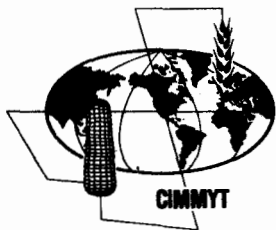




Results of the Tenth International Barley Observation Nursery (IBON) 1982-1983



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CENTRO INTERNACIONAL DE MEJORAMIENTO DE MAIZ Y TRIGO
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GLOSSARY OF VARIABLE NAMES USED IN THE TABLES
GLOSARIO DE NOMBRES VARIABLES USADOS EN LAS TABLAS
GLOSSAIRE DES NOMS DES VARIABLES UTILISES DANS LES TABLEAUX

Abbreviation	Scientific Name(s)	Variable name/scale	Nombre de la Variable/escala	Nom de la Variable/échelle
AL TOL	-	Aluminum tolerance (0-9 Scale)	Tolerancia a aluminio(escala 0-9)	Tolérance à l'aluminium (échelle 0-9)
ALT B	<i>Alternaria triticea</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 de 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 (percentage)	Porcentaje de gusano cogollero	Noctuelle en pourcentage
BAC S	<i>Xanthomonas campestris</i>	Bacterial stripe (0-9 scale)	Rayado bacteriano y pajilla negra (escala 0-9)	Rayure bactérienne (échelle 0-9)
BAC B	<i>Pseudomonas syringae</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 (escala 0-9)	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
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	--	Check Mark (selected entries)	Entradas seleccionadas	Lignées ou variétés sélectionnées
COVD SMUT	<i>[Ustilago hordei (U.Koller)]</i>	Covered smut (percentage)	Porcentaje de carbón cubierto	Charbon couvert en pourcentage
EARS/M2	--	Ears per meter square	Espigas por metro cuadrado	Epis par M2
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>Monographellanivalis</i>)	Fusarium leaf blotch (0-9 scale)	Mancha de la hoja y moho niveo (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 a 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 spp.</i>	<i>Helminthosporium spp.</i> (0-9 scale)	<i>Helminthosporium spp.</i> (escala 0-9)	<i>Helminthosporium sp.</i> (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)	Versé en pourcentage
LSE SMUT	<i>[Ustilago Nude(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 maduréz	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
PLNT DENS	--	Plant density (stems/m2)	Densidad de plantas (tallos/metro cuadrado)	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)	Oïdium (échelle 0-9)
PROT %	--	Protein (percentage)	Porcentaje de proteína	Protéine en pourcentage
SCAB %	<i>Fusarium spp.</i>	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)	Indice 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)	<i>Septoria nodorum</i> (échelle 0-9)
SEP S	<i>Septoria spp.</i>	Septoria glume/leaf blotch (0-9 scale)	Septoria sp. (escala 0-9)	<i>Septoria spp.</i> (échelle 0-9)
SEP T	<i>Mycosphaerella graminicola</i> (syn. <i>Septoria tritici</i>)	Septoria leaf blotch (0-9 scale)	Mancha foliar ó tizón folier (escala 0-9)	<i>Septoria tritici</i> (échelle 0-9)
SHTR %	--	Shattering, head (percentage)	Porcentaje de desgrane (espiga)	Egrenage en pourcentage
SPT B	<i>Cochliobolus sativus</i> (syn. <i>Bipolaria 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 folier amarilla (escala 0-9)	<i>Helminthosporium tritici</i> (échelle 0-9)
TEST WT	--	Test weight (kg/hl)	Peso hectoltrico (kg/hl)	Poids spécifique (kg/hl)
1000 G.W.	--	1000 grain weight (gm)	Peso de 1000 granos (gramos)	Poids de 1000 grains (grammes)
YELL BERR	--	Yellow berry (percentage)	Porcentaje de panza blanca	Mitadinae en pourcentage
YIELD KG/HA	--	Yield (kg/ha)	Rendimiento kg/ha	Rendement kg/ha

RESULTS OF THE TENTH INTERNATIONAL BARLEY OBSERVATION NURSERY

(IBON) 1982-83

The Tenth International Barley Observation Nursery (IBON) was sent in September 1982 to be grown by cooperators in their spring season of 1983. One hundred eighteen nurseries went to cooperators in 67 countries. The 239 advanced lines and checks in the nursery had been chosen from among CIMMYT's best materials. All had been grown and observed by CIMMYT scientists under a high yield environment on the CIANO Experiment Station in the Yaqui Valley in northwest Mexico. Here, too, seed for this international nursery was multiplied, cleaned and treated with insecticide and organic fungicide before shipment.

Instructions on nursery management accompanied the mailing of seeds of each cooperator. Enough seed from each line was provided for a single row, unreplicated, of at least 2 m. in length. A field book was included with each nursery set, providing a standard format for recording data desired by CIMMYT. In receiving and processing the data returned by cooperators, CIMMYT assumes that the nursery was properly handled and that accurate results were reported. We cannot, however, attest to the rigor with which the trials were grown and results were obtained.

Thirty-seven of the cooperators receiving the 10th IBON returned field books with performance data at their locations in time to be included in this report. The choice of variables measured and the data returned rests with the individual cooperator. Disease data are concentrated upon, but sites have been rejected where the data obtained are not meaningful. Discrepancies between values found in Table 2 and those of other tables are due to these selections. For example, where almost all the ratings were zeros these data were not included because most likely there was only a very mild epidemic of the disease. If used, these scores could distort the overall means. The tables presented include data from the individual sites as well as the averages. This will enable cooperators to make comparisons between these individual sites and their own. This may be of particular use when a cooperator knows that the virulence of a pathogen at his site is the same as that at one of the sites listed. Only the best entries for specific diseases have been printed and this often is a rather low percentage of the total entry numbers in the nursery.

Cooperators were asked to use agronomic and disease reporting methodology as described in CIMMYT's Information Bulletin 38. Data reported are simple means computed from those supplied by the cooperators. Data on rusts recorded by the modified Cobb scale were converted to average coefficient of infection (ACI) as explained in the yearly report of the United States Department of Agriculture International Spring Wheat Rust Nursery.

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 cooperator's station file. We ask for feedback of both kinds.

Table 1. Locations from which data were reported, with the variables reported

TABLE	CONTINENT	COUNTRY	AREA	VARIABLES INCLUDED
1	AFRICA	MALAWI	NTCHEU DISTRICT (CENTRAL REG.)	3 50
2	AFRICA	SOUTH AFRICA	CAPE PROVINCE	66 69
3	AFRICA	UPPER VOLTA		3 4 13 50
4	ASIA	AFGHANISTAN	KUNDUZ	3 9 50 69
5	ASIA	CHINA	HUBEI	36
6	ASIA	PAKISTAN	MWFP	3 5 61 66
7	ASIA	TAIWAN	TAICHUNG	3 9 10 13 50
8	EUROPE	ENGLAND	NORFOLK	50 61 69
9	EUROPE	GERMAN DEM. REP.	MAGDEBURG	7
10	EUROPE	GREECE	THESSALONIKI	3 9 50 61
11	EUROPE	ITALY	MARCHE	3 50 61 68
12	EUROPE	ITALY	ROME	3 9 61 69
13	EUROPE	ITALY	ROVIGO	7 61
14	EUROPE	NORWAY		3 4 50 61
15	EUROPE	ROMANIA	CLUJ	3 50 61 77
16	EUROPE	SPAIN	LLEIDA	3 4 9 50 61 77
17	EUROPE	SPAIN	MADRID	50 61 77
18	EUROPE	SPAIN	VALLADOLID	3 50 61
19	EUROPE	SPAIN	ZARAGOZA	3 50 61
20	EUROPE	U. S. S. R.	POLTAVA	61
21	MIDDLE EAST	CYPRUS	ATHALASSA	50
22	MIDDLE EAST	ISRAEL	BET DAPAN	3 5 7 50 61
23	MIDDLE EAST	QATAR	BARADA	3 4 9 50 66
24	MIDDLE EAST	TURKEY	DIYARBAKIR	50
25	NORTH AMERICA	CANADA	QUEBEC	77
26	NORTH AMERICA	MEXICO	EL BATAN	7 8 69
27	NORTH AMERICA	MEXICO	GUANAJUATO	7 8
28	NORTH AMERICA	MEXICO	MICHUACAN	7 66 69
29	NORTH AMERICA	MEXICO	TOLUCA	7 8 66 69
30	NORTH AMERICA	U. S. A.	MONTANA	61 66 69 73
31	NORTH AMERICA	U. S. A.	OREGON	5 7
32	SOUTH AMERICA	BOLIVIA	COCHABAMBA	3 5
33	SOUTH AMERICA	BRAZIL	SAO PAULO	3 50 68
34	SOUTH AMERICA	COLOMBIA	CUNDINAMARCA	5 7 50
35	SOUTH AMERICA	ECUADOR	QUITO, PICHINCHA	3 5 7 69
36	SOUTH AMERICA	PARAGUAY	CACUPE	50
37	SOUTH AMERICA	PARAGUAY	ITAPUA	8 50 68

*VARIABLE IDENTIFICATIONS

3	HEAD	DAYS	4	MAT	DAYS	5	STRP	RT. L	7	LEAF	RUST	8	STEM	RUST
9	PLNT	HT	10	LODG	%	13	1000	G. W.	36	SCAB	X	50	CHECK	MARK
61	POM M	0-9	66	NET B	0-9	68	SPT B	0-9	69	SCLD	0-9	73	BAC B	0-9
77	BYDV	0-9												

Table 2. Summary of the means of all variables

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	HEAD DAYS	MAT DAYS	STRP RT. L	LEAF RUST	STEM RUST	PLNT HT	LODC %
			NOBS:	(18)	(4)	(6)	(10)	(4)	(6)	(1)
1	API			98.1	104.0	22.5	43.0	3.0	85.2	0.0
2	CEL			93.1	97.3	32.0	27.5	2.5	87.3	0.0
3	CEN			91.5	104.3	28.3	44.1	3.0	88.7	0.0
4	CP			94.9	107.7	13.5	40.6	0.0	91.3	0.0
5	POR			96.9	108.3	26.0	56.8	13.5	87.5	40.0
6	TCHE			89.8	102.7	66.5	38.9	24.5	84.5	0.0
7	TLLD			102.4	106.7	25.2	40.6	5.0	86.7	0.0
8	MONA			85.0	103.3	59.8	60.0	6.3	67.8	0.0
9	ATHS-HJA A33 CMB74A-232-1B-1Y-2B-1Y-1B-OY			87.8	99.8	25.8	27.7	2.3	71.3	0.0
10	HJA A33-M66.85 CMB74A-721-1B-1Y-1B-2Y-1B-OY			97.6	107.7	55.8	51.2	10.5	83.7	50.0
11	APM-ATHS X GVA/API-CM67 X MZG CMB75A-858-2B-1Y-2B-1Y-1B-OY			94.7	103.7	27.1	42.6	0.0	71.3	60.0
12	BR6705.1/API-CM67 X 11012.2 CMB75A-1345-12B-1Y-1B-1Y-1B-OY			91.5	101.3	67.5	28.9	6.7	87.0	60.0
13	M64.69-M65.211 X APM-RL/API-CM67 CMB76-579-3Y-1B-1Y-1B-3Y-OB			75.1	101.0	57.5	40.8	10.0	76.2	0.0
14	DL69-BAHTIM10 X H251 CMB76-765-A-7Y-1B-1Y-1B-1Y-OB			88.4	106.0	32.5	51.5	12.7	78.3	0.0
15	DRE"S" X EMIR-NACKTA, AST9071 CMB76A-427-1H-1Y-1B-1Y-1B-OY			95.4	106.7	17.1	39.2	0.0	81.5	40.0
16	(AS46-KRISTINA/APM-DWARF21 X POR- IB65)11012.2-TERN CMB77-85-3B-1Y-1B-1Y-1B-OY			96.4	101.0	25.4	30.0	0.5	81.4	----
17	MONA-EMIR X GVA/NOPAL CMB77-282-1B-2Y-1B-2Y-1B-OY			81.8	94.5	43.3	47.0	20.5	59.6	0.0
18	MONA-EMIR X GVA/NOPAL CMB77-282-1B-2Y-1B-1Y-2B-OY			81.9	92.5	77.8	41.1	20.5	63.6	0.0
19	MONA-QWY63 X B1 CMB77-302-4Y-3B-2Y-1B-1Y-OB			82.5	93.0	54.8	50.5	16.0	64.8	0.0
20	SAH X APM-5106 CMB77-311-1B-1Y-1B-1Y-1B-OY			99.9	101.0	46.4	53.8	0.4	72.2	50.0
21	NP842-APM X CM67-U, SASK1800/AVT-1101 .2 CMB77-449-3Y-2B-2Y-1B-2Y-OB			87.8	97.0	49.5	58.4	9.0	74.7	90.0
22	CHZO X 702B-AVT CMB77-949-11Y-1B-1Y-1B-1Y-OB-1Y- OB			99.5	107.0	45.4	37.8	0.0	84.7	30.0
23	CHZO X 702B-AVT CMB77-949-11Y-1B-1Y-1B-1Y-OB-2Y- OB			100.3	105.3	29.5	35.7	0.5	77.5	60.0
24	CEDRO"S" CMB77-1267-8-1Y-1B-1Y-1B-1Y-OB			104.2	104.0	60.0	43.1	6.0	61.4	20.0
25	API-CM67 X 11012.2/SMI.3S.6W.B(CM67 APRO X SVO2109-MARIJEN) CMB77-1385-E-2Y-1B-1Y-1B-2Y-OB			92.8	102.5	61.0	21.5	24.3	80.3	100.0
26	JUNIOR(M64.69-M65.211 X APM-RL/API- CM67) CMB77A-79-1B-3Y-1B-1Y-1B-OY			81.5	98.7	65.8	46.6	3.0	67.4	----
27	MZG-NOPAL CMB77A-159-13H-4Y-2B-1Y-2B-OY			96.8	106.7	47.8	45.3	1.9	70.8	30.0
28	H251/API-CM67 X DL71 CMB77A-19-8H-5Y-2B-2Y-1B-OY			95.4	104.0	50.0	41.0	0.0	81.7	0.0

