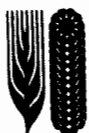


CIMMYT-ICARDA
Results of the Seventh
International Barley Yield
Trial (IBYT) 1984-85





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**GLOSSARY OF ABBREVIATIONS AND UNITS OF MEASURE
GLOSARIO DE ABREVIATURAS Y UNIDADES DE MEDICIÓN
GLOSSAIRE DES ABRÉVIATIONS ET UNITÉS DE MESURE**

Abbreviation	Scientific name	Variable name(scale)	Nombre de la variable (escala)	Nom de la variable (échelle)
AL TOL	—	Aluminum tolerance (0-9 scale)	Tolerancia al aluminio (escala 0-9)	Tolérance à l'aluminium (échelle 0-9)
ALT B	<i>Alternaria triticina</i>	Alternaria leaf blight (0-9 scale)	Tizón por alternaria (escala 0-9)	Alternaria (échelle 0-9)
ANT DMGE	—	Ant damage (percentage)	Porcentaje de daño por hormigas	Dégat du aux fourmis en pourcentage
APHD DMGE	—	Aphid damage (percentage)	Porcentaje de daño por áfidos	Dégat du aux pucerons en pourcentage
ARMY WORM	—	Army worm damage (percentage)	Porcentaje de daño por gusano cogollero	Dégat du aux noctuelles en pourcentage
BAC S	<i>Xanthomonas campestris</i> pv. <i>translucens</i>	Bacterial leaf streak or stripe (0-9 scale)	Rayado bacteriano y pajilla negra (escala 0-9)	Rayure bactérienne (échelle 0-9)
BAC SP	—	Bacterial species	Especies bacterianas	Espices bactériennes
BAC B	<i>Pseudomonas syringae</i> pv. <i>striafaciens</i>	Bacterial blight (0-9 scale)	Tizón bacteriano de la hoja (escala 0-9)	Brulure bactérienne des feuilles (échelle 0-9)
BAR S	<i>Pyrenophora graminea</i> (syn. <i>Drechslera gramineum</i> , syn. <i>Helminthosporium gramineum</i>)	Barley stripe (0-9 scale)	Mancha estriada de la cebada	Taches brunes de l'orge (<i>Helminthosporium gramineum</i>) (échelle 0-9)
BIRD DMGE	—	Bird damage (percentage)	Porcentaje de daño por pájaros	Dégat du aux oiseaux en pourcentage
BW	—	Bread wheat	Trigo	Blé
BYDV	—	Barley yellow dwarf virus (0-9 scale)	Virus del enanismo amarillo de la cebada (escala 0-9)	Jaunisse nanisante de l'orge (échelle 0-9)
CHECK MARK	—	Selected for further investigation	Seleccionada para investigación adicional	Selectionnée pour recherche additionnelle
COVD SMUT	<i>Ustilago hordei</i> (<i>U. kollerii</i>)	Covered smut (percentage)	Porcentaje de carbón cubierto	Charbon couvert en pourcentage
EARS/M2	—	Ears per square meter	Espigas por metro cuadrado	Epis par mètre carré
FALL NO	—	Falling number (seconds)	Actividad alfa amilasa (segundos)	Activité de l'alpha amylase (en secondes)
FERT %	—	Fertility (percentage)	Porcentaje de fertilidad	Fertilité en pourcentage
FRST DMGE	—	Frost damage (percentage)	Porcentaje de daño por heladas	Dégat du au gel en pourcentage
FUS N	<i>Fusarium nivale</i> (syn. <i>Monographella nivalis</i>)	Fusarium leaf blotch (0-9 scale)	Mancha de la hoja y moho néveo (moho blanco) (escala 0-9)	Tache de la feuille (<i>Fusarium nivale</i>)(échelle 0-9)
GERM %	—	Germination (percentage)	Porcentaje de germinación	Germination en pourcentage
HAIL DMGE	—	Hail damage (percentage)	Porcentaje de daño por granizo	Dégat du à la grêle en pourcentage
HEAD DAYS	—	Number of days to heading	Número de días al espigamiento	Nombre de jours à l'épiaison
HEL SP	<i>Helminthosporium</i> spp.	Helminthosporium (0-9 scale)	Helminthosporium (escala 0-9)	Helminthosporium (échelle 0-9)
L FIRE	—	Leaf fire (0-9 scale)	Tizón foliar (escala 0-9)	Sécheresse des feuilles (échelle 0-9)
LEAF RUST	<i>Puccinia recondita</i>	Wheat leaf rust (Cobb scale)	Roya de la hoja-trigo (escala de Cobb)	Rouille brune du blé (échelle de Cobb)
LEAF RUST	<i>Puccinia hordei</i>	Barley leaf rust (Cobb scale)	Roya de la hoja-cebada (escala de Cobb)	Rouille brune de l'orge (échelle de Cobb)
LODG %	—	Lodging (percentage)	Porcentaje de acame (vuelco)	Verse en pourcentage
LSE SMUT	<i>Ustilago nuda</i> (<i>U. tritici</i>)	Loose smut (percentage)	Porcentaje de carbón volador	Charbon nu en pourcentage
MAT DAYS	—	Number of days to maturity	Número de días a la madurez	Nombre de jours à la maturation
MOIST %	—	Moisture (percentage)	Porcentaje de humedad	Humidité en pourcentage
NECK BRK	—	Neck breakage (percentage)	Porcentaje de rotura de cuello	Cassure du pédoncule en pourcentage
NET B	<i>Pyrenophora teres</i> (syn. <i>Drechslera teres</i> , syn. <i>Helminthosporium teres</i>)	Net blotch (0-9 scale)	Mancha reticulada (escala 0-9)	Helminthosporium de l'orge (échelle 0-9)
NOBS	—	Number of observations	Número de observaciones	Nombre d'observations
OFS	—	Free State Strake	Estriado del estado libre	Rayure Free State
PC	—	Percentage	Porcentaje	Pourcentage
PLNT DENS	—	Plant density (stems/m2)	Densidad de plantas (tallos/m2)	Population de plantes (tiges/m2)
PLNT HT	—	Plant height (cm)	Altura de planta (cm)	Hauteur (cm)
POW M	<i>Erysiphe graminis</i>	Powdery mildew (0-9 scale)	Oidio o cenicilla polvorienta (escala 0-9)	Oidium (échelle 0-9)
PROT %	—	Protein (percentage)	Porcentaje de proteína	Protéine en pourcentage
SCAB %	<i>Fusarium</i> spp.	Head scab (percentage)	Porcentaje de roña	Fusarium de l'épi en pourcentage
SCLD	<i>Rhynchosporium secalis</i>	Scald (0-9 scale)	Escaldadura (escala 0-9)	Rhynchosporium (échelle 0-9)
SDMT INDX	—	Sedimentation index (cc)	Índice de sedimentación (cc)	Indice de sédimentation (cc)
SEP N	<i>Leptosphaeria nodorum</i> (syn. <i>Septoria nodorum</i>)	Septoria glume blotch (0-9 scale)	Tizón de la gluma (escala 0-9)	Septoria nodorum (échelle 0-9)
SEP P	<i>Septoria passerinii</i> sacc.	Septoria leaf blotch (barley)	Mancha foliar (cebada)	Tache septorienne des feuilles de l'orge
SEP S	<i>Septoria</i> spp.	Septoria glume/leaf blotch (0-9 scale)	Septoria (escala 0-9)	Septoria (échelle 0-9)
SEP T	<i>Mycosphaerella graminicola</i> (syn. <i>Septoria tritici</i>)	Septoria leaf blotch (0-9 scale)	Mancha foliar o tizón foliar (escala 0-9)	Septoria tritici (échelle 0-9)
SHTR %	—	Shattering, head (percentage)	Porcentaje de desgrane (espiga)	Egrenage en pourcentage
SL	—	Sea level	Nivel del mar	Niveau de la mer
SPT B	<i>Cochliobolus sativus</i> (syn. <i>Bipolaris sorokiniana</i> , syn. <i>Helminthosporium sativum</i>)	Spot blotch (0-9 scale)	Tizón foliar (escala 0-9)	Tache de la feuille (<i>Helminthosporium sativum</i>) (échelle 0-9)
STEM RUST	<i>Puccinia graminis</i>	Stem rust (Cobb scale)	Roya del tallo (escala de Cobb)	Rouille noire (échelle de Cobb)
STRP RT.H	<i>Puccinia striiformis</i>	Stripe rust, head (percentage)	Porcentaje de roya amarilla (espiga)	Rouille jaune sur épi en pourcentage
STRP RT.L	<i>Puccinia striiformis</i>	Stripe rust, leaf (Cobb scale)	Roya amarilla-hoja (escala de Cobb)	Rouille jaune sur feuilles (échelle de Cobb)
STRP V	—	Barley stripe mosaic virus (scale 0-9)	Virus del mosaico lineal de la cebada (escala 0-9)	Mosaïque striée de l'orge (échelle 0-9)
TAN S	<i>Pyrenophora tritici-repentis</i> (syn. <i>Helminthosporium tritici-repentis</i>)	Tan spot (0-9 scale)	Mancha foliar amarilla (escala 0-9)	Helminthosporium tritici (échelle 0-9)
Tcl	—	Triticale	Triticale	Triticale
TEST WT	—	Test weight (kg/hl)	Peso hectolítrico (kg/hl)	Poids spécifique (kg/hl)
1000 G.W.	—	1000-grain weight (g)	Peso de 1000 granos (g)	Poids de 1000 grains (g)
VAR	—	Variety	Varietal	Variété
VTY	—	Variety	Varietal	Variété
YELL BERR	—	Yellow berry (percentage)	Porcentaje de panza blanca	Mitadinage en pourcentage
YIELD KG/HA	—	Yield (kg/ha)	Rendimiento (kg/ha)	Rendement (kg/ha)

Introduction to the Seventh International Barley Yield Trial

Hugo Vivar^{1/} and Maximino Alcala^{2/}

Methodology

The Seventh International Barley Yield Trial (IBYT) was distributed in 1984-85, to be grown by cooperators in their spring season of 1985. 53 nurseries went to cooperators in 31 countries. The advanced lines and varieties included in the nursery had been chosen from among best materials and nominations from plant breeders in different parts of the world. All had been grown and observed in a high-yield environment with pressure from major diseases on the CIANO Experiment Station in the Yaqui Valley in northwestern 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; seed was cleaned and treated with insecticide and organic fungicide before shipment.

Instructions accompanied the mailing of seed to each cooperator, specifying plot sizes, replications and similar procedures. It is recommended that each plot should consist of six 3-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 was sent with each nursery set, providing a format for recording data desired by CIMMYT-ICARDA.

Twenty-eight of the cooperators receiving the nursery returned field books reporting performance at their locations in time to be included in this report. In receiving and processing the data, CIMMYT-ICARDA 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 obtained.

The choice of variables measured and the data returned rests with the individual cooperator. We have included in this summary selected variables reported to us. Some 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 user, we present the results in the two forms:

1. All data provided from *each trial site* are reported in a single table for that site. The latitude and longitude coordinates are reported as supplied by the cooperator. With these, the reader can determine the exact location of the trial site and, if desired, relate to it environmental data from other sources.
2. *Two international summaries* present a) the variables for which data were reported, for each trial site, and b) the means computed for all sites.

Statistical coefficients^{3/} accompany the trial site data 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 reasonable caution.

Cooperator participation—Feedback information of two kinds is vital to the quality of this and other CIMMYT-ICARDA international nursery reports: first, the prompt return of carefully recorded data from each and every trial site; second, the identification of environmental and management factors (e.g., moisture problems, birds, etc.) that become part of our cooperator's station file. We ask for feedback of both kinds.

Nominations of lines or varieties for future nurseries are always welcomed from breeders. A sample of 200 g of seed will join 150 or more other nominations in PMI plots (*parcela multiplicación 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
Lisboa 27, Apdo. Postal 6-641
06600 Mexico, D.F., Mexico

1/ Head, CIMMYT-ICARDA Barley Program.

2/ Head, International Nurseries.

