RESULTS OF THE ELEVENTH INTERNATIONAL SEPTORIA OBSERVATION NURSERY

ISEPTON 1980-81

CENTRO INTERNACIONAL DE MEJORAMIENTO DE MAIZ Y TRIGO
INTERNATIONAL MAIZE AND WHEAT IMPROVEMENT CENTER
Londres 40, Apdo. Postal 6-641, 06600, México 6, D. F., México

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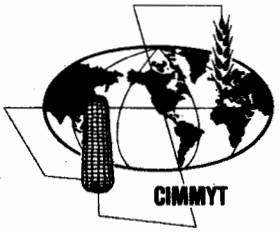

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TABLE ABBREVIATION	VARIABLE NAME	NOMBRE DE LA VARIABLE	NOM DE LA VARIABLE
ALT BLT	Alternaria blight (0–9 scale)	Tizón por Alternaria (escala 0–9)	Alternaria (échelle 0–9)
ANT DMGE	Ant Damage percentage	Porcentaje de daño de hormigas	Dégâts dûs aux fourmis en pourcentage
APHD DMGE	Aphid damage percentage	Porcentaje de daño de áfidos	Dégâts dûs aux pucerons en pourcentage
ARMY WORM	Army worm percentage	Porcentaje de gusano cogollero	Chenille soldat en pourcentage
BACT STRP	Bacterial stripe (0–9 scale)	Rayado bacteriano (escale 0–9)	Reyée bacterienne (échelle 0–9)
BIRD DMGE	Bird damage percentage	Porcentaje de daño de pájaros	Dégâts dûs aux oiseaux en pourcentage
BYDV	Barley yellow dwarf virus (0–9 scale)	Enanismo amarillo de la cebada (escala 0–9)	Virose jaune de l'orge (échelle 0–9)
COVD SMUT	Covered smut percentage	Porcentaje de carbón cubierto	Charbon couvert en pourcentage
EARS/M2	Ears per square meter	Espigas o mazorcas por metro cuadrado	Epis par mètre^2
FALL NO	Falling number (seconds)	Actividad alfa amilasa (segundos)	Activité du α amylase (en secondes)
FERT °/o	Fertility percentage	Porcentaje de fertilidad	Fertilité en pourcentage
FLOW DAYS	Number days to flower	Días a floración	Nombre de jours a la floraison
FRST DMGE	Frost damage percentage	Porcentaje de daño por heladas	Dégâts par la gelée en pourcentage
FUS NIV	Fusarium nivale spot	Mancha foliar (Fusarium nivale)	Tache de la feuille (Fusarium nivale)
FUS WILT	Fusarium wilt percentage	Porcentaje de marchitez por Fusarium	Fusarium en pourcentage
GERM °/o	Germination percentage	Porcentaje de germinación	Germination en pourcentage
HAIL DMGE	Hail damage percentage	Porcentaje de daño por granizo	Dégâts dûs á la grêle en pourcentage
HELM	Helminthosporium (0–9 scale)	Helminthosporium (escala 0–9)	Helminthosporium (échelle 0–9)
HELM TERES	Leaf spot Helminthosporium teres	Mancha foliar (Helminthosporium teres)	Tache de la feuille (Helminthosporium teres)
KERN APP	Kernel appearance	Apariencia del grano	Apparence du grain
LEAF FIRE	Leaf fire (0–9 scale)	Tizón foliar (escala 0–9)	Sécheresse des feuilles (échelle 0–9)
LEAF RUST	Leaf rust (Cobb scale)	Roya de la hoja (escala de Cobb)	Rouille brune (échelle de Cobb)
LEAF RUST/P. HORDEI	Barley leaf rust (Puccinia hordei)	Roya de la hoja (cebada)	Rouille brune de l'orge
LODG °/o	Lodging percentage	Porcentaje de acame	Versé en pourcentage
LSE SMUT	Loose smut percentage	Porcentaje de carbón volador	Charbon nu en pourcentage
MAT DAYS	Number days to maturity	Número de días a la madurez	Nombre de jours à la maturation
MST °/o	Moisture percentage	Porcentaje de humedad	Humidité en pourcentage
NECK BRK	Neck break percentage	Porcentaje de rotura del cuello	Cassure du pédoncule en pourcentage
NET BLOT	Net blotch (0–9 scale)	Mancha reticular (escala 0–9)	Helminthosporium de l'orge (échelle 0–9)
PLNT DENS	Plant density (stems/square meter)	Densidad de plantas (tallos/metro cuadrado)	Population des plantes (tiges/mètre^2)
PLNT HT	Height (cm)	Altura (cm)	Hauteur (cm)
PLNT WT	Plant weight (grams)	Peso de la planta (gramos)	Poids de la plante (grames)
POWD °/o	Powdery mildew percentage	Porcentaje de mildiú polvoriento	Oidium en pourcentage
PROT °/o	Protein percentage	Porcentaje de proteína	Protein en pourcentage
ROOT ROT	Root rot percentage	Porcentaje de pudrición de maíz	Putréfaction du maïs en pourcentage
SCAB °/o	Scab percentage	Porcentaje de roña	Fusarium de l'épi en pourcentage
SCLD °/o	Scald percentage	Porcentaje de escaldadura	Rhyncosporium en pourcentage
SDMT INDX	Sedimentation index (cc)	Indice de sedimentación (cc)	Indice de sédimentation (cc)
SEED TYPE	Seed type (L=large, M=medium, S=small)	Tipo de semilla (L=grande, M=mediano, S=pequeño)	Type de grain (L=large, M=moyen, S=petit)
SEPT NODO	Septoria nodorum (0–9 scale)	Septoria nodorum (escala 0–9)	Septoria nodorum (échelle 0–9)
SEPT SPP.	Septoria spp. (0–9 scale)	Septoria spp. (escala 0–9)	Septoria spp. (échelle 0–9)
SEPT TRIT	Septoria tritici (0–9 scale)	Septoria tritici (escala 0–9)	Septoria tritici (échelle 0–9)
SHTR °/o	Shattering percentage	Porcentaje de desgrane	Chute de grains en pourcentage
SMLS SMUT	Semi-loose smut percentage	Porcentaje de carbón semi-volador	Charbon semi-nu en pourcentage
SPOT BLOT	Spot blotch (0–9 scale)	Tizón de la hoja (escala 0–9)	Tache de la feuille (échelle 0–9)
SPOT BLOTCH/HELM SATV	Spot blotch (0–9 scale)	Tizón de la hoja (escala 0–9)	Tache de la feuille (échelle 0–9)
STEM RUST	Stem rust (Cobb scale)	Roye del tallo (escala de Cobb)	Rouille noire (échelle de Cobb)
STRP RT.H	Stripe rust (head) percentage	Porcentaje de roya lineal (espiga)	Rouille jaune sur l'épi en pourcentage
STRP RT. L	Stripe rust (leaf) (Cobb scale)	Roya lineal (hoja) (escala de Cobb)	Rouille jaune sur feuilles (échelle de Cobb)
TEST WT	Test weight (kg/hl)	Peso hectolítrico (kg/hl)	Poids specifique (kg/hl)
1000 G.W.	1000 grain weight (grams)	Peso de 1000 granos (gramos)	Poids de 1000 grains (grames)
YELL BERR	Yellow berry percentage	Porcentaje de panza blanca	Mitadinage en pourcentage
YIELD KG/HA	Yield kg/ha	Rendimiento kg/ha	Rendement kg/ha

