEY YIELD TRIAL

LOCATIONS INCLUDED IN THIS NURSERY REPORT

TABLE	CONTINENT	COUNTRY	CITY	VARIABLES INCLUDED*														
1	AFRICA	LIBYA	TRIPOLI	1	3	4	9	10										
2	AFRICA	MOROCCO	RABAT	1	10	14												
3	AFRICA	TANZANIA		1	4	7	9	35										
4	AFRICA	TUNISIA	TUNIS	1	3	7	9	14	33									
5	ASIA	AFGHANISTAN		1	3	4	9	10	11	14	24							
6	ASIA	BANGLADESH	JOYDEBPUR	1	3	4	9	35										
7	ASIA	INDIA	DELHI	1	3	4	9	13										
8	ASIA	NEPAL	LALITPUR	1	2	4	9											
9	EUROPE	GREECE	THESSALONIKI	1	2	3	4	7	9	10	13	14						
** 10	EUROPE	ITALY	FOGGIA	1	3	7	8	9	10	14								
11	EUROPE	SPAIN	ALCALA DE HENARES	1	2	3	4	9	14	37	40							
12	EUROPE	TURKEY	IZMIR	1	7	9	14	37										
13	EUROPE	W. GERMANY	BADEN-WUTTEMBERG	1	3	9	10	14										
14	MIDDLE EAST	CYPRUS	LAXIA	1	3	7	10	14	33	37								
15	MIDDLE EAST	JORDAN	JORDAN VALLEY	1	3	4	7	8	9	14								
16	MIDDLE EAST	LEBANON	BEKA'A VALLEY	1	3	4	9											
17	NORTH AMERICA	CANADA	ALBERTA	1	2	3	4	9	13									
18	NORTH AMERICA	MEXICO	BAJA CALIF.	1	3	4	9	10	14	35								
19	NORTH AMERICA	MEXICO	GUANAJUATO	1	3	4	7	9	10	11	14							
20	NORTH AMERICA	MEXICO	SONORA	1	3	4	9	10										
21	NORTH AMERICA	U.S.A.	OREGON	1														
22	SOUTH AMERICA	BOLIVIA	COCHABAMBA	1	3	4	6											
23	SCUTH AMERICA	PERU	LIMA	3	4	7	9	11	14									

*VARIABLE IDENTIFICATIONS

1	YIELD KG/HA	2	TEST WT	3	FLOW DAYS	4	MAT DAYS	6	STRP	RT.H	7	LEAF RUST
8	STEM RUST	9	PLNT HT	10	LODG %	11	SHTR %	13	1000	G.W.	14	POWD
24	BIRD DMGE	33	NET BLOT	35	SPOT BLOT	37	SCLD %	40	BYDV			

** SITE NOT INCLUDED IN SUMMARY

SUMMARY FOR ALL LOCATIONS: YIELD, AGRONOMIC AND DISEASE DATA FOR THE 2ND. INTERNATIONAL BARLEY YIELD TRIAL (IBYT) 1979-80

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	FLOW DAYS	MAT DAYS	STRP RT.H	LEAF RUST	STEM RUST	PLNT HT	LODG %	SHTR %	1000 G.W.	POWD %	BIRD DMGE	NET BLOT	SPOT BLOT	SCLD %	BYDV
5	PRO-GVA X DL 70	MEX-CIMMYT	4107	58	92	133	86	31	5	80	33	3	43	63	18	50	13	59	17
25	LOCAL CHECK		4103	59	94	137	65	16	5	91	29	7	41	22	10	39	62	12	-
17	EMIR	HOLLAND	3989	62	103	141	6	13	5	87	20	2	40	10	0	56	20	15	-
19	MASURKA	HOLLAND	3960	62	102	141	84	20	5	90	7	15	43	13	0	6	14	17	-
21	ZEPHYR	U.S.A.	3946	61	103	141	88	28	5	87	11	2	41	30	0	13	18	20	11
18	CLIPPER	AUSTRALIA	3770	65	98	137	83	22	5	84	18	2	48	35	0	6	10	13	17
2	PUEBLA	MEX-INIA	3745	61	90	129	100	18	10	87	16	38	41	40	28	60	13	19	48
23	BETZES	U.S.A.	3699	61	101	141	95	32	5	89	39	10	41	28	0	6	10	11	-
3	TRA-1038 X DL 70	MEX-CIMMYT	3690	57	94	133	100	38	0	86	21	17	40	54	0	50	24	13	11
10	API-CM67 X ORE	MEX-CIMMYT	3689	54	92	129	98	12	10	72	18	2	35	42	0	61	17	8	22
4	ARIVAT	U.S.A.	3637	56	96	137	100	36	20	91	34	15	47	41	0	6	9	7	-
22	MARIS CANON	ENGLAND	3616	64	104	144	85	19	5	89	14	2	42	12	0	69	33	19	22
1	ENSENADA	MEX-INIA	3571	56	87	128	100	19	0	89	21	32	43	33	53	58	9	16	28
8	MARTIN	FRANCE	3455	54	106	145	11	22	10	90	53	5	48	28	0	26	14	9	48
16	KLAGES	GERMANY	3434	64	102	140	98	20	5	90	10	4	50	24	0	56	13	20	-
24	KRISTINA	SWEDEN	3319	60	101	142	80	33	5	80	8	2	44	41	8	50	11	20	28
14	MOREX	U.S.A.	3276	58	102	138	100	51	20	82	11	3	37	47	0	50	10	24	39
11	CM 67	U.S.A.	3262	56	93	132	100	30	15	75	46	10	45	43	0	6	14	45	33
12	ATHENAI	GREECE	3261	53	91	129	100	25	0	81	52	31	44	36	8	84	10	9	33
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	3090	55	86	126	98	30	20	83	19	5	36	42	35	13	16	38	-
7	LARKER	U.S.A.	2891	57	95	134	100	49	20	102	29	7	40	45	15	67	9	17	-
13	CARLSBERG II	DENMARK	2632	56	92	132	98	39	5	80	42	23	33	25	2	84	9	11	-
20	API-CM 67 X B 1	MEX-CIMMYT	2631	56	84	125	98	20	10	84	44	18	39	35	79	78	13	30	22
6	MANKER	U.S.A.	2588	60	89	130	100	29	5	89	17	13	39	61	60	4	9	24	-
9	CONQUEST	CANADA	2529	56	93	132	100	29	20	103	24	8	39	49	17	6	9	26	22
SUMMARY MEANS OVER VARIETIES			3435.7	58.4	95.6	135.0	87.2	27.2	8.6	86.5	25.4	10.9	41.6	36.0	13.3	39.9	15.3	20.0	26.7
NUMBER OF LOCATIONS FOR EACH VARIABLE			21	4	17	16	1	8	1	18	9	3	3	12	1	2	3	3	1
NUMBER OF OBSERVATIONS FOR EACH VARIABLE			73	9	47	42	4	14	1	44	24	6	5	28	4	4	9	8	4

2TH IBYT

TABLE 1 AFRICA

LIBYA

TRIPOLI

TAJOURA
CEREAL STAFF

LATITUDE 032 53'N

DATE PLANTED 11/22/79

NITROGEN APPLIED

LONGITUDE 013 24'E

DATE HARVESTED 5/12/80

PHOSPHORUS APPLIED

ELEVATION 0011 M.ABOVE S.L. AMOUNT OF MOISTURE -- MM

POTASSIUM --

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
 NEGLIGIBLE INSECT DAMAGE. SLIGHT WEED PROBLEM. NEGLIGIBLE BIRD DAMAGE.
 CHEMICAL CONTROL OF INSECTS. HAND WEEDING. CALIFORNIA MARIOUT

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	PLNT HT	LODG %
25	LOCAL CHECK		6853	108	159	77	60
22	MARIS CANON	ENGLAND	4796	125	166	90	-
19	MASURKA	HOLLAND	4568	120	166	75	-
21	ZEPHYR	U.S.A.	4558	126	166	92	20
17	EMIR	HOLLAND	3769	124	169	82	-
18	CLIPPER	AUSTRALIA	3769	115	166	76	-
8	MARTIN	FRANCE	3769	125	159	95	30
1	ENSENADA	MEX-INIA	3654	98	149	80	-
12	ATHENAIS	GREECE	3426	101	153	85	80
16	KLAGES	GERMANY	3426	122	166	80	-
2	PUEBLA	MEX-INIA	3312	103	149	92	-
23	BETZES	U.S.A.	3198	122	166	88	10
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	3083	99	153	81	-
13	CARLSBERG II	DENMARK	2855	105	153	65	70
3	TRA-1038 X DL 70	MEX-CIMMYT	2855	107	157	75	-
4	ARIVAT	U.S.A.	2741	114	159	86	20
11	CM 67	U.S.A.	2627	105	153	70	90
7	LARKER	U.S.A.	2627	106	159	80	5
20	API-CM 67 X B 1	MEX-CIMMYT	2284	84	149	93	30
24	KRISTINA	SWEDEN	2170	122	166	82	20
14	MOREX	U.S.A.	1827	125	157	72	50
9	CONQUEST	CANADA	1142	108	158	85	60
10	API-CM 67 X ORE	MEX-CIMMYT	685	105	155	69	70
6	MANKER	U.S.A.	571	99	154	80	10
5	PRO-GVA X DL 70	MEX-CIMMYT	-	99	155	75	10

GRAND MEAN 3073.9 110.7 158.5 81.0 39.7
 STANDARD ERROR OF GRAND MEAN
 COEFFICIENT OF VARIATION AS PC
 LSD VARIETY MEANS 5 PC

CORRELATIONS

YIELD KG/HA	FLOW DAYS	MAT DAYS	PLNT HT	LODG %
	0.34			
		0.38	0.85	
			0.23	0.14
				0.12
			0.01	-0.19
				-0.38
				-0.55

2TH IBYT

TABLE 2 AFRICA

MOROCCO

RABAT

MERCHOUGH
CEREAL STAFF

LATITUDE 033 33'N

LONGITUDE 006 24'W

ELEVATION 500 M.ABOVE S.L.

DATE PLANTED 11/24/79

DATE HARVESTED --/--/--

AMOUNT OF MOISTURE 472 MM

NITROGEN APPLIED

PHOSPHORUS APPLIED

POTASSIUM APPLIED

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.
SLIGHT DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE. SLIGHT WEED PROBLEM.
MODERATE BIRD DAMAGE. WEATHER NOT REPORTED. HAND WEEDING.
LOCAL CHECK NAME NOT REPORTED.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	LODG %	POWD %
1	ENSENADA	MEX-INIA	3930	20	50
2	PUEBLA	MEX-INIA	3850	45	44
3	TRA-1038 X DL 70	MEX-CIMMYT	3693	15	44
4	ARIVAT	U.S.A.	3660	65	44
5	PRO-GVA X DL 70	MEX-CIMMYT	3520	70	78
6	MANKER	U.S.A.	3356	15	67
7	LARKER	U.S.A.	3196	45	44
8	MARTIN	FRANCE	3023	80	44
9	CONQUEST	CANADA	3010	20	44
10	API-CM67 X ORE	MEX-CIMMYT	2423	10	56
11	CM 67	U.S.A.	2406	65	56
12	ATHENAIS	GREECE	2340	85	56
13	CARLSBERG II	DENMARK	2186	70	44
14	MOREX	U.S.A.	1936	5	56
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	1890	65	56
16	KLAGES	GERMANY	1870	40	33
17	EMIR	HOLLAND	1786	30	22
18	CLIPPER	AUSTRALIA	1766	20	28
19	MASURKA	HOLLAND	1650	25	17
20	API-CM 67 X B 1	MEX-CIMMYT	1600	80	39
21	ZEPHYR	U.S.A.	1570	30	33
22	MARIS CANON	ENGLAND	1557	20	11
23	BETZES	U.S.A.	1193	70	39
24	KRISTINA	SWEDEN	913	5	44
25	LOCAL CHECK		863	10	11

GRAND MEAN

2367.5 40.2 42.4

STANDARD ERROR OF GRAND MEAN

COEFFICIENT OF VARIATION AS PC

LSD VARIETY MEANS 5 PC

CORRELATIONS

YIELD KG/HA		
LODG %	0.13	
POWD %	0.55	0.29

2TH IBYT

TABLE 3 AFRICA

TANZANIA

LYAMUNGU
CEREAL STAFF

LATITUDE	3 14'S	DATE PLANTED	6/18/80
LONGITUDE	37 53'E	DATE HARVESTED	11/ 4/80
ELEVATION	4210 M.ABOVE S.L.	AMOUNT OF MOISTURE	296 MM