3/ Details of the statistical analyses (done 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 and pedigree (including origin) of the 7th IBYT entries

Entry No.	Variety or Cross and Pedigree	Origin
1	TROMPILLO CMB74A-432-25B-1Y-1B-1Y-OB	CIMMYT
2	ALAMO"S" CMB77-1585-E-2Y-1B-1Y-1B-2Y-OB	CIMMYT
3	SANGREGADO"S" CMB79-54-8Y-1B-3Y-1B-2Y-OB	CIMMYT
4	RUMOROSA	MEXICO
5	GOLONDRINA"S" CMB79-376-1Y-3B-2Y-1B-1Y-OB	CIMMYT
6	GOLONDRINA"S" CMB79-376-1Y-3B-2Y-1B-2Y-OB	CIMMYT
7	GOLONDRINA"S" CMB79-376-2Y-2B-3Y-1B-2Y-OB	CIMMYT
8	GOLONDRINA"S" CMB79-376-3Y-2B-2Y-1B-2Y-OB	CIMMYT
9	ARUPO"S" CMB79-1312-F-3Y-1B-2Y-1B-1Y-OB	CIMMYT
10	ZAPATA	PERU
11	IBTA 80	BOLIVIA
12	78W40785	CALIFORNIA
13	ND5569	N. DAKOTA
14	ROBUST	MINNESOTA
15	ABEE	ALBERTA-CAN.
16	EMPRESS	ALBERTA-CAN.
17	INDIAN	ALBERTA-CAN.
18	KORU	ENGLAND
19	ROLAND	SWEDEN
20	LIGNEE 640 (MONTPELLIER)	FRANCE
21	KYM	ENGLAND
22	KARAN 18	INDIA
23	ATHOS	FRANCE
24	ANDRE	WASHINGTON
25	LOCAL CHECK	

Locations from which data were reported, with variables reported

TABLE	CONTINENT	COUNTRY	CITY	VARIABLES INCLUDED*													
1	AFRICA	ALGERIA	CONSTANTINE	1	9	61	67										
2	AFRICA	MALAWI	CENTRAL PROV. (DEDZA DIST)	1	3	4	9	10	13	68	77						
3	AFRICA	NIGERIA	KANO	1	3	4	9										
4	AFRICA	SOUTH AFRICA	CAPE PROVINCE-TYGERHOEK	1	7	66											
5	AFRICA	TUNISIA	LE KEF	1	3												
6	AFRICA	ZIMBABWE	HARARE-GWEBI	1	3	4	9	10									
7	ASIA	AFGHANISTAN	KUNDUZ	1	3	4	9	10									
8	ASIA	CHINA	BEIJING	1	3	4	9	10									
9	ASIA	CHINA	HEILONGJIANG	1	3	4	9	13	66	77							
10	ASIA	PAKISTAN	BALUCHISTAN	1	3	4	9										
11	ASIA	PAKISTAN	PUNJAB-NIAB	1	3	4	9										
12	ASIA	PAKISTAN	SIND	1	3	9											
13	ASIA	REP. OF KOREA	SUNON GYEONGGI PROV.	1	2	3	9	61									
14	ASIA	TAIWAN	TAICHUNG	1	2	3	4	9	10								
15	EUROPE	GREECE	THESSALONIKI	1	3	8	9	61									
16	EUROPE	ITALY	MARCHE	1	2	3	4	9	10	61	69						
17	EUROPE	NORWAY		1	2	3	4	61									
18	EUROPE	PORTUGAL	ELVAS	1	3	4	9	10	13								
19	MIDDLE EAST	CYPRUS	LAXIA	1	7	9	61	66	68	69							
20	MIDDLE EAST	IRAN	TEHRAN	1	3	4	9										
21	MIDDLE EAST	QATAR	BARADA	1	3	4	9	10	66								
22	MIDDLE EAST	SAUDI ARABIA	RIYADH	1	3	4	9										
23	MIDDLE EAST	SYRIA	DERRA MOUHAPHAZA	1	3	4	9										
24	MIDDLE EAST	TURKEY	SAKARYA	1	3	7	9	10	61								
25	NORTH AMERICA	MEXICO	B. C. NORTE-CAEMEXI	1	3	4	9										
26	NORTH AMERICA	MEXICO	DURANGO	1	2	3	4	7	9								
27	NORTH AMERICA	MEXICO	GUANAJUATO-BAJIO	1	4	7	9	10									
28	NORTH AMERICA	MEXICO	NUEVO LEON-NAVIDAD	1	2	3	4	9									

*VARIABLE IDENTIFICATIONS

1	YIELD	KG/HA	2	TEST	WT	3	HEAD	DAYS	4	MAT	DAYS	7	LEAF	RUST	8	STEM	RUST	
9	PLNT	HT	10	LODC	%	13	1000	G. W	61	POW	M	0-9	66	NET	B	0-9	67	BAR
68	SPT	B	0-9	69	SCLD	0-9	77	BYDV	0-9									0-9

Summary for all locations: yield, agronomic and disease data

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	HEAD DAYS	MAT DAYS	LEAF RUST	STEM RUST	PLNT HT	LODQ %	1000 G.W.	POW M	NET B	BAR B	SPT B	SCLD B	BYDV O-9
20	LIGNEE 640	FRANCE	3616	64	95	129	1	8	77	34	42	4	5	1	5	2	3
25	LOCAL CHECK		3608	66	94	127	34	9	78	30	44	5	3	1	5	3	1
5	GOLONDRINA"S"	CIMMYT	3474	66	92	127	29	9	70	14	48	4	4	1	5	1	2
9	ARUPD"S"	CIMMYT	3414	64	91	124	32	8	58	16	46	4	4	1	5	1	2
13	ABEE	ALBERTA-CA	3414	67	97	129	41	8	76	40	45	4	3	1	6	3	2
23	ATHOS	FRANCE	3381	67	99	131	18	8	75	29	40	3	3	1	4	1	3
19	ROLAND	SWEDEN	3356	67	99	131	6	8	75	29	41	3	5	-	6	3	6
1	TROMPILLO	CIMMYT	3339	61	92	126	46	9	79	17	39	6	3	1	6	2	3
18	KORU	ENGLAND	3334	67	99	125	11	10	74	36	49	3	4	-	4	2	2
24	ANDRE	WASHINGTON	3305	67	98	129	39	8	77	30	40	5	4	1	4	3	2
21	KYM	ENGLAND	3266	67	99	130	16	8	73	32	47	3	6	1	5	2	3
12	78M40785	CALIFORNIA	3262	60	94	129	32	8	63	15	47	5	2	1	5	3	2
4	RUMOROSA	MEXICO	3261	60	89	123	32	8	83	37	46	5	4	1	5	3	2
6	GOLONDRINA"S"	CIMMYT	3246	67	94	126	20	9	69	24	46	4	4	-	6	3	1
2	ALAMO"B"	CIMMYT	3236	59	85	122	33	8	77	7	47	5	5	1	4	1	2
3	SANREGADO"S"	CIMMYT	3156	65	92	126	28	8	73	30	45	7	5	2	6	3	3
7	GOLONDRINA"S"	CIMMYT	3086	65	90	125	23	8	71	28	44	4	4	-	5	3	1
17	SAMSON	ALBERTA-CA	2931	61	97	132	64	9	76	24	40	5	3	1	4	1	2
16	EMPRESS	ALBERTA-CA	2896	63	95	128	56	9	89	41	41	4	4	2	4	1	3
8	GOLONDRINA"S"	CIMMYT	2877	65	88	124	31	9	71	32	47	3	4	3	4	3	2
11	IBTA 80	BOLIVIA	2771	62	98	130	47	7	88	49	49	4	3	-	5	1	5
13	ND5569	N DAKOTA	2739	63	91	126	37	10	89	33	35	5	3	-	7	3	3
10	ZAPATA	PERU	2703	62	95	126	48	7	88	53	42	4	4	1	6	3	3
22	KARAN 18	INDIA	2676	72	91	125	44	7	72	15	34	5	4	1	4	2	4
14	ROBUST	MINNESOTA	2501	64	87	124	36	10	85	29	39	5	4	-	7	3	4

	SUMMARY MEANS OVER VARIETIES	3153.9	64.3	93.7	126.9	32.2	8.4	76.2	28.9	43.4	4.3	3.8	1.2	4.8	2.0	2.4
	NUMBER OF LOCATIONS FOR EACH VARIABLE	28	6	24	20	5	1	25	10	3	7	4	1	2	2	2
	NUMBER OF OBSERVATIONS FOR EACH VARIABLE	105	21	77	65	12	4	80	34	6	20	6	1	6	6	5

TABLE 1 AFRICA

ALBERTA

CONSTANTINE

FL KHRDUB
CEREAL STAFF

LATITUDE	036 16' N	DATE PLANTED	11/15/85	NITROGEN	APPLIED
LONGITUDE	006 42' E	DATE HARVESTED	07/5/85	PHOSPHORUS	APPLIED
ELEVATION	0640 M ABOVE S L	AMOUNT OF MOISTURE	750 MM	POTASSIUM	--

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
SLIGHT DISEASE INCIDENCE. SLIGHT INSECT DAMAGE. MODERATE WEED PROBLEM.
NEGLECTIBLE BIRD DAMAGE. CHEMICAL CONTROL OF WEEDS. LOCAL CHECK: SAIDA
PARTIAL FLOODING IN THE PLOTS. 335 MM OF RAIN DURING DECEMBER.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	PLNT HT	POW M 0-9	BAR S 0-9
20	LIGNEE 640	FRANCE	5363	80	2	1
15	ABEE	ALBERTA-CA	5167	80	2	1
6	GOLONDRINA"S"	CIMMYT ***	4850	70	-	-
21	KYM	ENGLAND	4821	70	1	1
19	ROLAND	SWEDEN	4679	75	1	-
23	ATHOS	FRANCE	4604	80	1	1
16	EMPRESS	ALBERTA-CA	4500	110	2	2
24	ANDRE	WASHINGTON	4438	80	-	1
18	KORU	ENGLAND	4379	90	3	-
10	ZAPATA	PERU	4279	95	2	1
5	GOLONDRINA"S"	CIMMYT	4188	75	2	1
9	ARUPD"S"	CIMMYT	4133	50	1	1
11	IBTA 80	BOLIVIA	4129	100	1	-
1	TROMPILLO	CIMMYT	4063	85	1	1
4	RUMOROSA	MEXICO	3875	90	-	1
7	GOLONDRINA"S"	CIMMYT	3867	65	-	-
25	LOCAL CHECK		3829	70	-	1
17	SAMSON	ALBERTA-CA	3718	80	2	1
12	7BW40785	CALIFORNIA	3408	60	1	1
8	GOLONDRINA"S"	CIMMYT	3400	75	1	3
3	SANCREGADO"S"	CIMMYT	3263	80	-	2
2	ALAMO"S"	CIMMYT	2996	75	1	1
22	KARAN 18	INDIA	2883	60	1	1
14	ROBUST	MINNESOTA	2034	70	1	-
13	ND5569	N. DAKOTA	1708	90	1	-

GRAND MEAN 3951.8 78.2 1.4 1.2
STANDARD ERROR OF GRAND MEAN
COEFFICIENT OF VARIATION AS PC
LSD VARIETY MEANS 5 PC

CORRELATIONS

YIELD KG/HA					
PLNT HT	0.15				
POW M 0-9	0.48	0.47			
BAR S 0-9	-0.20	0.24	-0.07		

BEMBEKE

CEREAL STAFF

LATITUDE	014 24'S	DATE PLANTED	3/12/85	NITROGEN	APPLIED
LONGITUDE	034 21'E	DATE HARVESTED	8/26/85	PHOSPHORUS	APPLIED
ELEVATION	+01590 M. ABOVE S. L.	AMOUNT OF MOISTURE	265 MM	POTASSIUM	--

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
 SLIGHT DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE. MODERATE WEED PROBLEM.
 NEGLIGIBLE BIRD DAMAGE. MECHANICAL CONTROL OF WEEDS. HAND WEEDING.
 WEATHER NORMAL. LOCAL CHECK: KENYA NYATI (BW)

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT	LODG %	1000 G.W.	SPT B 0-9	BYDV 0-9
25	LOCAL CHECK		817	59	120	53	8	39	3	0
11	IBTA 80	BOLIVIA	783	80	150	59	13	47	2	6
3	SANCREGADO"S"	CIMMYT	725	63	124	40	1	47	4	3
1	TROMPILLO	CIMMYT	700	63	117	48	5	38	4	5
9	ARUPO"S"	CIMMYT	650	65	117	42	1	45	3	2
8	GOLONDRINA"S"	CIMMYT	642	63	118	48	6	50	0	-
13	ND5569	N. DAKOTA	642	70	122	62	4	39	6	3
4	RUMDROSA	MEXICO	608	61	124	51	11	48	2	2
22	KARAN 18	INDIA	567	65	120	40	0	31	0	4
24	ANDRE	WASHINGTON	458	76	106	40	0	40	0	3
2	ALAMO"S"	CIMMYT	375	65	118	42	2	49	3	2
19	ROLAND	SWEDEN ***	358	84	128	42	0	34	5	9
12	78M40785	CALIFORNIA	350	75	118	42	10	44	4	2
21	KYM	ENGLAND	333	79	126	40	1	48	3	5
23	ATHOS	FRANCE	308	88	147	33	1	41	1	4
17	SAMSON	ALBERTA-CA	300	81	148	51	7	38	0	2
14	ROBUST	MINNESOTA	283	68	125	59	7	40	6	6
16	EMPRESS	ALBERTA-CA	283	75	153	54	7	41	0	4
15	ABEE	ALBERTA-CA	267	110	154	45	0	44	4	3
10	ZAPATA	PERU	233	85	144	55	21	39	5	3
20	LIGNEE 640	FRANCE	217	65	124	46	1	40	3	1
7	GOLONDRINA"S"	CIMMYT	142	65	118	45	7	40	3	-
6	GOLONDRINA"S"	CIMMYT	117	77	120	43	3	46	5	1
5	GOLONDRINA"S"	CIMMYT	92	64	118	44	1	-	2	2
18	KORU	ENGLAND	67	78	0	35	0	-	0	3
		GRAND MEAN	412.7	72.9	124.7	46.3	6.2	41.8	3.3	3.4
		STANDARD ERROR OF GRAND MEAN	27.0			0.6				
		COEFFICIENT OF VARIATION AS PC	65.4			13.4				
		LSD VARIETY MEANS 5 PC	380.3			8.7				