International Septoria Observation Nursery (ISEPTON)

PREFACE

Breeding for disease resistance has been a consistantly high priority objective in CIMMYT's Wheat Program. Once adequate resistance was obtained for such top-ranking diseases as stem rust, other diseases moved to the forefront. In the 1960s, the recognition of leaf blotching diseases caused by *Septoria tritici* and *S. nodorum* as significant constraints to wheat yields led to greater attention to breeding for Septoria resistance.

By 1969, a suitable site for the initial screening of non-segregating CIMMYT nurseries, as well as lines supplied by cooperating scientists, had been identified near Pátzcuaro Lake, Mexico. However, a thorough evaluation of these preliminary selections called for international cooperation. Thus, in the fall of 1970 the First International Septoria Nursery was packaged and distributed from Toluca to selected cooperators located in areas where Septoria epidemics were known to occur frequently.

Beginning with its second distribution in 1971, the name of the nursery was changed to the ISEPTON, the acronym for International Septoria Observation Nursery. In the current scheme, individual plants or entire lines are selected in Pátzcuaro for having expressed superior potential for resistance to *Septoria*, and then planted immediately in the Yaqui Valley for seed increase and the evaluation of plant type and rust resistance under optimal environmental conditions. Only those lines with acceptable all-around performance are included in the ISEPTON. Nearly all ISEPTON lines are bread wheats, because local *Septoria* populations do not exert sufficient selection pressure on durum wheats.

Over the years, a growing interest among those working with *Septoria* diseases has resulted in improvements in the scale used to assess disease severity. The scale currently in use ranges from 1 to 9 and measures the upward progress of infection (1= no infection; 2-4= increasingly upward infection but restricted to the lower half of the plants; 5= infection reaching but not exceeding mid-height of the plants; 6-8= increasingly upward infection in the upper half of plants; 9= infection reaching the flag leaves and heads). At present these data are converted to percentage figures for analysis and publicatiion.

The main objective of the ISEPTON continues to be the assessment of each entry for its reaction to *S. tritici*. Similar evaluation for *S. nodorum* , rusts or other pathogens is very useful, and coopeartors are encouraged to record and report reactions to other diseases whenever they occur.

The ISEPTON are used now as sources of *Septoria* resistance in various wheat breeding programs (e.g., Australia and the US) and may cycle back to CIMMYT's own crossing block. In fact, Pátzcuaro selections are used frequently as parent material in Mexico; twenty-three Pátzcuaro selections were included in the bread wheat crossing block Y 80-81 and 82 were included in the MV-81.

An additional bonus from the ISEPTON has been the finding that the nursery as a whole performs very well under the humid and acid soil conditions so common in parts of South America and in East and Central Africa. This is not surprising, however, since this environment is typical of the screening site at Pátzcuaro. As with other wheat international nurseries, any cooperating country is free to use CIMMYT-derived material included in the ISEPTON either as progenitors or as commercial varieties.

After 11 years of observations and analysis, we feel confident that the ISEPTON is an adequate tool for the identification of sources of resistance to *Septoria* spp. This report is the initial issue of a series that will present the most salient features of ISEPTON's yearly data.

RESULTS OF THE 11th INTERNATIONAL SEPTORIA OBSERVATION NURSERY

(ISEPTON) 1980-81

The 11th International Septoria Observation Nursery (ISEPTON) was sent in 1980 to be grown by cooperators in their spring season of 1981. Forty-eight nurseries went to cooperators in 34 countries. The nursery consisted of 134 advanced bread wheat lines from CIMMYT and cooperating organizations in the US, Brazil and Turkey; it also included six susceptible checks (entries 1, 40, 80, 100, 140 and 143) and three resistant to moderately resistant checks (entries 20, 60 and 120). Lines observed in the 11th ISEPTON had undergone two successive selections; first, under severe pressure from *Septoria* in Pátzcuaro, and second, under a high yield environment with pressure from rusts on the CIANO Experiment Station in the Yaqui Valley, in Northwest Mexico. Here, too, seed for the ISEPTON was multiplied, cleaned, and treated with insecticides and fungicides before shipment.

Instructions on nursery management accompanied the mailing of seeds to 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.

Cooperators were asked to report disease and agronomic variables using methodology described in CIMMYT's Information Bulletin 38. Data on *Septoria* recorded using the 1-9 scale were converted to percentage figures. Data on rusts recorded using the modified Cobb scale were converted to coefficients of infection (CI) by the procedure explained in the yearly report of the US Department of Agriculture International Spring Wheat Rust Nursery (ISWRN). All data reported are means computed from raw data supplied by the cooperators. The number of observations differs from variable to variable. The reader is urged to note the "NOBS" entry at the head of each variable column that tells how many observations went into the data reported in that column, which may be an important indicator of the level of credibility that should be conferred. The reader should also bear in mind that the yield reported is from a single plot, essentially grown for observation rather than as a rigorous, replicated yield trial.

Thirty-two of the cooperators receiving the 11th ISEPTON returned the field books with performance data at their locations in time to be included in this report. Table 1 lists sites from which data were returned, with notations of all variables recorded and reported.

Because of the specialized nature of ISEPTON, a set of tables that itemize disease reactions has been prepared along with a general summary table that includes all variables reported. Table 2 contains all variables for all entries, and entries are ranked by yield. Table 3 lists top performance entries for *Septoria tritici* (less than 50 percent severity) with severity data for *S. nodorum* as supplementary information. Table 4 lists top performance entries for *S. nodorum* (less than 45 percent severity) with severity data for *S. tritici* as supplementary information. Tables 5 and 6 list top performance entries for stem rust and leaf rust, respectively (average coefficient of infection |ACI| of 3.0 or less). Table 7 lists top entries for stripe rust on the leaves (ACI of 3.0 or less) with ACI of stripe rust on the glumes as supplementary information.