VTY	1000 O. W.	SCAB %	CHECK MARK	POW M 0-9	NET B 0-9	SPT B 0-9	SCLD 0-9	BAC B 0-9	BYDV 0-9
	(2)	(1)	(21)	(15)	(6)	(3)	(9)	(1)	(4)
1	26.6	14.0	23.8	4.5	2.4	6.7	2.2	6.0	6.0
2	26.8	70.0	14.3	4.5	3.4	6.3	3.1	6.0	5.3
3	----	72.0	4.8	5.6	2.5	6.7	1.4	4.0	5.3
4	32.8	74.0	9.5	4.9	3.6	7.0	3.0	4.0	5.3
5	28.8	69.0	9.5	4.7	3.3	7.0	5.1	9.0	3.8
6	26.4	69.0	4.8	4.9	4.0	7.7	5.3	9.0	4.0
7	33.2	43.0	19.0	5.7	3.5	6.0	1.5	4.0	4.8
8	33.2	52.0	4.8	3.4	2.5	5.0	5.3	6.0	5.3
9	34.2	----	4.8	5.1	4.7	4.7	5.2	6.0	6.0
10	32.4	98.0	0.0	4.8	2.5	6.0	5.3	6.0	5.0
11	28.4	38.0	4.8	4.4	5.5	5.7	4.0	8.0	4.8
12	32.7	56.0	28.6	5.3	3.3	6.3	3.9	8.0	3.8
13	28.4	29.0	4.8	6.6	3.7	5.0	5.1	8.0	3.3
14	25.2	37.0	4.8	5.5	4.3	7.3	5.3	9.0	4.5
15	30.4	92.0	4.8	6.5	3.8	6.7	3.1	9.0	5.3
16	26.5	71.0	0.0	4.9	3.5	6.0	4.3	6.0	5.0
17	38.4	33.0	0.0	5.4	5.3	5.7	3.6	6.0	7.3
18	16.0	56.0	0.0	5.5	4.0	7.0	3.9	6.0	8.0
19	39.2	76.0	9.5	5.4	4.0	4.5	3.6	6.0	7.0
20	22.0	55.0	0.0	4.5	1.3	6.3	2.8	4.0	6.3
21	29.8	12.0	23.8	5.9	3.3	6.0	3.1	9.0	5.5
22	28.0	77.0	14.3	3.8	2.8	7.0	2.3	4.0	5.3
23	31.2	----	14.3	4.2	2.0	6.7	2.9	4.0	5.8
24	33.9	----	0.0	5.5	3.3	5.0	3.3	----	5.5
25	22.8	56.0	33.4	5.4	3.5	7.3	4.1	6.0	4.5
26	----	91.0	9.5	6.2	2.5	4.0	4.7	9.0	6.3
27	21.6	62.0	4.8	6.9	4.0	7.3	3.8	9.0	5.5
28	36.8	68.0	0.0	6.2	3.2	7.0	3.4	9.0	4.8

Table 2. (Cont'd)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	HEAD	MAT	STRP	LEAF	STEM	PLNT	LDDG	
				DAYS	DAYS	RT L	RUST	RUST	HT	Z	
				NOBS	(18)	(4)	(6)	(10)	(4)	(6)	(1)
29	VINO"5" X TRA-1038 CMB77A-264-3B-1Y-1B-2Y-1B-0Y			95.4	104.0	50.0	39.2	9.1	68.0	70.0	
30	API-KRISTINA X M66.85/CEL CMB77A-292-1B-2Y-1B-2Y-1B-0Y			94.4	104.7	59.8	41.9	0.0	81.0	0.0	
31	IB65-M66.85 X CEL CMB77A-311-4B-1Y-1B-2Y-1B-0Y			95.5	103.7	50.0	38.9	2.1	84.8	10.0	
32	CEL-CI3909.2/M65.95-M66.123 X BGS025 CMB77A-332-5B-1Y-3B-1Y-1B-0Y			93.7	105.0	62.0	32.5	1.0	84.0	10.0	
33	WI2198-AM CMB77A-350-9H-2Y-3B-1Y-1B-0Y			103.2	110.0	17.7	31.4	0.0	80.2	100.0	
34	WI2198-AM CMB77A-350-9H-2Y-3B-1Y-2B-0Y			103.3	109.7	19.0	40.6	0.0	81.5	100.0	
35	MANKER-ATHS X HLS-CG CMB77A-370-3B-1Y-1B-1Y-1B-0Y			93.0	103.0	50.6	31.1	9.0	91.0	0.0	
36	(PDR-EB1053 X CM67/M64.76)CL7207 X OLLI-10CR268.21.2 CMB77A-791-1B-1Y-1B-1Y-2B-0Y			95.9	106.3	51.5	43.3	1.0	93.0	20.0	
37	BREA"5"-CEL X F3 BULK HIP CMB77A-394-1B-1Y-3B-2Y-1B-0Y			93.4	104.7	39.5	45.9	3.3	87.5	30.0	
38	BREA"5"-CEL X F3 BULK HIP CMB77A-394-1B-1Y-3B-2Y-2B-0Y			93.0	104.7	46.5	51.9	0.0	83.3	90.0	
39	M66.85-CI12168(M66.95-M16.123 X BOSO 52/API-CM67 X MONA) CMB77A-402-1B-1Y-4B-3Y-1B-0Y			98.6	105.3	53.3	51.8	2.2	86.8	80.0	
40	CEN X Z762-BC CMB77A-462-1B-3Y-2B-1Y-1B-0Y			100.9	107.3	54.0	45.7	2.5	84.0	20.0	
41	11012.2-TERN X ASSE-NACKTA CMB77A-628-13H-1Y-1B-1Y-1B-0Y			98.4	108.0	58.2	34.2	9.5	79.5	20.0	
42	BDGC-GAS X CI1382-COMP CR236 CMB77A-654-8B-1Y-1B-1Y-1B-0Y			96.4	106.0	60.8	26.6	17.3	79.0	0.0	
43	BDGC-GAS X 7028-AVT CMB77A-657-1H-1Y-1B-1Y-2B-0Y			101.9	108.0	42.2	24.9	0.0	78.2	30.0	
44	INDIAN DWARF-CM67 X ASSE-NACKTA CMB77A-699-3B-4Y-1B-1Y-3B-0Y			97.6	108.7	44.0	27.7	40.0	76.6	----	
45	ID-CM67 X JET/CP CMB77A-702-4B-1Y-2B-2Y-2B-0Y			96.5	107.3	41.7	26.4	2.6	75.5	40.0	
46	(BAL16-PRO X APM-DWARFII.1Y/API-CM67 DEIR ALLA105 CMB77A-748-1H-3Y-2B-1Y-1B-0Y			93.5	105.7	58.0	19.7	15.7	79.8	70.0	
47	(APM-IB65 X 11012.2/API-CM67 X DS- APRO)JET-CP CMB77A-754-3B-3Y-1B-2Y-1B-0Y			94.4	105.3	45.8	36.3	15.4	82.2	50.0	
48	CEL-CI3909.2 X ABN4 CMB77A-797-1B-2Y-1B-1Y-1B-0Y			95.1	106.0	31.1	44.3	12.1	80.3	20.0	
49	CEL-CI3909.2 X ABN4 CMB77A-797-1B-2Y-1B-1Y-2B-0Y			94.3	106.0	31.7	57.6	15.3	85.2	0.0	
50	DC640-MARI X BREUNS VILLA CMB77A-814-2B-1Y-1B-1Y-3B-0Y			100.1	106.7	24.2	42.3	19.5	88.0	70.0	
51	MARI-COHO X 1658-EMIR CMB77A-820-5B-5Y-1B-1Y-1B-0Y			80.4	107.0	59.7	41.1	25.0	66.8	50.0	
52	MARI-COHO X CARINA CMB77A-822-1B-7Y-1B-1Y-1B-0Y			77.1	99.7	57.4	50.8	26.7	64.3	0.0	
53	MARI-COHO X CARINA CMB77A-822-2B-2Y-1B-1Y-1B-0Y			101.7	106.7	72.3	32.9	20.0	81.2	0.0	
54	MARI-COHO/847 X PTR-EMIR CMB77A-823-1H-1Y-1B-1Y-1B-0Y			80.2	100.0	45.5	45.8	5.0	65.2	80.0	
55	MARI-COHO/847 X PTR-EMIR CMB77A-823-1H-1Y-1B-2Y-1B-0Y			80.4	101.0	50.5	62.1	8.3	69.8	90.0	

VTY	1000 G. H.	SCAB %	CHECK MARK	POW H 0-9	NET B 0-9	SPT B 0-9	BCLD 0-9	BAC B 0-9	BYDV 0-9
	(2)	(1)	(21)	(15)	(6)	(3)	(9)	(1)	(4)
29	22.8	23.0	4.8	6.3	2.0	6.3	2.3	6.0	6.0
30	24.5	15.0	19.0	5.6	2.8	6.3	2.9	8.0	3.5
31	30.0	9.0	4.8	5.2	2.2	6.7	2.8	6.0	5.0
32	28.4	8.0	33.3	5.2	2.6	7.7	4.2	6.0	4.8
33	31.2	---	33.3	3.3	3.0	5.3	2.8	6.0	4.0
34	49.2	17.0	33.3	3.8	3.0	5.7	3.2	6.0	3.8
35	26.8	67.0	19.0	5.6	2.3	5.7	3.5	9.0	5.3
36	29.6	57.0	14.3	5.7	3.5	6.3	3.6	9.0	3.3
37	31.2	42.0	14.3	5.6	5.5	6.7	2.9	6.0	4.3
38	30.4	38.0	14.3	5.4	2.4	7.3	2.9	6.0	4.8
39	28.8	6.0	4.8	3.7	2.8	5.3	3.9	6.0	2.8
40	30.8	25.0	9.6	5.7	2.4	7.0	2.0	4.0	2.8
41	28.0	18.0	9.6	4.9	2.6	7.0	4.2	6.0	3.5
42	26.4	15.0	4.8	5.5	3.6	8.0	2.6	9.0	5.3
43	24.8	7.0	33.3	4.7	3.6	8.0	2.7	6.0	4.8
44	35.2	27.0	19.0	4.8	3.4	8.0	4.1	6.0	4.3
45	30.0	64.0	9.5	6.3	5.5	8.0	3.7	8.0	5.7
46	32.0	55.0	4.8	6.9	4.0	8.0	1.6	6.0	4.7
47	28.4	74.0	4.8	5.1	2.2	7.0	1.7	6.0	5.5
48	30.0	42.0	4.8	5.5	3.0	7.7	2.2	8.0	7.0
49	28.4	37.0	4.8	5.5	3.7	7.3	4.0	8.0	5.3
50	30.0	48.0	9.5	5.3	3.3	7.7	4.7	9.0	5.3
51	34.0	88.0	4.8	5.9	2.5	6.7	6.3	9.0	6.3
52	38.0	83.0	0.0	6.3	4.0	5.7	6.5	9.0	4.3
53	37.2	30.0	14.3	5.6	3.3	7.3	5.1	9.0	5.3
54	36.0	76.0	0.0	6.3	1.7	5.0	5.3	9.0	5.7
55	---	77.0	0.0	5.8	4.0	4.7	5.4	9.0	6.3