CORRELATIONS

YIELD KG/HA										
HEAD DAYS	-0.39									
MAT DAYS	0.20	0.24								
PLNT HT	0.30	-0.13	0.39							
LODG %	0.14	-0.03	0.31	0.64						
1000 G.W.	0.11	-0.06	-0.02	-0.07	0.08					
SPT B 0-9	0.01	0.06	0.20	0.33	0.18	-0.01				
BYDV 0-9	0.06	0.29	0.14	0.07	-0.05	-0.30	0.15			

TABLE 3 AFRICA

NIGERIA

KANO

KADAWA

CEREAL STAFF

LATITUDE	012 00'N	DATE PLANTED	12/ 4/84	NITROGEN	--
LONGITUDE	008 36'E	DATE HARVESTED	--/--/--	PHOSPHORUS	--
ELEVATION	1000 M. ABOVE S. L.	AMOUNT OF MOISTURE	960 MM	POTASSIUM	--

NORMAL SOWING DATE. SOIL DRY AT SOWING GERMINATION GOOD.
 SLIGHT DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE. MODERATE WEED PROBLEM.
 MODERATE BIRD DAMAGE. HAND WEEDING. WEATHER NORMAL.
 LOCAL CHECK KETCH

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT
4	RUMOROSA	MEXICO	3025	73	83	62
19	ROLAND	SWEDEN	2888	68	96	57
15	ABEE	ALBERTA-CA	2875	74	101	56
13	ND5569	N. DAKOTA	2775	67	95	57
7	GOLONDRINA"S"	CIMMYT	2600	67	91	54
17	SAMSON	ALBERTA-CA	2575	67	97	51
3	SANGREGADO"S"	CIMMYT	2550	70	94	44
20	LIGNEE 640	FRANCE	2525	75	98	59
5	GOLONDRINA"S"	CIMMYT	2425	74	100	47
10	ZAPATA	PERU	2400	74	96	44
14	ROBUST	MINNESOTA	2400	78	85	52
1	TROMPILLO	CIMMYT	2325	66	96	59
24	ANDRE	WASHINGTON	2325	73	100	61
23	ATHOS	FRANCE	2300	70	90	47
25	LDAL CHECK		2300	88	80	49
16	EMPRESS	ALBERTA-CA	2250	80	91	55
6	GOLONDRINA"S"	CIMMYT	2200	81	101	52
11	IBTA 80	BOLIVIA	2188	68	97	53
21	KYM	ENGLAND	2150	72	102	53
22	KARAN 18	INDIA	2125	78	91	62
2	ALAMO"S"	CIMMYT	2075	80	85	58
8	GOLONDRINA"S"	CIMMYT	2025	79	90	55
12	78W40785	CALIFORNIA	2013	64	81	80
9	ARUPD"S"	CIMMYT	1900	73	95	55
18	KORU	ENGLAND	1850	72	99	57
		GRAND MEAN	2362.5	73.2	93.2	55.0
		STANDARD ERROR OF GRAND MEAN	75.4			1.1
		COEFFICIENT OF VARIATION AS PC	31.9			20.0
		LSD VARIETY MEANS 5 PC	1062.9			15.5

CORRELATIONS					
YIELD	KG/HA				
HEAD	DAYS	-0.24			
MAT	DAYS	0.05	-0.25		
PLNT	HT	-0.13	-0.27	-0.30	

TABLE 4 AFRICA

SOUTH AFRICA

CAPE PROVINCE-TYGERHOEK

TYGERHOEK E. S.

CEREAL STAFF

LATITUDE	34 9'S	DATE PLANTED	5/30/85	NITROGEN	--
LONGITUDE	19 54'E	DATE HARVESTED	11/20/85	PHOSPHORUS	--
ELEVATION	168 M. ABOVE S. L.	AMOUNT OF MOISTURE	-- MM	POTASSIUM	--

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION POOR.
 SLIGHT DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE. NO WEED PROBLEM.
 NEGLIGIBLE BIRD DAMAGE. CHEMICAL CONTROL OF INSECTS AND WEEDS.
 LOCAL CHECK: CLIPPER. VERY DRY PERIOD.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	LEAF NET B RUST	0-9
6	GOLONDRINA"S"	CIMMYT	1440	60S	6
25	LOCAL CHECK		1275	60S	-
4	RUMOROSA	MEXICO	1272	40S	2
2	ALAMO"S"	CIMMYT	1244	20S	7
5	GOLONDRINA"S"	CIMMYT	1141	80S	8
24	ANDRE	WASHINGTON	1087	40S	-
8	GOLONDRINA"S"	CIMMYT	1042	60S	6
1	TROMPILLO	CIMMYT	1020	99S	0
12	78M40785	CALIFORNIA	968	40S	2
18	KORU	ENGLAND	916	5S	6
10	ZAPATA	PERU ***	886	80S	6
7	GOLONDRINA"S"	CIMMYT	824	40S	7
9	ARUPD"S"	CIMMYT	793	60S	5
17	SAMSON	ALBERTA-CA	784	99S	-
3	SANREGADO"S"	CIMMYT	762	10S	8
11	IBTA 80	BOLIVIA	760	70S	0
21	KYM	ENGLAND	759	15S	8
13	ND5569	N. DAKOTA	684	60S	-
19	ROLAND	SWEDEN	682	TR	8
20	LIGNEE 640	FRANCE	665	0	8
23	ATHOS	FRANCE	608	20S	-
14	ROBUST	MINNESOTA	567	70S	-
16	EMPRESS	ALBERTA-CA	528	99S	-
15	ABEE	ALBERTA-CA	478	70S	-
22	KARAN 18	INDIA	461	99S	-
		GRAND MEAN	865.9	51.8	5.4
		STANDARD ERROR OF GRAND MEAN	32.0		
		COEFFICIENT OF VARIATION AS PC	37.0		
		LSD VARIETY MEANS 5 PC	451.5		

CORRELATIONS
 YIELD KG/HA
 LEAF RUST -0.08
 NET B 0-9 -0.16 -0.54

TABLE 5 AFRICA

TUNISIA

LE KEF

BOULIFA (N. W. OF TUNISIA)

CEREAL STAFF

LATITUDE	036 38'N	DATE PLANTED	11/15/84	NITROGEN	APPLIED
LONGITUDE	008 50'E	DATE HARVESTED	6/ 6/85	PHOSPHORUS	APPLIED
ELEVATION	+00350 M. ABOVE S. L.	AMOUNT OF MOISTURE	500 MM	POTASSIUM	--

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.
 NEGLIGIBLE DISEASE DEVELOPMENT NEGLIGIBLE INSECT DAMAGE. SERIOUS WEED PROBLEM.
 MODERATE BIRD DAMAGE. CHEMICAL CONTROL OF WEEDS. HAND WEEDING.
 WEATHER NORMAL. LOCAL CHECK: ROHO

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS
18	KORU	ENGLAND	4940	113
4	RUMOROSA	MEXICO	4870	103
5	GOLONDRINA"S"	CIMMYT	4820	103
23	ATHOS	FRANCE	4580	114
19	ROLAND	SWEDEN	4510	112
12	78W40785	CALIFORNIA	4450	105
9	ARUPO"S"	CIMMYT	4300	106
1	TROMPILLO	CIMMYT	4240	104
20	LIGNEE 640	FRANCE	4190	106
24	ANDRE	WASHINGTON	4180	112
6	GOLONDRINA"S"	CIMMYT	4110	105
25	LOCAL CHECK		3940	102
15	ABEE	ALBERTA-CA	3930	109
2	ALAMO"S"	CIMMYT ***	3781	99
3	SANGREGADO"S"	CIMMYT	3760	105
21	KYM	ENGLAND	3620	112
8	GOLONDRINA"S"	CIMMYT	3530	101
11	IBTA 80	BOLIVIA	3450	110
7	GOLONDRINA"S"	CIMMYT	3320	103
17	SAMSON	ALBERTA-CA	3120	111
10	ZAPATA	PERU	2990	105
16	EMPRESS	ALBERTA-CA	2840	107
13	ND5569	N DAKOTA	2800	104
14	ROBUST	MINNESOTA	2480	99
22	KARAN 18	INDIA	2060	106

GRAND MEAN	3792.4	106.2
STANDARD ERROR OF GRAND MEAN	66.3	
COEFFICIENT OF VARIATION AS PC	17.5	
LSD VARIETY MEANS 5 PC	934.2	

CORRELATIONS
 YIELD KG/HA HEAD DAYS 0.26

QWEBI

CEREAL STAFF

LATITUDE	017 41'S	DATE PLANTED	5/28/85	NITROGEN	APPLIED
LONGITUDE	030 52'E	DATE HARVESTED	--/--/--	PHOSPHORUS	APPLIED
ELEVATION	1448 M. ABOVE S. L.	AMOUNT OF MOISTURE	585 MM	POTASSIUM	APPLIED

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.
 NEGLIGIBLE DISEASE DEVELOPMENT. NEGLIGIBLE INSECT DAMAGE. SLIGHT WEED PROBLEM.
 SLIGHT BIRD DAMAGE. CHEMICAL CONTROL OF INSECTS. HAND WEEDING.
 WEATHER NORMAL. LOCAL CHECK: KYLE

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT	LDDG %
25	LOCAL CHECK		5738	90	138	86	0
9	ARUPO"S"	CIMMYT	4913	78	121	74	0
17	SAMSON	ALBERTA-CA	4888	95	133	103	0
5	GOLONDRINA"S"	CIMMYT ***	4263	80	127	94	30
20	LIGNEE 640	FRANCE	4238	79	129	108	28
21	KYM	ENGLAND	4163	95	136	101	75
1	TROMPILLO	CIMMYT	4150	80	128	113	13
3	SANREGADO"S"	CIMMYT	4125	78	125	100	5
22	KARAN 18	INDIA	3800	77	125	103	25
19	ROLAND	SMEDEN	3588	93	131	93	3
15	ABEE	ALBERTA-CA	3563	94	136	101	89
6	GOLONDRINA"S"	CIMMYT	3475	94	128	91	48
23	ATHOS	FRANCE	3475	94	132	105	19
12	78M40785	CALIFORNIA	3075	83	128	74	0
13	ND5569	N. DAKOTA	3050	80	127	123	21
24	ANDRE	WASHINGTON	3050	95	134	104	78
7	GOLONDRINA"S"	CIMMYT	3023	76	121	84	24
8	GOLONDRINA"S"	CIMMYT	2900	74	119	90	4
14	ROBUST	MINNESOTA	2763	78	126	116	25
16	EMPRESS	ALBERTA-CA	2475	88	130	115	84
2	ALAMO"S"	CIMMYT	2463	68	117	103	0
4	RUMROSA	MEXICO	2238	82	129	109	73
11	IBTA 80	BOLIVIA	2113	88	129	114	80
10	ZAPATA	PERU	1963	89	129	100	80
18	KORU	ENGLAND	1563	87	134	94	49
		GRAND MEAN	3401.9	84.5	128.4	99.8	34.0
		STANDARD ERROR OF GRAND MEAN	87.9			0.9	
		COEFFICIENT OF VARIATION AS PC	25.8			8.7	
		LSD VARIETY MEANS 5 PC	1239.6			12.2	

YIELD KG/HA		CORRELATIONS				
HEAD	DAYS	0.12				
MAT	DAYS	0.20	0.87			
PLNT	HT	-0.30	0.03	0.15		
LDDG	%	-0.49	0.47	0.44	0.38	

TABLE 7 ASIA

AFGHANISTAN

KUNDUZ

KUNDUZ RES. STATION

CEREAL STAFF

LATITUDE	036 50'N	DATE PLANTED	--/--/--	NITROGEN	--
LONGITUDE	068 55'E	DATE HARVESTED	--/--/--	PHOSPHORUS	--
ELEVATION	0403 M ABOVE S L	AMOUNT OF MOISTURE	-- MM	POTASSIUM	--

NORMAL SOWING DATE SOIL MOIST AT SOWING GERMINATION GOOD.
 NEGLIGIBLE DISEASE DEVELOPMENT NEGLIGIBLE INSECT DAMAGE. SLIGHT WEED PROBLEM.
 MODERATE BIRD DAMAGE. HAND WEEDING. WEATHER NORMAL.
 LOCAL CHECK BEECHER

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT	LODG %
9	ARUFO"S"	CIMMYT	3641	144	175	70	75
12	78W407B5	CALIFORNIA	3583	146	182	76	20
5	GOLONDRINA"S"	CIMMYT	3558	144	175	84	15
24	ANDRE	WASHINGTON	3458	152	182	95	45
22	KARAN 18	INDIA	3416	144	174	89	3
19	ROLAND	SWEDEN	3358	150	181	96	70
3	SANGREGADO"S"	CIMMYT	3166	145	176	93	48
23	ATHOS	FRANCE	3100	152	181	93	50
17	SAMSON	ALBERTA-CA	3066	148	182	91	38
18	KORU	ENGLAND	3000	153	182	89	88
21	KYM	ENGLAND	2941	152	181	95	80
11	IBTA 80	BOLIVIA	2900	149	179	103	100
7	GOLONDRINA"S"	CIMMYT	2875	144	174	94	78
1	TROMPILLO	CIMMYT	2750	145	175	93	50
20	LIGNEE 640	FRANCE	2725	146	178	96	68
8	GOLONDRINA"S"	CIMMYT	2708	144	174	95	85
25	LOCAL CHECK		2708	144	176	100	100
2	ALAMO"S"	CIMMYT	-	-	-	-	-
4	RUMOROSA	MEXICO	-	-	-	-	-
6	GOLONDRINA"S"	CIMMYT	-	-	-	-	-
10	ZAPATA	PERU	-	-	-	-	-
13	ND5569	N. DAKOTA	-	-	-	-	-
14	ROBUST	MINNESOTA	-	-	-	-	-
15	ABEE	ALBERTA-CA	-	-	-	-	-
16	EMPRESS	ALBERTA-CA	-	-	-	-	-
		GRAND MEAN	3114.9	146.9	177.9	91.2	59.4
		STANDARD ERROR OF GRAND MEAN	75.4			0.7	
		COEFFICIENT OF VARIATION AS PC	20.0			6.6	
		LSD VARIETY MEANS 5 PC	883.7			8.5	

CORRELATIONS						
YIELD	KG/HA					
HEAD	DAYS	0.01				
MAT	DAYS	0.16	0.83			
PLNT	HT	-0.72	0.26	0.07		
LODG	%	-0.62	0.19	0.02	0.45	

TABLE 8 ASIA

CHINA

BEIJING

CAAS STATION

CEREAL STAFF

LATITUDE 039 48'N

DATE PLANTED

3/ 8/85

NITROGEN

APPLIED

LONGITUDE 118 24

DATE HARVESTED

6/20/85

PHOSPHORUS

APPLIED

ELEVATION +00031 M. ABOVE S. L.