NITROGEN	--
PHOSPHORUS	--
POTASSIUM	--

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
 MODERATE DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE.
 MODERATE WEED PROBLEM. NEGLIGIBLE BIRD DAMAGE.
 CHEMICAL CONTROL OF INSECTS AND WEEDS. LOCAL CHECK NAME NOT REPORTED.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	MAT DAYS	LEAF RUST	PLNT HT	SPOT BLOT
18	CLIPPER	AUSTRALIA	3110	120	3	79	6
4	ARIVAT	U.S.A.	3065	114	28	90	6
8	MARTIN	FRANCE	2817	123	10	86	14
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	2745	106	31	70	6
5	PRO-GVA X DL 70	MEX-CIMMYT	2625	104	28	63	17
11	CM 67	U.S.A.	2592	112	54	59	17
2	PUEBLA	MEX-INIA	2572	111	3	72	11
25	LOCAL CHECK		2500	117	0	105	78
1	ENSENADA	MEX-INIA	2372	110	0	73	0
3	TRA-1038 X DL 70	MEX-CIMMYT ***	2160	115	33	69	31
21	ZEPHYR	U.S.A.	2145	120	40	71	14
23	BETZES	U.S.A.	1917	114	20	64	6
14	MOREX	U.S.A.	1897	107	53	62	6
13	CARLSBERG II	DENMARK	1867	112	60	67	6
20	API-CM 67 X B 1	MEX-CIMMYT	1812	114	28	68	11
22	MARIS CANON	ENGLAND	1810	116	3	68	50
17	EMIR	HOLLAND	1757	119	25	65	28
7	LARKER	U.S.A.	1737	106	53	87	6
6	MANKER	U.S.A.	1695	107	6	72	6
16	KLAGES	GERMANY	1642	117	10	62	8
12	ATHENAIS	GREECE	1630	113	5	60	6
19	MASURKA	HOLLAND	1582	119	23	82	17
10	API-CM67 X ORE	MEX-CIMMYT	1485	111	34	55	11
9	CONQUEST	CANADA	1422	105	18	88	6
24	KRISTINA	SWEDEN	697	116	24	65	6

GRAND MEAN	2066.4	113.1	23.5	72.1	14.8
STANDARD ERROR OF GRAND MEAN	52.7				
COEFFICIENT OF VARIATION AS PC	25.5				
LS D VARIETY MEANS 5 PC	742.5				

CORRELATIONS

YIELD KG/HA					
MAT DAYS	0.09				
LEAF RUST	-0.12	-0.28			
PLNT HT	0.33	0.15	-0.28		
SPOT BLOT	0.10	0.32	-0.25	0.37	

BEJA

CEREAL STAFF

LATITUDE	036 44'N	DATE PLANTED	12/ 2/79	NITROGEN	--
LONGITUDE	009 08'E	DATE HARVESTED	6/ 5/80	PHOSPHORUS	--
ELEVATION	0150 M.ABOVE S.L.	AMOUNT OF MOISTURE	729 MM	POTASSIUM	--

LATE SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
 MODERATE DISEASE INCIDENCE. SERIOUS DISEASE INCIDENCE.
 NEGLIGIBLE INSECT DAMAGE. NO WEED PROBLEM.
 MODERATE BIRD DAMAGE. HAND WEEDING. LOCAL CHECK: CERES

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	LEAF RUST	PLNT HT	POWD %	NET BLOT
17	EMIR	HOLLAND	6548	128	40S	90	0	100
22	MARIS CANON	ENGLAND ***	5648	101	60S	95	0	100
21	ZEPHYR	U.S.A.	5391	102	80S	90	33	0
18	CLIPPER	AUSTRALIA	5228	128	60S	85	56	0
24	KRISTINA	SWEDEN	5212	94	80S	80	78	89
19	MASURKA	HOLLAND	5208	127	80S	85	0	0
8	MARTIN	FRANCE	5024	132	100S	115	0	0
4	ARIVAT	U.S.A.	4813	122	100S	100	56	0
25	LOCAL CHECK		4647	94	60S	95	0	0
11	CM 67	U.S.A.	4495	119	80S	90	89	0
2	PUEBLA	MEX-INIA	4463	118	80S	95	78	89
16	KLAGES	GERMANY	4367	128	80S	85	0	100
23	BETZES	U.S.A.	4286	100	100S	90	44	0
10	API-CM67 X ORE	MEX-CIMMYT	3829	118	0	80	89	100
12	ATHENAIS	GREECE	3563	115	80S	90	67	89
14	MOREX	U.S.A.	3529	128	100S	95	56	89
13	CARLSBERG II	DENMARK	3109	100	80S	95	0	100
5	PRO-GVA X DL 70	MEX-CIMMYT	2962	113	80S	85	89	89
7	LARKER	U.S.A.	2695	119	80S	100	78	89
1	ENSENADA	MEX-INIA	2636	113	80S	95	78	89
3	TRA-1038 X DL 70	MEX-CIMMYT	2187	118	80S	95	78	89
9	CONQUEST	CANADA	2087	115	80S	105	89	0
20	API-CM 67 X B 1	MEX-CIMMYT	1648	106	0	100	0	89
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	1400	110	80S	95	67	0
6	MANKER	U.S.A.	1192	110	80S	85	89	0
GRAND MEAN			3846.6	114.3	72.8	92.6	48.6	52.0
STANDARD ERROR OF GRAND MEAN			42.6					
COEFFICIENT OF VARIATION AS PC			11.1					
LSD VARIETY MEANS 5 PC			600.9					

CORRELATIONS

YIELD	KG/HA							
FLOW	DAYS	0.14						
LEAF	RUST	0.04	0.10					
PLNT	HT	-0.18	0.15	0.24				
POWD	%	-0.45	0.02	0.16	-0.22			
NET	BLOT	-0.05	-0.00	-0.34	-0.18	-0.02		

MAZAR-I-SHARIF

CEREAL STAFF

LATITUDE 36 42'N

LONGITUDE 131 67'E

ELEVATION 378 M.ABOVE S.L.

DATE PLANTED 11/ 9/79

DATE HARVESTED 5/ 7/80

AMOUNT OF MOISTURE 180 MM

NITROGEN APPLIED

PHOSPHORUS APPLIED

POTASSIUM --

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.

SLIGHT DISEASE INCIDENCE. MODERATE WEED PROBLEM.

MODERATE BIRD DAMAGE. MECHANICAL CONTROL OF WEEDS.

HAND WEEDING. LOCAL CHECK NAME NOT REPORTED.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	PLNT HT	LODG %	SHTR %	POWD %	BIRD DMGE
10	API-CM67 X ORE	MEX-CIMMYT	4994	141	156	81	35	3	0	0
4	ARIVAT	U.S.A.	4553	143	171	102	24	5	44	0
18	CLIPPER	AUSTRALIA	4532	145	171	92	28	4	22	0
17	EMIR	HOLLAND	4509	146	171	90	45	4	0	0
22	MARIS CANON	ENGLAND	4374	151	181	92	53	3	0	0
19	MASURKA	HOLLAND	4354	146	177	92	23	6	0	0
5	PRO-GVA X DL 70	MEX-CIMMYT	4278	144	173	84	13	5	33	18
16	KLAGES	GERMANY	4272	145	171	100	3	3	11	0
21	ZEPHYR	U.S.A.	4211	150	179	91	30	3	0	0
24	KRISTINA	SWEDEN ***	3751	144	173	86	10	4	33	8
2	PUEBLA	MEX-INIA	3730	141	159	96	0	3	22	28
23	BETZES	U.S.A.	3598	145	171	91	50	5	0	0
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	3396	143	168	88	4	4	0	35
12	ATHENAI	GREECE	3359	139	156	88	30	2	0	8
7	LARKER	U.S.A.	3335	143	167	114	25	4	44	15
11	CM 67	U.S.A.	3312	143	166	85	46	5	0	0
8	MARTIN	FRANCE	3240	147	181	88	93	5	0	0
3	TRA-1038 X DL 70	MEX-CIMMYT	2965	144	156	92	66	4	67	0
13	CARLSBERG II	DENMARK	2668	143	164	76	21	6	0	2
1	ENSENADA	MEX-INIA	2547	138	160	98	0	6	0	53
25	LOCAL CHECK		2500	144	165	90	83	7	0	10
14	MOREX	U.S.A.	2400	145	171	77	24	5	50	0
9	CONQUEST	CANADA	2239	143	163	103	19	6	33	17
20	API-CM 67 X B 1	MEX-CIMMYT	1517	139	154	101	8	4	0	79
6	MANKER	U.S.A.	1259	138	167	102	0	5	67	60
GRAND MEAN			3435.8	143.6	167.6	91.8	29.1	4.4	17.1	13.4
STANDARD ERROR OF GRAND MEAN			65.5			0.5				
COEFFICIENT OF VARIATION AS PC			19.1			5.3				
LSD VARIETY MEANS 5 PC			923.8			6.9				

CORRELATIONS

YIELD KG/HA	FLOW DAYS	MAT DAYS	PLNT HT	LODG %	SHTR %	POWD %	BIRD DMGE
	0.52						
	0.41	0.81					
	-0.18	-0.22	-0.10				
	0.10	0.48	0.24	-0.25			
	-0.43	-0.09	0.09	-0.04	0.16		
	-0.27	-0.19	-0.10	0.30	-0.20	0.06	
	-0.66	-0.68	-0.45	0.41	-0.53	0.10	0.09

2TH IBYT

TABLE 6 ASIA

BANGLADESH

JOYDEBPUR

JOYDEBPUR

CEREAL STAFF

LATITUDE 023 46'N

DATE PLANTED 11/19/79

NITROGEN --

LONGITUDE 090 23'E

DATE HARVESTED 3/26/80

PHOSPHORUS --

ELEVATION 8 M.ABOVE S.L. AMOUNT OF MOISTURE 1321 MM

POTASSIUM --

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
 SLIGHT DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE. SERIOUS WEED PROBLEM.
 NEGLIGIBLE BIRD DAMAGE. WEATHER NOT REPORTED. HAND WEEDING.
 HEAVY RAIN NOV. 28,29,30 DUE TO WHICH PLANTS WERE DAMAGE.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	PLNT HT	SPOT BLOT
14	MOREX	U.S.A.	2604	90	117	68	14
3	TRA-1038 X DL 70	MEX-CIMMYT	2555	87	115	74	17
5	PRO-GVA X DL 70	MEX-CIMMYT	2271	88	114	75	11
7	LARKER	U.S.A.	2036	83	115	93	11
1	ENSENADA	MEX-INIA	2035	66	109	72	17
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	1988	71	112	74	25
2	PUEBLA	MEX-INIA	1986	69	109	66	14
16	KLAGES	GERMANY	1940	97	128	74	17
6	MANKER	U.S.A.	1894	80	113	90	11
9	CONQUEST	CANADA	1863	81	112	92	11
10	API-CM67 X ORE	MEX-CIMMYT	1846	80	112	55	22
23	BETZES	U.S.A.	1772	98	127	75	14
12	ATHENAS	GREECE	1751	94	124	67	14
13	CARLSBERG II	DENMARK	1734	90	118	73	11
17	EMIR	HOLLAND	1609	97	130	66	11
19	MASURKA	HOLLAND	1564	95	126	75	11
18	CLIPPER	AUSTRALIA	1561	96	127	72	14
21	ZEPHYR	U.S.A.	1469	96	121	67	22
25	LOCAL CHECK	***	1018	91	122	88	45
11	CM 67	U.S.A.	950	97	129	57	11
24	KRISTINA	SWEDEN	861	97	131	67	15
20	API-CM 67 X B 1	MEX-CIMMYT	789	64	109	58	15
22	MARIS CANON	ENGLAND	617	104	136	71	18
4	ARIVAT	U.S.A.	192	99	134	66	15
8	MARTIN	FRANCE	-	113	-	-	-
		GRAND MEAN	1621.0	89.0	120.5	72.2	16.0
		STANDARD ERROR OF GRAND MEAN	71.6			0.6	
		COEFFICIENT OF VARIATION AS PC	43.3			8.3	
		LSD VARIETY MEANS 5 PC	990.6			8.4	

CORRELATIONS

YIELD KG/HA	FLOW DAYS	MAT DAYS	PLNT HT	SPOT BLOT
	-0.31			
	-0.59	0.84		
	0.28	-0.04	-0.18	
	-0.19	-0.05	-0.03	0.11

2TH IBYT

TABLE 7 ASIA

INDIA

DELHI

I.A.R.I.

CEREAL STAFF

LATITUDE 028 04'N

DATE PLANTED 11/27/79

NITROGEN --

LONGITUDE 077 10'E

DATE HARVESTED 4/10/80

PHOSPHORUS --

ELEVATION 228 M.ABOVE S.L.