Table 2. (Cont'd)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	HEAD	MAT	STRP	LEAF	STEM	PLNT	LDDG	
				DAYS	DAYS	RT. L	RUST	RUST	HT	X	
				NOBS:	(18)	(4)	(6)	(10)	(4)	(6)	(1)
56	MARI-COHO/847 X PTR-EMIR CMB77A-823-11B-1Y-1B-1Y-1B-0Y			102.6	108.3	43.2	25.5	20.3	85.5	60.0	
57	(AS46-KRISTINA/APM-DWARF21 X POR- IB65)ARR-ESP CMB77A-829-3B-1Y-2B-1Y-1B-0Y			97.3	106.0	28.5	25.4	3.5	83.8	80.0	
58	CAM X 5673-5106N CMB77A-959-18H-2Y-1B-1Y-2B-0Y			98.2	110.7	28.2	29.1	20.5	82.7	10.0	
59	NACKTA-104.68 CMB77A-983-14B-1Y-1B-1Y-1B-0Y			108.8	109.0	40.0	33.8	-----	82.5	90.0	
60	NACKTA-104.68 CMB77A-983-15H-1Y-1B-1Y-1B-0Y			101.0	108.7	28.0	51.0	3.7	86.0	30.0	
61	2762-BC/NP844-POR X CM67-U. SASK1766 CMB77A-1266-2B-1Y-1B-1Y-1B-0Y			100.4	107.7	25.0	25.1	5.4	81.8	30.0	
62	MPYT169.1Y-RM1508 CMB77A-1352-1B-1Y-2B-1Y-1B-0Y			107.1	108.0	31.3	36.7	25.0	85.7	80.0	
63	CARINA-MAF102 CMB77A-1504-7B-1Y-1B-2Y-1B-0Y			102.2	107.3	62.3	47.1	29.3	88.5	40.0	
64	AIA-2763 X APM-5106 CMB77A-1627-7B-4Y-1B-1Y-1B-0Y			100.8	106.3	55.0	28.5	19.0	78.3	0.0	
65	5056-1605 X MARI-COHO CMB77A-1721-1B-1Y-1B-1Y-1B-0Y			77.7	99.3	45.0	50.3	27.0	72.3	0.0	
66	5056-1605 X MARI-COHO CMB77A-1721-2B-1Y-1B-1Y-1B-0Y			79.1	99.0	49.8	37.0	33.7	74.7	0.0	
67	5056-1605 X MARI-COHO CMB77A-1721-2B-1Y-2B-1Y-1B-0Y			79.4	99.0	45.0	58.0	28.3	75.7	10.0	
68	PRO-BEACON X MZG-GVA CMB77A-1787-1B-1Y-1B-2Y-1B-0Y			96.8	104.3	51.8	45.6	12.3	83.7	20.0	
69	PRO-BEACON X MZG-GVA CMB77A-1787-3B-2Y-1B-2Y-1B-0Y			103.7	106.7	25.2	42.8	38.5	78.2	0.0	
70	DL75.77 X CEL-CI3909.2 CMB77A-1898-1H-1Y-1B-1Y-1B-0Y			93.3	100.5	41.7	39.2	7.5	85.0	0.0	
71	DL75.77 X CEL-CI3909.2 CMB77A-1898-1H-1Y-1B-1Y-2B-0Y			93.1	99.5	46.4	44.4	5.0	87.2	0.0	
72	(CG-CER(3) X API(2)/PRD(2)-TOL I(2)) CEL-CI3909.2 CMB77A-1941-7H-2Y-3B-1Y-1B-0Y			92.4	98.3	44.8	40.6	5.0	81.5	0.0	
73	(DC640-MARI(APRO X PALLAS(5)-J5/CM67 M65.220 X CR115-POR))PYO-CAM X AVT- RM1508 CMB77A-2154-E-2B-1Y-1B-1Y-2B-0Y			76.8	108.0	47.5	40.8	2.3	64.8	100.0	
74	((AS46-KRISTINA/APM-DWARF21 X POR- IB65)CEL X DS-APRO)PRO-BEACON CMB77A-2245-A-3B-1Y-1B-2Y-1B-0Y			101.0	107.0	26.4	32.2	12.0	76.8	0.0	
75	((AS46-KRISTINA/APM-DWARF21 X POR- IB65)CEL X DS-APRO)PRO-BEACON CMB77A-2245-A-3B-1Y-1B-2Y-2B-0Y			96.8	106.3	43.5	42.3	10.5	88.7	50.0	
76	((AS46-KRISTINA/APM-DWARF21 X POR- IB65)CEL X DS-APRO)PRO-BEACON CMB77A-2245-A-3B-1Y-2B-1Y-1B-0Y			97.6	105.7	44.0	48.9	0.5	88.3	100.0	
77	((AS46-KRISTINA/APM-DWARF21 X POR- IB65)CEL X DS-APRO)PRO-BEACON CMB77A-2245-A-3B-1Y-2B-1Y-2B-0Y			97.8	105.7	37.5	47.1	5.4	87.0	70.0	
78	(NP642-APM X CM67-U. SASK1800/CAL. MR DS-APRO)2762-BC CMB77A-2307-A-1B-1Y-2B-2Y-1B-0Y			99.8	107.0	42.0	34.0	9.5	74.5	0.0	
79	(BAL16-MANKER X CHYA/BCD. MR-MZG)BDGC GAS X HLS-CQ CMB77A-2362-A-1B-1Y-1B-1Y-1B-0B			97.2	107.7	37.0	38.5	10.0	82.3	20.0	
80	(BA115-MANKER X CHDYA/BCD. MR-MZG) BDGC-GAS X HLS-CQ CMB77A-2362-A-1B-1Y-1B-2Y-1B-0Y			97.2	107.0	50.0	33.9	2.9	79.3	0.0	

VTY	1000 G. W.	SCAB %	CHECK MARK	POW M 0-9	NET B 0-9	SPT B 0-9	SCLD 0-9	BAC B 0-9	BYDV 0-9
	(2)	(1)	(21)	(15)	(6)	(3)	(9)	(1)	(4)
56	25.6	31.0	23.9	4.2	4.3	7.7	4.9	8.0	4.5
57	31.2	36.0	4.8	4.5	2.8	7.3	3.9	8.0	4.0
58	32.0	12.0	4.8	4.8	3.8	7.0	3.3	6.0	5.3
59	25.2	13.0	4.8	3.5	2.8	7.0	3.6	6.0	7.0
60	32.0	26.0	4.8	3.8	2.5	7.3	4.0	6.0	6.3
61	30.0	29.0	23.9	6.1	2.5	6.0	2.1	6.0	4.5
62	32.8	10.0	9.6	3.2	4.3	6.3	4.6	8.0	3.0
63	32.0	34.0	19.0	2.3	2.2	6.0	4.6	9.0	4.5
64	25.2	18.0	9.5	5.9	3.8	7.3	4.8	9.0	6.7
65	42.8	70.0	4.8	4.1	5.7	6.7	5.3	9.0	6.0
66	38.0	65.0	0.0	3.0	4.8	6.3	4.4	9.0	5.3
67	40.0	67.0	14.3	5.3	3.7	5.7	4.4	9.0	5.3
68	28.0	65.0	23.8	6.9	4.8	7.7	2.7	8.0	5.3
69	34.4	-----	0.0	5.9	3.5	6.0	3.1	-----	6.3
70	34.4	13.0	19.0	6.0	3.6	8.3	3.9	8.0	6.8
71	32.5	28.0	14.3	5.7	3.0	8.0	4.0	9.0	5.8
72	34.8	10.0	14.3	5.7	3.0	7.3	4.2	4.0	3.5
73	31.2	23.0	0.0	6.9	5.0	6.0	3.7	4.0	4.5
74	31.2	84.0	0.0	5.5	3.3	6.3	2.1	6.0	4.5
75	31.6	77.0	9.5	6.2	1.8	6.7	3.0	4.0	4.0
76	26.0	80.0	4.8	6.4	1.4	6.7	2.1	4.0	4.3
77	28.4	56.0	14.3	6.7	2.4	6.3	1.4	6.0	5.0
78	32.8	45.0	14.3	5.9	3.8	6.7	4.1	8.0	5.3
79	28.4	46.0	19.1	6.2	4.8	7.0	4.7	8.0	6.0
80	27.2	29.0	23.9	6.8	3.7	6.3	3.6	-----	4.5

Table 2. (Cont'd)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	HEAD DAYS	MAT DAYS	STRP RT L	LEAF RUST	STEM RUST	PLNT HT	LOGG %
81	[(M66 91-M65 94 X 70 22109/APM-IB65) APM-IB65 X GVAJMONA-EMIR X GVA/CEL X DS-APRO CMB77A-2457-A-1B-2Y-1B-1Y-1B-0Y			92.8	99.7	54.8	57.1	19.7	73.7	20.0
82	[(M66 91-M65 94 X 70 22109/APM-IB65) APM-IB65 X GVAJMONA-EMIR X GVA/CEL X DS-APRO CMB77A-2457-C-4B-1Y-1B-1Y-1B-0Y			85.5	94.0	69.8	62.0	20.3	60.8	50.0
83	APM-RL/DWG1-API(3) X MARI[APM-RL(M66 69.1-M65.94 X 70.22109/APM-IB65)] CMB77A-2483-A-4B-2Y-1B-2Y-1B-0Y			79.8	100.0	59.8	43.0	0.0	63.3	50.0
84	APM-RL/DWG1-API(3) X MARI[APM-RL(M66 69.1-M65.94 X 70.22109/APM-IB65)] CMB77A-2483-A-5B-1Y-1B-1Y-1B-0Y			81.4	98.7	47.5	62.0	11.0	77.3	0.0
85	APM-RL/DWG1-API(3) X MARI[APM-RL(M66 69.1-M65.94 X 70.22109/APM-IB65)] CMB77A-2483-B-1B-1Y-1B-1Y-1B-0Y			81.5	98.3	55.0	53.4	0.9	67.2	0.0
86	(POR-U. SASK 1766/APM-11012.2 X NP CI 93)SAH X APM-5106 CMB77A-2491-A-3B-1Y-1B-1Y-1B-0Y			102.3	107.0	52.5	47.1	0.0	74.0	----
87	POR-U. SASK1766 X SOT/SAH X APM-5106 CMB77A-2491-A-3B-1Y-1B-1Y-2B-0Y			99.2	106.3	44.5	46.2	0.0	70.8	40.0
88	(M64.69-M65.211 X XV2240/CEL-CI3909.)HLS-CG/H272-11012.2 X ROD586 CMB77A-2566-G-5B-1Y-1B-1Y-1B-0Y			98.3	104.7	75.0	50.2	18.0	77.0	80.0
89	(M64.69-M65.211 X XV2240/CEL-CI3909.)HLS-CG/H272-11012.2 X ROD586 CMB77A-2566-G-5B-1Y-1B-1Y-2B-0Y			97.4	104.0	72.5	49.3	24.3	79.3	30.0
90	(M64.69-M65.211 X XV2240/CEL-CI3909.)HLS-CG/H272-11012.2 X ROD586 CMB77A-2566-G-7B-1Y-1B-1Y-1B-0Y			91.3	97.8	73.8	55.9	6.0	79.5	100.0
91	MANKER X APM-RL/MINN480-GVAJMONA(APR X PALLAS5-J3/CM67-M65.220 X CR115- POR) CMB77A-2612-A-1B-1Y-1B-1Y-1B-0Y			81.1	99.3	48.4	67.1	0.0	45.7	0.0
92	[MANKER X APM-RL(CR115-POR X BC/API- CM67)]CM67 X DS-APRO/APM-5106 CMB77A-2613-D-2B-5Y-2B-1Y-1B-0Y			80.2	99.0	55.0	67.2	50.0	60.0	0.0
93	MANKER X APM-RL/LECHI(M66.91-M65.94 70.22109/APM-IB65)CI1237-MANKER/DS- APRO X 11016.2] CMB77A-2620-A-2B-2Y-1B-1Y-2B-0Y			84.0	99.0	68.2	70.5	4.5	55.3	0.0
94	(ER X OLLI-M64.69/MZG-DL71)BREA"S"- NP108 CMB77A-2635-C-1B-2Y-1B-1Y-1B-0Y			80.8	99.3	33.5	50.0	5.0	52.2	0.0
95	CM67-BUS X MULLER4534/MARIS DINGO- NETHERLANDS14 CMB77A-2796-A-10B-1Y-2B-1Y-1B-0Y			100.8	108.3	32.0	35.5	12.5	72.5	0.0
96	CM67-BUS X MULLER4534/MARIS DINGO- NETHERLANDS14 CMB77A-2796-A-10B-1Y-2B-1Y-2B-0Y			102.1	108.3	32.0	33.3	10.0	75.2	20.0
97	CM67-BUS X MULLER4534/MARIS DINGO- NETHERLANDS14 CMB77A-2796-A-10B-3Y-2B-1Y-1B-0Y			97.4	106.7	39.0	38.0	14.3	77.6	----
98	(DWG1-API(3) X MARI[ACKERMANS)EMIR- SHABET X CM67/SIRIH CMB77A-2803-C-1B-1Y-1B-1Y-1B-0Y			81.1	101.7	53.2	49.5	28.7	68.0	0.0
99	BR6705.15.1-FEEBAR(SP(6H)-APRO X CAL MR/CLLA"S") CMB77A-2830-A-1B-1Y-1B-1Y-1B-0Y			81.2	99.7	71.8	60.2	15.3	68.7	0.0
100	TLLD CMB74A-432-25B-1Y-1B-1Y-0B			100.6	107.0	44.9	45.3	20.4	80.2	0.0
101	BR6705.15.1-FEEBAR(SP(6H)-APRO X CAL MR/CLLA"S") CMB77A-2830-A-1B-3Y-2B-1Y-1B-0Y			80.1	99.3	49.2	41.8	16.5	70.5	0.0

VTY	1000 G.W.	SCAB Z	CHECK MARK	POW M 0-9	NET B 0-9	SPT B 0-9	SCLD 0-9	BAC B 0-9	BYDV 0-9
	(2)	(1)	(21)	(15)	(6)	(3)	(9)	(1)	(4)
81	30.0	69.0	4.8	5.7	2.5	4.7	4.8	9.0	6.7
82	-----	81.0	0.0	5.7	1.0	3.7	4.2	-----	8.0
83	29.6	80.0	0.0	7.7	3.3	5.0	3.9	8.0	6.7
84	-----	51.0	0.0	7.8	4.3	8.3	5.7	9.0	5.5
85	34.0	71.0	0.0	7.4	3.0	4.7	4.0	8.0	7.3
86	21.2	4.0	14.3	5.6	3.2	6.7	4.0	8.0	5.3
87	20.4	10.0	9.5	6.1	1.8	6.7	3.8	6.0	4.3
88	29.6	8.0	14.3	6.7	1.8	8.0	5.2	6.0	5.3
89	26.8	13.0	9.5	6.5	2.0	7.7	5.0	6.0	4.7
90	34.0	75.0	19.0	7.3	4.0	6.7	5.6	8.0	4.8
91	-----	84.0	0.0	6.7	4.3	7.7	4.9	8.0	5.3
92	34.0	60.0	0.0	7.7	2.0	5.3	4.4	8.0	5.3
93	28.8	70.0	0.0	6.7	2.5	5.7	4.3	8.0	7.3
94	32.0	77.0	0.0	7.6	2.8	7.3	3.7	6.0	5.0
95	34.0	11.0	14.3	5.4	3.6	6.7	1.7	6.0	3.7
96	43.2	12.0	9.6	4.9	3.0	7.3	2.3	4.0	2.5
97	30.0	16.0	4.8	6.6	2.6	7.0	3.5	8.0	4.3
98	37.2	61.0	0.0	6.4	4.7	5.7	5.5	9.0	4.5
99	32.0	69.0	0.0	7.1	4.7	7.0	5.0	8.0	4.8
100	32.8	28.0	19.0	6.7	3.2	6.3	3.0	8.0	4.7
101	34.8	-----	0.0	6.4	5.5	4.7	5.4	9.0	3.3