AMOUNT OF MOISTURE

-- MM

POTASSIUM

--

GERMINATION GOOD. NEGLIGIBLE DISEASE DEVELOPMENT. SERIOUS INSECT DAMAGE.

NO WEED PROBLEM. NEGLIGIBLE BIRD DAMAGE. CHEMICAL CONTROL OF INSECTS.

HAND WEEDING. LOCAL CHECK: MANKER.

WEATHER: HEAVY RAIN BEFORE MATURITY.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT	LODG %
20	LIGNEE 640	FRANCE	3618	48	82	83	100
2	ALAMO"S"	CIMMYT	3264	48	86	80	-
13	ND5569	N. DAKOTA	2763	53	85	98	100
12	78W40785	CALIFORNIA	2648	55	86	74	100
4	RUMOROSA	MEXICO	2643	52	86	90	-
25	LOCAL CHECK		2582	47	83	91	-
14	ROBUST	MINNESOTA	2499	51	85	87	100
18	KORU	ENGLAND	2459	62	86	81	100
22	KARAN 18	INDIA	2335	49	82	80	-
5	GOLONDRINA"S"	CIMMYT	2175	51	85	77	-
9	ARUPO"S"	CIMMYT	2080	42	75	58	-
16	EMPRESS	ALBERTA-CA	2067	57	86	97	100
3	BANOREGADO"S"	CIMMYT	1995	51	85	85	100
17	SAMSON	ALBERTA-CA	1743	62	86	82	100
1	TROMPILLO	CIMMYT	1721	54	82	87	-
8	GOLONDRINA"S"	CIMMYT	1685	50	85	66	-
19	ROLAND	SWEDEN	1654	60	86	82	100
6	GOLONDRINA"S"	CIMMYT	1644	56	86	76	-
23	ATHOS	FRANCE	1441	47	83	79	100
7	GOLONDRINA"S"	CIMMYT	1385	52	85	77	-
15	ABEE	ALBERTA-CA	1324	57	86	82	100
24	ANDRE	WASHINGTON	1259	59	87	81	-
10	ZAPATA	PERU ***	1228	56	86	96	-
21	KYM	ENGLAND	1107	61	82	73	-
11	IBTA 80	BOLIVIA	1039	62	86	90	100

GRAND MEAN 2014.4 53.7 84.5 82.1 100.0
 STANDARD ERROR OF GRAND MEAN
 COEFFICIENT OF VARIATION AS PC
 LSD VARIETY MEANS 5 PC

CORRELATIONS				
YIELD	KG/HA			
HEAD	DAYS	-0.48		
MAT	DAYS	-0.12	0.60	
PLNT	HT	0.11	0.28	0.49
LODG	%	-	-	-

TABLE 9 ASIA

CHINA

HEILONGJIANG

HEIHE AG. R. I.

CEREAL STAFF

LATITUDE 050 15'N

DATE PLANTED 4/15/85

NITROGEN APPLIED

LONGITUDE 127 27'E

DATE HARVESTED 7/27/85

PHOSPHORUS APPLIED

ELEVATION +00168 M. ABOVE S. L.

AMOUNT OF MOISTURE -- MM

POTASSIUM --

NORMAL SOWING DATE. SOIL MOIST AT SOWING GERMINATION GOOD.

MODERATE DISEASE INCIDENCE. NO WEED PROBLEM. HAND WEEDING.

RAINFALL IN GROWING SEASON THIS YEAR WAS 151 MM.

LOCAL CHECK: HARRY

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT	1000 G.W.	NET B 0-9	BYDV 0-9
21	KYM	ENGLAND	4028	67	97	67	46	-	1
19	ROLAND	SWEDEN	3824	66	100	64	43	1	2
6	COLONDRINA"S"	CIMMYT	3797	65	96	66	43	1	1
18	KORU	ENGLAND	3792	66	97	65	45	1	1
5	COLONDRINA"S"	CIMMYT	3704	63	97	62	45	1	1
15	ABEE	ALBERTA-CA	3616	65	96	73	43	1	1
7	COLONDRINA"S"	CIMMYT	3486	58	95	58	45	1	1
13	ND5569	N. DAKOTA	3389	65	100	82	26	1	2
23	ATHOS	FRANCE	3297	58	95	65	38	1	1
25	LOCAL CHECK		3287	67	98	70	48	1	1
11	IBTA 80	BOLIVIA	3278	63	95	77	46	2	4
17	SAMSON	ALBERTA-CA	3264	65	97	72	38	1	1
3	SANGREGADO"S"	CIMMYT	3232	63	97	65	43	2	2
8	COLONDRINA"S"	CIMMYT	3181	58	94	56	43	1	2
24	ANDRE	WASHINGTON	3162	65	95	71	39	1	1
16	EMPRESS	ALBERTA-CA	3135	65	97	80	36	1	2
9	ARUPD"S"	CIMMYT	3056	61	87	38	41	1	1
2	ALAMO"S"	CIMMYT	3028	58	93	67	39	2	1
20	LIGNEE 640	FRANCE	2903	58	94	58	41	3	4
14	ROBUST	MINNESOTA	2843	61	96	78	39	2	2
1	TROMPILLO	CIMMYT	2810	63	95	69	36	2	1
10	ZAPATA	PERU	2727	62	93	84	42	1	2
4	RUMOROSA	MEXICO ***	2528	64	96	75	45	2	1
12	78440785	CALIFORNIA	2528	64	96	49	47	2	2
22	KARAN 18	INDIA	2468	64	95	65	34	2	3
		GRAND MEAN	3214.5	63.0	95.6	67.1	41.1	1.4	1.6
		STANDARD ERROR OF GRAND MEAN	78.2						
		COEFFICIENT OF VARIATION AS PC	24.3						
		LSD VARIETY MEANS 5 PC	1102.4						

CORRELATIONS

YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT	1000 G.W.	NET B 0-9	BYDV 0-9
	0.31					
	0.39	0.57				
	-0.01	0.33	0.50			
	0.24	0.07	-0.08	-0.34		
	-0.57	-0.30	-0.14	-0.07	0.01	
	-0.33	-0.19	0.00	0.09	-0.11	0.40

TABLE 10 ASIA

PAKISTAN

BALUCHISTAN

SARIAB QUETTA A. R. I.
CEREAL STAFF

LATITUDE	30 11'N	DATE PLANTED	1/15/84	NITROGEN	APPLIED
LONGITUDE	66 57'E	DATE HARVESTED	7/ 6/85	PHOSPHORUS	APPLIED
ELEVATION	+01730 M. ABOVE S. L.	AMOUNT OF MOISTURE	-- MM	POTASSIUM	--

LATE SOWING DATE. SOIL MOIST AT SOWING. GERMINATION POOR.
 NEGLIGIBLE DISEASE DEVELOPMENT. NEGLIGIBLE INSECT DAMAGE. MODERATE WEED PROBLEM.
 MODERATE BIRD DAMAGE. HAND WEEDING. LOCAL CHECK: MARTIN
 WEATHER: WAS DRY & HOT. NO RAINFALL WAS RECORDED DURING THE SEASON.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT
20	LIGNEE 640	FRANCE	1000	102	122	41
24	ANDRE	WASHINGTON	861	95	116	42
19	ROLAND	SWEDEN	805	104	118	54
1	TROMPILLO	CIMMYT ***	750	100	125	52
15	ABEE	ALBERTA-CA	750	97	125	40
18	KORU	ENGLAND	722	105	120	45
25	LOCAL CHECK		722	98	120	45
8	GOLONDRINA"S"	CIMMYT	694	98	121	40
11	IBTA 80	BOLIVIA	694	100	119	51
13	ND5569	N. DAKOTA	694	98	120	62
14	EMPRESS	ALBERTA-CA	694	91	121	57
23	ATHOS	FRANCE	694	97	118	40
12	78M40785	CALIFORNIA	667	102	121	40
3	SANGREGADO"S"	CIMMYT	639	97	120	46
10	ZAPATA	PERU	639	97	117	35
4	RUMOROSA	MEXICO	611	80	118	50
6	GOLONDRINA"S"	CIMMYT	611	90	122	41
9	ARUPD"S"	CIMMYT	611	88	118	37
21	KYM	ENGLAND	611	95	121	45
22	KARAN 18	INDIA	611	98	118	46
5	GOLONDRINA"S"	CIMMYT	583	87	120	34
14	ROBUST	MINNESOTA	556	99	125	50
7	GOLONDRINA"S"	CIMMYT	528	95	120	47
2	ALAMO"S"	CIMMYT	472	85	123	48
17	SAMSON	ALBERTA-CA	444	90	123	42

GRAND MEAN	666.6	95.5	120.4	45.2
STANDARD ERROR OF GRAND MEAN	15.3			
COEFFICIENT OF VARIATION AS PC	23.0			
LSD VARIETY MEANS 5 PC	215.7			

CORRELATIONS

YIELD KG/HA				
HEAD DAYS	0.56			
MAT DAYS	-0.16	0.05		
PLNT HT	0.05	0.13	0.13	

TABLE 11 ASIA

PAKISTAN

PUNJAB-NIAB

N I A B. FAISALABAD
CEREAL STAFF

LATITUDE	031 30'N	DATE PLANTED	12/ 8/84	NITROGEN	APPLIED
LONGITUDE	073 10'E	DATE HARVESTED	4/23/85	PHOSPHORUS	APPLIED
ELEVATION	+00213 M. ABOVE S. L.	AMOUNT OF MOISTURE	230 MM	POTASSIUM	--

LATE SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
SLIGHT DISEASE INCIDENCE. MODERATE INSECT DAMAGE. SLIGHT WEED PROBLEM.
NEGLECTIBLE BIRD DAMAGE. HAND WEEDING. LOCAL CHECK NAME NOT REPORTED.
WEATHER: CROP SEASON REMAINED TOTALLY DRY.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT
24	ANDRE	WASHINGTON	2267	100	126	60
3	SANGREGADO"S"	CIMMYT	2093	94	123	63
18	KORU	ENGLAND	2074	101	127	63
21	KYM	ENGLAND	2035	100	126	60
15	ABEE	ALBERTA-CA	2016	102	126	65
12	7BW40785	CALIFORNIA	1996	98	126	46
20	LIGNEE 640	FRANCE	1996	102	129	64
25	LOCAL CHECK		1957	91	122	77
10	ZAPATA	PERU	1948	104	124	86
23	ATHOS	FRANCE ***	1841	103	127	60
9	ARUPO"S"	CIMMYT	1822	93	121	59
19	ROLAND	SWEDEN	1783	102	129	57
16	EMPRESS	ALBERTA-CA	1705	102	126	82
11	IBTA 80	BOLIVIA	1609	105	126	81
7	GOLONDRINA"S"	CIMMYT	1550	88	120	59
5	GOLONDRINA"S"	CIMMYT	1492	96	125	53
4	RUMOROSA	MEXICO	1357	97	124	71
1	TROMPILLO	CIMMYT	1347	97	123	66
17	SAWSON	ALBERTA-CA	1337	98	126	68
6	GOLONDRINA"S"	CIMMYT	1298	98	127	54
22	KARAN 18	INDIA	1279	93	121	61
2	ALAMO"S"	CIMMYT	1269	91	121	68
13	ND5549	N. DAKOTA	1124	98	126	78
8	GOLONDRINA"S"	CIMMYT	1009	87	120	54
14	ROBUST	MINNESOTA	1008	92	121	73
GRAND MEAN			1648.5	97.3	124.5	65.0
STANDARD ERROR OF GRAND MEAN			21.7			0.8
COEFFICIENT OF VARIATION AS PC			13.2			11.6
LSD VARIETY MEANS 5 PC			306.5			10.7