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 variables reported

LOCATION	CONTINENT	COUNTRY	AREA	VARIABLES INCLUDED
14	AFRICA	KENYA	RIFT VALLEY	5 8
74	EUROPE	GREECE	THESSALONIKI	3 4 8 9 14
84	EUROPE	PORTUGAL	ALENTEJO	3 9
122	NORTH AMERICA	CANADA	P. E. I.	3 9 16
137	NORTH AMERICA	U. S. A.	CALIFORNIA	1 3 9 10 15
148	NORTH AMERICA	U. S. A.	MONTANA	9 16
154	SOUTH AMERICA	ARGENTINA	BUENOS AIRES	3 7 8 9 15
161	SOUTH AMERICA	BRAZIL	RIO GRANDE DO SUL	7 8 14 15 16 36
166	SOUTH AMERICA	CHILE	CHILLAN, NUBLE	3 5 7
169	SOUTH AMERICA	ECUADOR	QUITO, PICHINCHA	5 6
183	AFRICA	ETHIOPIA	SHOA	15
244	EUROPE	POLAND	BLONIE	1 5 7 9 10 14 15 16
282	NORTH AMERICA	U. S. A.	OREGON	5 15
308	EUROPE	IRELAND	KILDARE	3 9 14 16
310	EUROPE	SPAIN	CADIZ	1 3 9
313	OCEANIA	AUSTRALIA	SOUTH AUSTRALIA	9 10 11 15
328	NORTH AMERICA	MEXICO	MICHOACAN	15
387	EUROPE	EAST GERMANY	MAGDEBURG	1 3 9 13 15 18
421	AFRICA	TANZANIA	IRINGA	1 3 9 15 16
426	SOUTH AMERICA	BRAZIL	PARANA	7 8 15 16 36
429	OCEANIA	AUSTRALIA	VICTORIA	3 5 8 9 15
437	EUROPE	SPAIN	SEVILLA	1 3 4 9 10 14
458	N. AMERICA	MEXICO	JALISCO	15
470	EUROPE	SPAIN	CRAKOW	7 14 15
474	AFRICA	KENYA	RIFT VALLEY	5 16
481	EUROPE	SWEDEN		9 14 16
486	AFRICA	SOUTH AFRICA		7 8 15
487	AFRICA	ETHIOPIA	SHEWA, AMBO	8 9 10 15
488	EUROPE	FRANCE	OISE	3 9 10 14 15 36
495	SOUTH AMERICA	CHILE		5 15
497	OCEANIA	NEW ZEALAND	CANTERBURY	5 9
501	EUROPE	ITALY		15

*VARIABLE IDENTIFICATIONS

1	YIELD	KG/HA	3	FLOW	DAYS	4	MAT	DAYS	5	STRP	RT.L	6	STRP	RT.H
7	LEAF	RUST	8	STEM	RUST	9	PLNT	HT	10	LODG	%	11	SHTR	%
13	1000	G.W.	14	POND	%	15	SEPT	TRIT	16	SEPT	NODD	18	FUS	WILT
36	SCAB	%												◊

Table 2. Summary of means of all variables, in order of yield

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	STRP RT. L	STRP RT. H	LEAF RUST	STEM RUST
			NOBS:	(6)	(13)	(2)	(9)	(1)	(7)	(8)
141	IAS20-H567.71 CMH76.480-13Y-5B-0Y-2B-0Y-3PTZ-0Y			4494.0	109.4	182.5	12.9	10.0	5.1	25.3
95	KVZ-BUHO"S" X PJ62-MAYA74"S" CM33593-C-4M-1Y-8M-500Y-100B-500Y-501B-0Y-1PTZ-0Y			4485.3	112.8	179.0	7.1	0.0	3.7	11.7
110	[LFN-M2(4777/REI X Y-KT)]MAYA74"S" SWM4743-19Y-2M-1Y-1M-0Y-2PTZ-0Y			4475.0	115.0	184.5	6.9	0.0	16.7	0.9
122	MARINGA-ALDAN"S" CM46961-13M-1Y-2M-001Y-3PTZ-0Y			4392.3	112.4	179.0	4.6	0.0	21.0	5.7
108	KL.H645.Y48000-JUP73[KAL-BB[CNO X BB-GALLO(167 X S310-P162/LR64-II.1847)]CQN] CM36090-I-2M-1Y-5M-1Y-1M-0Y-3PTZ 0Y			4336.7	108.4	179.0	32.7	10.0	1.5	16.0
57	KVZ-CQN SE1006-9S-1B-7S-0S-1PTZ-0Y			4300.7	115.2	178.5	3.6	0.0	0.9	0.1
63	MAYA74"S"-PAVON"S" CM39426-1M-2Y-3M-2Y-1M-0Y-2PTZ-0Y			4265.3	107.2	178.0	17.2	40.0	5.0	6.5
32	CHAT"S" CM33090-T-1M-4Y-0M-176B-0Y-1PTZ-0Y			4245.3	114.8	176.5	5.2	0.0	0.9	0.3
13	BOBWHITE"S" CM33203-H-4M-1Y-0M-127B-0Y-2PTZ-0Y			4223.0	109.4	179.0	5.7	1.0	2.2	1.6
42	TANAGER"S" CM30697-2M-14Y-0M-37B-0Y-1PTZ-0Y			4140.7	109.4	177.0	8.5	30.0	6.9	0.1
116	MARINGA-ALDAN"S" CM46961-1M-9Y-2M-0001Y-2PTZ-0Y			4130.5	111.7	181.5	5.6	0.0	6.3	0.8
39	TANAGER"S" CM30697-2M-14Y-0M-13B-0Y-1PTZ-0Y			4072.7	108.5	178.5	13.7	60.0	25.2	3.5
103	WQ-RM X KAL-BB SWN1445-8Y-2M-500Y-518M-501Y-503M-500Y-0M-3PTZ-0Y			4054.0	115.8	183.5	11.7	0.0	3.5	0.2
74	CAR853-COCORAQUE75 X VEERY"S" CM47556-Q-1M-2Y-6M-0Y-2PTZ-0Y			4051.5	113.9	180.5	3.4	1.0	0.0	0.6
37	JUNCO"S" NO PEDIGREE -1PTZ-0Y			4020.0	112.2	178.5	13.7	10.0	12.9	4.7
90	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-1M-3Y-3M-0Y-1PTZS 0Y			4009.7	111.7	182.0	2.5	1.0	6.3	2.6
105	[BB-KAL(TP X CNO-N066/BB-CNO)]KAL-BB X MILDRESS CM38796-E-3Y-500M-500Y-500M-500Y 500B-0Y-2PTZ-0Y			4003.7	116.0	181.0	1.3	0.0	4.7	0.1
77	KVZ-GV X TITO"S" CM30817-C-10Y-2M-1Y-0M-1PTZ-0Y			3992.0	114.7	178.5	2.4	1.0	5.8	0.1
44	TRIFON"S" F4-5Y-0M-2Y-0Y-1PTZ-0Y			3958.0	115.2	178.5	2.5	0.0	0.1	3.1
35	JUNCO"S" CM33483-C-7M-1Y-0M-15B-0Y-3PTZ-0Y			3954.8	112.7	178.0	18.5	20.0	7.0	4.2
19	BROCHIS"S" CM5872-C-1Y-1M-1Y-3M-0Y-2PTZ-0Y			3953.3	111.0	177.0	6.9	60.0	9.9	2.6
83	TI71-TOB66 X ALONDRA"S" CM33217-B-4M-1Y-0M-133B-0Y-1PTZ-0Y			3918.3	112.5	180.5	19.1	0.0	0.6	0.1

Table 2. (cont.)