AMOUNT OF MOISTURE 40 MM

POTASSIUM --

LATE SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD. NEGLIGIBLE DISEASE DEVELOPMENT.
 CHEMICAL CONTROL OF INSECTS. HAND WEEDING. SLIGHT INSECT DAMAGE. NO WEED PROBLEM.
 NEGLIGIBLE BIRD DAMAGE. SEVERE DROUGHT RAINFALL BELOW NORMAL. TEMPS. ABOVE NORMAL
 LOCAL CHECK: DL 85

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	PLNT HT	1000 G.W.
25	LOCAL CHECK		4021	85	117	68	35
5	PRO-GVA X DL 70	MEX-CIMMYT	3926	88	119	90	38
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	3804	79	110	92	31
18	CLIPPER	AUSTRALIA	3695	92	126	80	41
20	API-CM 67 X B 1	MEX-CIMMYT	3586	87	119	76	37
17	EMIR	HOLLAND	3559	96	130	94	31
23	BETZES	U.S.A.	3437	95	125	77	39
19	MASURKA	HOLLAND	3423	95	129	82	37
16	KLAGES	GERMANY	3396	95	126	93	45
3	TRA-1038 X DL 70	MEX-CIMMYT	3396	85	117	84	36
22	MARIS CANON	ENGLAND ***	3125	95	132	82	36
2	PUEBLA	MEX-INIA	3084	86	116	73	37
10	API-CM67 X ORE	MEX-CIMMYT	2989	86	116	64	31
8	MARTIN	FRANCE	2934	105	138	75	40
14	MOREX	U.S.A.	2894	95	128	74	30
7	LARKER	U.S.A.	2894	88	123	89	38
1	ENSENADA	MEX-INIA	2799	82	117	89	37
4	ARIVAT	U.S.A.	2703	96	131	84	40
12	ATHENAIIS	GREECE	2663	89	121	82	37
11	CM 67	U.S.A.	2663	89	124	77	39
13	CARLSBERG II	DENMARK	2540	89	124	88	29
21	ZEPHYR	U.S.A.	2486	95	128	85	35
6	MANKER	U.S.A.	2459	87	119	72	34
9	CONQUEST	CANADA	2364	89	123	98	34
24	KRISTINA	SWEDEN	1535	101	135	64	38

GRAND MEAN 3055.0 90.8 123.7 81.3 36.0
 STANDARD ERROR OF GRAND MEAN 47.8
 COEFFICIENT OF VARIATION AS PC 15.7
 LSD VARIETY MEANS 5 PC 674.3

CORRELATIONS

YIELD KG/HA	FLOW DAYS	MAT DAYS	PLNT HT	1000 G.W.
		-0.31		
		-0.38	0.96	
		0.19	-0.15	-0.06
		0.07	0.34	0.30
				0.02

2TH IBYT TABLE 8 ASIA NEPAL LALITPUR

KHUMALTAR
CEREAL STAFF

LATITUDE 27 50'N DATE PLANTED 12/ 6/79
LONGITUDE 85 20'E DATE HARVESTED --/--/--
ELEVATION 1369 M.ABOVE S.L. AMOUNT OF MOISTURE -- MM

NITROGEN APPLIED
PHOSPHORUS APPLIED
POTASSIUM --

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
WEATHER NOT REPORTED. MODERATE DISEASE INCIDENCE.
MODERATE WEED PROBLEM. NEGLIGIBLE BIRD DAMAGE.
LOCAL CHECK: BONUS

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	MAT DAYS	PLNT HT
17	PMIR	HOLLAND	2514	38	144	62
23	BETZES	U.S.A.	2485	43	147	63
18	CLIPPER	AUSTRALIA	2366	51	144	59
5	PRO-GVA X DL 70	MEX-CIMMYT	2296	45	137	62
25	LOCAL CHECK		2162	38	144	57
16	KLAGES	GERMANY	2146	42	150	74
21	ZEPHYR	U.S.A.	2143	36	146	66
8	MARTIN	FRANCE	2124	51	157	51
1	ENSENADA	MEX-INIA	2079	41	138	66
7	LARKER	U.S.A.	2045	35	136	79
2	PUEBLA	MEX-INIA	2018	44	137	65
19	MASURKA	HOLLAND	2001	39	147	64
22	MARIS CANON	ENGLAND	1868	46	157	68
3	TRA-1038 X DL 70	MEX-CIMMYT	1859	41	147	52
14	MOREX	U.S.A.	1855	34	140	58
12	ATHENAIS	GREECE	1817	49	135	57
9	CONQUEST	CANADA ***	1781	35	139	85
11	CM 67	U.S.A.	1756	50	139	53
10	API-CM67 X ORE	MEX-CIMMYT	1628	38	136	45
4	ARIVAT	U.S.A.	1571	47	148	52
15	BAMBA X JO-GALT/API....	MEX-CIMMYT	1560	35	135	58
24	KRISTINA	SWEDEN	1540	40	151	42
6	MANKER	U.S.A.	1369	37	136	70
13	CARLSBERG II	DENMARK	1344	38	138	57
20	API-CM 67 X B 1	MEX-CIMMYT	1253	31	132	58

GRAND MEAN 1903.2 41.0 142.4 60.9
STANDARD ERROR OF GRAND MEAN 41.6
COEFFICIENT OF VARIATION AS PC 21.8
LSD VARIETY MEANS 5 PC 586.1

CORRELATIONS

YIELD	KG/HA		
TEST	WT	0.33	
MAT	DAYS	0.34	0.42
PLNT	HT	0.25	-0.28 -0.14

P.B.I.

CEREAL STAFF

LATITUDE 040 38'N

DATE PLANTED 12/29/79

NITROGEN --

LONGITUDE 022 57'E

DATE HARVESTED 6/21/80

PHOSPHORUS --

ELEVATION 0010 M.ABOVE S.L.

AMOUNT OF MOISTURE 285 MM

POTASSIUM --

LATE SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.

SERIOUS DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE. SERIOUS WEED PROBLEM.

NEGLIGIBLE BIRD DAMAGE. CHEMICAL CONTROL OF WEEDS. WEATHER UNUSUAL FAVORABLE

LOCAL CHECK: BEKA

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	FLOW DAYS	MAT DAYS	LEAF RUST	PLNT HT	LODG %	1000 G.W.	POWD %
17	EMIR	HOLLAND	4582	69	131	133	10MR	114	13	41	3
19	MASURKA	HOLLAND	4514	68	131	133	10MR	109	0	43	10
21	ZEPHYR	U.S.A.	4125	66	134	137	10MR	110	13	41	41
1	ENSENADA	MEX-INIA	4041	62	119	123	10MR	120	0	44	41
22	MARIS CANON	ENGLAND ***	3735	68	135	138	10MR	109	15	44	13
5	PRO-GVA X DL 70	MEX-CIMMYT	3562	63	119	122	70MS	94	13	46	72
18	CLIPPER	AUSTRALIA	3485	71	125	126	60MR	99	0	51	47
25	LOCAL CHECK		3351	68	130	132	30MR	109	5	43	47
4	ARIVAT	U.S.A.	3250	62	121	125	60MS	111	0	51	53
16	KLAGES	GERMANY	3211	69	130	133	40MR	118	0	48	44
6	MANKER	U.S.A.	3143	66	117	123	70MS	114	53	39	66
2	PUEBLA	MEX-INIA	3080	66	123	125	40MS	114	0	42	51
23	BETZES	U.S.A.	3072	61	130	133	60MR	115	88	37	35
24	KRISTINA	SWEDEN	2957	64	131	134	30MR	105	0	44	54
14	MOREX	U.S.A.	2930	64	130	133	80MS	105	0	38	57
3	TRA-1038 X DL 70	MEX-CIMMYT	2885	57	124	127	60MS	115	0	41	63
10	API-CM67 X ORE	MEX-CIMMYT	2786	60	124	127	40MR	93	8	37	57
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	2740	63	119	122	60MS	103	13	37	63
20	API-CM 67 X B 1	MEX-CIMMYT	2360	66	116	121	70MR	104	55	39	57
7	LARKER	U.S.A.	2319	64	125	128	70MS	131	13	38	53
9	CONQUEST	CANADA	2231	63	123	126	60MS	133	5	39	50
11	CM 67	U.S.A.	1827	56	120	123	70MS	93	68	48	54
8	MARTIN	FRANCE	1709	51	125	128	60MS	114	33	48	50
12	ATHENAIS	GREECE	1601	54	116	122	40MS	94	13	48	54
13	CARLSBERG II	DENMARK	1545	60	121	124	60MS	103	20	36	47
GRAND MEAN			3001.6	63.2	124.7	127.7	32.5	109.0	16.9	42.4	47.1
STANDARD ERROR OF GRAND MEAN			43.4	0.2						0.3	
COEFFICIENT OF VARIATION AS PC			14.5	2.6						6.6	
LSD VARIETY MEANS 5 PC			612.2	2.3						4.0	

CORRELATIONS

YIELD KG/HA	TEST WT	FLOW DAYS	MAT DAYS	LEAF RUST	PLNT HT	LODG %	1000 G.W.	POWD %
	0.69							
	0.52	0.43						
	0.50	0.39	1.00					
	-0.48	-0.37	-0.47	-0.50				
	0.13	0.18	0.22	0.24	0.21			
	-0.32	-0.28	-0.22	-0.17	0.20	-0.12		
	0.08	-0.07	-0.04	-0.05	-0.34	-0.23	-0.20	
	-0.56	-0.39	-0.64	-0.64	0.61	-0.22	0.06	-0.04

2TH IBYT

TABLE 10

EUROPE

ITALY

FOGGIA

CEREAL STAFF

LATITUDE	041 28'N	DATE PLANTED	12/12/79	NITROGEN	APPLIED
LONGITUDE	015 31'E	DATE HARVESTED	20/ 7/80	PHOSPHORUS	APPLIED
ELEVATION	M.ABOVE S.L.	AMOUNT OF MOISTURE	326 MM	POTASSIUM	--

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.
 SERIOUS DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE.
 INSECT AND WEED PROBLEMS NOT REPORTED. NEGLIGIBLE BIRD DAMAGE.
 LOCAL CHECK NAME NOT REPORTED.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	LEAF RUST	STEM RUST	PLNT HT	LODG %	POWD %
19	MASURKA	HOLLAND	7500	125	63	75	111	18	0
17	EMIR	HOLLAND	6767	126	60	54	97	36	0
22	MARIS CANON	ENGLAND	6734	128	68	50	99	33	0
24	KRISTINA	SWEDEN	6667	127	75	85	98	20	38
5	PRO-GVA X DL 70	MEX-CIMMYT ***	6434	115	63	73	95	13	50
21	ZEPHYR	U.S.A.	6167	129	68	80	101	40	25
25	LOCAL CHECK		6167	125	65	65	110	65	20
2	PUEBLA	MEX-INIA	5934	121	60	66	99	15	18
10	API-CM67 X ORE	MEX-CIMMYT	5867	121	45	63	86	18	20
1	ENSENADA	MEX-INIA	5784	111	39	68	106	8	13
4	ARIVAT	U.S.A.	5634	122	65	74	104	38	20
8	MARTIN	FRANCE	5367	126	65	89	96	75	15
18	CLIPPER	AUSTRALIA	5150	123	68	65	95	8	25
16	KLAGES	GERMANY	5100	125	50	65	100	38	30
23	BETZES	U.S.A.	4800	128	50	71	101	63	23
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	4734	110	58	89	97	18	13
14	MOREX	U.S.A.	4700	126	83	95	96	5	33
3	TRA-1038 X DL 70	MEX-CIMMYT	4434	122	63	70	106	10	35
11	CM 67	U.S.A.	4400	114	53	66	88	53	23
12	ATHENAIS	GREECE	4300	111	45	58	95	31	15
6	MANKER	U.S.A.	3967	111	68	66	108	5	48
20	API-CM 67 X B 1	MEX-CIMMYT	3917	106	20	60	92	16	3
9	CONQUEST	CANADA	3800	122	60	79	119	3	33
13	CARLSBERG II	DENMARK	3200	118	50	78	89	31	10
7	LARKER	U.S.A.	2717	122	70	89	114	19	40
GRAND MEAN			5209.6	120.4	58.8	71.6	100.2	26.9	21.8
STANDARD ERROR OF GRAND MEAN			64.8				0.5		
COEFFICIENT OF VARIATION AS PC			12.4				5.2		
LSD VARIETY MEANS 5 PC			913.2				7.4		

CORRELATIONS

YIELD	KG/HA								
FLOW	DAYS	0.43							
LEAF	RUST	0.23	0.62						
STEM	RUST	-0.25	0.17	0.47					
PLNT	HT	-0.05	0.21	0.32	0.20				
LODG	%	0.15	0.36	-0.04	-0.06	-0.17			
POWD	%	-0.30	0.00	0.43	0.39	0.25	-0.28		