CORRELATIONS

YIELD	KG/HA			
HEAD	DAYS	0.48		
MAT	DAYS	0.44	0.85	
PLNT	HT	-0.09	0.27	-0.05

TABLE 12 ASIA

PAKISTAN

SIND

TANDOJAM

CEREAL STAFF

LATITUDE	025 02'N	DATE PLANTED	12/ 3/84	NITROGEN	APPLIED
LONGITUDE	063 38'E	DATE HARVESTED	4/16/85	PHOSPHORUS	APPLIED
ELEVATION	0019 M. ABOVE S. L.	AMOUNT OF MOISTURE	-- MM	POTASSIUM	--

LATE SOWING DATE. SOIL MOIST AT SOWING. GERMINATION POOR.
 NEGLIGIBLE DISEASE DEVELOPMENT. NEGLIGIBLE INSECT DAMAGE. SLIGHT WEED PROBLEM.
 NEGLIGIBLE BIRD DAMAGE. HAND WEEDING. LOCAL CHECK: T. J-70
 WEATHER REMAINED

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	PLNT HT
21	KYM	ENGLAND	1153	90	57
6	GOLONDRINA"S"	CIMMYT	1083	88	54
24	ANDRE	WASHINGTON	868	88	59
8	GOLONDRINA"S"	CIMMYT	840	76	53
7	GOLONDRINA"S"	CIMMYT	785	82	46
4	RUMOROSA	MEXICO	771	84	63
13	ND5569	N. DAKOTA	764	79	75
25	LOCAL CHECK		797	81	50
23	ATHOS	FRANCE	695	92	53
16	EMPRESS	ALBERTA-CA	653	91	58
14	ROBUST	MINNESOTA	639	76	67
5	GOLONDRINA"S"	CIMMYT	542	87	45
19	ROLAND	SWEDEN	542	90	66
22	KARAN 18	INDIA ***	514	79	57
17	SAMSON	ALBERTA-CA	472	88	63
9	ARUPO"S"	CIMMYT	413	89	44
18	KORU	ENGLAND	410	89	52
20	LIGNEE 640	FRANCE	396	89	54
2	ALAMO"S"	CIMMYT	382	78	55
3	SANREGADO"S"	CIMMYT	375	87	43
12	78W40785	CALIFORNIA	306	88	42
11	IBTA 80	BOLIVIA	299	97	63
1	TROMPILLO	CIMMYT	292	86	53
15	ABEE	ALBERTA-CA	271	91	52
10	ZAPATA	PERU	222	95	64

GRAND MEAN	577.7	86.3	55.4
STANDARD ERROR OF GRAND MEAN	36.9		1.2
COEFFICIENT OF VARIATION AS PC	63.9		21.8
LSD VARIETY MEANS 5 PC	520.6		17.0

CORRELATIONS

YIELD KG/HA		
HEAD DAYS	-0.29	
PLNT HT	0.16	-0.07

WHEAT & BARLEY RES. INST.
CEREAL STAFF

LATITUDE 036 17'N DATE PLANTED 3/13/85 NITROGEN APPLIED
LONGITUDE 126 59'E DATE HARVESTED 6/26/85 PHOSPHORUS APPLIED
ELEVATION +00039 M. ABOVE S. L. AMOUNT OF MOISTURE 335 MM POTASSIUM APPLIED

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

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	HEAD DAYS	PLNT HT	POW M 0-9
2	ALAMO"S"	CIMMYT	5920	65	69	79	5
11	IBTA 80	BOLIVIA	4984	62	78	109	4
5	GOLONDRINA"S"	CIMMYT	4939	68	72	74	3
15	ABEE	ALBERTA-CA	4840	64	81	79	4
7	GOLONDRINA"S"	CIMMYT	4811	68	72	80	3
6	GOLONDRINA"S"	CIMMYT	4766	66	76	77	4
10	ZAPATA	PERU ***	4672	63	78	101	3
18	KORU	ENGLAND	4396	65	82	77	3
1	TROMPILLO	CIMMYT	4364	62	75	75	7
3	SANGREGADO"S"	CIMMYT	4296	68	72	83	6
8	GOLONDRINA"S"	CIMMYT	4110	68	70	77	5
19	ROLAND	SWEDEN	4042	64	82	79	3
13	ND5569	N DAKOTA	3979	63	76	85	5
14	ROBUST	MINNESOTA	3920	66	72	82	5
21	KYM	ENGLAND	3893	64	83	74	4
4	RUMOROSA	MEXICO	3836	61	76	88	5
20	LIGNEE 640	FRANCE	3808	65	71	79	4
24	ANDRE	WASHINGTON	3749	66	79	75	4
9	ARUPO"S"	CIMMYT	3668	70	67	54	5
17	SAMSON	ALBERTA-CA	3525	62	79	82	5
16	EMPRESS	ALBERTA-CA	3282	62	80	89	5
22	KARAN 18	INDIA	3263	75	74	69	5
23	ATHOS	FRANCE	3250	67	84	68	3
12	78W4C785	CALIFORNIA	3212	61	76	62	5
25	LOCAL CHECK		2680	70	72	71	6

GRAND MEAN 4088.2 65.4 75.7 78.6 4.2
STANDARD ERROR OF GRAND MEAN 72.6 0.2 0.6
COEFFICIENT OF VARIATION AS PC 17.8 2.9 7.7
LSD VARIETY MEANS 5 PC 1023.2 2.7 8.6

CORRELATIONS

YIELD KG/HA
TEST WT -0.17
HEAD DAYS -0.16 -0.46
PLNT HT 0.40 -0.49 0.24
POW M 0-9 -0.27 0.01 -0.41 -0.15

TABLE 14 ASIA

TAIWAN

TAICHUNG

TAICHUNG DISTRICT AGRIC. IMPROVEMENT STATION

CEREAL STAFF

LATITUDE	026 57'N	DATE PLANTED	11/15/84	NITROGEN	APPLIED
LONGITUDE	120 32'E	DATE HARVESTED	3/25/85	PHOSPHORUS	APPLIED
ELEVATION	+00015 M. ABOVE S. L.	AMOUNT OF MOISTURE	296 MM	POTASSIUM	APPLIED

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
 NEGLIGIBLE DISEASE DEVELOPMENT. SLIGHT INSECT DAMAGE. MODERATE WEED PROBLEM.
 SLIGHT BIRD DAMAGE. CHEMICAL CONTROL OF INSECTS. HAND WEEDING.
 WEATHER NORMAL. LOCAL CHECK: CHUNG-HSING NO. 2

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	HEAD DAYS	MAT DAYS	PLNT HT	LODG %
2	ALAMO"S"	CIMMYT	2882	61	75	129	94	3
14	ROBUST	MINNESOTA	2540	71	70	132	105	10
1	TROMPILLO	CIMMYT	2471	69	73	129	93	9
13	ND5569	N. DAKOTA	2362	72	73	134	100	13
25	LOCAL CHECK	***	2034	76	73	129	99	48
3	SANREGADO"S"	CIMMYT	1961	72	72	130	93	18
24	ANDRE	WASHINGTON	1905	80	79	133	94	19
16	EMPRESS	ALBERTA-CA	1787	75	84	136	107	18
12	78M40785	CALIFORNIA	1697	66	78	136	74	3
7	GOLONDRINA"S"	CIMMYT	1612	74	73	131	82	33
5	GOLONDRINA"S"	CIMMYT	1558	77	78	129	91	25
4	RUMOROSA	MEXICO	1514	66	75	132	99	15
8	GOLONDRINA"S"	CIMMYT	1404	73	70	129	88	68
22	KARAN 18	INDIA	1348	91	72	134	87	0
17	SAHSON	ALBERTA-CA	1332	74	85	139	86	5
9	ARUPO"S"	CIMMYT	1291	74	85	132	67	31
20	LIGNEE 640	FRANCE	1209	79	85	135	90	6
15	ABEE	ALBERTA-CA	1132	80	80	130	91	15
18	KORU	ENGLAND	1100	83	84	135	85	16
19	ROLAND	SWEDEN	1003	77	84	131	84	9
21	KYM	ENGLAND	994	82	87	133	84	9
6	GOLONDRINA"S"	CIMMYT	854	82	87	134	83	15
23	ATHOS	FRANCE	848	81	90	132	84	20
11	IBTA 80	BOLIVIA	585	74	91	137	91	0
10	ZAPATA	PERU	535	73	92	139	97	10
GRAND MEAN			1518.2	75.1	79.6	132.6	90.0	16.5
STANDARD ERROR OF GRAND MEAN			42.9	0.3			0.4	
COEFFICIENT OF VARIATION AS PC			28.2	4.4			5.0	
LSD VARIETY MEANS 5 PC			604.5	4.6			6.3	

CORRELATIONS

YIELD KG/HA	TEST WT	HEAD DAYS	MAT DAYS	PLNT HT	LODG %
		-0.54			
		-0.77	0.30		
		-0.46	0.15	0.60	
		0.42	-0.20	-0.29	-0.04
		0.05	0.00	-0.33	-0.49

TABLE 15 EUROPE

GREECE

THESSALONIKI

CEREAL INST. - AGIOS MAMAS

CEREAL STAFF

LATITUDE	040 14'N	DATE PLANTED	12/12/84	NITROGEN	APPLIED
LONGITUDE	023 20'E	DATE HARVESTED	6/ 8/85	PHOSPHORUS	APPLIED
ELEVATION	+00014 M. ABOVE S. L.	AMOUNT OF MOISTURE	119 MM	POTASSIUM	---

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
 NEGLIGIBLE DISEASE DEVELOPMENT. NEGLIGIBLE INSECT DAMAGE. SLIGHT WEED PROBLEM.
 NEGLIGIBLE BIRD DAMAGE. CHEMICAL CONTROL OF WEEDS. LOCAL CHECK: GEORCIE
 WEATHER: VERY DRY DURING ALL THE GROWING SEASON.

VAR ND.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	STEM RUST	PLNT HT	POW M 0-9
9	ARUPO"S"	CIMMYT	6846	127	15MR	51	4
25	LOCAL CHECK		6365	130	25MR	73	4
5	GOLONDRINA"S"	CIMMYT	5884	128	20MR	62	3
12	78W40785	CALIFORNIA	5865	130	15MR	60	4
2	ALAMO"S"	CIMMYT	5577	124	15MR	76	4
4	RUMOROSA	MEXICO	5307	128	15MR	73	4
6	GOLONDRINA"S"	CIMMYT	4827	129	15MR	58	4
19	ROLAND	SWEDEN	4788	133	20MR	61	3
8	GOLONDRINA"S"	CIMMYT ***	4711	125	20MR	63	3
23	ATHOS	FRANCE	4615	138	20MR	61	3
18	KORU	ENGLAND	4423	134	20MR	54	5
11	ISTA 80	BOLIVIA	4269	134	15MR	75	3
15	ABEE	ALBERTA-CA	4019	135	15MR	63	4
10	ZAPATA	PERU	3961	131	10MR	85	3
7	GOLONDRINA"S"	CIMMYT	3827	127	20MR	60	4
1	TROMPILLO	CIMMYT	3750	131	25MR	70	5
20	LIONEE 640	FRANCE	3442	129	25MR	71	3
21	KYM	ENGLAND	3384	138	20MR	53	3
24	ANDRE	WASHINGTON	3192	135	20MR	55	4
17	SAMSON	ALBERTA-CA	2904	134	20MR	68	4
3	SANGREGADO"S"	CIMMYT	2692	131	15MR	61	5
14	ROBUST	MINNESOTA	2519	124	25MR	74	5
22	KARAN 18	INDIA	2231	130	15MR	64	5
16	EMPRESS	ALBERTA-CA	2038	135	25MR	75	4
13	ND5569	N. DAKOTA	1788	133	20MR	80	4
		GRAND MEAN	4129.1	130.7	8.2	65.7	3.7
		STANDARD ERROR OF GRAND MEAN	128.9			0.7	
		COEFFICIENT OF VARIATION AS PC	31.1			10.8	
		LSD VARIETY MEANS 5 FC	1808.0			10.0	

CORRELATIONS

YIELD	KG/HA				
HEAD	DAYS	-0.33			
STEM	RUST	-0.15	-0.12		
PLNT	HT	-0.26	-0.18	0.02	
POW	M 0-9	-0.34	-0.21	0.31	-0.07

TABLE 16 EUROPE

ITALY

MARCHE

ENEA & ITA
CEREAL STAFF

LATITUDE 043 15'N
LONGITUDE 013 30'E
ELEVATION +00229 M. ABOVE S. L.