VTY	PLNT HT	LODG %	SHTR %	1000 G.W.	POWD %	SEPT TRIT	SEPT NODO	FUS WILT	SCAB %
	(18)	(6)	(1)	(1)	(8)	(19)	(9)	(1)	(3)
141	86.6	32.3	10.0	41.1	73.1	47.2	39.0	26.0	40.0
95	84.1	21.3	-----	31.5	23.9	61.4	60.6	26.0	52.5
110	85.7	27.8	-----	38.4	44.5	53.3	47.0	26.0	46.5
122	88.7	41.4	-----	39.4	49.6	47.6	40.8	12.0	42.5
108	79.6	39.0	-----	36.4	50.0	54.4	54.1	12.0	47.7
97	84.7	32.8	-----	38.2	13.5	50.5	39.1	12.0	32.5
63	86.3	44.7	-----	39.9	55.4	55.9	56.8	12.0	52.5
32	85.4	37.7	-----	30.7	18.8	56.7	35.5	26.0	59.0
13	75.8	30.5	-----	26.7	49.9	58.1	60.0	26.0	65.0
42	84.9	37.8	10.0	37.4	34.8	50.8	59.3	62.0	45.0
116	83.0	31.5	-----	38.9	40.1	55.9	43.1	12.0	42.5
39	84.2	42.8	10.0	38.6	27.6	55.7	50.4	50.0	29.0
103	85.8	28.7	-----	36.2	53.9	54.3	57.4	12.0	32.5
74	87.7	23.8	-----	35.0	28.0	54.9	49.8	26.0	49.0
37	87.8	29.8	-----	31.2	43.9	53.7	53.6	12.0	49.0
90	77.1	19.0	-----	32.3	22.4	52.2	53.5	26.0	59.0
105	89.9	39.8	-----	35.0	44.1	50.4	43.0	12.0	49.0
77	82.4	36.2	-----	33.6	9.6	47.4	48.0	38.0	39.3
44	93.1	26.5	-----	48.1	30.5	45.6	34.6	38.0	16.5
35	90.5	21.5	-----	29.1	35.0	50.9	51.8	38.0	42.5
19	83.2	33.2	-----	25.9	49.3	62.1	50.7	12.0	36.7
83	75.4	23.2	-----	33.1	31.4	50.2	46.9	38.0	45.0

Table 2. (cont.)

VTY NO	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	STRP RT L	STRP RT H	LEAF RUST	STEM RUST
			NOBS	(6)	(13)	(2)	(9)	(1)	(7)	(8)
45	TUCAN"S" CM2699-12M-1Y-5M-2Y-4M-0Y-1PTZ-0Y			3913.7	111.5	178.0	4.8	0.0	15.2	0.1
84	TI71-TOB66 X ALONDRA"S" CM33217-Q-4M-1Y-0M-133B-0Y-2PTZ-0Y			3903.8	111.5	179.0	14.6	0.0	0.8	1.4
124	MARINQA-ALDAN"S" CM46961-13M-1Y-2M-001Y-9PTZ-0Y			3895.8	112.5	180.0	7.7	0.0	22.3	14.4
4	BOBWHITE"S" CM33203-K-6M-1Y-0M-0PTZ			3884.0	112.4	180.5	5.9	0.0	0.1	0.0
52	VEERY"S" CM33027-F-15M-500Y-0M-81B-0Y-0PTZ			3863.0	113.8	176.0	6.9	10.0	10.8	1.3
43	TANAGER"S" CM30697-2M-14Y-0M-58B-0Y-2PTZ-0Y			3805.3	109.8	176.5	6.7	30.0	13.0	2.1
29	CHAT"S" CM33090-T-1M-4Y-0M-29B-0Y-2PTZ-0Y			3780.0	115.8	177.5	3.4	0.0	0.1	0.1
114	(TZPP-IRN46-CNO/II.64.27)MUSALA"S" CM42422-25Y-1M-1Y-1M-0Y-1PTZ-0Y			3770.5	116.6	182.0	6.3	10.0	1.3	1.4
18	BOBWHITE"S" CM33203-K-1M-14Y-3M-0Y-1PTZ-0Y-0PTZ			3751.7	111.3	176.5	5.1	5.0	0.1	0.0
11	BOBWHITE"S" CM33203-H-4M-1Y-0M-68B-0Y-1PTZ-0Y			3750.7	110.7	177.0	7.8	1.0	2.0	1.5
85	TI71-TOB66 X ALONDRA"S" CM33217-Q-4M-1Y-0M-133B-0Y-3PTZ-0Y			3739.3	112.0	179.5	12.7	80.0	0.2	0.4
51	VEERY"S" CM33027-F-15M-500Y-0M-75B-0Y-0PTZ			3739.3	112.6	177.5	4.2	10.0	3.2	0.2
79	KVZ-QV X TITO"S" CM30817-C-10Y-2M-1Y-0M-4PTZ-0Y			3729.8	115.0	179.5	3.3	1.0	0.2	0.1
59	KVZ-CGN SE1006-9S-1B-4B-0S-1PTZ-0Y			3728.3	115.1	178.5	4.5	0.0	1.7	0.4
33	JUNCO"S" CM33483-C-7M-1Y-0M-15B-0Y-1PTZ-0Y			3716.7	113.2	179.0	13.1	30.0	11.0	3.4
72	CAR853-COCORAQUE75 X VEERY"S" CM47556-Q-1M-1Y-9M-0Y-1PTZ-0Y			3714.3	113.2	180.0	8.4	0.0	3.2	0.7
99	WQ-RM X KAL-BB SWM1445-8Y-2M-500Y-502M-500Y-502M-500Y-0M-1PTZ-0Y			3707.3	117.5	181.5	12.7	1.0	4.2	0.1
86	WREN X CIANO-NOROESTE66 CM7210-4L-3L-0L-0M-1PTZ-0Y			3707.0	113.8	182.0	9.6	60.0	11.5	11.7
62	MAYA74"S"-NURI 70 RESEL. CM40691-11M-2Y-1M-2Y-1M-0Y-0PTZ			3685.0	110.8	178.0	5.6	1.0	1.0	4.3
61	KVZ-CGN SE1006-9S-3B-4B-0S-1PTZ-0Y			3648.7	115.2	180.0	4.3	10.0	0.2	0.3
130	CMH74A.754 X PELOTAS72380-ARTHUR71 CMH77.204-4Y-1B-1Y-2PTZ-0Y			3641.3	110.1	179.5	35.7	80.0	11.7	0.0
48	VEERY"S" CM33027-F-15M-500Y-0M-6B-0Y-1PTZ 0Y			3624.3	109.3	176.5	5.6	1.0	2.5	2.1
137	IAS20(2)-H567.71 X PELOTAS72380-ARTH R71 CMH77.197-7Y-5B-1Y-5PTZ-0Y			3612.5	112.0	181.5	46.2	80.0	25.7	7.7
31	CHAT"S" CM33090-T-1M-4Y-0M-51B-0Y-2PTZ-0Y			3607.8	114.7	176.5	1.8	0.0	2.2	0.2