Table 2. (Cont'd)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	HEAD	MAT	STRP	LEAF	STEM	PLNT	LODG	
				DAYS	DAYS	RT. L	RUST	RUST	HT	%	
				NOBS:	(18)	(4)	(6)	(10)	(4)	(6)	(1)
102	(API-CM67 X MZG/1658-EMIR)ORE"S"- ROBUR CMB77A-2883-B-2Y-2B-1Y-1B-1Y-OB			94.7	109.7	69.8	32.1	11.0	68.2	20.0	
103	69.82 X APM-IB65/2762-BCI(M65.95- M16.123 X BGS0252/API-CM67 X 11012.2 WISC691.1J CMB77A-2905-A-9B-1Y-1B-1Y-1B-0Y			104.3	105.7	46.7	46.0	30.0	95.7	50.0	
104	69.82 X APM-IB65/2762-BCI(M65.95- M16.123 X BGS0252/API-CM67 X 11012.2 WISC691.1J CMB77A-2905-A-9B-1Y-1B-2Y-1B-0Y			98.5	106.0	48.3	47.8	30.0	93.7	60.0	
105	[API-CM67 X APM-IB65/API-CM67 X II26 .L2966.69)ABNJCI1269/MANKER X API- CM67 CMB77A-2943-A-6B-1Y-1B-1Y-1B-0Y			95.9	107.0	44.5	46.0	8.0	76.3	0.0	
106	ARAMIR-COSSACK CMSWB77A-458-1H-1Y-1B-1Y-2B-0Y			99.5	108.3	33.5	50.1	5.0	79.3	0.0	
107	ABYN-HJA C4215 CMB78-9-1Y-2B-1Y-1B-3Y-OB			95.1	107.7	36.7	41.2	15.0	73.3	10.0	
108	CH-NN X HJA C4215 CMB78-21-3Y-1B-1Y-1B-1Y-OB			101.4	109.3	24.8	42.6	6.7	93.3	0.0	
109	JUNIOR X H272-NOPAL"S" CMB78-29-1Y-1B-1Y-1B-1Y-OB			100.6	107.0	40.0	60.1	5.3	87.5	90.0	
110	F3 BULK HIP-EN CMB78-37-9Y-1B-1Y-1B-2Y-OB			93.4	105.0	54.0	66.4	3.4	81.5	50.0	
111	F3 BULK HIP-EN CMB78-37-9Y-1B-1Y-1B-3Y-OB			92.7	105.0	73.2	58.0	1.5	89.7	60.0	
112	PY0(API-CM67/APM-KN27 X DZ02.391) CMB78-50-7Y-1B-1Y-1B-1Y-OB			93.9	104.3	52.0	30.3	2.3	92.3	0.0	
113	PY0(API-CM67/APM-KN27 X DZ02.391) CMB78-50-7Y-1B-1Y-1B-2Y-OB			93.9	103.0	54.0	30.3	0.0	89.2	80.0	
114	PY0(API-CM67/APM-KN27 X DZ02.391) CMB78-50-7Y-1B-1Y-1B-3Y-OB			95.1	105.0	46.7	33.2	4.8	89.3	80.0	
115	HUIZ/DWC1-API(3) X 5107 CMB78-62-2Y-1B-1Y-1B-3Y-OB			90.5	103.0	40.0	50.7	0.4	86.7	0.0	
116	M65.197-M66.69.1 X MONA(BAL16-PRO X APM-DWARFII.1Y/API-CM67) CMB78-68-8Y-1B-1Y-2B-2Y-OB			83.5	98.7	49.0	55.4	22.5	75.2	0.0	
117	BREA"S"/API-CM67 X II266.L2966.69 CMB78-70-1Y-1B-1Y-1B-2Y-OB			91.6	101.7	52.5	44.2	18.5	71.3	0.0	
118	MZG-BEN/PRO-DZ02.391 X CAL.MR-BEACON CMB78-90-3Y-1B-1Y-1B-1Y-OB			78.5	98.0	57.8	50.5	6.8	70.8	0.0	
119	MZG-BEN/PRO-DZ02.391 X CAL.MR-BEACON CMB78-90-8Y-1B-1Y-1B-2Y-OB			78.0	97.7	79.8	60.5	28.0	70.3	0.0	
120	MZG-BEN/BCO.MR-AVT X CEL CMB78-91-8Y-1B-1Y-1B-1Y-OB			83.3	99.7	65.0	70.6	8.0	84.3	0.0	
121	MANKER X API-CM67/11012.2-POR X WPG7 8.21 CMB78-92-9Y-1B-1Y-1B-1Y-OB			94.8	106.3	63.8	43.1	0.9	71.8	40.0	
122	BIZ-CEN CMB78-94-2Y-1B-1Y-1B-1Y-OB			92.3	104.7	36.6	27.6	4.0	76.2	10.0	
123	BREA"S"-DL70/API-CM67 X BUS CMB78-110-3Y-1B-2Y-1B-3Y-OB			92.9	103.3	53.2	36.3	8.3	76.3	90.0	
124	COULA"S" CMB78-113-7Y-1B-1Y-1B-3Y-OB			92.8	105.0	63.2	38.8	2.7	76.2	80.0	
125	(API-CM67 X APM-IB65/API-CM67 X II26 .L2966.69)WEEAH-TANEKAZE105 CMB78-114-12Y-1B-1Y-1B-1Y-OB			88.1	104.7	47.5	54.2	0.0	76.3	80.0	
126	(API-CM67 X APM-IB65/API-CM67 X II26 .L2966.69)API-CM67 X BUS CMB78-116-2Y-2B-1Y-1B-1Y-OB			93.0	106.3	28.5	48.1	5.0	73.5	----	

VTY	1000 Q. W.	SCAB %	CHECK MARK	POW M 0-9	NET B 0-9	SPT B 0-9	SCLD 0-9	BAC B 0-9	BYDV 0-9
	(2)	(1)	(21)	(15)	(6)	(3)	(9)	(1)	(4)
102	37.6	30.0	4.8	6.3	1.8	7.0	5.1	9.0	5.0
103	32.4	11.0	9.5	5.6	2.5	6.0	3.4	6.0	4.3
104	32.4	8.0	14.3	6.7	1.3	6.0	2.0	6.0	5.3
105	30.8	45.0	19.0	6.4	3.0	7.3	3.5	8.0	5.8
106	21.2	12.0	42.9	4.3	2.4	7.7	2.1	4.0	5.5
107	26.8	11.0	14.3	4.8	1.8	6.7	4.2	6.0	5.3
108	36.0	5.0	23.9	3.5	2.5	7.7	4.6	6.0	6.0
109	----	21.0	4.8	3.3	4.3	6.0	4.7	6.0	5.3
110	35.6	43.0	0.0	4.3	2.5	5.7	5.8	9.0	4.3
111	34.8	79.0	9.5	4.2	3.7	6.7	5.0	9.0	6.3
112	29.6	78.0	14.3	5.3	5.2	8.0	3.7	8.0	6.0
113	26.8	62.0	19.0	5.6	4.4	7.3	3.4	6.0	5.0
114	30.0	40.0	9.5	5.2	3.0	8.3	2.9	6.0	4.0
115	32.8	68.0	14.3	4.9	2.8	5.3	3.6	9.0	4.8
116	34.4	83.0	9.5	6.8	4.6	5.7	3.0	9.0	5.5
117	34.0	65.0	19.0	7.1	4.8	6.0	5.1	9.0	5.0
118	32.8	66.0	4.8	7.7	2.0	6.7	5.5	9.0	6.0
119	35.2	95.0	0.0	7.8	1.0	6.0	5.4	6.0	5.3
120	33.2	86.0	0.0	7.4	2.0	5.3	4.8	8.0	3.8
121	27.6	57.0	14.3	6.2	2.0	6.0	3.6	6.0	3.8
122	----	31.0	0.0	5.9	3.3	7.0	2.3	6.0	5.3
123	20.0	4.0	4.8	5.4	1.8	5.0	3.0	8.0	6.0
124	27.2	26.0	9.5	6.5	4.5	5.7	4.1	9.0	5.0
125	22.0	28.0	9.5	6.3	3.8	8.0	3.3	8.0	4.8
126	30.8	41.0	14.3	4.9	3.0	5.7	3.8	8.0	4.5

Table 2. (Cont'd)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	HEAD	MAT	STRP	LEAF	STEM	PLNT	LODC	
				DAYS	DAYS	RT. L	RUST	RUST	HT	%	
				NOBS:	(18)	(4)	(6)	(10)	(4)	(6)	(1)
127	EMIR/API-CM67 X BUS CMB78-137-5Y-1B-1Y-1B-1Y-OB			99.5	107.7	8.0	25.3	3.0	86.2	0.0	
128	EMIR/API-CM67 X BUS CMB78-137-8Y-1B-1Y-1B-2Y-OB			97.0	107.3	42.3	46.0	5.3	94.7	0.0	
129	MARIS CANON(LAPI-CM67(POR/APRO X SVO 109-MARI)IRM1508-BCO.MR) CMB78-143-6Y-1B-1Y-1B-2Y-OB			96.6	106.7	28.6	35.9	13.8	91.7	0.0	
130	BREA"S" X APM-IB65 CMB78-168-1Y-1B-1Y-1B-1Y-OB			98.5	105.7	28.5	34.9	5.0	91.5	30.0	
131	M64.69-M65.211 X XV2240/CH-DU CMB78-171-2Y-2B-1Y-1B-1Y-OB			95.1	104.7	40.6	56.8	0.0	101.3	80.0	
132	M64.69-M65.211 X XV2240/CH-DU CMB78-171-2Y-2B-1Y-1B-3Y-OB			95.4	104.3	36.0	66.4	0.5	94.7	40.0	
133	CEL-CI3909.2 X HUIZ CMB78-183-2Y-2B-1Y-1B-1Y-OB			94.7	106.7	26.5	53.9	0.2	85.5	0.0	
134	AMAPA"S" CMB78-276-2Y-1B-1Y-1B-4Y-OB			99.9	106.0	24.1	45.6	0.5	75.8	0.0	
135	AMAPA"S" CMB78-276-4Y-1B-2Y-2B-3Y-OB			97.1	107.0	25.4	37.1	6.8	87.3	0.0	
136	BDGC-GAS/POR-U. SASK1766 X BEN CMB78-278-3Y-2B-1Y-1B-1Y-OB			92.0	105.7	23.3	53.5	0.0	104.2	0.0	
137	BDGC-GAS/POR-U. SASK1766 X BEN CMB78-278-3Y-2B-1Y-1B-2Y-OB			91.6	105.7	34.8	39.3	3.3	104.5	0.0	
138	BDGC-GAS X BREA"S"-CEL CMB78-279-5Y-1B-1Y-1B-2Y-OB			95.7	105.7	58.0	28.6	0.4	93.7	70.0	
139	BDGC-GAS X BREA"S"-CEL CMB78-279-12Y-1B-1Y-1B-1Y-OB			92.1	104.3	49.7	52.6	0.8	101.8	10.0	
140	BDGC-GAS X BREA"S"-CEL CMB78-279-17Y-4B-1Y-2B-2Y-OB			91.5	104.0	24.6	38.1	2.0	86.7	90.0	
141	MANKER-ATHS(11012.2-TERN X ORE/NP CI 93) CMB78-300-4Y-1B-1Y-1B-1Y-OB			91.6	105.7	38.0	32.0	0.0	95.8	100.0	
142	ETFE"S" CMB78-305-11Y-1B-2Y-1B-2Y-OB			91.8	104.7	37.5	50.4	4.8	81.0	0.0	
143	(DL70 X GRUNDMAN-STELLA/BREA"S")CEL- CI3909.2 CMB78-316-2Y-1B-1Y-2B-2Y-OB			96.4	105.7	42.0	40.4	0.0	81.5	20.0	
144	(DL70 X GRUNDMAN-STELLA/BREA"S")CEL- CI3909.2 CMB78-316-9Y-1B-3Y-1B-1Y-OB			97.1	107.7	48.0	26.1	2.0	86.3	30.0	
145	MONA-NOPAL"S" CMB78-325-7Y-2B-1Y-1B-2Y-OB			79.9	100.7	71.8	53.7	19.0	72.8	-----	
146	MONA-NOPAL"S" CMB78-325-7Y-2B-1Y-1B-2Y-OB			79.4	100.7	61.5	61.5	26.0	72.0	-----	
147	MONA X MARIS CANON-HOR1726 CMB78-326-1Y-2B-1Y-1B-1Y-OB			80.8	99.7	55.8	73.7	26.7	69.8	-----	
148	EMIR X BETZES-COHO CMB78-328-2Y-1B-1Y-1B-2Y-OB			95.6	108.0	23.0	27.9	6.0	88.5	90.0	
149	EMIR X BETZES-COHO CMB78-328-2Y-2B-2Y-1B-1Y-OB			98.6	107.3	17.4	31.0	6.5	90.5	60.0	
150	ER X OLLI-M64.69(M65.157-M66.69.1 X MONA/AS57) CMB78-337-5Y-1B-1Y-1B-1Y-OB			85.4	97.3	74.5	60.0	6.7	72.8	100.0	
151	BREA"S"-DL70 X CEL CMB78-338-1Y-1B-1Y-1B-1Y-OB			92.7	104.3	46.3	26.8	0.5	80.0	0.0	
152	(HJA C4715 X OLLI-M64.69/APM-IB65) TB-CHZO CMB78-344-8Y-1B-1Y-1B-1Y-OB			77.2	98.7	47.8	55.3	0.2	79.3	80.0	
153	(HJA C4715 X OLLI-M64.69/APM-IB65) TB-CHZO CMB78-344-10Y-1B-1Y-1B-1Y-OB			76.4	99.3	51.8	66.1	9.3	82.6	80.0	