EL ENCIN
CEREAL STAFF

LATITUDE	040 29'N	DATE PLANTED	11/29/79	NITROGEN	APPLIED
LONGITUDE	003 23'W	DATE HARVESTED	6/18/80	PHOSPHORUS	APPLIED
ELEVATION	0600 M.ABOVE S.L.	AMOUNT OF MOISTURE	215 MM	POTASSIUM	APPLIED

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
SERIOUS DISEASE INCIDENCE. MODERATE INSECT DAMAGE. MODERATE WEED PROBLEM.
SOIL DRY AT SOWING. 3, 35
NORMAL WEATHER. LOCAL CHECK HOP.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	FLOW DAYS	MAT DAYS	PLNT HT	POWD %	SCLD %	BYDV
25	LOCAL CHECK		5707	66	121	163	108	14	-	-
21	ZEPHYR	U.S.A.	5420	73	117	162	97	22	33	11
23	BETZES	U.S.A.	5370	72	114	162	103	22	22	-
19	MASURKA	HOLLAND	5353	72	113	161	99	11	26	-
24	KRISTINA	SWEDEN	5157	71	113	162	86	47	22	28
17	EMIR	HOLLAND	4980	73	112	163	87	14	15	-
16	KLAGES	GERMANY	4713	73	111	162	103	25	33	-
18	CLIPPER	AUSTRALIA	4680	71	111	160	90	45	18	17
5	PRO-GVA X DL 70	MEX-CIMMYT ***	4410	64	101	154	89	78	-	17
10	API-CM67 X ORE	MEX-CIMMYT	4360	59	106	153	78	36	11	22
22	MARIS CANON	ENGLAND	4287	71	115	162	98	22	22	22
3	TRA-1038 X DL 70	MEX-CIMMYT	4257	65	105	157	96	78	22	11
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	3820	62	97	151	97	33	37	-
14	MOREX	U.S.A.	3780	66	116	162	89	78	33	39
4	ARIVAT	U.S.A.	3603	58	107	159	104	36	11	-
1	ENSENADA	MEX-INIA	3390	61	99	151	99	44	11	28
9	CONQUEST	CANADA	3353	64	103	160	119	67	-	22
2	PUEBLA	MEX-INIA	3350	68	104	156	93	33	11	48
12	ATHENAIS	GREECE	3117	56	100	149	91	30	17	33
8	MARTIN	FRANCE	3117	55	112	162	104	30	11	48
11	CM 67	U.S.A.	2977	59	106	155	85	33	25	33
13	CARLSBERG II	DENMARK	2760	60	103	158	79	22	11	-
20	API-CM 67 X B 1	MEX-CIMMYT	2723	67	93	149	96	31	36	22
6	MANKER	U.S.A.	2653	69	95	157	100	92	22	-
7	LARKER	U.S.A.	1843	65	108	158	124	42	17	-
GRAND MEAN			3967.2	65.7	107.3	157.8	96.5	39.3	23.2	29.6
STANDARD ERROR OF GRAND MEAN			65.9	0.3			0.4			
COEFFICIENT OF VARIATION AS PC			16.6	3.9			3.9			
LSD VARIETY MEANS 5 PC			928.6	3.6			5.3			

CORRELATIONS

YIELD	KG/HA								
TEST	WT	0.58							
FLOW	DAYS	0.67	0.41						
MAT	DAYS	0.52	0.53	0.85					
PLNT	HT	-0.17	0.08	0.09	0.23				
POWD	%	-0.32	-0.11	-0.39	-0.17	0.04			
SCLD	%	0.23	0.46	0.02	0.00	0.09	0.07		
BYDV		-0.45	-0.44	0.04	0.03	-0.00	-0.19	-0.40	

2TH IBYT

TABLE 12 EUROPE

TURKEY

IZMIR

EGE RARI
CEREAL STAFF

LATITUDE	38 00'N	DATE PLANTED	12/ 3/79	NITROGEN	--
LONGITUDE	27 00'E	DATE HARVESTED	6/20/80	PHOSPHORUS	--
ELEVATION	10 M.ABOVE S.L.	AMOUNT OF MOISTURE	-- MM	POTASSIUM	--

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
SERIOUS DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE. NO WEED PROBLEM.
SLIGHT BIRD DAMAGE. WEATHER NORMAL. CHEMICAL CONTROL OF WEEDS.
LOCAL CHECK: KAYA

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	LEAF RUST	PLNT HT	POWD %	SCLD %
22	MARIS CANON	ENGLAND	6293	----	115	22	20
4	ARIVAT	U.S.A.	6166	10MR	105	33	5
10	API-CM67 X ORE	MEX-CIMMYT	6103	5MS	90	89	5
12	ATHENAIS	GREECE	5939	----	105	56	10
18	CLIPPER	AUSTRALIA	5833	5MR	110	44	5
21	ZEPHYR	U.S.A.	5706	10MR-MS	95	44	20
17	EMIR	HOLLAND	5683	TMR	100	22	20
14	MOREX	U.S.A.	5493	60S	105	78	20
23	BETZES	U.S.A.	5473	10MS	115	33	1
25	LOCAL CHECK		5469	TMR	100	33	20
5	PRO-GVA X DL 70	MEX-CIMMYT	5466	10MS	100	78	80
11	CM 67	U.S.A.	5299	5MS	90	67	80
19	MASURKA	HOLLAND	5253	TMR	100	33	10
2	PUEBLA	MEX-INIA	5239	5MR	90	22	20
3	TRA-1038 X DL 70	MEX-CIMMYT	5183	20MS	100	56	5
1	ENSENADA	MEX-INIA	4973	TMR	100	44	5
7	LARKER	U.S.A.	4756	60S	110	78	1
16	KLAGES	GERMANY	4646	10MR-MS	110	22	20
24	KRISTINA	SWEDEN	4286	TMR	100	22	-
6	MANKER	U.S.A.	4140	60S	100	89	20
13	CARLSBERG II	DENMARK	3956	20MS	100	56	5
20	API-CM 67 X B 1	MEX-CIMMYT	3846	20S	105	56	20
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	3733	30MS	105	67	40
8	MARTIN	FRANCE	3633	5MR	110	78	-
9	CONQUEST	CANADA	3583	20MS	110	56	-

GRAND MEAN 5046.0 13.9 102.8 51.1 19.6
STANDARD ERROR OF GRAND MEAN
COEFFICIENT OF VARIATION AS PC
LSD VARIETY MEANS 5 PC

CORRELATIONS

YIELD KG/HA				
LEAF RUST	-0.25			
PLNT HT	-0.15	0.23		
POWD %	-0.27	0.61	-0.14	
SCLD %	-0.07	-0.09	-0.34	0.26

2TH IBYT

TABLE 13 EUROPE

W.GERMANY

BADEN-WUTTEMBERG

HOHENHEIM
CEREAL STAFF

LATITUDE 48 43'N DATE PLANTED 3/25/80
 LONGITUDE 9 13'E DATE HARVESTED 8/14/80
 ELEVATION 487 M.ABOVE S.L. AMOUNT OF MOISTURE 324 MM

NITROGEN APPLIED
 PHOSPHORUS APPLIED
 POTASSIUM APPLIED

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
 MODERATE DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE.
 NEGLIGIBLE BIRD DAMAGE. LOCAL CHECK: EUROPA

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	PLNT HT	LODG %	POWD %
25	LOCAL CHECK		7194	83	99	2	8
19	MASURKA	HOLLAND ***	6035	86	109	2	28
17	EMIR	HOLLAND	5942	83	106	4	28
21	ZEPHYR	U.S.A.	5590	84	105	4	60
24	KRISTINA	SWEDEN	5541	88	107	3	53
22	MARIS CANON	ENGLAND	5420	86	105	4	19
18	CLIPPER	AUSTRALIA	4357	79	91	4	60
1	ENSENADA	MEX-INITIA	4267	75	105	2	32
16	KLAGES	GERMANY	4216	84	106	4	57
14	MOREX	U.S.A.	4096	85	96	1	66
23	BETZES	U.S.A.	4046	82	107	6	50
3	TRA-1038 X DL 70	MEX-CIMMYT	3985	78	97	2	69
2	PUEBLA	MEX-INITIA	3982	75	99	2	57
10	API-CM67 X ORE	MEX-CIMMYT	3804	82	80	1	32
8	MARTIN	FRANCE	3616	79	96	5	57
6	MANKER	U.S.A.	3597	78	102	2	72
9	CONQUEST	CANADA	3453	81	122	4	69
7	LARKER	U.S.A.	3435	80	119	5	60
20	API-CM 67 X B 1	MEX-CIMMYT	3264	77	99	3	32
5	PRO-GVA X DL 70	MEX-CIMMYT	3175	76	86	3	75
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	3092	79	87	2	72
4	ARIVAT	U.S.A.	2724	75	97	3	72
13	CARLSBERG II	DENMARK	2534	79	97	3	28
11	CM 67	U.S.A.	2122	79	80	5	75
12	ATHENAIS	GREECE	1323	74	89	2	69
		GRAND MEAN	4032.4	80.3	99.6	2.9	51.6
		STANDARD ERROR OF GRAND MEAN	38.7		0.3		
		COEFFICIENT OF VARIATION AS PC	9.6		2.7		
		LSD VARIETY MEANS 5 PC	544.9		3.8		

CORRELATIONS

YIELD KG/HA	FLOW DAYS	PLNT HT	LODG %	POWD %
	0.70			
	0.40	0.36		
	-0.05	0.13	0.33	
	-0.63	-0.38	-0.18	0.12

2TH IBYT

TABLE 14 MIDDLE EAST

CYPRUS

LAXIA

AGRIC. RES. INST.

CEREAL STAFF

LATITUDE 35 04'N

DATE PLANTED ---/---/---

NITROGEN

APPLIED

LONGITUDE 33 20'E

DATE HARVESTED ---/---/---

PHOSPHORUS

APPLIED

ELEVATION 150 M.ABOVE S.L. AMOUNT OF MOISTURE 412 MM

POTASSIUM

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
 MODERATE DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE. SLIGHT WEED PROBLEM.
 NEGLIGIBLE BIRD DAMAGE. CHEMICAL CONTROL OF WEEDS. WEATHER NORMAL.
 LOCAL CHECK ATHENAIS

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	LEAF RUST	LODG %	POWD %	NET BLOT	SCLD %
21	ZEPHYR	U.S.A.	6452	93	5MR	5	40	26	7
5	PRO-GVA X DL 70	MEX-CIMMYT	6307	74	40S	90	56	11	37
23	BETZES	U.S.A.	6038	88	15MR	13	40	11	11
10	API-CM67 X ORE	MEX-CIMMYT	5916	79	15MR	0	40	22	7
11	CM 67	U.S.A.	5797	81	40S	33	44	11	30
12	ATHENAIS	GREECE	5643	80	65S	85	11	78	0
19	MASURKA	HOLLAND	5569	88	5MR	0	33	11	15
1	ENSENADA	MEX-INIA	5555	73	20MR	5	33	26	33
4	ARIVAT	U.S.A.	5415	84	35MS	0	37	11	4
24	KRISTINA	SWEDEN	5347	92	15MR	5	44	11	18
18	CLIPPER	AUSTRALIA	5293	87	10MR	0	44	11	15
17	EMIR	HOLLAND	5279	87	5MR	5	22	11	11
25	LOCAL CHECK		5101	81	30MS	90	11	78	4
8	MARTIN	FRANCE ***	4980	93	5MR	45	18	52	7
22	MARIS CANON	ENGLAND	4945	92	5MR	8	18	37	15
2	PUEBLA	MEX-INIA	4844	79	10MR	8	44	30	26
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	4266	71	40S	10	40	26	37
20	API-CM 67 X B 1	MEX-CIMMYT	4182	70	30MS	100	37	67	33
16	KLAGES	GERMANY	4179	88	5MR	0	44	11	7
14	MOREX	U.S.A.	4090	86	20MR	5	52	11	18
3	TRA-1038 X DL 70	MEX-CIMMYT	3804	81	40S	0	44	11	11
13	CARLSBERG II	DENMARK	3367	81	30MS	48	26	67	18
9	CONQUEST	CANADA	2458	79	25MR	48	44	11	26
6	MANKER	U.S.A.	2128	75	30MS	45	48	7	30
7	LARKER	U.S.A.	2079	81	50S	65	44	45	33

GRAND MEAN 4761.2 82.5 18.4 28.4 36.6 27.7 18.1
 STANDARD ERROR OF GRAND MEAN 82.4
 COEFFICIENT OF VARIATION AS PC 15.0
 LSD VARIETY MEANS 5 PC 1171.0