Table 2. (cont.)

VTY	PLNT HT	LODG %	SHTR %	1000 G.W.	POWD %	SEPT TRIT	SEPT NODO	FUS WILT	SCAB %
	(18)	(6)	(1)	(1)	(8)	(19)	(9)	(1)	(3)
45	85.8	21.3	-----	33.1	38.1	62.4	55.1	12.0	39.0
84	76.6	22.3	-----	33.3	28.4	50.7	46.5	38.0	65.0
124	86.3	32.2	-----	35.8	51.1	54.5	44.9	12.0	30.0
4	79.2	16.3	-----	24.7	32.5	46.3	41.3	12.0	48.3
52	80.8	25.5	-----	30.8	13.1	58.7	53.8	12.0	59.0
43	83.3	33.0	10.0	34.6	33.4	55.9	60.0	26.0	39.0
29	86.2	37.0	-----	31.3	31.3	55.7	31.4	38.0	32.7
114	81.3	21.3	-----	40.2	15.9	49.7	53.1	12.0	46.5
18	82.8	23.3	-----	27.5	30.9	51.6	44.5	26.0	32.7
11	74.2	18.0	-----	26.5	52.8	56.8	53.3	12.0	59.0
85	75.8	26.5	-----	33.8	36.3	56.8	55.0	50.0	59.0
51	81.0	20.5	-----	31.1	21.4	60.1	51.6	12.0	59.0
79	80.9	34.7	-----	34.2	10.3	52.5	54.9	38.0	45.0
59	85.1	16.2	-----	32.2	27.0	48.0	36.9	12.0	49.0
33	90.2	36.5	-----	28.3	40.9	47.3	50.6	12.0	39.0
72	87.7	18.8	-----	33.7	28.1	58.4	45.9	12.0	59.0
99	83.1	31.5	-----	28.9	20.1	59.6	54.8	38.0	46.5
86	86.9	24.0	-----	36.3	44.3	63.2	50.1	26.0	52.5
62	89.0	26.0	-----	38.4	45.8	59.8	56.8	12.0	59.0
61	91.6	31.2	-----	40.0	31.3	54.1	36.1	12.0	39.0
130	74.4	39.6	-----	39.4	13.3	55.2	46.0	26.0	67.5
48	82.6	17.2	-----	29.1	20.9	54.3	54.6	62.0	46.5
137	83.5	40.0	-----	40.9	33.1	43.2	45.1	12.0	36.5
31	84.1	33.8	-----	32.4	23.1	51.4	37.9	12.0	42.5

Table 2. (cont.)

VTY NO	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	STRP RT L	STRP RT H	LEAF RUST	STEM RUST
			NOBS:	(6)	(13)	(2)	(9)	(1)	(7)	(8)
113	MAYA74"S"/GALLO-AUST II 61 157 X CNO N066 CM29229-2M-5Y-4M-1Y-2B-0Y-2PTZ-0Y			3603.8	107.5	184.0	6.2	40.0	0.9	16.8
81	MOCHIS73-TJB259.29 X PAVON"S" CM43363-DD-2Y-1M-3Y-5M-0Y-1PTZ-0Y			3583.3	113.9	181.0	3.9	20.0	33.0	5.8
6	BOBWHITE"S" CM33203-K-9M-10Y-1M-5Y-0M-1PTZ-0Y			3577.8	112.1	180.0	8.2	1.0	0.0	0.0
58	KVZ-CGN SE1006-9S-1B-7S-0S-2PTZ-0Y			3547.0	115.6	178.0	3.5	0.0	0.6	0.1
65	PICHIHUILA"S"-MAYA74 CM39442-7M-1Y-3M-1Y-1M-0Y-1PTZ-0Y			3525.5	106.7	176.5	4.5	30.0	0.6	18.6
120	PAT7253(CHECK)			3507.6	115.8	181.5	12.9	10.0	50.0	14.6
93	GOLDEN VALLEY-AZTECA67 X MUSALA"B" CM41257-I-8M-2Y-1M-1Y-3M-0Y-0PTZ			3505.3	111.6	179.5	0.5	5.0	3.7	1.2
75	CLEMENT-YECORA70 X MONCHO"S" CM43405-A-5Y-2M-2Y-3M-0Y-2PTZ-0Y			3501.3	109.2	179.0	5.8	0.0	0.4	0.0
41	TANAGER"S" CM30697-2M-14Y-0M-22B-0Y-2PTZ-0Y			3496.0	108.8	176.0	8.3	30.0	8.1	1.1
138	IAS20(2)-H567.71 X IAS58 CMH77.213-2Y-1B-1Y-2PTZ-0Y			3491.5	113.3	180.5	6.6	0.0	2.2	6.8
131	CMH74A.754 X PELOTAS72380-ARTHUR71 CMH77.204-4Y-1B-2Y-0PTZ			3488.8	110.8	181.0	25.9	60.0	0.8	0.3
82	PENJAMO62-ZARAGOZA75 X BOBITO"S" CM35855-E-3M-1Y-1M-0Y-0PTZ			3486.0	113.8	180.5	17.1	0.0	0.2	1.5
34	JUNCO"S" CM33483-C-7M-1Y-0M-15B-0Y-2PTZ-0Y			3459.5	113.2	179.5	18.5	5.0	6.6	3.9
128	IAS58-IAS55 X ALDAN"S"/MARINGA B19789-C-502M-501Y-503M-002Y-2PTZ-0Y			3445.2	110.2	178.0	34.1	80.0	18.3	9.3
123	MARINGA-ALDAN"S" CM46961-13M-1Y-2M-001Y-4PTZ-0Y			3407.0	112.3	179.0	8.0	1.0	21.7	8.3
12	BOBWHITE"S" CM33203-H-4M-1Y-0M-68B-0Y-2PTZ-0Y			3405.3	110.0	179.0	6.0	0.0	0.2	0.6
78	KVZ-GV X TITO"B" CM30817-C-10Y-2M-1Y-0M-2PTZ-0Y			3396.0	115.2	178.5	2.8	1.0	7.2	0.6
20	IAS. 20 (CHECK)			3387.6	118.2	179.5	27.0	80.0	26.0	33.9
17	BOBWHITE"S" CM33203-H-4M-1Y-0M-191B-0Y-3PTZ-0Y			3383.0	109.8	177.0	7.0	10.0	0.1	0.1
47	VEERY"S" CM33027-E-1M-11Y-0M-2PTZ-0Y			3347.8	110.3	176.5	2.8	10.0	5.9	3.0
115	MARINGA-ALDAN"S" CM46961-1M-9Y-2M-001Y-1PTZ-0Y			3347.0	111.8	184.5	6.8	0.0	4.3	5.3
27	CHAT"S" CM33090-T-1M-4Y-0M-7B-0Y-1PTZ-0Y			3344.0	114.6	176.5	2.6	0.0	1.1	0.0
36	JUNCO"S" CM33483-C-7M-1Y-0M-20B-0Y-2PTZ-0Y			3336.7	112.2	179.0	17.1	10.0	6.4	21.6
80	BOBWHITE"S" CM33203-H-4M-1Y-0M-56B-0Y-1PTZ-0Y			3322.0	110.5	178.5	5.0	0.0	4.1	0.0
54	BB-KAL CM9160-11M-5Y-1M-2Y-0M-0PTZ			3276.7	117.5	180.5	3.5	5.0	7.8	0.2
60	LAGOA VERMELHA (CHECK)			3265.0	109.5	179.5	28.7	80.0	25.0	27.3