VTY	1000 O. W.	SCAB %	CHECK MARK	POW M 0-9	NET B 0-9	SPT B 0-9	SCLD 0-9	BAC B 0-9	BYDV 0-9
	(2)	(1)	(21)	(15)	(6)	(3)	(9)	(1)	(4)
127	34.8	17.0	9.6	3.2	4.3	5.0	5.0	8.0	4.5
128	42.0	31.0	14.3	5.0	4.5	5.3	6.2	8.0	4.3
129	48.4	64.0	14.3	6.1	3.3	5.7	5.6	8.0	4.3
130	22.8	20.0	0.0	6.0	3.2	6.3	4.0	6.0	4.3
131	-----	11.0	4.8	6.6	3.0	5.7	2.6	6.0	4.0
132	31.2	8.0	9.5	6.7	2.0	5.3	3.3	6.0	4.5
133	30.0	12.0	9.6	5.3	3.6	7.0	3.3	8.0	4.3
134	26.0	23.0	0.0	4.8	1.8	5.7	1.9	6.0	5.5
135	26.0	30.0	19.0	6.3	2.0	7.0	0.9	4.0	4.8
136	-----	22.0	9.5	4.6	4.8	6.3	5.4	8.0	5.3
137	-----	53.0	9.5	4.8	4.5	5.0	5.1	8.0	4.5
138	29.0	-----	9.5	5.6	2.8	5.0	3.5	6.0	4.8
139	36.0	17.0	0.0	5.8	3.8	8.3	3.6	8.0	4.3
140	30.8	37.0	23.8	5.8	3.7	7.7	3.6	8.0	3.5
141	35.2	11.0	9.5	4.9	2.3	6.7	3.1	8.0	6.0
142	-----	55.0	4.8	4.6	4.6	5.7	3.9	8.0	5.0
143	32.8	20.0	19.0	6.2	2.8	7.0	4.0	8.0	4.0
144	36.0	28.0	38.1	5.5	4.3	6.3	3.8	6.0	4.3
145	30.8	70.0	9.5	3.0	2.5	2.7	5.6	9.0	5.7
146	33.6	39.0	9.5	4.0	4.0	3.7	7.1	9.0	4.0
147	38.4	10.0	0.0	5.2	1.5	5.0	6.3	9.0	5.3
148	28.0	35.0	19.0	4.1	4.5	5.7	5.0	8.0	6.0
149	34.0	10.0	23.8	3.7	3.0	6.3	4.9	9.0	4.7
150	32.4	83.0	4.8	6.0	6.8	5.7	5.3	9.0	5.7
151	27.6	71.0	33.3	4.8	3.6	6.3	1.6	6.0	4.7
152	30.8	10.0	4.8	5.1	4.5	6.7	6.3	9.0	5.3
153	33.6	86.0	0.0	5.8	4.0	6.3	4.8	9.0	6.0

Table 2. (Cont'd)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	HEAD DAYS	MAT DAYS	STRP RT. L	LEAF RUST	STEM RUST	PLNT HT	LODG %
134	(HJA C4715 X OLLI-M64.69/APM-IB65) M65.167-M66.69.1 X MONA/BEN CMB78-345-3Y-1B-1Y-1B-1Y-OB			84.2	100.0	52.3	68.1	10.3	63.0	30.0
135	(HJA C4715 X OLLI-M64.69/APM-IB65) MINN480-GVA CMB78-346-8Y-1B-2Y-1B-1Y-OB			81.5	102.0	74.8	50.1	25.3	72.8	0.0
136	(HJA C4715 X OLLI-M64.69/APM-IB65) MINN480-GVA CMB78-346-10Y-2B-3Y-1B-1Y-OB			80.8	101.7	63.3	43.6	17.8	73.8	0.0
137	MONA-EMIR X BCO.MR-GVA/APM-HC1905 CMB78-347-1Y-1B-3Y-1B-2Y-OB			81.9	99.0	67.8	46.0	11.0	68.5	10.0
138	MONA-EMIR X BCO.MR-GVA/APM-HC1905 CMB78-347-11Y-2B-1Y-1B-2Y-OB			89.9	99.3	60.0	48.3	18.3	65.3	0.0
139	(M69.69 X APM-RL/NACKTA)NOPAL X BCO.R-GVA CMB78-353-16Y-1B-1Y-2B-1Y-OB			87.6	100.0	77.8	49.3	15.0	72.2	0.0
160	(M69.69 X APM-RL/NACKTA)NOPAL X BCO.R-GVA CMB78-353-16Y-1B-1Y-2B-2Y-OB			88.9	100.0	46.0	44.9	13.7	83.5	0.0
161	(M69.69 X APM-RL/NACKTA)SAH/API-CM67 X LINE257.14-B11 CMB78-355-2Y-1B-1Y-1B-2Y-OB			83.4	98.7	59.2	63.1	24.8	79.8	0.0
162	(M69.69 X APM-RL/NACKTA)SAH/API-CM67 X LINE257.14-B11 CMB78-355-4Y-1B-2Y-1B-1Y-OB			84.0	99.0	47.3	65.0	23.0	76.2	100.0
163	(M69.69 X APM-RL/NACKTA)SDB642-CEL CMB78-356-13Y-2B-1Y-2B-1Y-OB			84.2	100.0	51.2	70.9	18.8	71.8	0.0
164	(ER X OLLI-M64.69/SUL-NACKTA)M65.167 M66.69.1 X MONA/BEN CMB78-360-7Y-2B-1Y-1B-1Y-OB			87.4	93.0	39.4	79.2	41.3	78.3	0.0
165	(ER X OLLI-M64.69/SUL-NACKTA)M65.167 M66.69.1 X MONA/BEN CMB78-365-21Y-1B-1Y-1B-2Y-OB			86.8	93.5	54.3	61.0	6.3	83.8	0.0
166	BGLO"S" CMB78-369-7Y-1B-1Y-1B-1Y-OB			90.4	103.7	43.8	49.9	4.0	81.3	70.0
167	BGLO"S" CMB78-369-7Y-1B-1Y-1B-3Y-OB			91.5	102.3	27.8	50.9	1.9	82.0	30.0
168	NACKTA-6.73 CMB78-376-1Y-1B-1Y-1B-3Y-OB			100.4	107.7	42.4	51.1	5.5	87.0	40.0
169	API-CM67 X POR-U.SASK1766/API-BEN CMB78-391-7Y-1B-1Y-1B-1Y-OB			100.9	107.7	30.6	18.6	1.0	76.2	20.0
170	(API-CM67 X APM-IB65/API-CM67 X II26 L2966.69)MONA-EMIR X GVA CMB78-400-5Y-2B-2Y-1B-1Y-OB			100.6	103.7	25.5	20.1	1.0	80.2	100.0
171	APM-IB65 X WEEAH/F1HJ17-MARIS OTTER CMB78-433-4Y-1B-1Y-1B-1Y-OB			101.9	108.3	17.8	33.2	5.0	85.8	90.0
172	GADA"S" CMB78-437-6Y-1B-1Y-1B-1Y-OB			100.2	107.0	29.4	5.5	4.5	99.2	10.0
173	GADA"S" CMB78-437-6Y-1B-2Y-1B-1Y-OB			99.2	108.0	36.2	7.2	10.3	93.5	30.0
174	EMIR-ZHABET X CM67/COSSACK CMB78-439-1Y-1B-2Y-1B-1Y-OB			96.0	106.3	36.8	19.4	5.9	84.8	100.0
175	PYE"S" CMB78-440-3Y-2B-2Y-1B-1Y-OB			92.9	106.7	35.7	24.2	25.9	88.7	100.0
176	PI2325-MAF102 X COSSACK CMB78-452-2Y-1B-1Y-1B-1Y-OB			97.2	107.0	27.5	35.8	29.3	89.5	0.0
177	2762-BC/CEL X MZG-GVA CMB78-474-2Y-1B-1Y-1B-1Y-OB			97.2	105.3	46.0	30.9	16.4	80.7	50.0
178	DEP/POR-U.SASK1766 X BEN CMB78-484-15Y-1B-1Y-1B-1Y-OB			96.2	104.0	45.0	43.1	3.6	87.7	50.0

VTY	1000 D. H.	SCAB %	CHECK MARK	POW H 0-9	NET B 0-9	SPT B 0-9	BCLD 0-9	BAC B 0-9	BYDV 0-9
	(2)	(1)	(21)	(15)	(6)	(3)	(9)	(1)	(4)
154	33.2	77.0	0.0	4.9	4.0	5.7	4.0	6.0	4.7
155	33.2	50.0	19.0	5.9	5.3	5.0	2.9	6.0	4.0
156	32.8	71.0	14.3	4.7	3.8	5.3	3.6	8.0	2.5
157	38.0	17.0	4.8	6.2	2.5	4.7	5.2	9.0	5.3
158	32.0	47.0	4.8	5.8	3.5	5.0	3.9	6.0	7.3
159	20.4	83.0	4.8	6.2	1.3	5.7	3.1	8.0	4.0
160	33.6	50.0	9.5	6.3	2.5	7.3	2.6	4.0	4.7
161	24.0	92.0	0.0	6.2	2.0	5.7	3.1	6.0	6.3
162	23.6	57.0	0.0	5.8	2.0	5.7	3.6	8.0	5.7
163	24.4	33.0	0.0	6.5	4.3	7.7	2.4	8.0	4.3
164	24.4	5.0	9.5	6.4	5.7	6.7	3.7	4.0	4.3
165	35.2	10.0	4.8	4.8	4.3	6.7	3.9	4.0	4.3
166	36.8	31.0	14.3	5.8	4.4	8.0	4.1	6.0	4.0
167	34.8	64.0	9.5	6.1	6.0	8.0	3.4	6.0	5.3
168	38.8	----	4.8	5.0	2.8	6.3	3.4	4.0	5.0
169	33.6	25.0	9.5	5.7	2.4	6.0	2.0	6.0	4.8
170	30.0	----	19.0	3.5	3.4	6.7	3.6	4.0	4.5
171	20.4	30.0	14.3	2.6	4.4	6.3	1.4	6.0	5.0
172	----	26.0	14.3	3.3	4.8	6.3	1.9	8.0	4.3
173	38.0	17.0	19.0	2.4	4.0	6.3	3.5	6.0	3.5
174	36.8	44.0	4.8	4.9	4.0	6.7	5.0	9.0	5.0
175	41.2	28.0	19.0	3.9	3.3	5.7	4.4	8.0	5.8
176	30.0	24.0	14.3	2.7	2.6	6.3	3.5	4.0	4.3
177	31.6	30.0	9.5	6.8	3.2	7.0	1.0	4.0	5.3
178	27.6	33.0	4.8	6.1	3.0	7.7	2.5	6.0	5.0