CORRELATIONS

YIELD KG/HA	FLOW DAYS	LEAF RUST	LODG %	POWD %	NET BLOT	SCLD %
	0.29					
	-0.26	-0.50				
	-0.21	-0.46	0.49			
	-0.19	-0.23	-0.05	-0.24		
	-0.07	-0.18	0.34	0.67	-0.71	
	-0.36	-0.66	0.14	0.24	0.53	-0.16

DEIR ALLA
CEREAL STAFF

LATITUDE	032 12'N	DATE PLANTED	11/19/79	NITROGEN	--
LONGITUDE	035 36'E	DATE HARVESTED	6/12/80	PHOSPHORUS	--
ELEVATION	-224 M.ABOVE S.L.	AMOUNT OF MOISTURE	477 MM	POTASSIUM	--

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.
MODERATE DISEASE INCIDENCE. SERIOUS INSECT DAMAGE. SLIGHT WEED PROBLEM.
CHEMICAL CONTROL OF WEEDS. HAND WEEDING.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	LEAF RUST	STEM RUST	PLNT HT	POWD %
21	ZEPHYR	U.S.A.	2733	108	158	10	5	104	5
5	PRO-GVA X DL 70	MEX-CIMMYT	2491	91	140	20	5	96	40
12	ATHENAIS	GREECE	2458	94	143	10	0	104	25
8	MARTIN	FRANCE	2341	104	158	20	10	110	20
17	EMIR	HOLLAND	2291	108	158	10	5	103	0
18	CLIPPER	AUSTRALIA	2275	108	158	10	5	100	5
2	PUEBLA	MEX-INIA	2233	91	140	15	10	105	10
11	CM 67	U.S.A.	2116	94	143	10	15	96	10
25	LOCAL CHECK		2100	92	147	10	5	129	0
10	API-CM67 X ORE	MEX-CIMMYT ***	1950	88	137	20	10	89	20
19	MASURKA	HOLLAND	1900	108	158	10	5	109	10
4	ARIVAT	U.S.A.	1883	98	149	5	20	110	10
16	KLAGES	GERMANY	1683	106	156	0	5	99	5
23	BETZES	U.S.A.	1642	109	158	10	5	101	10
1	ENSENADA	MEX-INIA	1608	84	134	20	0	110	30
22	MARIS CANON	ENGLAND	1575	109	158	0	5	103	10
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	1558	85	133	10	20	101	10
20	API-CM 67 X B 1	MEX-CIMMYT	1333	90	132	10	10	115	15
3	TRA-1038 X DL 70	MEX-CIMMYT	1267	94	143	10	0	111	30
13	CARLSBERG II	DENMARK	1242	86	135	0	5	103	20
14	MOREX	U.S.A.	1042	103	154	10	20	104	30
24	KRISTINA	SWEDEN	858	109	158	15	5	96	20
7	LARKER	U.S.A.	758	92	141	15	20	119	0
9	CONQUEST	CANADA	675	94	141	0	20	121	10
6	MANKER	U.S.A.	583	88	137	10	5	111	10

GRAND MEAN 1703.8 97.1 146.7 10.4 8.6 105.9 14.2
STANDARD ERROR OF GRAND MEAN 42.1
COEFFICIENT OF VARIATION AS PC 24.7
LSD VARIETY MEANS 5 PC 593.4

CORRELATIONS

YIELD	KG/HA						
FLOW	DAYS	0.22					
MAT	DAYS	0.28	0.96				
LEAF	RUST	0.28	-0.22	-0.16			
STEM	RUST	-0.31	-0.16	-0.17	-0.11		
PLNT	HT	-0.30	-0.21	-0.16	-0.17	0.15	
POWD	%	-0.02	-0.30	-0.29	0.39	-0.22	-0.29

2TH IBYT TABLE 16 MIDDLE EAST LEBANON BEKA'A VALLEY

TEL AMARA
CEREAL STAFF
LATITUDE 033 55'N DATE PLANTED 12/10/79 NITROGEN --
LONGITUDE 035 28'E DATE HARVESTED 7/15/80 PHOSPHORUS --
ELEVATION 0950 M. ABOVE S.L. AMOUNT OF MOISTURE 850 MM POTASSIUM --

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
NEGLIGIBLE DISEASE DEVELOPMENT. NEGLIGIBLE INSECT DAMAGE. MODERATE WEED PROBLEM.
CHEMICAL CONTROL OF WEEDS. HAND WEEDING. LITANI

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	PLNT HT
4	ARIVAT	U.S.A.	4258	136	175	75
3	TRA-1038 X DL 70	MEX-CIMMYT	3516	142	173	70
23	BETTES	U.S.A.	3466	146	180	75
19	MASURKA	HOLLAND	3400	147	178	65
10	API-CM67 X ORE	MEX-CIMMYT ***	3358	142	173	60
21	ZEPHYR	U.S.A.	3208	147	179	70
24	KRISTINA	SWEDEN	3208	141	179	65
18	CLIPPER	AUSTRALIA	3191	140	175	75
5	PRO-GVA X DL 70	MEX-CIMMYT	3183	141	172	65
2	PUEBLA	MEX-INIA	3100	136	167	65
7	LARKER	U.S.A.	3075	136	174	95
8	MARTIN	FRANCE	3075	146	178	75
16	KLAGES	GERMANY	3033	145	177	75
17	EMIR	HOLLAND	3016	149	176	65
1	ENSENADA	MEX-INIA	2991	128	169	60
11	CM 67	U.S.A.	2975	140	175	50
12	ATHENAI	GREECE	2833	130	162	65
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	2791	132	164	65
14	MOREX	U.S.A.	2666	146	177	60
22	MARIS CANON	ENGLAND	2650	152	177	65
25	LOCAL CHECK		2650	130	178	55
20	API-CM 67 X B 1	MEX-CIMMYT	2266	122	154	65
9	CONQUEST	CANADA	2266	139	178	85
6	MANKER	U.S.A.	2250	130	174	70
13	CARLSBERG II	DENMARK	2075	144	176	60

GRAND MEAN 2980.0 139.5 173.6 67.8
STANDARD ERROR OF GRAND MEAN 56.3
COEFFICIENT OF VARIATION AS PC 18.9
LSD VARIETY MEANS 5 PC 793.3

CORRELATIONS
YIELD KG/HA
FLOW DAYS 0.26
MAT DAYS 0.24 0.73
PLNT HT 0.16 0.07 0.16

2TH IBYT

TABLE 17 NORTH AMERICA

CANADA

ALBERTA

BEAVER LODGE
CEREAL STAFF

LATITUDE 55 12'N

LONGITUDE 119 24'W

ELEVATION M. ABOVE S.L.

DATE PLANTED 5/ 9/80

DATE HARVESTED --/--/--

AMOUNT OF MOISTURE -- MM

NITROGEN --

PHOSPHORUS --

POTASSIUM --

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	FLOW DAYS	MAT DAYS	PLNT HT	1000 G.W.
24	KRISTINA	SWEDEN	5476	66	67	111	72	50
3	TRA-1038 X DL 70	MEX-CIMMYT	5369	64	59	102	73	44
21	ZEPHYR	U.S.A.	5308	69	66	110	78	47
19	MASURKA	HOLLAND	5048	69	62	109	80	50
17	EMIR	HOLLAND	5024	69	65	110	72	48
6	MANKER	U.S.A. ***	4636	67	59	100	79	44
22	MARIS CANON	ENGLAND	4618	71	66	111	78	45
14	MOREX	U.S.A.	4518	67	61	103	62	43
23	BETZES	U.S.A.	4515	68	62	108	80	46
25	LOCAL CHECK		4486	64	59	98	95	45
9	CONQUEST	CANADA	4464	63	58	100	92	45
10	API-CM67 X ORE	MEX-CIMMYT	4417	60	59	96	59	37
16	KLAGES	GERMANY	4255	70	65	109	76	56
2	PUEBLA	MEX-INIA	4045	67	56	98	66	43
7	LARKER	U.S.A.	3998	64	59	101	87	45
8	MARTIN	FRANCE	3813	59	61	104	59	57
5	PRO-GVA X DL 70	MEX-CIMMYT	3792	61	58	100	57	45
1	ENSENADA	MEX-INIA	3738	61	55	94	72	47
13	CARLSBERG II	DENMARK	3428	64	57	102	62	34
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	3404	59	54	94	51	40
18	CLIPPER	AUSTRALIA	3164	65	54	101	53	53
4	ARIVAT	U.S.A.	2900	56	54	99	59	49
12	ATHENAIS	GREECE	2637	54	52	91	52	48
11	CM 67	U.S.A.	2605	57	54	93	48	47
20	API-CM 67 X B 1	MEX-CIMMYT	2456	61	54	93	64	41

GRAND MEAN 4084.6 63.7 58.8 101.4 68.8 45.7
 STANDARD ERROR OF GRAND MEAN 30.9
 COEFFICIENT OF VARIATION AS PC 7.6
 LSD VARIETY MEANS 5 PC 435.1

CORRELATIONS

YIELD KG/HA	TEST WT	FLOW DAYS	MAT DAYS	PLNT HT	1000 G.W.
	0.74				
	0.82	0.77			
	0.74	0.82	0.91		
	0.63	0.60	0.52	0.45	
	0.07	0.10	0.27	0.37	0.05

2TH IBYT

TABLE 18 NORTH AMERICA

MEXICO

BAJA CALIF.

MEXICALI
CEREAL STAFF

LATITUDE	31 40'N	DATE PLANTED	12/ 3/79	NITROGEN	APPLIED
LONGITUDE	114 45'W	DATE HARVESTED	6/16/80	PHOSPHORUS	APPLIED
ELEVATION	25 M.ABOVE S.L.	AMOUNT OF MOISTURE	556 MM	POTASSIUM	--

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD. CHEMICAL CONTROL OF INSECTS.
HAND WEEDING. MODERATE DISEASE INCIDENCE. SLIGHT INSECT DAMAGE.
SERIOUS WEED PROBLEM. NEGLIGIBLE BIRD DAMAGE. INVIERNO CON TEMPS. ALTAS OCASIONO
ADELANTO EN EL CICLO VEGETATIVO. VIENTOS DE HASTA 80 KM/HR.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	PLNT HT	LODG %	POWD %	SPOT BLOT
5	PRO-GVA X DL 70	MEX-CIMMYT	8146	82	129	65	7	18	10
25	LOCAL CHECK	***	7125	94	142	66	2	23	-
4	ARIVAT	U.S.A.	6416	92	141	80	11	18	5
23	BETZES	U.S.A.	6312	97	140	78	2	4	-
12	ATHENAIS	GREECE	5896	88	125	76	9	16	-
3	TRA-1038 X DL 70	MEX-CIMMYT	5791	87	131	74	4	23	-
8	MARTIN	FRANCE	5658	105	144	74	16	14	-
1	ENSENADA	MEX-INIA	5562	82	127	79	1	11	-
10	API-CM67 X ORE	MEX-CIMMYT	5541	85	125	53	0	10	-
11	CM 67	U.S.A.	5500	89	137	63	8	25	-
19	MASURKA	HOLLAND	5312	97	141	80	1	9	-
17	EMIR	HOLLAND	5187	99	142	74	0	6	-
16	KLAGES	GERMANY	5000	99	142	74	1	11	-
2	PUEBLA	MEX-INIA	4896	85	128	74	2	16	-
21	ZEPHYR	U.S.A.	4750	101	142	70	0	9	-
14	MOREX	U.S.A.	4687	99	141	71	1	9	-
7	LARKER	U.S.A.	4500	91	135	90	6	12	-
18	CLIPPER	AUSTRALIA	4250	94	139	69	2	7	-
22	MARIS CANON	ENGLAND	4167	101	142	68	0	18	30
9	CONQUEST	CANADA	3833	87	132	93	4	15	-
24	KRISTINA	SWEDEN	3792	96	137	63	0	14	-
6	MANKER	U.S.A.	3750	80	126	76	5	50	10
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	3646	79	120	63	4	16	-
13	CARLSBERG II	DENMARK	3104	86	130	69	7	24	-
20	API-CM 67 X B 1	MEX-CIMMYT	2833	79	125	55	9	35	-

GRAND MEAN	5026.1	90.8	134.4	71.7	4.0	16.1	13.7
STANDARD ERROR OF GRAND MEAN	58.1						
COEFFICIENT OF VARIATION AS PC	11.6						
LSD VARIETY MEANS 5 PC	818.6						

CORRELATIONS

YIELD KG/HA						
FLOW DAYS	0.15					
MAT DAYS	0.24	0.94				
PLNT HT	0.06	0.18	0.23			
LODG %	0.12	-0.16	-0.12	0.08		
POWD %	-0.26	-0.55	-0.42	-0.20	0.37	
SPOT BLOT	-0.80	0.90	0.49	-0.40	-1.03	-0.36