Table 2. (cont.)

VTY	PLNT HT	LODG %	SHTR %	1000 G. W.	POWD %	SEPT TRIT	SEPT NODO	FUS WILT	SCAB %
	(18)	(6)	(1)	(1)	(8)	(19)	(9)	(1)	(3)
113	82.6	17.8	-----	39.5	39.9	63.3	49.8	26.0	46.0
81	80.3	28.2	-----	36.7	11.8	54.2	44.0	26.0	45.0
6	82.9	24.5	-----	28.7	22.6	48.4	54.5	12.0	46.5
58	83.1	22.0	-----	34.7	24.1	47.1	38.4	12.0	28.3
65	87.6	40.0	-----	40.3	35.9	62.3	69.0	12.0	75.0
120	113.5	48.6	20.0	45.8	37.8	44.7	38.9	12.0	36.5
93	72.8	17.2	-----	34.7	25.8	55.6	54.1	26.0	56.5
75	76.4	18.8	-----	37.3	38.8	56.2	53.9	26.0	59.0
41	80.3	41.3	20.0	30.8	34.6	55.8	59.7	12.0	43.3
138	64.8	16.5	-----	37.6	37.6	46.8	54.6	26.0	60.0
131	75.7	38.6	-----	41.9	21.8	48.9	43.6	26.0	32.5
82	89.8	19.7	15.0	40.5	21.1	59.2	45.5	26.0	49.0
34	88.3	22.3	-----	27.3	35.3	46.4	48.8	50.0	45.0
128	86.9	33.4	-----	32.4	34.8	49.7	48.3	12.0	71.5
123	88.9	35.2	-----	36.5	44.0	50.4	42.0	12.0	46.5
12	75.2	21.3	-----	24.2	37.8	57.9	46.0	12.0	45.0
78	81.9	39.7	-----	33.7	7.5	47.2	49.3	38.0	36.7
20	114.3	71.7	60.0	46.5	49.1	39.0	38.6	12.0	16.5
17	73.7	20.5	-----	24.8	32.3	58.9	54.3	12.0	39.0
47	77.3	17.6	-----	33.0	19.8	52.5	46.7	50.0	49.0
115	81.2	33.5	-----	37.4	35.8	56.0	49.4	12.0	39.0
27	86.8	38.5	-----	31.7	39.9	54.7	35.5	12.0	39.0
36	88.2	24.0	-----	29.6	51.3	53.1	52.5	38.0	59.0
10	75.2	18.2	-----	26.3	47.3	59.2	54.4	12.0	65.0
54	85.6	26.3	-----	22.8	40.4	55.1	42.9	26.0	59.0
60	111.3	58.2	-----	42.6	42.4	50.9	56.3	12.0	36.5

Table 2. (cont.)