Table 2. (Cont'd)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	HEAD DAYS	MAT DAYS	STRP RT. L	LEAF RUST	STEM RUST	PLNT HT	LDDG %
179	PKN/CI3909. 2 X M66. 151-MANKER CMB78-486-2Y-1B-2Y-1B-1Y-OB			96. 8	103. 3	65. 7	36. 5	0. 7	95. 0	50. 0
180	(CER-POR X TP/PRO)APM-5106 CMB78-500-3Y-3B-1Y-1B-1Y-OB			96. 7	106. 3	27. 3	50. 9	3. 0	87. 2	10. 0
181	(CER-POR X TP/PRO)APM-5106 CMB78-500-6Y-1B-1Y-1B-1Y-OB			95. 9	106. 0	25. 8	31. 0	0. 8	84. 3	0. 0
182	ECVA"S" CMB78-503-5Y-1B-1Y-1B-1Y-OB			94. 5	106. 0	55. 6	49. 9	0. 5	77. 7	90. 0
183	MOY"S" CMB78-526-7Y-1B-1Y-1B-1Y-OB			88. 4	104. 0	29. 5	36. 1	9. 1	79. 8	10. 0
184	GALT-11012. 2 X CH-DU CMB78-552-1Y-1B-1Y-3B-1Y-OB			96. 1	105. 0	33. 2	43. 8	4. 0	89. 0	20. 0
185	PIRUL"S" CMB78-553-2Y-7B-1Y-2B-2Y-OB			91. 1	104. 7	46. 4	41. 9	6. 7	88. 3	0. 0
186	PIRUL"S" CMB78-553-2Y-7B-1Y-2B-3Y-OB			91. 5	103. 7	52. 5	43. 3	5. 7	89. 2	0. 0
187	NOGAL"S" CMB78-587-13Y-1B-1Y-1B-1Y-OB			98. 1	105. 0	62. 0	50. 8	12. 7	81. 0	0. 0
188	NOGAL"S" CMB78-587-13Y-1B-1Y-1B-2Y-OB			97. 5	104. 0	62. 5	45. 4	24. 0	82. 5	0. 0
189	HJA A33-IAR. H. 136 X MASWI-BON CMB78-620-8Y-2B-1Y-1B-1Y-OB			78. 2	92. 5	60. 0	47. 8	9. 9	77. 0	0. 0
190	HJA A33-IAR. H. 136 X MASWI-BON CMB78-620-8Y-2B-1Y-1B-2Y-OB			79. 0	93. 0	67. 8	62. 6	11. 7	75. 4	0. 0
191	HJA A33-IAR. H. 136 X MASWI-BON CMB78-620-10Y-1B-1Y-1B-1Y-OB			88. 3	95. 0	53. 8	68. 9	40. 0	70. 8	0. 0
192	CEL-CI3909. 2 X BCO. MR-MZG CMB78-632-2Y-1B-1Y-1B-1Y-OB			94. 4	105. 0	52. 5	61. 4	23. 8	74. 5	0. 0
193	ZVA"S" CMB78-728-3Y-2B-1Y-1B-1Y-OB			97. 4	105. 7	46. 7	42. 8	13. 4	93. 2	0. 0
194	F3 BULK HIP(BREA"S" X APM-IB65/DS-APRO) CMB78-740-16Y-2B-1Y-1B-3Y-OB			98. 3	99. 3	56. 0	33. 4	19. 3	78. 5	0. 0
195	F3 BULK HIP(BREA"S" X APM-IB65/DS-APRO) CMB78-740-16Y-2B-2Y-1B-1Y-OB			97. 4	108. 0	56. 0	35. 7	17. 2	82. 8	80. 0
196	F3 BULK HIP(BREA"S" X APM-IB65/DS-APRO) CMB78-740-16Y-2B-2Y-1B-2Y-OB			97. 8	107. 7	47. 2	35. 7	18. 6	84. 3	90. 0
197	F3 BULK HIP X MINN480-GVA CMB78-764-5Y-1B-1Y-1B-1Y-OB			95. 2	104. 0	41. 0	38. 3	15. 0	89. 2	70. 0
198	CCXXA-CEN CMB78-789-5Y-1B-1Y-1B-1Y-OB			95. 2	104. 3	50. 0	47. 3	22. 7	93. 2	10. 0
199	IRIS-GUAJ X HUIZ CMB78-825-A-5Y-3B-2Y-1B-2Y-OB			98. 8	107. 0	45. 7	50. 4	5. 5	81. 0	0. 0
200	TCHE CMB74A-1597-E-4B-1Y-1B-1Y-OB			92. 2	103. 3	66. 0	54. 1	25. 8	84. 8	60. 0
201	ORG"S" CMB78-850-B-3Y-1B-1Y-2B-3Y-OB			97. 6	107. 7	47. 7	37. 3	14. 8	93. 2	-----
202	ORG"S" CMB78-850-B-3Y-1B-1Y-2B-4Y-OB			102. 1	107. 0	41. 5	37. 0	10. 3	95. 2	90. 0
203	(API-KRISTINA X M66. 85/11016. 2-CHE) EN CMB78-877-D-1Y-2B-1Y-1B-1Y-OB			91. 4	104. 0	49. 6	34. 8	2. 9	88. 8	50. 0
204	(API-KRISTINA X M66. 85/11016. 2-CHE) EN CMB78-877-D-1Y-2B-1Y-1B-3Y-OB			89. 1	104. 7	32. 8	43. 4	8. 0	87. 7	0. 0
205	API-EB489. 8. 2. 15. 4 X POR-U. SASK1766/ CEL-CI3909. 2 CMB78-884-F-2Y-2B-1Y-1B-2Y-OB			89. 1	104. 7	38. 8	29. 7	1. 5	89. 7	0. 0

VTY	1000 O.W.	SCAB %	CHECK MARK	POW M 0-9	NET B 0-9	SPT B 0-9	SCLD 0-9	BAC B 0-9	BYDV 0-9
	(2)	(1)	(21)	(15)	(6)	(3)	(9)	(1)	(4)
179	30.8	25.0	0.0	7.7	3.0	7.7	4.5	8.0	5.0
180	29.2	36.0	9.5	5.4	2.0	6.3	2.6	4.0	5.3
181	33.2	38.0	19.0	4.6	3.3	6.0	2.6	6.0	4.7
182	28.4	19.0	4.8	5.6	3.4	5.7	3.4	6.0	4.3
183	32.8	33.0	19.0	6.3	3.3	7.3	5.4	6.0	4.8
184	34.8	18.0	4.8	6.9	3.3	5.7	2.6	6.0	4.5
185	32.8	38.0	9.5	6.6	5.0	7.3	4.0	6.0	5.3
186	31.2	31.0	4.8	6.6	3.2	7.7	4.3	8.0	5.7
187	32.0	11.0	4.8	5.5	3.3	6.7	4.3	6.0	6.3
188	33.6	23.0	4.8	5.8	3.7	6.7	3.8	4.0	6.0
189	44.4	62.0	0.0	8.2	2.0	6.3	4.6	8.0	4.7
190	27.6	68.0	0.0	8.2	4.7	5.0	5.8	6.0	4.3
191	24.8	50.0	4.8	7.8	5.5	6.0	4.0	6.0	3.0
192	24.4	22.0	19.0	6.5	2.6	6.0	3.2	6.0	4.0
193	29.2	25.0	52.4	5.5	2.8	6.3	3.5	4.0	4.0
194	31.0	23.0	19.0	5.9	3.7	5.3	4.9	8.0	5.3
195	30.4	29.0	9.5	5.7	1.8	6.7	4.8	6.0	4.5
196	22.4	8.0	4.8	6.2	3.0	7.0	4.1	8.0	4.3
197	31.6	30.0	4.8	5.5	3.2	5.7	4.4	6.0	5.0
198	34.4	24.0	0.0	5.8	2.5	6.3	3.0	8.0	6.3
199	32.8	20.0	14.3	4.2	2.4	6.3	4.0	6.0	5.0
200	34.0	46.0	9.5	5.2	4.3	8.0	4.5	8.0	4.3
201	37.6	-----	9.5	5.3	2.8	6.7	3.6	6.0	3.5
202	30.0	-----	4.8	5.6	1.5	7.7	4.2	6.0	5.3
203	26.4	23.0	14.3	6.5	3.0	7.3	4.6	6.0	3.3
204	30.0	16.0	23.8	6.7	2.3	8.3	4.0	8.0	3.8
205	28.4	62.0	9.5	5.9	4.2	8.0	4.3	8.0	4.0

Table 2. (Cont'd)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	HEAD	MAT	STRP	LEAF	STEM	PLNT	LODQ	
				DAYS	DAYS	RT. L	RUST	RUST	HT	%	
				NOBS:	(18)	(4)	(6)	(10)	(4)	(6)	(1)
206	API-EB489. B. 2 15 4 X POR-U SASK1766/ CEL-CI3909. 2 CMB78-884-F-2Y-2B-1Y-1B-3Y-OB			89.5	105.0	55.0	47.0	2.0	87.5	0.0	
207	[(APM-IB65 X 11012. 2/API-CM67 X D5- APRO)AVT-ATHSJCEL-CI3909. 2 CMB78-900-B-2Y-1B-1Y-1B-1Y-OB			96.5	107.7	40.8	38.3	9.7	85.5	10.0	
208	[(APM-IB65 X 11012. 2/API-CM67 X D5- APRO)AVT-ATHSJCEL-CI3909. 2 CMB78-900-C-3Y-1B-1Y-1B-1Y-OB			97.4	107.0	62.5	34.1	0.0	90.5	20.0	
209	(API-KRISTINA X M66. 85/GVA)APM-5106 CMB78-902-M-1Y-2B-2Y-1B-1Y-OB			97.9	104.3	21.5	31.9	0.0	93.7	70.0	
210	(API-KRISTINA X M66. 85/GVA)APM-5106 CMB78-902-M-1Y-2B-2Y-1B-2Y-OB			99.3	108.7	27.8	32.7	0.0	79.7	0.0	
211	(F3 BULK HIP/API-CM67 X ORE)BREA"S"- CEL CMB78-916-C-1Y-2B-1Y-1B-1Y-OB			97.8	108.0	33.3	36.5	0.0	74.2	40.0	
212	(F3 BULK HIP/API-CM67 X ORE)BREA"S"- CEL CMB78-916-C-1Y-2B-1Y-1B-2Y-OB			97.5	107.0	67.3	54.3	0.0	74.2	90.0	
213	F3 BULK HIP X H272-11012. 2/MINN480- GVA CMB78-923-B-3Y-2B-1Y-1B-3Y-OB			98.8	107.0	63.3	39.2	15.3	80.2	0.0	
214	[F3 BULK HIP(API-CM67 X APM-IB65/ API-CM67 X II266. L2966. 69)IBDQC-GAS CM67-U. SASK1744 CMB78-929-D-2Y-2B-1Y-1B-1Y-OB			101.0	108.7	40.5	37.8	5.5	85.3	50.0	
215	BAHTIM10-LBN/API-CM67 X ORE CMB78-938-A-2Y-1B-1Y-2B-1Y-OB			98.8	108.0	50.8	43.5	5.1	88.8	100.0	
216	EN-LBN/ORE"S" X API-CM67 CMB78-945-B-3Y-1B-1Y-1B-2Y-OB			98.6	107.7	36.2	39.9	0.0	87.3	90.0	
217	EN-LBN/ORE"S" X API-CM67 CMB78-945-B-3Y-1B-2Y-1B-1Y-OB			93.4	107.0	53.3	48.1	9.0	88.2	80.0	
218	BREA"S"-RUPEE/M64. 69-M65. 211 X XV224 CMB78-957-A-1Y-1B-1Y-2B-2Y-OB			92.8	107.0	65.0	52.0	31.0	93.0	70.0	
219	11012. 2-TERN X ASSE-NACKTA/SI CMB78-961-B-1Y-1B-1Y-1B-1Y-OB			94.7	108.0	48.3	26.9	18.2	82.8	90.0	
220	(CAL. MR X DS-APRO/2762-BC)API-EB489. . 2. 15. 4 CMB78-985-D-1Y-1B-1Y-1B-1Y-OB			93.7	106.3	59.0	21.3	20.5	78.7	0.0	
221	(CAL. MR X DS-APRO/2762-BC)API-EB489. . 2. 15. 4 CMB78-985-D-1Y-1B-1Y-1B-2Y-OB			99.3	110.0	5.6	46.5	10.0	85.0	0.0	
222	NACKTA-VOLLA/APM-IB65 X WEEAH CMB78-1007-A-3Y-1B-1Y-1B-1Y-OB			100.8	109.3	13.3	46.2	0.0	82.0	0.0	
223	NACKTA-VOLLA/APM-IB65 X WEEAH CMB78-1007-A-3Y-1B-1Y-1B-2Y-OB			95.2	107.0	31.1	48.1	8.9	81.5	40.0	
224	BREA"S"-DL70 X MOZDOSKY/NOPAL"S" CMB78-1018-C-2Y-2B-1Y-1B-1Y-OB			94.5	105.7	23.5	47.4	0.4	70.3	100.0	
225	WI2105-F3 BULK HIP X NACKTA CMB78-1041-B-2Y-2B-1Y-1B-2Y-OB			98.2	110.0	36.0	56.6	0.0	80.2	100.0	
226	EST X CEL-CI3909. 2/11012. 2-TERN CMB78-1052-E-1Y-1B-1Y-2B-1Y-OB			101.2	106.7	33.3	55.7	9.5	82.0	-----	
227	[CI03568(M65. 167-M66. 69. 1 X MONA/ BEN)JPYD-5106 X MINN906 CMB78-1103-A-2Y-1B-1Y-2B-1Y-OB			91.4	99.0	48.2	42.0	5.0	81.2	-----	
228	[CI03568(M65. 167-M66. 69. 1 X MONA/ BEN)JPYD-5106 X MINN906 CMB78-1103-A-2Y-1B-1Y-1B-2Y-OB			92.2	99.7	51.7	48.4	2.0	85.0	-----	
229	[CI03568(M65. 167-M66. 69. 1 X MONA/ BEN)JPYD-5106 X MINN906 CMB78-1103-A-2Y-1B-1Y-2B-3Y-OB			86.1	95.0	50.0	44.6	22.0	79.5	-----	