EL BAJIO

CEREAL STAFF

LATITUDE	020 32'N	DATE PLANTED	12/12/79	NITROGEN	APPLIED
LONGITUDE	100 49'W	DATE HARVESTED	5/15/80	PHOSPHORUS	APPLIED
ELEVATION	1765 M.ABOVE S.L.	AMOUNT OF MOISTURE	-- MM	POTASSIUM	--

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.
 MODERATE DISEASE INCIDENCE. MODERATE INSECT DAMAGE. MODERATE WEED PROBLEM.
 NEGLIGIBLE BIRD DAMAGE. WEATHER NORMAL. CHEMICAL CONTROL OF INSECTS.
 LOCAL CHECK NAME NOT REPORTED.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	LEAF RUST	PLNT HT	LODG %	SHTR %	POWD %
10	API-CM67 X ORE	MEX-CIMMYT	7447	68	108	5	90	5	0	60
5	PRO-GVA X DL 70	MEX-CIMMYT	7202	70	112	5	100	80	0	80
12	ATHENAIIS	GREECE	6546	69	107	5	100	80	20	30
3	TRA-1038 X DL 70	MEX-CIMMYT	6364	76	116	30	95	80	30	80
11	CM 67	U.S.A.	6285	66	105	5	95	20	0	30
2	PUEBLA	MEX-INIA	6280	69	109	5	110	60	80	80
25	LOCAL CHECK	***	6030	69	110	5	110	9	0	80
18	CLIPPER	AUSTRALIA	5973	76	116	30	100	0	0	5
1	ENSENADA	MEX-INIA	5858	69	110	5	115	80	30	0
4	ARIVAT	U.S.A.	5832	75	115	30	105	80	5	60
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	5817	60	103	10	100	0	0	60
24	KRISTINA	SWEDEN	5452	78	121	80	100	0	0	80
21	ZEPHYR	U.S.A.	5181	83	119	60	105	0	0	60
19	MASURKA	HOLLAND	5140	77	119	5	115	0	0	5
23	BETZES	U.S.A.	4999	81	116	30	105	30	9	20
8	MARTIN	FRANCE	4942	85	-	5	100	100	0	20
14	MOREX	U.S.A.	4932	84	116	80	100	0	0	5
17	EMIR	HOLLAND	4895	78	120	0	115	60	0	5
22	MARIS CANON	ENGLAND	4807	80	121	50	110	0	0	5
20	API-CM 67 X B 1	MEX-CIMMYT	4770	59	101	20	100	40	20	80
13	CARLSBERG II	DENMARK	4484	66	106	40	90	40	40	30
16	KLAGES	GERMANY	4239	77	105	10	110	0	0	40
7	LARKER	U.S.A.	3906	77	114	80	120	30	10	80
9	CONQUEST	CANADA	3437	71	110	50	125	5	10	70
6	MANKER	U.S.A.	3400	66	105	10	120	10	20	80

GRAND MEAN	5368.7	73.2	111.8	26.2	105.4	32.4	11.0	45.8
STANDARD ERROR OF GRAND MEAN	81.5							
COEFFICIENT OF VARIATION AS PC	15.2							
LSD VARIETY MEANS 5 PC	1148.8							

CORRELATIONS

YIELD	KG/HA								
FLOW	DAYS	-0.20							
MAT	DAYS	-0.01	0.82						
LEAF	RUST	-0.40	0.45	0.48					
PLNT	HT	-0.61	0.13	0.17	0.06				
LODG	%	0.31	-0.02	-0.07	-0.37	-0.14			
SHTR	%	0.04	-0.34	-0.30	-0.14	0.03	0.39		
POWD	%	0.05	-0.40	-0.31	0.10	0.03	0.00	0.23	

2TH IBYT TABLE 20 NORTH AMERICA MEXICO SONORA

CIANO (2ND DATE)

CEREAL STAFF

LATITUDE	027 20'N	DATE PLANTED	12/12/79	NITROGEN	APPLIED
LONGITUDE	109 54'W	DATE HARVESTED	5/12/80	PHOSPHORUS	APPLIED
ELEVATION	0038 M.ABOVE S.L.	AMOUNT OF MOISTURE	-- MM	POTASSIUM	--

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.
 NEGLIGIBLE DISEASE DEVELOPMENT. SERIOUS INSECT DAMAGE. SERIOUS WEED PROBLEM.
 NEGLIGIBLE BIRD DAMAGE. RIEGO INSUFICIENTE MOTIVO: POCO GASTO DEL POZO
 CHEMICAL CONTROL OF INSECTS AND WEEDS. MECHANICAL CONTROL OF WEEDS. HAND WEEDING.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	PLNT HT	LODG %
3	TRA-1038 X DL 70	MEX-CIMMYT	7596	85	116	86	0
10	API-CM67 X ORE	MEX-CIMMYT	6730	85	113	75	30
5	PRO-GVA X DL 70	MEX-CIMMYT	6485	87	123	80	15
2	PUEBLA	MEX-INIA ***	6263	75	111	87	8
25	LOCAL CHECK		6230	78	115	85	0
4	ARIVAT	U.S.A.	5952	86	117	105	100
1	ENSENADA	MEX-INIA	5943	75	112	85	63
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	5939	69	94	77	53
20	API-CM 67 X B 1	MEX-CIMMYT	5767	72	99	81	75
11	CM 67	U.S.A.	5610	85	112	86	75
19	MASURKA	HOLLAND	5568	94	119	107	3
18	CLIPPER	AUSTRALIA	5360	84	117	105	93
17	EMIR	HOLLAND	5360	94	117	102	0
12	ATHENAS	GREECE	5337	85	111	81	88
23	BETZES	U.S.A.	5055	96	123	94	83
8	MARTIN	FRANCE	5031	100	122	96	78
6	MANKER	U.S.A.	5018	74	113	91	10
14	MOREX	U.S.A.	4777	95	124	86	10
21	ZEPHYR	U.S.A.	4388	98	116	96	0
7	LARKER	U.S.A.	4226	87	128	116	70
13	CARLSBERG II	DENMARK	4194	79	110	82	95
9	CONQUEST	CANADA	3976	81	112	102	55
22	MARIS CANON	ENGLAND	3870	97	126	95	10
24	KRISTINA	SWEDEN	3809	91	116	89	25
16	KLAGES	GERMANY	3532	94	122	102	30
		GRAND MEAN	5281.0	85.7	115.4	91.9	42.6
		STANDARD ERROR OF GRAND MEAN	82.4			0.7	3.0
		COEFFICIENT OF VARIATION AS PC	15.6			7.4	70.6
		LSD VARIETY MEANS 5 PC	1161.9			9.6	42.4

CORRELATIONS

YIELD KG/HA	FLOW DAYS	MAT DAYS	PLNT HT	LODG %
		-0.40		
		-0.32	0.79	
		-0.45	0.46	0.56
		-0.12	-0.19	-0.20
				0.07

2TH IBYT

TABLE 21 NORTH AMERICA

U.S.A.

OREGON

CORVALLIS
CEREAL STAFF

LATITUDE 044 34'N DATE PLANTED 4/30/80
 LONGITUDE 123 12'W DATE HARVESTED 9/10/80
 ELEVATION 0068 M.ABOVE S.L. AMOUNT OF MOISTURE 38 MM

NITROGEN APPLIED
 PHOSPHORUS APPLIED
 POTASSIUM --

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.
 NEGLIGIBLE DISEASE DEVELOPMENT. NEGLIGIBLE INSECT DAMAGE.
 NO WEED PROBLEM. NEGLIGIBLE BIRD DAMAGE.
 CHEMICAL CONTROL OF WEEDS. LOCAL CHECK: STEPTOE

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA
24	KRISTINA	SWEDEN	5583
14	MOREX	U.S.A.	5485
25	LOCAL CHECK		4822
3	TRA-1038 X DL 70	MEX-CIMMYT	4693
10	API-CM67 X ORE	MEX-CIMMYT	4670
6	MANKER	U.S.A.	4636
16	KLAGES	GERMANY	4359
2	PUEBLA	MEX-INIA	4166
7	LARKER	U.S.A.	4160
1	ENSENADA	MEX-INIA	4143
5	PRO-GVA X DL 70	MEX-CIMMYT	4025
22	MARIS CANON	ENGLAND	4012
21	ZEPHYR	U.S.A.	3886
19	MASURKA	HOLLAND	3842
4	ARIVAT	U.S.A.	3653
20	API-CM 67 X B 1	MEX-CIMMYT	3591
23	BETZES	U.S.A.	3585
17	EMIR	HOLLAND	3551
11	CM 67	U.S.A.	3548
15	BAMBA X JO-GALT/API...	MEX-CIMMYT ***	3506
13	CARLSBERG II	DENMARK	3480
12	ATHENAIIS	GREECE	3455
18	CLIPPER	AUSTRALIA	3392
9	CONQUEST	CANADA	3140
8	MARTIN	FRANCE	2608

GRAND MEAN 3999.7
 STANDARD ERROR OF GRAND MEAN 118.6
 COEFFICIENT OF VARIATION AS PC 29.7
 LSD VARIETY MEANS 5 PC 1671.9

2TH IBYT TABLE 22 SOUTH AMERICA BOLIVIA COCHABAMBA

SAN BENITO
CEREAL STAFF

LATITUDE 017 30'S DATE PLANTED 1/ 2/80 NITROGEN APPLIED
LONGITUDE 066 06'W DATE HARVESTED 5/13/80 PHOSPHORUS APPLIED
ELEVATION 2730 M.ABOVE S.L. AMOUNT OF MOISTURE 276 MM POTASSIUM --

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
SERIOUS DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE. SLIGHT WEED PROBLEM.
NEGLIGIBLE BIRD DAMAGE. HAND WEEDING.
LOCAL CHECK NAME NOT REPORTED.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	STRP RT.H
23	BETZES	U.S.A.	2214	62	123	100S
2	PUEBLA	MEX-INIA	2148	49	90	100S
21	ZEPHYR	U.S.A.	2145	62	126	90S
25	LOCAL CHECK		2131	61	125	60S
5	PRO-GVA X DL 70	MEX-CIMMYT	2024	62	123	100S
16	KLAGES	GERMANY	1984	54	114	100S
17	EMIR	HOLLAND	1936	54	119	5MS
18	CLIPPER	AUSTRALIA	1895	49	90	80S
19	MASURKA	HOLLAND	1885	61	123	90S
22	MARIS CANON	ENGLAND	1757	62	120	80S
8	MARTIN	FRANCE	1642	71	126	20MS
24	KRISTINA	SWEDEN ***	1555	64	118	90S
20	API-CM 67 X B 1	MEX-CIMMYT	1364	48	98	100S
14	MOREX	U.S.A.	1348	62	123	100S
12	ATHENAIS	GREECE	1148	50	100	100S
3	TRA-1038 X DL 70	MEX-CIMMYT	1115	55	101	100S
7	LARKER	U.S.A.	1101	55	99	100S
11	CM 67	U.S.A.	1030	50	93	100S
4	ARIVAT	U.S.A.	1026	52	103	100S
1	ENSENADA	MEX-INIA	869	48	90	100S
13	CARLSBERG II	DENMARK	806	58	111	100S
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	714	49	91	100S
6	MANKER	U.S.A.	625	57	101	100S
10	API-CM67 X ORE	MEX-CIMMYT	516	50	96	100S
9	CONQUEST	CANADA	332	55	103	100S

GRAND MEAN 1412.4 55.7 108.1 87.1
STANDARD ERROR OF GRAND MEAN 35.2
COEFFICIENT OF VARIATION AS PC 24.9
LSD VARIETY MEANS 5 PC 496.2

CORRELATIONS

YIELD KG/HA
FLOW DAYS 0.39
MAT DAYS 0.57 0.88
STRP RT.H -0.39 -0.42 -0.48

2TH IBYT

TABLE 23 SOUTH AMERICA

PERU

LIMA

LA MOLINA
CEREAL STAFF

LATITUDE 012 05'S

DATE PLANTED --/--/--

NITROGEN APPLIED

LONGITUDE 076 57'W

DATE HARVESTED --/--/--

PHOSPHORUS APPLIED

ELEVATION 0251 M.ABOVE S.L. AMOUNT OF MOISTURE -- MM

POTASSIUM --

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.

SLIGHT DISEASE INCIDENCE. SERIOUS WEED PROBLEM.

INSECT, WEED AND BIRD PROBLEMS NOT REPORTED. LOCAL CHECK NAME NOT REPORTED.