DATE PLANTED 12/13/84
DATE HARVESTED 7/10/85
AMOUNT OF MOISTURE 460 MM

NITROGEN APPLIED
PHOSPHORUS APPLIED
POTASSIUM --

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
MODERATE DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE. NO WEED PROBLEM.
NEGLIGIBLE BIRD DAMAGE. CHEMICAL CONTROL OF WEEDS. LOCAL CHECK. BARBEROUSSE
TEMPERATURE BELOW ZERO IN JANUARY & FEBRUARY. DROUGHT AFTER FLOWERING.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	HEAD DAYS	MAT DAYS	PLNT HT	LODG %	POW M 0-9	M SCLD 0-9
19	ROLAND	SWEDEN	6352	67	156	190	97	0	4	1
25	LOCAL CHECK	***	5200	63	148	186	99	11	6	0
20	LIONEE 640	FRANCE	5127	64	149	183	103	19	6	0
21	KYM	ENGLAND	5033	65	156	188	103	13	4	1
7	GOLONDRINA"S"	CIMMYT	5005	64	148	181	91	6	5	0
15	ABEE	ALBERTA-CA	4801	64	155	187	98	18	5	0
5	GOLONDRINA"S"	CIMMYT	4691	65	147	182	94	0	7	0
18	KORU	ENGLAND	4671	65	156	189	101	8	4	0
6	GOLONDRINA"S"	CIMMYT	4580	65	150	183	96	13	5	1
23	ATHOS	FRANCE	4277	65	157	187	104	0	4	1
10	ZAPATA	PERU	4272	60	150	181	114	75	5	1
2	ALAND"S"	CIMMYT	4194	60	136	181	94	0	7	1
1	TROMPILLO	CIMMYT	4139	62	148	184	101	6	7	0
4	RUMOROSA	MEXICO	4100	61	147	182	106	20	5	0
8	GOLONDRINA"S"	CIMMYT	3882	65	143	181	94	6	5	0
24	ANDRE	WASHINGTON	3720	66	157	188	101	6	6	0
11	IBTA 80	BOLIVIA	3657	61	150	181	107	18	4	0
9	ARUPD"S"	CIMMYT	3602	60	145	180	74	25	6	0
3	SANOREGADO"S"	CIMMYT	3602	64	150	182	86	13	7	0
16	EMPRESS	ALBERTA-CA	3562	59	156	187	117	33	5	1
17	SAMSON	ALBERTA-CA	3487	56	154	190	98	0	6	0
12	7BW407B5	CALIFORNIA	3133	61	153	191	75	0	6	0
14	ROBUST	MINNESOTA	3120	63	139	185	114	0	7	1
22	KARAN 18	INDIA	3060	69	150	182	89	0	5	0
13	ND5569	N. DAKOTA	2872	63	149	185	117	20	5	1

GRAND MEAN 4165.7 63.1 149.9 184.5 98.8 12.3 5.3 0.3
STANDARD ERROR OF GRAND MEAN 48.3 0.1 0.6
COEFFICIENT OF VARIATION AS PC 11.6 1.6 5.7
LSD VARIETY MEANS 5 PC 681.2 1.4 7.9

CORRELATIONS

YIELD #G/HA	TEST WT	HEAD DAYS	MAT DAYS	PLNT HT	LODG %	POW M 0-9	M SCLD 0-9
	0.32						
	0.22	0.19					
	0.13	0.02	0.68				
	-0.01	-0.12	0.10	0.08			
	-0.02	-0.35	0.07	-0.31	0.39		
	-0.27	-0.25	-0.53	-0.21	-0.25	-0.18	
	0.10	-0.03	-0.01	0.18	0.68	0.30	-0.26

TABLE 17 EUROPE

NORWAY

VOLLE BEKK

CEREAL STAFF

LATITUDE	059 40'N	DATE PLANTED	5/ 8/85	NITROGEN	APPLIED
LONGITUDE	010 47'E	DATE HARVESTED	--/--/--	PHOSPHORUS	APPLIED
ELEVATION	+00090 M. ABOVE S. L.	AMOUNT OF MOISTURE	300 MM	POTASSIUM	APPLIED

NORMAL SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
 MODERATE DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE. NO WEED PROBLEM.
 NEGLIGIBLE BIRD DAMAGE. CHEMICAL CONTROL OF WEEDS. LOCAL CHECK: PERNILLA
 WEATHER: MORE RAIN THAN NORMAL

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	HEAD DAYS	MAT DAYS	POW M 0-9
19	ROLAND	SWEDEN	5338	71	56	99	2
23	ATHOS	FRANCE	5265	68	58	98	1
14	ROBUST	MINNESOTA	5120	66	54	99	8
20	LIGNEE 640	FRANCE	5093	60	53	99	8
13	ND5569	N. DAKOTA	5023	63	52	99	7
1	TROMPILLO	CIMMYT	5015	59	52	99	8
4	RUMOROGA	MEXICO	4903	57	53	98	6
16	ENPRESS	ALBERTA-CA	4828	63	55	99	5
15	ABEE	ALBERTA-CA	4778	68	56	99	4
2	ALAND"S"	CIMMYT	4760	59	48	99	7
21	KYM	ENGLAND	4713	66	56	97	2
25	LOCAL CHECK		4698	69	57	99	5
17	SAMSON	ALBERTA-CA	4550	62	57	99	8
18	KORU	ENGLAND	4315	66	56	98	2
12	78440785	CALIFORNIA	4280	60	52	100	7
24	ANDRE	WASHINGTON ***	4158	66	56	97	7
5	COLONDRINA"S"	CIMMYT	4125	66	50	98	3
6	COLONDRINA"S"	CIMMYT	3883	66	54	98	3
3	SANGREGADO"S"	CIMMYT	3880	66	51	98	8
11	IBTA 80	BOLIVIA	3695	61	52	97	5
22	KARAN 18	INDIA	3593	74	52	98	7
7	COLONDRINA"S"	CIMMYT	3335	60	50	97	1
10	ZAPATA	PERU	3253	62	50	97	6
9	ARUPO"S"	CIMMYT	3203	64	46	96	6
8	COLONDRINA"S"	CIMMYT	2710	62	49	96	0
GRAND MEAN			4340.3	64.2	52.9	98.0	4.9
STANDARD ERROR OF GRAND MEAN			66.3				
COEFFICIENT OF VARIATION AS PC			15.3				
LSD VARIETY MEANS 5 PC			934.2				

CORRELATIONS

YIELD KG/HA	TEST WT	HEAD DAYS	MAT DAYS	POW M 0-9
	0.06			
	0.60	0.42		
	0.74	0.00	0.39	
	0.21	-0.24	-0.14	0.43

TABLE 18 EUROPE PORTUGAL ELVAS

PBS ALENTEJO
 CEREAL STAFF
 LATITUDE 038 54'N DATE PLANTED 11/23/84 NITROGEN APPLIED
 LONGITUDE 007 09'W DATE HARVESTED 6/27/85 PHOSPHORUS APPLIED
 ELEVATION 0208 M ABOVE S. L. AMOUNT OF MOISTURE 467 MM POTASSIUM APPLIED

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.
 MODERATE DISEASE INCIDENCE. SLIGHT INSECT DAMAGE. MODERATE WEED PROBLEM.
 SERIOUS BIRD DAMAGE. CHEMICAL CONTROL OF WEEDS. LOCAL CHECK. TAQIDE
 RAINFALL WAS HIGHER THAN NORMAL DURING WINTER & SPRING BUT MARCH WAS DRY.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT	LOD9 %	1000 G.W.
18	KORU	ENGLAND	6394	137	187	86	0	53
20	LIGNEE 640	FRANCE	5956	136	188	84	0	45
19	ROLAND	SWEDEN	5909	133	187	85	0	47
15	ABEE	ALBERTA-CA	5448	135	187	77	3	49
21	KYM	ENGLAND	5429	138	186	74	3	46
25	LOCAL CHECK		5186	136	184	86	0	45
23	ATHOS	FRANCE ***	4982	136	187	83	0	42
24	ANDRE	WASHINGTON	4964	132	185	82	18	42
9	ARUPO"S"	CIMMYT	4739	132	185	59	0	52
6	GOLONDRINA"S"	CIMMYT	4558	130	188	67	13	50
17	SAMSON	ALBERTA-CA	4497	130	187	82	3	44
16	EMPRESS	ALBERTA-CA	4074	134	185	96	18	45
5	GOLONDRINA"S"	CIMMYT	3996	125	188	66	13	51
1	TROMPILLO	CIMMYT	3861	130	187	73	8	43
3	SANREGADO"S"	CIMMYT	3799	126	185	74	13	46
12	78W40785	CALIFORNIA	3707	130	186	61	3	50
22	KARAN 18	INDIA	3479	126	184	77	0	37
4	RUMOROSA	MEXICO	3459	126	184	82	10	46
10	ZAPATA	PERU	3458	133	188	96	75	46
7	GOLONDRINA"S"	CIMMYT	3168	125	184	73	3	48
11	IBTA 80	BOLIVIA	3114	135	186	93	58	53
8	GOLONDRINA"S"	CIMMYT	2679	122	187	74	18	49
2	ALAMO"S"	CIMMYT	2442	119	186	76	8	52
13	ND5569	N. DAKOTA	2221	126	184	89	15	41
14	ROBUST	MINNESOTA	1286	117	185	88	8	39

GRAND MEAN 4112.1 129.8 185.8 79.2 11.3 46.4
 STANDARD ERROR OF GRAND MEAN 76.9 0.5
 COEFFICIENT OF VARIATION AS PC 18.7 6.6
 LSD VARIETY MEANS 5 PC 1084.3 7.4

CORRELATIONS

YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT	LOD9 %	1000 G.W.
0.82					
0.37	0.27				
-0.06	0.22	-0.08			
-0.34	0.04	0.20	0.46		
0.21	0.15	0.37	-0.34	0.15	

AGRIC. RES. INST.

CEREAL STAFF

LATITUDE 35 04' N

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

NITROGEN ---

LONGITUDE 33 20' E

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

PHOSPHORUS ---

ELEVATION 150 M. ABOVE S L

AMOUNT OF MOISTURE 283 MM

POTASSIUM ---

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

MODERATE DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE. NO WEED PROBLEM.

NEGLIGIBLE BIRD DAMAGE. CHEMICAL CONTROL OF WEEDS. LOCAL CHECK NAME NOT REPORTED

WEATHER NORMAL.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	LEAF RUST	PLNT HT	POW M 0-9	NET B 0-9	SPT B 0-9	SCLD 0-9	
20	LIGNEE 640	FRANCE	5186	10MR	83	3	6	7	4	
23	ATHOS	FRANCE	4730	15MS	85	3	5	7	1	
25	LOCAL CHECK		4422	TMR	80	2	6	7	5	
5	COLONDRINA"S"	CIMMYT	4371	15MS	75	3	6	7	1	
2	ALAMO"S"	CIMMYT	4211	50S	93	3	6	4	1	
22	KARAN 18	INDIA ***	4002	30S	88	3	6	7	4	
9	ARUPD"S"	CIMMYT	3989	20MS	68	3	6	7	1	
21	KYM	ENGLAND	3715	25MS	80	3	6	7	3	
15	ABEE	ALBERTA-CA	3710	30MS	83	3	7	7	5	
13	ND5569	N. DAKOTA	3628	20MS	105	4	6	7	5	
4	RUMOROSA	MEXICO	3597	35MS	83	4	6	7	5	
19	ROLAND	SWEDEN	3501	25MS	70	3	6	7	5	
1	TROMPILLO	CIMMYT	3481	40S	95	4	6	7	3	
8	COLONDRINA"S"	CIMMYT	3310	25MS	73	3	6	7	5	
24	ANDRE	WASHINGTON	3207	30S	80	3	6	7	5	
12	78N40785	CALIFORNIA	3204	25S	65	3	1	6	5	
7	COLONDRINA"S"	CIMMYT	3143	20MS	68	3	6	7	5	
3	SANGREGADO"S"	CIMMYT	3113	40S	75	5	6	7	6	
6	COLONDRINA"S"	CIMMYT	2981	15MS	70	3	6	7	5	
17	SAMSON	ALBERTA-CA	2847	45S	80	3	5	7	1	
18	KORU	ENGLAND	2799	10MS	78	3	7	7	4	
14	ROBUST	MINNESOTA	2495	15MS	93	4	7	7	5	
16	EMPRESS	ALBERTA-CA	2424	60S	105	4	6	7	1	
10	ZAPATA	PERU	1832	60S	103	3	6	7	4	
11	IBTA 80	BOLIVIA	1271	45S	93	3	6	7	2	
		GRAND MEAN	3406.7		25.4	82.6	3.2	5.8	6.8	3.5
		STANDARD ERROR OF GRAND MEAN	69.7							
		COEFFICIENT OF VARIATION AS PC	17.7							
		LSD VARIETY MEANS 5 PC	991.6							

CORRELATIONS

YIELD KG/HA	LEAF RUST	PLNT HT	POW M 0-9	NET B 0-9	SPT B 0-9	SCLD 0-9
	-0.58					
	-0.26	0.52				
	-0.23	0.30	0.31			
	-0.04	-0.08	0.31	0.12		
	-0.15	-0.24	-0.06	0.09	0.23	
	-0.10	-0.31	-0.24	0.17	0.04	0.23

KARAJ

CEREAL STAFF

LATITUDE	035 50'N	DATE PLANTED	--/--/--	NITROGEN	--
LONGITUDE	050 58'E	DATE HARVESTED	--/--/--	PHOSPHORUS	--
ELEVATION	1321 M. ABOVE S. L.	AMOUNT OF MOISTURE	-- MM	POTASSIUM	--