VTY NO	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	STRP RT L	STRP RT H	LEAF RUST	STEM RUST
			NOBS:	(6)	(13)	(2)	(9)	(1)	(7)	(8)
9	BOBWHITE"S" CM33203-K-9M-24Y-0M-1PTZ-0Y			3259.0	112.5	179.5	3.6	0.0	0.4	0.1
111	MAYA74"S"/GALLD-AUST II.61.157 X CNO N066 CM29229-2M-5Y-4M-1Y-2B-0Y-1PTZ-0Y			3218.3	107.8	204.0	9.2	60.0	1.7	19.8
102	WQ-RM X KAL-BB SWM1445-8Y-2M-500Y-518M-501Y-503M-500Y-0M-2PTZ-0Y			3195.5	115.7	182.5	14.9	0.0	8.5	0.1
30	CHAT"S" CM33090-T-1M-4Y-0M-498-0Y-1PTZ-0Y			3195.3	114.8	177.0	2.8	0.0	0.9	1.5
96	KVZ-BUHO"S" X PJ62-MAYA74"S" CM33593-C-4M-1Y-8M-500Y-100B-500Y-501B-0Y-2PTZ-0Y			3182.0	112.3	182.0	8.5	5.0	4.7	3.6
126	MARINGA-ALDAN"S" CM46961-13M-1Y-7M-003Y-2PTZ-0Y			3180.3	111.3	182.0	14.4	1.0	16.2	3.9
46	VEERY"S" CM33027-E-1M-11Y-0M-1PTZ-0Y			3178.3	110.2	176.5	5.5	10.0	6.8	0.9
119	MARINGA-ALDAN"S" CM46961-12M-3Y-1M-001Y-3PTZ-0Y			3165.3	109.5	178.5	3.6	5.0	7.5	1.7
50	VEERY"S" CM33027-F-15M-500Y-0M-68B-0Y-0PTZ			3148.0	113.1	177.0	3.6	10.0	0.7	0.1
73	CAR853-COCORAQUE75 X VEERY"S" CM47556-Q-1M-1Y-9M-0Y-2PTZ-0Y			3142.3	113.5	180.5	4.5	0.0	0.1	0.0
101	WQ-RM X KAL-BB SWM1445-8Y-2M-500Y-502M-500Y-502M-500Y-0M-3PTZ-0Y			3134.5	115.8	183.0	13.7	0.0	4.2	0.1
5	BOBWHITE"S" CM33203-K-9M-1Y-6M-4Y-0M-0PTZ			3108.0	111.3	179.5	5.0	10.0	0.8	2.9
91	GOLDEN VALLEY-AZTECA67 X MUBALA"S" CM41257-I-8M-1Y-1M-3Y-3M-0Y-2PTZS 0Y			3102.7	112.2	180.0	2.3	1.0	3.7	1.5
94	GOLDEN VALLEY-AZTECA67 X MUBALA"S" CM41257-I-8M-2Y-1M-2Y-4M-0Y-0PTZ			3100.7	113.8	181.0	2.5	5.0	4.1	2.1
22	BUCK BUCK"S" CM31678-R-4Y-2M-21Y-0M-2PTZ-0Y			3099.7	110.8	181.0	14.5	80.0	5.5	18.1
3	BOBWHITE"S" CM33203-F-4M-4Y-1M-1Y-0M-0PTZ			3091.3	113.1	179.0	4.5	0.0	0.3	0.6
66	PICHIHUILA"S"-MAYA74 CM39442-7M-1Y-3M-1Y-1M-0Y-3PTZ-0Y			3061.0	106.6	176.5	17.8	50.0	0.8	22.2
92	GOLDEN VALLEY-AZTECA67 X MUBALA"S" CM41257-I-8M-1Y-2M-3Y-3M-0Y-0PTZ			3057.0	111.7	179.0	2.6	5.0	7.0	0.3
69	PICHIHUILA"S"-MAYA74 CM39442-7M-3Y-2M-1Y-2M-0Y-1PTZ-0Y			3056.5	105.9	176.5	10.3	60.0	3.2	17.9
26	BUCK BUCK"S" CM31678-R-4Y-2M-500Y-507M-0Y-2PTZ-0Y			3054.3	112.1	180.5	11.8	80.0	4.0	8.3
8	BOBWHITE"S" CM33203-K-9M-24Y-0M-0PTZ			3024.0	108.9	180.5	2.5	0.0	2.0	0.8
14	BOBWHITE"S" CM33203-H-4M-1Y-0M-157B-0Y-1PTZ-0Y			3023.0	109.8	178.0	5.8	1.0	0.1	0.1
109	JUP73-MUSALA"S"(CNO"S"-7C X CNO-INIA TOB CM43601-K-3Y-3M-2Y-5M-0Y-1PTZ-0Y			3009.5	112.2	181.0	14.8	10.0	1.4	3.5
67	PICHIHUILA"S"-MAYA74 CM39442-7M-3Y-2M-1Y-1M-0Y-1PTZ-0Y			2990.0	105.9	176.0	7.4	60.0	18.8	1.0

Table 2. (cont.)

VTY	PLNT HT	LODG %	SHTR %	1000 G.W	POWD %	SEPT TRIT	SEPT NODO	FUS WILT	SCAB %
	(18)	(6)	(1)	(1)	(8)	(19)	(9)	(1)	(3)
9	78.7	18.2	-----	26.9	16.3	48.8	40.2	12.0	35.0
111	83.7	17.8	-----	37.3	43.1	56.6	51.5	12.0	52.5
102	87.2	35.5	-----	34.5	43.5	52.9	49.5	12.0	46.5
30	85.0	42.2	-----	31.7	33.1	53.7	40.7	50.0	46.0
96	85.6	16.2	-----	30.4	24.1	56.5	56.5	26.0	52.5
126	76.8	28.6	-----	28.7	21.1	57.7	58.1	12.0	52.5
46	78.2	15.6	-----	31.8	24.6	56.1	58.9	26.0	42.5
119	80.7	32.8	-----	37.8	31.0	50.8	44.9	12.0	46.5
50	76.2	22.3	-----	27.3	25.0	55.1	52.8	12.0	39.3
73	84.9	21.3	-----	34.5	33.4	53.9	58.0	12.0	42.5
101	84.7	31.2	-----	35.7	56.4	56.7	54.8	26.0	36.5
5	77.8	19.7	-----	24.3	23.5	54.3	47.8	12.0	39.0
91	77.7	17.2	-----	32.9	24.4	56.7	55.6	26.0	62.5
94	80.4	16.5	-----	33.1	22.0	49.1	46.8	12.0	46.5
22	80.9	39.7	5.0	29.1	47.0	58.4	46.5	38.0	52.5
3	81.0	25.7	-----	25.2	41.3	53.9	38.4	12.0	28.3
66	86.3	37.7	5.0	39.9	32.5	62.8	72.4	26.0	59.0
92	74.3	18.2	10.0	33.7	24.4	49.7	50.9	12.0	46.5
69	86.9	42.7	5.0	44.0	37.9	63.2	59.5	12.0	62.5
26	82.7	48.0	-----	32.1	42.4	57.6	50.5	12.0	59.0
8	81.3	17.2	-----	27.1	33.8	53.5	45.6	26.0	69.0
14	75.1	24.5	-----	26.3	40.1	60.7	55.6	12.0	39.0
109	88.6	18.5	-----	44.8	30.5	54.8	41.7	26.0	31.0
67	84.4	32.7	5.0	41.7	28.3	65.7	69.6	12.0	62.5

Table 2. (cont.)