VAR NO.	VARIETY OR CROSS	ORIGIN	FLOW DAYS	MAT DAYS	LEAF RUST	PLNT HT	SHTR %	POWD %
1	ENSENADA	MEX-INIA	69	156	5S	90	60	30S
2	PUEBLA	MEX-INIA	75	152	10S	95	30	20S
3	TRA-1038 X DL 70	MEX-CIMMYT	78	152	30S	85	-	20S
4	ARIVAT	U.S.A.	76	156	30S	100	35	30S
5	PRO-GVA X DL 70	MEX-CIMMYT	78	152	30S	70	-	60S
6	MANKER	U.S.A.	72	152	0	75	-	5S
7	LARKER	U.S.A.	85	159	0	80	-	10S
8	MARTIN	FRANCE	94	152	5S	80	10	0
9	CONQUEST	CANADA	76	152	10S	100	-	40S
10	API-CM67 X ORE	MEX-CIMMYT	74	152	10S	85	-	20S
11	CM 67	U.S.A.	70	156	10S	80	25	30S
12	ATHENAIIS	GREECE	76	156	5S	80	70	20S
13	CARLSBERG II	DENMARK	76	156	30S	80	-	0
14	MOREX	U.S.A.	86	156	50S	85	-	30S
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	70	156	0	85	10	20S
16	KLAGES	GERMANY	94	156	40S	85	10	0
17	EMIR	HOLLAND	94	152	15S	80	-	0
18	CLIPPER	AUSTRALIA	80	152	35S	70	-	60S
19	MASURKA	HOLLAND	87	152	30S	100	40	0
20	API-CM 67 X B 1	MEX-CIMMYT	60	152	30S	75	30	40S
21	ZEPHYR	U.S.A.	94	152	10S	75	-	10S
22	MARIS CANON	ENGLAND	94	156	10S	85	-	0
23	BETZES	U.S.A.	94	156	40S	85	15	40S
24	KRISTINA	SWEDEN	94	156	40S	70	-	0
25	LOCAL CHECK		75	152	10S	95	15	40S

GRAND MEAN 80.8 154.0 19.4 83.6 29.2 21.0
STANDARD ERROR OF GRAND MEAN
COEFFICIENT OF VARIATION AS PC
LSD VARIETY MEANS 5 PC

CORRELATIONS

FLOW	DAYS					
MAT	DAYS	0.13				
LEAF	RUST	0.28	0.06			
PLNT	HT	-0.12	-0.00	-0.10		
SHTR	%	-0.41	0.17	-0.22	0.09	
POWD	%	-0.47	-0.20	0.20	-0.03	0.08

SUMMARY FOR REGION I Yield, agronomic and disease data for the 2nd IBYT
(Locations: Rabat, MOROCCO; Tunis, TUNISIA.)

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	LEAF RUST	PLNT HT	LODG %	POWD %	NET BLOT
4	ARIVAT	U.S.A.	4237	122	100	100	65	50	0
17	EMIR	HOLLAND	4167	128	40	90	30	11	100
2	PUEBLA	MEX-INIA	4157	118	80	95	45	61	89
8	MARTIN	FRANCE	4024	132	100	115	80	22	0
22	MARIS CANON	ENGLAND	3603	101	60	95	20	6	100
18	CLIPPER	AUSTRALIA	3497	128	60	85	20	42	0
21	ZEPHYR	U.S.A.	3481	102	80	90	30	33	0
11	CM 67	U.S.A.	3451	119	80	90	65	73	0
19	MASURKA	HOLLAND	3429	127	80	85	25	9	0
1	ENSENADA	MEX-INIA	3283	113	80	95	20	64	89
5	PRO-GVA X DL 70	MEX-CIMMYT	3241	113	80	85	70	84	89
10	API-CM67 X ORE	MEX-CIMMYT	3126	118	0	80	10	73	100
16	KLAGES	GERMANY	3119	128	80	85	40	17	100
24	KRISTINA	SWEDEN	3063	94	80	80	5	61	89
12	ATHENAIS	GREECE	2952	115	80	90	85	62	89
7	LARKER	U.S.A.	2946	119	80	100	45	61	89
3	TRA-1038 X DL 70	MEX-CIMMYT	2940	118	80	95	15	61	89
25	LOCAL CHECK		2755	94	60	95	10	6	0
23	BETZES	U.S.A.	2740	100	100	90	70	42	0
14	MOREX	U.S.A.	2733	128	100	95	5	56	89
13	CARLSBERG II	DENMARK	2648	100	80	95	70	22	100
9	CONQUEST	CANADA	2549	115	80	105	20	67	0
6	MANKER	U.S.A.	2274	110	80	85	15	78	0
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	1645	110	80	95	65	62	0
20	API-CM 67 X B 1	MEX-CIMMYT	1624	106	0	100	80	20	89

SUMMARY MEANS OVER VARIETIES	3107.1	114.3	72.8	92.6	40.2	45.5	52.0
NUMBER OF LOCATIONS FOR EACH VARIABLE	2	1	1	1	1	2	1
NUMBER OF OBSERVATIONS FOR EACH VARIABLE	5	1	1	1	1	2	1

SUMMARY FOR REGION II Yield, agronomic and disease data for the 2nd IBYT

(Locations: AFGHANISTAN; Joydebpur, BANGLADESH; Delhi, INDIA; Lalitpur, NEPAL.)

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	FLOW DAYS	MAT DAYS	PLNT HT	LODG %	SHTR %	1000 G.W.	POWD %	BIRD DMGE	SPOT BLOT
5	PRO-GVA X DL 70	MEX-CIMMYT	3193	45	107	136	78	13	5	38	33	18	11
17	EMIR	HOLLAND	3046	38	113	144	78	45	4	31	0	0	11
18	CLIPPER	AUSTRALIA	3039	51	111	142	76	28	4	41	22	0	14
16	KLAGES	GERMANY	2939	42	112	144	85	3	3	45	11	0	17
10	API-CM67 X ORE	MEX-CIMMYT	2864	38	102	130	61	35	3	31	0	0	22
19	MASURKA	HOLLAND	2836	39	112	145	78	23	6	37	0	0	11
23	BETZES	U.S.A.	2823	43	113	143	77	50	5	39	0	0	14
8	MARTIN	FRANCE	2766	51	122	159	71	93	5	40	0	0	-
2	PUEBLA	MEX-INIA	2705	44	99	130	75	0	3	37	22	28	14
3	TRA-1038 X DL 70	MEX-CIMMYT	2694	41	105	134	76	66	4	36	67	0	17
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	2687	35	98	131	78	4	4	31	0	35	25
7	LARKER	U.S.A.	2578	35	105	135	94	25	4	38	44	15	11
21	ZEPHYR	U.S.A.	2577	36	114	144	77	30	3	35	0	0	22
22	MARIS CANON	ENGLAND	2496	46	117	152	78	53	3	36	0	0	18
14	MOREX	U.S.A.	2438	34	110	139	69	24	5	30	50	0	14
25	LOCAL CHECK		2425	38	107	137	76	83	7	35	0	10	45
12	ATHENAIS	GREECE	2398	49	107	134	74	30	2	37	0	8	14
1	ENSENADA	MEX-INIA	2365	41	95	131	81	0	6	37	0	53	17
4	ARIVAT	U.S.A.	2255	47	113	146	76	24	5	40	44	0	15
11	CM 67	U.S.A.	2170	50	110	140	68	46	5	39	0	0	11
13	CARLSBERG II	DENMARK	2072	38	107	136	74	21	6	29	0	2	11
9	CONQUEST	CANADA	2062	35	104	134	95	19	6	34	33	17	11
24	KRISTINA	SWEDEN	1922	40	114	148	65	10	4	38	33	8	15
20	API-CM 67 X B 1	MEX-CIMMYT	1786	31	97	129	73	8	4	37	0	79	15
6	MANKER	U.S.A.	1745	37	102	134	84	0	5	34	67	60	11

SUMMARY MEANS OVER VARIETIES	2515.2	41.0	107.8	138.9	76.6	29.3	4.4	36.2	17.0	13.3	16.1
NUMBER OF LOCATIONS FOR EACH VARIABLE	4	1	3	4	4	1	1	1	1	1	1
NUMBER OF OBSERVATIONS FOR EACH VARIABLE	16	1	9	10	10	4	4	1	4	4	4

SUMMARY FOR REGION III Yield, agronomic and disease data for the 2nd IBYT

(locations: Tripoli, LIBYA; Thessaloniki, GREECE; Izmir, TURKEY; Laxia, CYPRUS; Jordan Valley, JORDAN;
Beka'a Valley, LEBANON.)

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	FLOW DAYS	MAT DAYS	LEAF RUST	STEM RUST	PLNT HT	LODG %	1000 G.W.	POWD %	NET BLOT	SCLD %
21	ZEPHYR	U.S.A.	4465	66	122	160	8	5	94	13	41	33	26	14
5	PRO-GVA X DL 70	MEX-CIMMYT	4202	63	105	147	27	5	86	38	46	62	11	59
19	MASURKA	HOLLAND	4201	68	119	159	6	5	92	0	43	22	11	13
25	LOCAL CHECK		4121	68	108	154	14	5	94	52	43	23	78	12
17	EMIR	HOLLAND	4103	69	120	159	7	5	93	9	41	12	11	16
22	MARIS CANON	ENGLAND	3999	68	123	160	4	5	96	12	44	16	37	18
18	CLIPPER	AUSTRALIA	3974	71	115	156	11	5	92	0	51	35	11	10
4	ARIVAT	U.S.A.	3952	62	111	152	24	20	97	7	51	33	11	5
23	BETZES	U.S.A.	3815	61	119	159	17	5	99	37	37	30	11	6
1	ENSENADA	MEX-INIA	3804	62	100	144	15	0	94	3	44	37	26	19
12	ATHENAIS	GREECE	3650	54	104	145	26	0	91	59	48	37	78	5
2	PUEBLA	MEX-INIA	3635	66	106	145	12	10	93	4	42	32	30	23
10	API-CM67 X ORE	MEX-CIMMYT	3466	60	108	148	13	10	80	26	37	52	22	6
11	CM 67	U.S.A.	3440	56	108	149	22	15	80	64	48	44	11	55
16	KLAGES	GERMANY	3363	69	118	158	6	5	96	0	48	29	11	14
3	TRA-1038 X DL 70	MEX-CIMMYT	3252	57	110	150	32	0	94	0	41	48	11	8
8	MARTIN	FRANCE	3251	51	119	156	14	10	101	36	48	42	52	7
24	KRISTINA	SWEDEN	3138	64	119	159	11	5	90	8	44	35	11	18
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	3029	63	101	143	30	20	91	12	37	45	26	39
14	MOREX	U.S.A.	3008	64	118	155	32	20	89	18	38	54	11	19
20	API-CM 67 X B 1	MEX-CIMMYT	2712	66	96	139	21	10	96	62	39	41	67	27
7	LARKER	U.S.A.	2602	64	108	151	44	20	107	28	38	44	45	17
13	CARLSBERG II	DENMARK	2507	60	107	147	26	5	86	46	36	37	67	12
6	MANKER	U.S.A.	2136	66	102	147	33	5	95	36	39	53	7	25
9	CONQUEST	CANADA	2059	63	109	151	19	20	107	38	39	40	11	26

SUMMARY MEANS OVER VARIETIES		3435.3	63.2	111.0	151.7	18.8	8.6	93.3	24.2	42.5	37.3	27.7	18.7
NUMBER OF LOCATIONS FOR EACH VARIABLE		6	1	5	4	4	1	5	3	1	4	1	2
NUMBER OF OBSERVATIONS FOR EACH VARIABLE		16	3	11	9	7	1	10	6	3	8	3	4

SUMMARY FOR REGION IV Yield, agronomic and disease data for the 2nd IBYT
(Locations: Alberta, CANADA; and Oregon, U.S.A.)