GERMINATION POOR. NEGLIGIBLE DISEASE DEVELOPMENT. NEGLIGIBLE INSECT DAMAGE.
 NO WEED PROBLEM. NEGLIGIBLE BIRD DAMAGE. WEATHER NOT REPORTED.
 LOCAL CHECK NAME NOT REPORTED.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT
25	LOCAL CHECK		5624	90	134	56
15	ABEE	ALBERTA-CA	5199	94	135	50
20	LIGNEE 640	FRANCE	5083	92	131	55
18	KORU	ENGLAND	4791	94	135	55
5	GOLONDRINA"S"	CIMMYT	4475	90	132	52
3	SANGREGADO"S"	CIMMYT	4458	92	132	60
12	78W40785	CALIFORNIA	4408	92	134	50
1	TROMPILLO	CIMMYT	4125	90	132	60
23	ATHOS	FRANCE	4058	94	133	60
6	GOLONDRINA"S"	CIMMYT	4041	92	132	55
10	ZAPATA	PERU	3975	92	133	70
7	GOLONDRINA"S"	CIMMYT	3850	90	132	60
13	ND5569	N. DAKOTA ***	3791	90	134	65
4	RUMDROSA	MEXICO	3625	92	134	65
16	EMPRESS	ALBERTA-CA	3550	92	138	60
8	GOLONDRINA"S"	CIMMYT	3466	89	134	55
9	ARUPO"S"	CIMMYT	3275	88	132	40
21	KYN	ENGLAND	3058	94	136	60
24	ANDRE	WASHINGTON	3000	94	135	58
19	ROLAND	SWEDEN	2941	94	131	55
2	ALAMO"S"	CIMMYT	2875	88	134	55
22	KARAN 18	INDIA	2533	92	134	50
11	IBTA 80	BOLIVIA	2325	92	133	70
17	SAMSON	ALBERTA-CA	2316	92	138	50
14	ROBUST	MINNESOTA	2000	88	135	60

GRAND MEAN	3713.6	91.5	133.7	57.0
STANDARD ERROR OF GRAND MEAN	105.9			
COEFFICIENT OF VARIATION AS PC	28.5			
LSD VARIETY MEANS 5 PC	1492.8			

CORRELATIONS

YIELD KG/HA				
HEAD DAYS	0.17			
MAT DAYS	-0.29	0.16		
PLNT HT	-0.10	0.15	-0.01	

TABLE 21 MIDDLE EAST GATAR BARADA

RAWDAT HARMA
 CEREAL STAFF
 LATITUDE 25 48'N DATE PLANTED 11/12/84 NITROGEN APPLIED
 LONGITUDE 51 18'E DATE HARVESTED 3/16/85 PHOSPHORUS APPLIED
 ELEVATION 50 M. ABOVE S. L. AMOUNT OF MOISTURE 500 MM POTASSIUM --

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.
 MODERATE DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE. MODERATE WEED PROBLEM.
 NEGLIGIBLE BIRD DAMAGE. LOCAL CHECK: HARMA BARLEY
 WEATHER: DRY SEASON (NO RAIN AT ALL)

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT	LODG %	NET B 0-9
12	78N40785	CALIFORNIA	6350	75	113	76	0	3
18	KORU	ENGLAND	6200	79	113	94	3	2
3	SANREGADO"S"	CIMMYT	5300	69	105	81	5	5
2	ALAMO"S"	CIMMYT	5150	65	106	96	5	3
9	ARUPD"S"	CIMMYT	5150	79	110	86	3	5
23	ATHOS	FRANCE	5150	83	115	89	1	2
21	KYM	ENGLAND	5100	81	116	84	4	3
24	ANDRE	WASHINGTON ***	4930	78	112	89	4	4
5	QOLONDRINA"S"	CIMMYT	4850	78	112	90	0	2
20	LIGNEE 640	FRANCE	4800	82	118	93	0	3
7	QOLONDRINA"S"	CIMMYT	4550	71	107	85	1	2
15	ABEE	ALBERTA-CA	4650	80	114	99	3	2
19	ROLAND	SWEDEN	4600	80	115	91	1	4
6	QOLONDRINA"S"	CIMMYT	4550	85	119	84	0	2
29	LOCAL CHECK		4550	66	103	103	3	3
4	RUMOROSA	MEXICO	4450	71	107	99	23	5
1	TROMPILLO	CIMMYT	4200	70	109	93	18	4
17	SANSON	ALBERTA-CA	3950	77	113	84	1	2
8	QOLONDRINA"S"	CIMMYT	3850	67	104	91	5	3
16	EMPRESS	ALBERTA-CA	3850	81	115	99	6	5
22	KARAN 18	INDIA	3850	64	101	83	11	4
11	IBTA 80	BOLIVIA	3400	79	117	95	15	2
10	ZAPATA	PERU	3130	85	117	86	8	3
13	ND5569	N. DAKOTA	2870	73	111	99	8	3
14	ROBUST	MINNESOTA	2750	68	109	103	11	2
GRAND MEAN			4491.2	75.3	111.1	90.8	5.4	3.0
STANDARD ERROR OF GRAND MEAN			82.5			0.3		
COEFFICIENT OF VARIATION AS PC			18.4			2.8		
LSD VARIETY MEANS 5 PC			1163.5			3.6		

CORRELATIONS

YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT	LODG %	NET B 0-9
0.13					
0.04	0.95				
-0.43	-0.20	-0.10			
-0.47	-0.37	-0.29	0.39		
0.07	-0.21	-0.34	-0.05	0.39	

TABLE 22 MIDDLE EAST

SAUDI ARABIA

RIYADH

DIRAB RESEARCH CTR.

CEREAL STAFF

LATITUDE	000 00'N	DATE PLANTED	12/15/84	NITROGEN	APPLIED
LONGITUDE	047 08'E	DATE HARVESTED	--/--/--	PHOSPHORUS	APPLIED
ELEVATION	+00635 M. ABOVE S. L.	AMOUNT OF MOISTURE	60 MM	POTASSIUM	--

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.
 MODERATE DISEASE INCIDENCE. NEGLIGIBLE INSECT DAMAGE. SERIOUS WEED PROBLEM.
 NEGLIGIBLE BIRD DAMAGE. HAND WEEDING. WEATHER NORMAL.
 LOCAL CHECK: V10 IRAQ

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT
1	TROMPILLO	CIMMYT	4492	93	117	93
24	ANDRE	WASHINGTON	4308	100	128	91
4	RUMOROSA	MEXICO	3941	94	118	98
9	ARUPD"S"	CIMMYT	3624	99	118	84
5	COLONDRINA"S"	CIMMYT	3536	97	123	83
15	ABEE	ALBERTA-CA	3420	102	129	95
2	ALAMO"S"	CIMMYT	3284	98	116	91
11	IBTA 80	BOLIVIA	3119	104	130	104
3	SANGREGADO"S"	CIMMYT	3036	95	117	80
23	ATHOS	FRANCE	2975	103	133	89
17	SAMSON	ALBERTA-CA	2957	104	130	95
7	COLONDRINA"S"	CIMMYT	2798	93	115	84
10	ZAPATA	PERU	2765	102	123	98
19	ROLAND	SWEDEN	2762	103	130	93
20	LIGNEE 640	FRANCE	2509	105	130	84
25	LOCAL CHECK		2499	95	118	101
16	EMPRESS	ALBERTA-CA ***	2341	106	131	98
18	KORU	ENGLAND	2336	104	131	78
6	COLONDRINA"S"	CIMMYT	1938	100	125	63
14	ROBUST	MINNESOTA	1936	94	116	93
12	78M40785	CALIFORNIA	1898	100	121	70
22	KARAN 18	INDIA	1847	95	119	85
8	COLONDRINA"S"	CIMMYT	1816	92	114	79
13	ND3569	N. DAKOTA	1811	102	126	83
21	KYM	ENGLAND	1791	106	124	73
		GRAND MEAN	2789.6	99.4	123.2	87.2
		STANDARD ERROR OF GRAND MEAN	119.9			1.2
		COEFFICIENT OF VARIATION AS PC	43.0			14.1
		LSD VARIETY MEANS 5 PC	1690.3			17.3

CORRELATIONS

YIELD KG/HA				
HEAD DAYS	-0.17			
MAT DAYS	-0.01	0.90		
PLNT HT	0.47	0.04	0.13	

TABLE 23 MIDDLE EAST

SYRIA

DERRA MOUHAPHAZA

IZRAA A. R. S.

CEREAL STAFF

LATITUDE	032 51'N	DATE PLANTED	---/---/---	NITROGEN	---
LONGITUDE	036 15'E	DATE HARVESTED	---/---/---	PHOSPHORUS	---
ELEVATION	0575 M. ABOVE S. L.	AMOUNT OF MOISTURE	252 MM	POTASSIUM	---

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.
 NEGLIGIBLE DISEASE DEVELOPMENT. NEGLIGIBLE INSECT DAMAGE. SLIGHT WEED PROBLEM.
 SLIGHT BIRD DAMAGE. HAND WEEDING. LOCAL CHECK: ARABIC WHITE
 WEATHER WAS DRY FROM APRIL ON.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT
20	LIGNEE 640	FRANCE	5651	128	167	87
9	ARUPD"S"	CIMMYT	5438	126	162	58
21	KYM	ENGLAND	5331	129	166	84
23	ATHOS	FRANCE	5222	132	167	79
12	78N407B5	CALIFORNIA	5153	123	168	74
18	KORU	ENGLAND	5004	131	168	82
15	ABEE	ALBERTA-CA	4914	127	167	84
24	ANDRE	WASHINGTON ***	4666	129	169	81
8	COLONDRINA"S"	CIMMYT	4580	120	164	74
6	COLONDRINA"S"	CIMMYT	4415	126	167	76
11	IBTA 80	BOLIVIA	4359	132	166	105
22	KARAN 18	INDIA	4184	122	164	67
1	TROMPILLO	CIMMYT	4150	126	165	85
25	LOCAL CHECK		4040	122	165	92
3	SANGREGADO"S"	CIMMYT	4001	124	165	82
17	SAMSON	ALBERTA-CA	3961	128	169	75
5	COLONDRINA"S"	CIMMYT	3936	121	164	74
4	RUMOROSA	MEXICO	3912	125	166	90
16	EMPRESS	ALBERTA-CA	3907	128	169	93
19	ROLAND	SWEDEN	3832	132	169	75
7	COLONDRINA"S"	CIMMYT	3755	122	163	75
14	ROBUST	MINNESOTA	3669	127	169	94
13	ND5569	N. DAKOTA	3655	126	169	100
2	ALAMO"S"	CIMMYT	3457	121	167	87
10	ZAPATA	PERU	3305	131	166	107
		GRAND MEAN	4339.9	126.3	166.3	83.2
		STANDARD ERROR OF GRAND MEAN	56.5			0.9
		COEFFICIENT OF VARIATION AS PC	13.0			10.5
		LSD VARIETY MEANS 5 PC	796.7			12.3

CORRELATIONS

YIELD	KG/HA			
HEAD	DAYS	0.22		
MAT	DAYS	-0.10	0.50	
PLNT	HT	-0.41	0.35	0.38

TABLE 24 MIDDLE EAST TURKEY SAKARYA

ADAPAZARI (SAKARYA REG. AG. R. I.)

CEREAL STAFF
 LATITUDE 40 47'N DATE PLANTED 12/ 7/84 NITROGEN ---
 LONGITUDE 30 25'E DATE HARVESTED ---/---/--- PHOSPHORUS ---
 ELEVATION 30 M. ABOVE S. L. AMOUNT OF MOISTURE 373 MM POTASSIUM ---

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

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	LEAF RUST	PLNT HT	LODG %	PDW M 0-9
8	GOLONDRINA"S"	CIMMYT	6875	123	70S	80	90	6
5	GOLONDRINA"S"	CIMMYT	6181	124	50S	80	40	4
24	ANDRE	WASHINGTON	6111	133	70S	110	100	8
1	TROMPILLO	CIMMYT	5799	126	90S	95	40	8
6	GOLONDRINA"S"	CIMMYT	5764	128	20S	90	100	4
7	GOLONDRINA"S"	CIMMYT	5764	124	50S	80	95	6
2	ALAMO"S"	CIMMYT	5556	120	90S	85	40	7
20	LIGNEE 640	FRANCE	5556	125	-	100	90	4
21	KYM	ENGLAND	5556	133	40S	95	100	4
4	RUMOROSA	MEXICO	5486	127	90S	100	100	7
18	KORU	ENGLAND	5486	131	20MS	100	90	3
3	SANREGADO"S"	CIMMYT	5278	128	90S	90	100	8
23	ATHOS	FRANCE	5208	133	50S	110	100	7
25	LOCAL CHECK		5208	134	90S	110	100	8
22	KARAN 18	INDIA	5139	125	70S	90	100	8
19	ROLAND	SWEDEN	5069	132	5MS	90	100	4
16	EMPRESS	ALBERTA-CA ***	4688	131	90S	110	90	6
9	ARUPO"S"	CIMMYT	4444	124	80S	60	10	3
13	ND5569	N. DAKOTA	4097	127	90S	110	100	6
17	SANSON	ALBERTA-CA	4007	131	80S	90	80	7
12	7BN407B5	CALIFORNIA	3889	130	90S	75	-	7
15	ABEE	ALBERTA-CA	3681	133	90S	110	100	6
11	IBTA 80	BOLIVIA	3333	131	90S	110	90	7
14	ROBUST	MINNESOTA	3333	122	90S	110	100	8
10	ZAPATA	PERU	3194	130	90S	105	100	6

GRAND MEAN 4988.1 128.1 70.0 95.4 85.6 6.1
 STANDARD ERROR OF GRAND MEAN 122.0
 COEFFICIENT OF VARIATION AS PC 24.5
 LSD VARIETY MEANS 5 PC 1720.3