VTY	1000 G. M.	SCAB %	CHECK MARK	POW M 0-9	NET B 0-9	SPT B 0-9	SCLD 0-9	BAC B 0-9	BYDV 0-9
	(2)	(1)	(21)	(15)	(6)	(3)	(9)	(1)	(4)
206	28.4	60.0	28.6	5.3	4.5	8.0	4.3	8.0	4.3
207	30.8	17.0	9.6	5.7	2.8	6.0	3.4	6.0	5.0
208	28.8	27.0	23.8	6.4	2.8	6.0	2.9	4.0	3.8
209	22.8	5.0	4.8	6.2	2.5	6.7	3.6	6.0	5.3
210	30.8	42.0	0.0	5.8	3.0	8.3	2.5	6.0	5.0
211	30.8	20.0	4.8	6.1	2.0	6.0	3.1	8.0	4.7
212	17.2	22.0	0.0	7.4	2.5	5.3	4.6	6.0	4.3
213	29.2	59.0	9.5	6.2	2.0	6.0	4.7	9.0	4.3
214	31.6	3.0	14.3	6.2	1.6	7.0	2.6	4.0	4.5
215	19.7	11.0	4.8	5.9	3.2	7.3	2.3	4.0	5.0
216	21.6	59.0	0.0	5.8	2.6	6.3	3.8	6.0	5.0
217	36.4	21.0	4.8	6.9	4.2	7.7	3.3	4.0	5.0
218	32.8	23.0	14.3	7.3	3.5	6.3	3.7	6.0	5.0
219	31.8	31.0	0.0	6.6	3.3	6.0	4.3	6.0	4.3
220	25.6	25.0	9.5	5.4	2.8	5.7	3.9	6.0	4.5
221	25.8	-----	0.0	4.9	3.2	6.3	3.8	8.0	6.7
222	33.6	-----	4.8	4.8	2.6	6.3	3.2	6.0	4.3
223	57.9	-----	4.8	5.8	1.4	7.0	2.6	4.0	4.7
224	26.0	17.0	19.0	6.9	3.2	7.0	3.3	9.0	4.0
225	25.2	-----	4.8	4.5	2.0	6.3	3.3	4.0	4.7
226	-----	-----	9.5	3.5	2.4	7.3	1.1	4.0	4.7
227	-----	30.0	9.5	6.8	4.5	7.3	2.5	6.0	3.8
228	-----	30.0	19.0	6.4	3.4	8.3	1.8	6.0	4.7
229	-----	78.0	0.0	6.2	2.7	6.0	3.8	6.0	5.0

Table 2. (Cont'd)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	HEAD	MAT	STRP	LEAF	STEM	PLNT	LODG
				DAYS	DAYS	RT. L	RUST	RUST	HT	%
				NOBS: (18)	(4)	(6)	(10)	(4)	(6)	(1)
230	EB489. 6. 3. 2 X BREA"S"-DL70/CEL-C1390 2 CMB7B-1113-C-6Y-2B-1Y-1B-1Y-0B			97.3	107.0	47.5	28.3	7.7	81.7	0.0
231	78W40785			98.7	109.7	60.0	21.4	1.5	70.3	0.0
232	78W40794			103.4	107.7	49.0	20.9	10.3	80.0	0.0
233	78W40804			100.9	109.7	66.0	29.4	27.8	80.7	0.0
234	78W42314			104.8	109.7	20.0	30.4	5.0	83.5	60.0
235	79W40268			100.8	109.3	68.0	30.1	1.5	72.7	100.0
236	79W40762			101.2	110.3	50.9	23.2	5.0	77.8	70.0
237	79W41308			102.4	111.0	40.5	35.9	0.0	66.5	80.0
238	79W41762			101.1	109.7	36.0	21.0	1.0	80.2	20.0
239	79W42713			100.4	111.5	13.8	20.1	0.0	72.5	10.0

VTY	1000 G. W.	SCAB %	CHECK MARK	POW H 0-9	NET B 0-9	SPT B 0-9	BCLD 0-9	BAC B 0-9	BYDV 0-9
	(2)	(1)	(21)	(15)	(6)	(3)	(9)	(1)	(4)
230	30.8	25.0	14.3	5.9	2.6	5.7	1.4	4.0	4.7
231	36.4	13.0	4.8	6.1	2.2	6.7	3.9	8.0	5.3
232	22.4	30.0	9.5	5.9	2.0	7.7	0.8	8.0	4.5
233	31.0	20.0	0.0	6.0	3.0	6.3	2.4	6.0	5.3
234	28.5	30.0	14.3	4.1	3.4	6.7	3.0	6.0	5.7
235	28.0	50.0	9.5	5.8	2.8	7.3	2.1	8.0	6.0
236	18.8	39.0	28.6	6.1	3.8	6.7	1.8	8.0	4.3
237	28.0	10.0	14.3	5.9	3.4	6.7	4.5	6.0	2.7
238	29.2	16.0	23.9	5.8	2.2	7.0	3.9	6.0	2.5
239	10.4	2.0	9.6	4.7	1.7	6.7	2.3	6.0	3.7

Table 3. Resistance to scald

TABLE	CONTINENT	COUNTRY	AREA	VARIABLES INCLUDED
2	AFRICA	SOUTH AFRICA	CAPE PROVINCE	69
4	ASIA	AFGHANISTAN	KUNDUZ	69
9	EUROPE	ENGLAND	NORFOLK	69
12	EUROPE	ITALY	ROME	69
26	NORTH AMERICA	MEXICO	EL BATAN	69
28	NORTH AMERICA	MEXICO	MICHOACAN	69
29	NORTH AMERICA	MEXICO	TOLUCA	69
30	NORTH AMERICA	U. S. A.	MONTANA	69
35	SOUTH AMERICA	ECUADOR	QUITO, PICHINCHA	69

*VARIABLE IDENTIFICATIONS
 69 SCLD 0-9

Commentary:

Nine locations in seven countries reported data on scald. Except for Michoacan, all scores reported from Mexico were obtained from artificially inoculated plots with severe scald epidemics. Most of the top 21 entries had low disease scores across locations, indicating good levels of resistance in several continents (Africa, North and South America, Asia, and Europe). Unfortunately, scores were not available from Ethiopia, which has been a traditional "hot spot" for scald epidemics. On-going breeding and selection for scald resistance in Mexico will increase the number of resistant lines present in future IBONS.

Table 3. (Cont'd)

VTY NO	VARIETY OR CROSS AND PEDIGREE	TABLE									MEAN
		26	29	30	35	2	4	28	12	9	
135	AMAPA"S" CMB78-276-4Y-1B-2Y-2B-3Y-0B	---	1	0	1	0	1	0	---	3	0.9
226	EST X CEL-CI3909.2/11012.2-TERN CMB78-1052-E-1Y-1B-1Y-2B-1Y-0B	1	1	---	3	0	1	0	---	2	1.1
3	CEN	---	2	0	3	2	0	0	---	3	1.4
77	[(AS46-KRISTINA/APM-DWARF21 X POR- IB65)CEL X DS-APRO]PRO-BEACON CMB77A-2245-A-3B-1Y-2B-1Y-2B-0Y	1	0	0	1	2	2	1	3	3	1.4
171	APM-IB65 X WEEAH/F1HJ17-MARIS OTTER CMB78-433-4Y-1B-1Y-1B-1Y-0B	3	0	---	1	0	2	2	---	2	1.4
46	(BAL16-PRO X APM-DWARFII.1Y/API-CM67 DEIR ALLA105 CMB77A-748-1H-3Y-2B-1Y-1B-0Y	---	0	3	5	0	1	0	2	2	1.6
47	(APM-IB65 X 11012.2/API-CM67 X DS- APRO)JET-CP CMB77A-734-3B-3Y-1B-2Y-1B-0Y	1	1	1	5	2	1	0	2	2	1.7
228	[(CI03568(M65.167-M66.69.1 X MONA/ BEN)]PYO-3106 X MINN906 CMB78-1103-A-2Y-1B-1Y-1B-2Y-0B	4	0	---	3	0	1	0	3	3	1.8
172	GADA"S" CMB78-437-6Y-1B-1Y-1B-1Y-0B	2	1	---	1	0	2	5	---	2	1.9
104	69.82 X APM-IB65/2762-BCI(M65.95- M16.123 X BGS0252/API-CM67 X 11012.2 WISC691.1) CMB77A-2905-A-9B-1Y-1B-2Y-1B-0Y	---	0	---	1	3	2	2	3	3	2.0
169	API-CM67 X POR-U.SASK1766/API-BEN CMB78-391-7Y-1B-1Y-1B-1Y-0B	5	1	3	3	0	1	0	---	3	2.0
76	[(AS46-KRISTINA/APM-DWARF21 X POR- IB65)CEL X DS-APRO]PRO-BEACON CMB77A-2245-A-3B-1Y-2B-1Y-1B-0Y	---	0	0	1	2	3	5	4	---	2.1
235	79W40268	1	0	3	---	---	1	4	3	3	2.1
1	API	4	2	3	1	4	0	0	3	3	2.2
215	BAHTIM10-LBN/API-CM67 X ORE CMB78-938-A-2Y-1B-1Y-2B-1Y-0B	---	1	---	3	0	3	1	3	5	2.3
233	78W40804	2	5	3	1	---	1	2	2	3	2.4
180	(CER-POR X TP/PRO)APM-3106 CMB78-300-3Y-3B-1Y-1B-1Y-0B	5	0	0	---	3	4	3	4	2	2.6
181	(CER-POR X TP/PRO)APM-3106 CMB78-300-6Y-1B-1Y-1B-1Y-0B	---	5	---	3	4	1	0	2	3	2.6
214	[F3 BULK HIP(API-CM67 X APM-IB65/ API-CM67 X II266.L2966.69)]BDGC-GAS CM67-U.SASK1744 CMB78-929-D-2Y-2B-1Y-1B-1Y-0B	1	5	---	3	0	1	2	4	5	2.6
223	NACKTA-VOLLA/APM-IB65 X WEEAH CMB78-1007-A-3Y-1B-1Y-1B-2Y-0B	4	2	3	3	---	1	0	3	5	2.6
234	78W42314	3	5	3	5	---	1	1	3	3	3.0

Table 4. Resistance to leaf rust

TABLE	CONTINENT	COUNTRY	AREA	VARIABLES INCLUDED
8	EUROPE	EAST GERMANY	MAGDEBURG	7
13	EUROPE	ITALY	ROVIGO	7
26	NORTH AMERICA	MEXICO	EL BATAN	7
27	NORTH AMERICA	MEXICO	GUANAJUATO	7
28	NORTH AMERICA	MEXICO	MICHOACAN	7
29	NORTH AMERICA	MEXICO	TOLUCA	7
31	NORTH AMERICA	U. S. A.	OREGON	7
34	SOUTH AMERICA	COLOMBIA	CUNDINAMARCA	7
35	SOUTH AMERICA	ECUADOR	QUITO, PICHINCHA	7

*VARIABLE IDENTIFICATIONS
7 LEAF RUST

Commentary:

Scores were reported from nine locations in six countries. Only one entry (172) showed resistance across all locations. Severe epidemics in three locations (Colombia, East Germany and Italy) were indicated by the high scores reported. Some entries presented low average scores, but were highly susceptible in two or more locations, indicating the presence of races characteristic to certain locations. The reader should pay attention to resistance in his particular region and disregard high scores from remote regions. Race identification performed by the USDA Rust Laboratory (Minnesota) indicates the presence of races 8, 9, 19, and 30 in Mexico, with race 19 being predominant. All the above entries except two (170, 25) were resistant in the four Mexican locations used for screening. The mean scores were obtained using the following numerical conversion:

VR = 0.2	MS = 0.8
R = 0.2	S = 1.0
MR = 0.4	VS = 1.0
M or X = 0.6	

Table 4. (Cont'd)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	TABLE 26	29	34	35	31	28	8	27	13	MEAN
172	GADA"S" CMB78-437-6Y-1B-1Y-1B-1Y-OB	10MS	5MR-MS	-----	10MS	20MR	10MR-MS	30MR	THR	10MR	6.2
173	GADA"S" CMB78-437-6Y-1B-2Y-1B-1Y-OB	10MR-MS	0	-----	10S	10MR	THR	40S	TMR	10MR	8.1
169	API-CM67 X POR-U. SASK1766/API-BEN CMB78-391-7Y-1B-1Y-1B-1Y-OB	10MS	TMS	-----	20MS	-----	10MR-MS	100S	10MS-MR	20M	21.3
174	EMIR-ZHABET X CM67/COSSACK CMB78-439-1Y-1B-2Y-1B-1Y-OB	10MR-MS	TR	-----	-----	20S	10MR	100S	TMS	30MS	22.1
170	(API-CM67 X APM-1B65/API-CM67 X II26 L2966.69)MONA-EMIR X GVA CMB78-400-5Y-2B-2Y-1B-1Y-OB	10MS	TMS-MR	20S	30MS	-----	10MR	100S	30MS	0	22.6
239	79W42713	20MR-MS	TR	-----	40S	20S	THR	70S	10MR-MS	40MS	22.6
232	78W40794	20MS-S	TMR-MS	-----	20S	20MS	5MR	70S	5R-MR	60S	23.5
231	78W40785	20MS-S	0	-----	20S	20S	5MS	70S	TR	60S	24.0
25	API-CM67 X 11012.2/SMI.3S.6W.B.(CM67 APRO X SVO2109-MARI)EN] CMB77-1585-E-2Y-1B-1Y-1B-2Y-OB	TMS	TMS-S	-----	10MS	20MS	40MS	70S	20MS	50S	24.2
236	79W40762	20MS-S	20MS-S	-----	20S	20S	TMS	100S	THR	40MS	26.1
61	2762-BC/NP844-POR X CM67-U. SASK1766 CMB77A-1266-2B-1Y-1B-1Y-1B-0Y	10MS	5MS-S	100S	20MS	30MS	20MS	70S	TR	20M	27.9
127	EMIR/API-CM67 X BUS CMB78-137-5Y-1B-1Y-1B-1Y-OB	THR	TR-MR	100S	-----	20S	-----	70S	0	20M	29.0

Table 5. Resistance to stripe rust (leaf)

TABLE	CONTINENT	COUNTRY	AREA	VARIABLES INCLUDED
6	ASIA	PAKISTAN	NWFP	5
22	MIDDLE EAST	ISRAEL	BET DAGAN	5
31	NORTH AMERICA	U. S. A.	OREGON	5
32	SOUTH AMERICA	BOLIVIA	COCHABAMBA	5
34	SOUTH AMERICA	COLOMBIA	CUNDINAMARCA	5
35	SOUTH AMERICA	ECUADOR	QUITO, PICHINCHA	5

***VARIABLE IDENTIFICATIONS**

5 STRP RT. L

Commentary:

Stripe rust data were reported from six locations, each representing a different country. Race 24 is predominant at the three South American locations, where it has been present since 1976. Data from these locations (Bolivia, Colombia and Ecuador) are located at the far left of Table 5a. Readers interested in race 24 should only consider scores from these South American locales, i.e., entry 108 is resistant to race 24 but susceptible to a race in the U.S.A. (Oregon). The five entries listed all show some degree of resistance to race 24, however, a general lack of resistant germplasm in the 10th IBON is evident. Entries resistant to races other than race 24 are listed in Table 5b. In the case of these races, the reader should be concerned only with scores from the three locations at the far right of the table (6, 22, 31).