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	FLOW DAYS	MAT DAYS	PLNT HT	1000 G.W.
24	KRISTINA	SWEDEN	5530	66	67	111	72	50
3	TRA-1038 X DL 70	MEX-CIMMYT	5031	64	59	102	73	44
14	MOREX	U.S.A.	5002	67	61	103	62	43
25	LOCAL CHECK		4654	64	59	98	95	45
6	MANKER	U.S.A.	4636	67	59	100	79	44
21	ZEPHYR	U.S.A.	4597	69	66	110	78	47
10	API-CM67 X ORE	MEX-CIMMYT	4544	60	59	96	59	37
19	MASURKA	HOLLAND	4445	69	62	109	80	50
22	MARIS CANON	ENGLAND	4315	71	66	111	78	45
16	KLAGES	GERMANY	4307	70	65	109	76	56
17	EMIR	HOLLAND	4288	69	65	110	72	48
2	PUEBLA	MEX-INIA	4106	67	56	98	66	43
7	LARKER	U.S.A.	4079	64	59	101	87	45
23	BETZES	U.S.A.	4050	68	62	108	80	46
1	ENSENADA	MEX-INIA	3941	61	55	94	72	47
5	PRO-GVA X DL 70	MEX-CIMMYT	3909	61	58	100	57	45
9	CONQUEST	CANADA	3802	63	58	100	92	45
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	3455	59	54	94	51	40
13	CARLSBERG II	DENMARK	3454	64	57	102	62	34
18	CLIPPER	AUSTRALIA	3278	65	54	101	53	53
4	ARIVAT	U.S.A.	3277	56	54	99	59	49
8	MARTIN	FRANCE	3211	59	61	104	59	57
11	CM 67	U.S.A.	3077	57	54	93	48	47
12	ATHENAIS	GREECE	3046	54	52	91	52	48
20	API-CM 67 X B 1	MEX-CIMMYT	3024	61	54	93	64	41

SUMMARY MEANS OVER VARIETIES	4042.1	63.8	59.0	101.5	69.0	46.0
NUMBER OF LOCATIONS FOR EACH VARIABLE	2	1	1	1	1	1
NUMBER OF OBSERVATIONS FOR EACH VARIABLE	8	1	4	4	4	1

SUMMARY FOR REGION V Yield, Agronomic and disease data for the 2nd IBYT

(Locations: Baja California, Guanajuato and Sonora MEXICO.)

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	LEAF RUST	PLNT HT	LODG %	SHTR %	POWD %	SPOT BLOT
5	PRO-GVA X DL 70	MEX-CIMMYT	7278	80	121	5	82	34	0	49	10
3	TRA-1038 X DL 70	MEX-CIMMYT	6584	83	121	30	85	28	30	52	-
10	API-CM67 X ORE	MEX-CIMMYT	6573	79	115	5	73	12	0	35	-
25	LOCAL CHECK		6462	80	122	5	87	4	0	52	-
4	ARIVAT	U.S.A.	6070	84	124	30	97	64	5	39	5
12	ATHENAI	GREECE	5926	81	114	5	86	59	20	23	-
2	PUEBLA	MEX-INIA	5813	76	116	5	90	23	80	48	-
11	CM 67	U.S.A.	5798	80	118	5	81	34	0	28	-
1	ENSENADA	MEX-INIA	5788	75	116	5	93	48	30	6	-
23	BETZES	U.S.A.	5455	91	126	30	92	38	9	12	-
19	MASURKA	HOLLAND	5340	89	126	5	101	1	0	7	-
8	MARTIN	FRANCE	5210	97	133	5	90	65	0	17	-
18	CLIPPER	AUSTRALIA	5194	85	124	30	91	32	0	6	-
17	EMIR	HOLLAND	5147	90	126	0	97	20	0	6	-
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	5134	69	106	10	80	19	0	38	-
14	MOREX	U.S.A.	4799	93	127	80	86	4	0	7	-
21	ZEPHYR	U.S.A.	4773	94	126	60	90	0	0	35	-
20	API-CM 67 X B 1	MEX-CIMMYT	4457	70	108	20	79	41	20	58	-
24	KRISTINA	SWEDEN	4351	88	125	80	84	8	0	47	-
22	MARIS CANON	ENGLAND	4281	93	130	50	91	3	0	12	30
16	KLAGES	GERMANY	4257	90	123	10	95	10	0	26	-
7	LARKER	U.S.A.	4211	85	126	80	109	35	10	46	-
6	MANKER	U.S.A.	4056	73	115	10	96	8	20	65	10
13	CARLSBERG II	DENMARK	3927	77	115	40	80	47	40	27	-
9	CONQUEST	CANADA	3749	80	118	50	107	21	10	43	-

SUMMARY MEANS OVER VARIETIES	5225.3	83.3	120.9	26.2	89.6	26.4	11.0	31.2	13.7
NUMBER OF LOCATIONS FOR EACH VARIABLE	3	3	3	1	3	3	1	2	1
NUMBER OF OBSERVATIONS FOR EACH VARIABLE	12	9	9	1	9	9	1	5	1

SUMMARY FOR REGION VI Yield, Agronomic and disease data for the 2nd. IBYT
 (Locations: Cochabamba, BOLIVIA; Lima, PERU.)

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	STRP RT.H	LEAF RUST	PLNT HT	SHTR %	POWD %
23	BETZES	U.S.A.	2214	78	140	95	40	85	15	40
2	PUEBLA	MEX-INIA	2148	62	121	100	10	95	30	20
21	ZEPHYR	U.S.A.	2145	78	139	88	10	75	-	10
25	LOCAL CHECK		2131	68	139	65	10	95	15	40
5	PRO-GVA X DL 70	MEX-CIMMYT	2024	70	138	86	30	70	-	60
16	KLAGES	GERMANY	1984	74	135	98	40	85	10	0
17	EMIR	HOLLAND	1936	74	136	6	15	80	-	0
18	CLIPPER	AUSTRALIA	1895	65	121	83	35	70	-	60
19	MASURKA	HOLLAND	1885	74	138	84	30	100	40	0
22	MARIS CANON	ENGLAND	1757	78	138	85	10	85	-	0
8	MARTIN	FRANCE	1642	83	139	11	5	80	10	0
24	KRISTINA	SWEDEN	1555	79	137	88	40	70	-	0
20	API-CM 67 X B 1	MEX-CIMMYT	1364	54	125	98	30	75	30	40
14	MOREX	U.S.A.	1348	74	140	100	50	85	-	30
12	ATHENAIS	GREECE	1148	63	128	100	5	80	70	20
3	TRA-1038 X DL 70	MEX-CIMMYT	1115	67	127	100	30	85	-	20
7	LARKER	U.S.A.	1101	70	129	100	0	80	-	10
11	CM 67	U.S.A.	1030	60	125	100	10	80	25	30
4	ARIVAT	U.S.A.	1026	64	130	100	30	100	35	30
1	ENSENADA	MEX-INIA	869	59	123	100	5	90	60	30
13	CARLSBERG II	DENMARK	806	67	134	98	30	80	-	0
15	BAMBA X JO-GALT/API...	MEX-CIMMYT	714	60	124	98	0	85	10	20
6	MANKER	U.S.A.	625	65	127	100	0	75	-	5
10	API-CM67 X ORE	MEX-CIMMYT	516	62	124	98	10	85	-	20
9	CONQUEST	CANADA	332	66	128	100	10	100	-	40

SUMMARY MEANS OVER VARIETIES	1412.4	68.4	131.1	87.2	19.4	83.6	29.2	21.0
NUMBER OF LOCATIONS FOR EACH VARIABLE	1	2	2	1	1	1	1	1
NUMBER OF OBSERVATIONS FOR EACH VARIABLE	4	5	5	4	1	1	1	1

ITH IBYT TABLE 1 AFRICA RHODESIA SALISBURY

GWEBI

C.J.J.BADENHORST ET AL

LATITUDE 017 48'S DATE PLANTED 5/11/79
 LONGITUDE 031 15'E DATE HARVESTED 10/10/79
 ELEVATION 1486 M.ABOVE S.L. AMOUNT OF MOISTURE 570 MM

NITROGEN APPLIED
 PHOSPHORUS APPLIED
 POTASSIUM APPLIED

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
 WEATHER NORMAL. NEGLIGIBLE DISEASE DEVELOPMENT.
 NO INSECT, WEED OR BIRD PROBLEMS. LOCAL CHECK: DIAMANT

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	PLNT HT
25	LOCAL CHECK		7510	106	144	84
19	KRISTINA	HOLLAND ***	6510	94	143	88
10	MINN M11-GVA X POR-DWARF2	CIMMYT	6405	74	129	89
1	APIZACO	MEX-INIA	6122	81	130	99
20	TRAILL-1038 X DL70	CIMMYT	6105	79	124	89
23	PIRI	BELGIUM	5699	90	137	98
17	MASURKA	HOLLAND	5388	86	133	96
12	ARIVAT	U.S.A.	5361	77	128	93
4	TLAXCALA	MEX-INIA	5344	81	122	96
2	CENTINELA	MEX-INIA	5072	68	112	100
8	ZOAPILA	MEX-INIA	5038	76	118	94
11	PORVENIR	MEX-INIA	4922	72	120	95
16	CM67	U.S.A.	4894	72	121	75
14	MANKER	U.S.A.	4872	75	123	111
5	CM67 X DS-APRO	CIMMYT	4838	80	126	78
6	ENSENADA	MEX-INIA	4650	71	115	90
13	BEACON	U.S.A.	4616	78	120	110
22	COHO	U.S.A.	4577	84	133	104
21	RISO MUTANT 1508	DENMARK	4550	90	135	105
15	MZQ-DL71	CIMMYT	4416	71	117	80
3	PUEBLA	MEX-INIA	4316	71	118	86
18	BUSSELL	AUSTRALIA	4038	73	132	73
9	CELAYA	MEX-INIA	3861	73	115	91
7	AMERICA	MEX-INIA	3527	76	123	95
24	SV. MONA	SWEDEN	2783	61	107	66

GRAND MEAN 5016.6 78.2 124.9 91.3
 STANDARD ERROR OF GRAND MEAN 58.0 0.7
 COEFFICIENT OF VARIATION AS PC 11.6 7.5
 LSD VARIETY MEANS 5 PC 817.0 9.6

CORRELATIONS

YIELD KG/HA
 FLOW DAYS 0.70
 MAT DAYS 0.66 0.89
 PLNT HT 0.19 0.27 0.16

1TH IBYT TABLE 2 SOUTH AMERICA CHILE SANTIAGO

LA PLATINA
 J. RAMIREZ
 LATITUDE 033 27'S DATE PLANTED 11/ 7/79 NITROGEN --
 LONGITUDE 070 38'W DATE HARVESTED --/--/-- PHOSPHORUS --
 ELEVATION 0629 M. ABOVE S.L. AMOUNT OF MOISTURE -- MM POTASSIUM --

SOIL MOISTURE CONDITION AT SOWING AND GERMINATION & NOT REPORTED.
 WEATHER NOT REPORTED. LOCAL CHECK NAME NOT REPORTED.
 INSECT, WEED AND BIRD PROBLEMS NOT REPORTED.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	FLOW DAYS	LEAF RUST	1000 G.W.	POWD %
1	APIZACO	MEX-INIA	6553	60	108	60S	35	60
20	TRAILL-1038 X DL70	CIMMYT	6553	60	110	90S	35	60
15	MZQ-DL71	CIMMYT	6060	59	97	40S	32	60
4	TLAXCALA	MEX-INIA	5990	56	101	60S	32	20
23	PIRI	BELGIUM	5983	67	114	60S	36	0
12	ARIVAT	U.S.A.	5907	-	100	60S	40	40
17	MASURKA	HOLLAND	5754	64	115	40S	39	0
3	PUEBLA	MEX-INIA	5657	63	99	20MR	36	5
18	BUSSELL	AUSTRALIA	5615	64	100	60S	39	40
5	CM67 X DS-APRO	CIMMYT	5518	67	101	80S	31	60
2	CENTINELA	MEX-INIA	5427	59	98	60S	38	30
19	KRISTINA	HOLLAND	5400	61	114	80S	34	20
14	MANKER	U.S.A.	5212	63	100	80S	35	20
22	COHO	U.S.A.	5143	69	114	60S	41	20
25	LOCAL CHECK		5136	61	114	80S	29	10
8	ZOAPILA	MEX-INIA	4997	61	100	60S	30	30
6	ENSENADA	MEX-INIA	4705	59	99	90S	38	50
11	PORVENIR	MEX-INIA	4705	61	99	80S	31	5
21	RISO MUTANT 1508	DENMARK	4677	56	110	80S	35	0
13	BEACON	U.S.A.	4593	56	102	90S	30	10
10	MINN M11-GVA X POR-DWARF2	CIMMYT	4211	52	110	80S	29	80
9	CELAYA	MEX-INIA	4107	-	100	60S	33	5
16	CM67	U.S.A.	4010	-	99	60S	41	40
7	AMERICA	MEX-INIA	2939	72	102	80S	45	0
24	SV. MONA	SWEDEN	2217	64	92	80S	41	0

GRAND MEAN 5082.8 61.6 103.9 67.1 35.3 26.6
 STANDARD ERROR OF GRAND MEAN
 COEFFICIENT OF VARIATION AS PC
 LSD VARIETY MEANS 5 PC

CORRELATIONS

YIELD KG/HA	TEST WT	FLOW DAYS	LEAF RUST	1000 G.W.	POWD %
		-0.17			
		0.36	0.04		
		-0.34	-0.17	0.09	
		-0.29	0.65	-0.12	-0.15
		0.35	-0.39	-0.07	0.12 -0.23