CORRELATIONS

YIELD KG/HA	HEAD DAYS	LEAF RUST	PLNT HT	LODG %	PDW M 0-9
		-0.22			
		-0.44	-0.18		
		-0.30	0.50	0.19	
		-0.14	0.50	-0.15	0.63
		-0.17	0.02	0.66	0.36 0.25

TABLE 25 NORTH AMERICA

MEXICO

B. C. NORTE-CAEMEXI

CAEMEXI

CEREAL STAFF

LATITUDE	032 31'N	DATE PLANTED	11/21/84	NITROGEN	APPLIED
LONGITUDE	115 26'W	DATE HARVESTED	4/28/85	PHOSPHORUS	--
ELEVATION	+00006 M. ABOVE S. L.	AMOUNT OF MOISTURE	435 MM	POTASSIUM	--

NORMAL SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD.
 NEGLIGIBLE DISEASE DEVELOPMENT. SLIGHT INSECT DAMAGE. NO WEED PROBLEM.
 NEGLIGIBLE BIRD DAMAGE. LOCAL CHECK: SUNBAR BRAND 409
 HIGH TEMPERATURE DURING THE MONTH OF MARCH AND APRIL

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	HEAD DAYS	MAT DAYS	PLNT HT
17	SAMSON	ALBERTA-CA	3681	111	148	68
12	78W40785	CALIFORNIA	3674	109	148	62
15	ABEE	ALBERTA-CA	3396	111	145	73
11	IBTA 80	BOLIVIA	3285	115	144	85
4	RUMOROSA	MEXICO	3181	108	140	79
25	LOCAL CHECK		3132	117	149	74
20	LIGNEE 640	FRANCE	3063	116	146	80
7	COLONDRINA"S"	CIMMYT	3042	101	139	69
24	ANDRE	WASHINGTON	2938	111	148	69
9	ARUPD"S"	CIMMYT	2792	109	139	60
19	ROLAND	SWEDEN	2771	113	147	76
1	TROMPILLO	CIMMYT	2708	105	138	76
22	KARAN 18	INDIA	2681	102	142	71
10	ZAPATA	PERU ***	2507	114	144	85
14	ROBUST	MINNESOTA	2326	99	144	78
13	ND5569	N. DAKOTA	2236	108	143	78
3	SANGREGADO"S"	CIMMYT	2202	105	137	67
23	ATHOS	FRANCE	2195	119	147	68
18	KORU	ENGLAND	2104	113	148	66
6	COLONDRINA"S"	CIMMYT	2055	109	140	65
5	COLONDRINA"S"	CIMMYT	2042	102	137	66
16	EMPRESS	ALBERTA-CA	2035	113	144	84
8	COLONDRINA"S"	CIMMYT	1834	98	138	63
21	KVM	ENGLAND	1535	111	140	65
2	ALAMO"S"	CIMMYT	1188	98	137	72
		GRAND MEAN	2583.9	108.6	142.9	71.9
		STANDARD ERROR OF GRAND MEAN	65.6			0.6
		COEFFICIENT OF VARIATION AS PC	25.4			9.0
		LSD VARIETY MEANS 5 PC	924.5			9.1

CORRELATIONS

YIELD	KG/HA				
HEAD	DAYS	0.34			
MAT	DAYS	0.51	0.70		
PLNT	HT	0.14	0.26	0.19	

TABLE 26 NORTH AMERICA

MEXICO

DURANGO

VALLE DEL GUADIANA

CEREAL STAFF

LATITUDE	024 01'N	DATE PLANTED	10/ 1/84	NITROGEN	APPLIED
LONGITUDE	104 40'W	DATE HARVESTED	2/ 5/85	PHOSPHORUS	APPLIED
ELEVATION	+01889 M. ABOVE S. L.	AMOUNT OF MOISTURE	490 MM	POTASSIUM	APPLIED

LATE SOWING DATE. SOIL MOIST AT SOWING. GERMINATION GOOD.
 NEGLIGIBLE DISEASE DEVELOPMENT. MODERATE INSECT DAMAGE. LOCAL CHECK: MOREX
 RAINFALL LESS THAN AVERAGE TEMPERATURE FOR END OF DECEMBER
 BEGINNING JANUARY ABOVE AVERAGE. CONDITIONS HOT & DRY.

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	HEAD DAYS	MAT DAYS	LEAF RUST	PLNT HT
2	ALAMO"S"	CIMMYT	3947	59	54	93	0	73
23	ATHOS	FRANCE	3746	65	75	103	0	75
19	ROLAND	SWEDEN	3743	64	69	105	0	71
14	ROBUST	MINNESOTA	3713	63	63	98	0	86
12	76W40785	CALIFORNIA	3697	60	61	106	0	60
20	LIQNEE 640	FRANCE	3653	61	58	95	0	77
13	ND5369	N. DAKOTA	3546	64	62	98	0	92
9	ARUPD"S"	CIMMYT	3448	59	53	87	0	55
25	LOCAL CHECK		3424	60	73	103	10MS	66
17	SAMSON	ALBERTA-CA	3365	63	75	108	0	66
16	EMPRESS	ALBERTA-CA	3205	64	67	99	0	91
24	ANDRE	WASHINGTON	3200	63	67	103	TMS	73
4	RUMOROSA	MEXICO	3060	60	61	95	0	82
5	GOLONDRINA"S"	CIMMYT	3060	63	62	95	0	68
3	SANGREGADO"S"	CIMMYT	3057	65	60	96	0	68
22	KARAN 18	INDIA ***	2931	70	57	94	0	70
8	GOLONDRINA"S"	CIMMYT	2891	64	58	92	0	74
7	GOLONDRINA"S"	CIMMYT	2873	63	60	93	0	66
1	TROMPILLO	CIMMYT	2855	60	59	94	0	76
6	GOLONDRINA"S"	CIMMYT	2851	63	66	102	0	70
11	IBTA 80	BOLIVIA	2786	59	65	96	0	71
15	ABEE	ALBERTA-CA	2777	66	68	103	0	71
21	KYM	ENGLAND	2508	63	76	104	0	67
18	KORU	ENGLAND	2425	62	70	108	0	60
10	ZAPATA	PERU	2098	60	64	95	0	91
GRAND MEAN			3154.3	62.5	64.0	98.5	0.9	72.6
STANDARD ERROR OF GRAND MEAN			55.0	0.3				0.4
COEFFICIENT OF VARIATION AS PC			17.4	4.2				5.5
LSD VARIETY MEANS 5 PC			774.9	3.7				5.6

CORRELATIONS

YIELD KG/HA	TEST WT	HEAD DAYS	MAT DAYS	LEAF RUST	PLNT HT
TEST WT		-0.08			
HEAD DAYS		-0.15	0.18		
MAT DAYS		0.03	0.18	0.83	
LEAF RUST		0.30	0.08	0.39	0.33
PLNT HT		0.00	0.09	-0.03	-0.17
					0.35

TABLE 27 NORTH AMERICA

MEXICO

GUANAJUATO-BAJIO

EL BAJIO

CEREAL STAFF

LATITUDE	020 32'N	DATE PLANTED	12/ 7/84	NITROGEN	APPLIED
LONGITUDE	100 49'W	DATE HARVESTED	5/ 7/84	PHOSPHORUS	APPLIED
ELEVATION	1765 M. ABOVE S. L.	AMOUNT OF MOISTURE	1000 MM	POTASSIUM	APPLIED

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

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	MAT DAYS	LEAF RUST	PLNT HT	LDDG %	POW M 0-9
9	ARUPD"S"	CIMMYT	9552	115	5R	79	0	60S
25	LOCAL CHECK		8666	121	20S	94	0	20R
20	LIGNEE 640	FRANCE ***	8323	120	5R	104	28	60S
2	ALAMO"S"	CIMMYT	8291	116	10S	115	0	50S
1	TROMPILLO	CIMMYT	8073	118	TR	111	3	50S
5	GOLONDRINA"S"	CIMMYT	8052	122	TR	103	3	60S
12	78W407B5	CALIFORNIA	7948	125	10S	89	0	80S
18	KORU	ENGLAND	7916	124	80S	105	5	40S
3	SANGREGADO"S"	CIMMYT	7823	115	TR	110	0	50S
23	ATHOS	FRANCE	7771	125	20S	110	0	20S
24	ANDRE	WASHINGTON	7666	125	60S	105	4	20S
6	GOLONDRINA"S"	CIMMYT	7458	124	10R	100	0	60S
21	KYM	ENGLAND	7437	125	5R	104	0	10S
15	ABEE	ALBERTA-CA	7427	126	50S	104	30	30S
7	GOLONDRINA"S"	CIMMYT	7031	118	5R	106	5	60S
16	EMPRESS	ALBERTA-CA	7031	124	10R	120	14	30S
19	ROLAND	SWEDEN	7000	125	20S	108	3	60S
4	RUMOROSA	MEXICO	6854	116	10R	115	40	60S
11	IBTA 80	BOLIVIA	6843	122	40S	124	13	30S
22	KARAN 18	INDIA	6448	116	10S	104	0	30S
10	ZAPATA	PERU	6208	124	5R	114	55	30S
8	GOLONDRINA"S"	CIMMYT	6177	119	TR	105	6	60S
17	SAMSON	ALBERTA-CA	5802	125	90S	105	1	40S
13	ND5569	N. DAKOTA	5625	121	10R	119	15	80S
14	ROBUST	MINNESOTA	5521	119	10S	126	3	80S
		GRAND MEAN	7317.6	121.1	15.4	107.1	9.0	
		STANDARD ERROR OF GRAND MEAN	71.1			0.5		
		COEFFICIENT OF VARIATION AS PC	9.7			4.4		
		LS D VARIETY MEANS 5 PC	1002.3			6.7		

CORRELATIONS

YIELD KG/HA					
MAT. DAYS	-0.15				
LEAF RUST	-0.35	0.40			
PLNT HT	-0.63	-0.01	0.08		
LDDG %	-0.27	0.08	-0.10	0.31	

VARIABLE 61 is not included in the summaries since data was not recorded according to our instruction's bulletin.

LA LEGANA-NAVIDAD

CEREAL STAFF

LATITUDE	25 40'N	DATE PLANTED	2/12/85	NITROGEN	APPLIED
LONGITUDE	100 36'W	DATE HARVESTED	7/ 1/85	PHOSPHORUS	APPLIED
ELEVATION	1895 M. ABOVE S. L.	AMOUNT OF MOISTURE	500 MM	POTASSIUM	--

LATE SOWING DATE. SOIL DRY AT SOWING. GERMINATION GOOD. NEGLIGIBLE BIRD DAMAGE.
SLIGHT DISEASE INCIDENCE. MODERATE INSECT DAMAGE. MODERATE WEED PROBLEM.
CHEMICAL CONTROL OF INSECTS AND WEEDS. MECHANICAL CONTROL OF WEEDS.
WEATHER NORMAL. LOCAL CHECK: CERRO PRIETO

VAR NO.	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WT	HEAD DAYS	MAT DAYS	PLNT HT
16	EMPRESS	ALBERTA-CA	4459	53	77	110	79
10	ZAPATA	PERU	4292	53	69	106	91
21	KYM	ENGLAND	4236	59	73	111	62
13	ND5369	N. DAKOTA	3868	55	72	109	79
1	TROMPILLO	CIMMYT	3827	53	74	109	58
15	ABEE	ALBERTA-CA	3729	59	79	110	63
6	GOLONDRINA"S"	CIMMYT	3507	57	78	109	61
23	ATHOS	FRANCE	3424	58	67	112	58
24	ANDRE	WASHINGTON	3417	59	80	110	58
25	LOCAL CHECK		3375	55	69	106	57
7	GOLONDRINA"S"	CIMMYT	3347	58	69	107	57
11	IBTA 80	BOLIVIA	3327	54	76	109	77
12	76M40785	CALIFORNIA ***	3236	51	68	107	39
3	SANGREGADO"S"	CIMMYT	3188	52	72	108	53
14	ROBUST	MINNESOTA	3174	57	69	108	72
17	SAMSON	ALBERTA-CA	3174	51	73	111	64
4	RUMOROSA	MEXICO	3028	52	73	111	61
20	LIGNEE 640	FRANCE	2952	55	70	107	58
18	KORU	ENGLAND	2806	61	83	111	52
8	GOLONDRINA"S"	CIMMYT	2604	56	67	106	57
5	GOLONDRINA"S"	CIMMYT	2597	57	73	107	51
2	ALAMO"S"	CIMMYT	2285	51	69	106	60
9	ARUPO"S"	CIMMYT	2222	56	67	105	36
22	KARAN 18	INDIA	1827	55	69	107	54
19	ROLAND	SWEDEN	1653	59	81	113	45

GRAND MEAN	3182.2	55.5	71.6	108.5	59.9
STANDARD ERROR OF GRAND MEAN	71.7	0.1			0.8
COEFFICIENT OF VARIATION AS PC	22.5	2.0			13.0
LSD VARIETY MEANS 5 PC	1010.6	1.5			11.0

YIELD KG/HA		CORRELATIONS				
TEST	WT	-0.08				
HEAD	DAYS	0.09	0.42			
MAT	DAYS	0.15	0.32	0.63		
PLNT	HT	0.65	-0.18	0.06	0.08	



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