Table 5a. Resistance to stripe rust (leaf), race 24

VTY NO.	VARIETY OR CROSS AND PEDIGREE	TABLE					6	MEAN
		32	34	35	22	31		
221	(CAL. MR X DS-APROD/Z762-BC)API-EB489. .2.15.4 CMB78-985-D-1Y-1B-1Y-1B-2Y-0B	20MS	----	----	0	----	TMS	5.6
127	EMIR/API-CM67 X BUS CMB78-137-3Y-1B-1Y-1B-1Y-0B	20S	----	----	0	----	3MS	8.0
222	NACKTA-VOLLA/APM-1B65 X WEEAH CMB78-1007-A-3Y-1B-1Y-1B-1Y-0B	20MS	----	30MS	0	----	----	13.3
108	CH-NN X HJA C4215 CMB78-21-3Y-1B-1Y-1B-1Y-0B	0	----	0	0	99S	----	24.8
9	ATHS-HJA A33 CMB74A-232-1B-1Y-2B-1Y-1B-0Y	30MS	3MR	----	0	99S	3MS	25.8

Table 5b. Resistance to stripe rust (leaf), races other than 24

VTY NO.	VARIETY OR CROSS AND PEDIGREE	TABLE					6	MEAN
		32	34	35	22	31		
239	79W42713	40MS-S	----	10S	0	----	10MS-S	13.8
15	DRE"S" X EMIR-NACKTA, AST9071 CMB76A-427-1H-1Y-1B-1Y-1B-0Y	70S	20MS	10MS	0	20MR	TMS	17.1
149	EMIR X BETZES-COHO CMB78-328-2Y-2B-2Y-1B-1Y-0B	40MS-S	----	20S	5R	30MS	10MR-MS	17.4
33	W12198-AM CMB77A-350-9H-2Y-3B-1Y-1B-0Y	60MS-S	----	20MS	0	----	TMS-S	17.7
34	W12198-AM CMB77A-350-9H-2Y-3B-1Y-2B-0Y	70S	----	5S	0	----	TM-S	19.0
148	EMIR X BETZES-COHO CMB78-328-2Y-1B-1Y-1B-2Y-0B	50MS-S	----	60S	0	10MR	10MR-MS	23.0
7	TLL0	80S	----	20S	0	20MR	20MS-S	23.2
74	((AS46-KRISTINA/APM-DWARF21 X FOR- 1B65)CEL X DS-APRODIPRO-BEACON CMB77A-2243-A-3B-1Y-1B-2Y-1B-0Y	90S	20S	10S	10MS	----	3MS	26.4
172	GADA"S" CMB78-437-6Y-1B-1Y-1B-1Y-0B	40MS-S	100S	3MR	0	----	10MS-S	29.4

Table 6. Resistance to net blotch

TABLE	CONTINENT	COUNTRY	AREA	VARIABLES INCLUDED
2	AFRICA	SOUTH AFRICA	CAPE PROVINCE	66
23	MIDDLE EAST	QATAR	BARADA	66
28	NORTH AMERICA	MEXICO	MICHUACAN	66
29	NORTH AMERICA	MEXICO	TOLUCA	66
30	NORTH AMERICA	U. S. A.	MONTANA	66

***VARIABLE IDENTIFICATIONS**

66 NET B 0-9

Commentary:

Net blotch scores were reported from five locations, two of which are in Mexico. Resistance was present across locations for most of the 19 entries reported. These entries were also screened in the greenhouse as seedlings against a mixture of Mexican net blotch isolates. The seedling test further confirmed good disease resistance, especially in the case of entries 75, 223, 29, and 23.

Table 6. (Cont'd)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	TABLE					MEAN
		29	30	2	28	23	
75	[(AS46-KRISTINA/APM-DWARF21 X POR- IB65)CEL X DS-APRO]PRO-BEACON CMB77A-2245-A-3B-1Y-1B-2Y-2B-0Y	0	2	2	1	2	1.4
76	[(AS46-KRISTINA/APM-DWARF21 X POR- IB65)CEL X DS-APRO]PRO-BEACON CMB77A-2245-A-3B-1Y-2B-1Y-1B-0Y	0	2	2	1	2	1.4
223	NACKTA-VOLLA/APM-IB65 X WEEAH CMB78-1007-A-3Y-1B-1Y-1B-2Y-0B	0	2	2	1	2	1.4
202	ORG"S" CMB78-850-B-3Y-1B-1Y-2B-4Y-0B	0	2	---	1	3	1.5
214	[F3 BULK HIP(API-CM67 X APM-IB65/ API-CM67 X II266. L2966. 69)]BDGC-GAS CM67-U. SASK1744 CMB78-929-D-2Y-2B-1Y-1B-1Y-0B	0	2	4	1	1	1.6
231	78W40785	0	3	1	1	3	1.6
87	POR-U. SASK1766 X SOT/SAH X APM-5106 CMB77A-2491-A-3B-1Y-1B-1Y-2B-0Y	1	4	1	1	2	1.8
102	(API-CM67 X MZG/1658-EMIR)ORE"S"- ROBUR CMB77A-2883-B-2Y-2B-1Y-1B-1Y-0B	0	4	---	0	3	1.8
107	ABYN-HJA C4215 CMB78-9-1Y-2B-1Y-1B-3Y-0B	1	4	---	1	1	1.8
123	BREA"S"-DL70/API-CM67 X BUS CMB78-110-3Y-1B-2Y-1B-3Y-0B	0	2	2	---	3	1.8
134	AMAPA"S" CMB78-276-2Y-1B-1Y-1B-4Y-0B	1	3	---	1	2	1.8
180	(CER-POR X TP/PRO)APM-5106 CMB78-500-3Y-3B-1Y-1B-1Y-0B	0	2	3	2	2	1.8
195	F3 BULK HIP(BREA"S" X APM-IB65/DS- APRO) CMB78-740-16Y-2B-2Y-1B-1Y-0B	0	2	---	2	3	1.8
23	CHZO X 702B-AVT CMB77-949-11Y-1B-1Y-1B-1Y-0B-2Y- 0B	1	2	3	1	3	2.0
29	VINO"S" X TRA-1038 CMB77A-264-3B-1Y-1B-2Y-1B-0Y	1	2	---	3	2	2.0
135	AMAPA"S" CMB78-276-4Y-1B-2Y-2B-3Y-0B	1	3	1	3	2	2.0
197	F3 BULK HIP X MINN480-GVA CMB78-764-5Y-1B-1Y-1B-1Y-0B	1	2	---	2	3	2.0
225	W12105-F3 BULK HIP X NACKTA CMB78-1041-B-2Y-2B-1Y-1B-2Y-0B	0	2	2	3	3	2.0
232	78W40794	1	3	2	0	4	2.0

Table 7. Resistance to powdery mildew

TABLE	CONTINENT	COUNTRY	AREA	VARIABLES INCLUDED
9	EUROPE	ENGLAND	NORFOLK	61
10	EUROPE	GREECE	THESSALONIKI	61
11	EUROPE	ITALY	MARCHE	61
14	EUROPE	NORWAY		61
15	EUROPE	ROMANIA	CLUJ	61
16	EUROPE	SPAIN	LLEIDA	61
17	EUROPE	SPAIN	MADRID	61
18	EUROPE	SPAIN	VALLADOLID	61
19	EUROPE	SPAIN	ZARAGOZA	61
22	MIDDLE EAST	ISRAEL	BET DAGAN	61
30	NORTH AMERICA	U. S. A.	MONTANA	61

*VARIABLE IDENTIFICATIONS
61 POW M 0-9

Commentary:

Eleven locations, nine of them European, reported scores clearly indicating the importance of powdery mildew in that continent. Although there were occasional high scores from certain locations, the trend was toward very low scores across most locations. The increasing number of resistant lines in the IBON probably reflects the increasing use of European germplasm as parents in the breeding program. All the data was reported from developed countries; cooperators in other countries where powdery mildew is a problem are urged to furnish reports.



Table 8. Resistance to spot blotch

TABLE	CONTINENT	COUNTRY	AREA	VARIABLES INCLUDED
11	EUROPE	ITALY	MARCHE	68
33	SOUTH AMERICA	BRAZIL	SAD PAOLO	68
37	SOUTH AMERICA	PARAGUAY	ITAPUA	68

***VARIABLE IDENTIFICATIONS**

68 SPT B 0-9

Commentary:

Three locations (Italy, Brazil and Paraguay) reported resistance to spot blotch. The extent of disease infection at these locations was good. Since no screening for spot blotch is done in Mexico, it is to be expected that only a low number of entries in the 10th IBON would show some degree of resistance.

Table 8. (Cont'd)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	TABLE			MEAN
		11	33	37	
145	MONA-NOPAL "S" CMB78-325-7Y-2B-1Y-1B-2Y-0B	2	0	6	2.7
26	JUNIOR (M64. 69-M65. 211 X APM-RL/API- CM67) CMB77A-79-1B-3Y-1B-1Y-1B-0Y	2	5	5	4.0
55	MARI-COHO/847 X PTR-EMIR CMB77A-823-1H-1Y-1B-2Y-1B-0Y	4	5	5	4.7
13	M64. 69-M65. 211 X APM-RL/API-CM67 CMB76-579-5Y-1B-1Y-1B-5Y-0B	4	6	5	5.0
54	MARI-COHO/847 X PTR-EMIR CMB77A-823-1H-1Y-1B-1Y-1B-0Y	4	5	6	5.0
17	MONA-EMIR X GVA/NOPAL CMB77-282-1B-2Y-1B-2Y-1B-0Y	6	5	6	5.7

Table 9. Resistance to barley yellow dwarf

TABLE	CONTINENT	COUNTRY	AREA	VARIABLES INCLUDED
15	EUROPE	ROMANIA	CLUJ	77
16	EUROPE	SPAIN	LLEIDA	77
17	EUROPE	SPAIN	MADRID	77
25	NORTH AMERICA	CANADA	QUEBEC	77

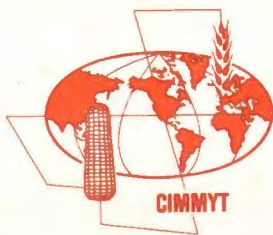
*VARIABLE IDENTIFICATIONS
77 BYDV 0-9

Commentary:

Scores were reported from four sites in three countries. Lines with low scores from all sites are included. All scores from Quebec were high this season, probably being distorted by drought; even so, the far higher scores from this site have been included because of the scores attained there by material known to be resistant. The other sites are all European, which points out the limited basis for judging resistance.

Table 9. (Cont'd)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	TABLE				MEAN
		15	17	25	16	
96	CM67-BUS X MULLER4534/MARIS DINGO- NETHERLANDS14 CMB77A-2796-A-10B-1Y-2B-1Y-2B-OY	1	0	6	3	2.5
156	(HJA C4715 X OLLI-M64.69/APM-IB65) MINN480-GVA CMB7B-346-10Y-2B-3Y-1B-1Y-OB	1	0	7	2	2.5
238	79W41762	0	1	7	2	2.5
237	79W41308	---	0	7	1	2.7
39	M66.85-CI12168(M66.95-M16.123 X BOSO 32/API-CM67 X MONA) CMB77A-402-1B-1Y-4B-3Y-1B-OY	3	0	7	1	2.8
40	CEN X 2762-BC CMB77A-462-1B-3Y-2B-1Y-1B-OY	3	0	6	2	2.8
62	MPYT169.1Y-RM1508 CMB77A-1352-1B-1Y-2B-1Y-1B-OY	3	0	7	2	3.0
13	M64.69-M65.211 X APM-RL/API-CM67 CMB76-579-3Y-1B-1Y-1B-3Y-OB	1	3	6	3	3.3
36	(POR-EB1053 X CM67/M64.76)CL7207 X OLLI-10CR268.21.2 CMB77A-791-1B-1Y-1B-1Y-2B-OY	---	0	7	3	3.3
101	BR6705.15.1-FEEBAR(SP(6H)-APRO X CAL MR/CLLA"S") CMB77A-2830-A-1B-3Y-2B-1Y-1B-OY	1	3	7	2	3.3
239	79W42713	---	3	6	2	3.7
34	WI219B-AM CMB77A-350-9H-2Y-3B-1Y-2B-OY	3	0	7	5	3.8
208	[(APM-IB65 X 11012.2/API-CM67 X DS- APRO)AVT-ATHS]CEL-CI3909.2 CMB7B-900-C-3Y-1B-1Y-1B-1Y-OB	1	3	8	3	3.8
155	(HJA C4715 X OLLI-M64.69/APM-IB65) MINN480-GVA CMB7B-346-8Y-1B-2Y-1B-1Y-OB	---	3	7	2	4.0



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