VTY NO	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	STRP RT L	STRP RT H	LEAF RUST	STEM RUST
			NOBS	(6)	(13)	(2)	(9)	(1)	(7)	(8)
76	CLEMENT-YECORA70 X MONCHO"S" CM43405-A-5Y-2M-2Y-3M-0Y-3PTZ-0Y			2983.0	110.4	177.5	3.5	0.0	5.0	0.1
136	CMH75.859-IAS20 CMH76.940-1Y-1B-2Y-1B-1Y-2PTZ-0Y			2961.0	111.5	179.5	40.0	80.0	21.5	17.2
107	KL.H645.Y48000-JUP73[KAL-BB[CNO X BB-GALLO(167 X B310-PI62/LR64-II 1847)]CGN] CM36090-1-2M-1Y-5M-1Y-1M-0Y-2PTZ-0Y			2905.3	109.3	178.5	38.4	10.0	0.0	16.1
118	MARINGA-ALDAN"B" CM46961-1M-9Y-2M-002Y-2PTZ-0Y			2897.0	111.5	183.0	5.1	10.0	0.9	3.7
135	IA820-H567.71 CMH76.480-13Y-5B-1Y-2B-2Y-1PTZ-0Y			2847.7	111.9	180.0	10.5	0.0	0.2	27.5
106	GALLO-AUST II.61.157 X CNO-ND66/PAVO "S" CM30326-2M-7Y-3M-1Y-2B-0Y-0PTZ			2847.0	111.9	180.5	13.9	60.0	12.6	2.7
133	MAYA"S" X PELOTAS72380-ARTHUR71 CMH76A.950-1B-8Y-1B-1Y-2PTZ-0Y			2846.3	107.8	178.5	8.8	80.0	10.8	0.1
15	BOBWHITE"S" CM33203-H-4M-1Y-0M-169B-0Y-1PTZ-0Y			2840.3	110.7	178.0	7.3	10.0	0.3	0.6
49	VEERY"S" CM33027-F-15M-500Y-0M-7B-0Y-0PTZ			2826.0	112.1	176.5	3.8	1.0	0.5	0.6
80	TANORI71 (CHECK)			2754.0	104.8	175.5	32.0	50.0	56.7	3.5
112	CONDOR"S"-ANAHUAC75 X CONDOR"S"-MUSA A"S" CM44321-A-1Y-3M-2Y-1M-0Y-0PTZ			2729.0	114.9	181.0	1.5	0.0	0.0	0.3
70	PROTOR-JUPATECO73 CM36876-3M-1Y-2M-0Y-1PTZ-0Y			2725.0	111.2	177.0	7.5	0.0	2.5	4.4
68	PICHIHUILA"S"-MAYA74 CM39442-7M-3Y-2M-1Y-1M-0Y-4PTZ-0Y			2719.0	106.0	177.0	12.5	50.0	9.0	1.7
139	H570.71-IA820(2) X PELOTAS72380-ARTHR71 CMH76A.977-1B-10Y-6B-1Y-1PTZ-0Y			2716.0	112.6	181.0	15.4	40.0	23.3	5.3
25	BUCK BUCK"S" CM31678-R-4Y-2M-500Y-507M-0Y-1PTZ-0Y			2713.7	112.3	179.5	12.8	80.0	3.2	5.9
21	BUCK BUCK"S" CM31678-R-4Y-2M-21Y-0M-1PTZ-0Y			2698.0	111.6	181.0	14.5	80.0	10.8	11.2
28	CHAT"S" CM33090-T-1M-4Y-0M-7B-0Y-3PTZ-0Y			2687.7	116.2	177.0	1.8	10.0	0.6	0.0
87	CARIFEN X KAL-BB/NACOZARI76 CM41182-K-9M-1Y-2M-1Y-1M-0Y-0PTZ			2601.7	110.5	180.5	8.7	10.0	25.8	11.0
129	PELOTAS72380-ARTHUR71 X H567.71 CMH77A.260-3B-1Y-3PTZ-0Y			2556.0	108.3	179.0	28.2	80.0	5.5	22.1
2	ALONDRA"S" CM11683-A-1Y-1M-3Y-11M-0Y-0PTZ			2527.3	112.8	178.5	11.2	0.0	5.7	0.4
125	MARINGA-ALDAN"S" CM46961-13M-1Y-7M-003Y-1PTZ-0Y			2512.8	112.2	180.0	13.7	5.0	18.8	0.8
89	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-1-8M-1Y-1M-2Y-2M-0Y-0PTZ			2491.8	113.0	183.0	2.9	1.0	4.2	3.9
134	IAS20-H567.71 CMH76.480-13Y-5B-1Y-2B-1Y-1PTZ-0Y			2486.0	112.5	179.5	4.7	1.0	1.0	11.9
7	BOBWHITE"S" CM33203-K-9M-10Y-1M-5Y-0M-2PTZ-0Y			2442.3	110.2	182.0	3.5	1.0	0.0	0.1
16	BOBWHITE"S" CM33203-H-4M-1Y-0M-185B-0Y-1PTZ-0Y			2442.3	109.8	180.0	8.1	20.0	0.2	0.1

Table 2. (cont.)

VTY	PLNT HT	LODG %	SHTR %	1000 G.W.	POWD %	SEPT TRIT	SEPT NODO	FUS WILT	SCAB %
	(18)	(6)	(1)	(1)	(8)	(19)	(9)	(1)	(3)
76	77.1	18.0	-----	38.0	43.6	57.7	69.8	38.0	49.0
136	87.6	45.6	-----	42.0	46.0	52.1	56.1	26.0	46.5
107	78.7	25.7	-----	36.2	46.4	61.4	57.8	26.0	26.5
118	79.2	30.7	-----	38.6	17.9	52.7	43.9	26.0	46.5
135	85.2	31.8	-----	47.7	49.6	47.2	54.9	12.0	51.5
106	80.0	26.2	-----	32.3	54.6	53.6	47.6	12.0	41.7
133	69.4	37.8	5.0	34.7	25.0	51.5	51.8	38.0	46.0
15	76.1	18.0	-----	27.1	54.9	58.4	61.0	12.0	49.0
49	76.4	23.0	-----	29.1	25.4	56.8	54.4	26.0	49.0
80	76.3	29.7	-----	36.2	41.9	70.1	62.1	50.0	42.5
112	76.2	39.5	-----	35.2	18.1	44.8	46.7	12.0	46.5
70	91.5	33.0	-----	37.4	25.3	57.9	47.3	26.0	59.0
68	85.2	46.0	5.0	40.1	29.6	67.6	66.0	12.0	59.0
139	60.8	33.5	-----	33.3	54.9	49.6	59.1	26.0	80.0
25	80.9	48.2	5.0	35.6	41.0	60.7	48.0	12.0	49.0
21	80.3	36.5	15.0	29.8	50.1	53.7	49.8	12.0	52.5
28	85.8	33.5	-----	31.6	35.4	51.7	42.3	12.0	32.5
87	86.7	20.5	10.0	32.7	32.0	49.7	59.8	12.0	52.5
129	81.3	29.4	10.0	39.6	45.6	60.9	51.1	12.0	26.5
2	83.9	18.8	-----	35.1	36.5	54.4	38.0	12.0	32.7
125	76.3	29.6	-----	29.3	33.8	55.9	52.9	12.0	46.5
89	80.1	23.2	-----	35.8	19.3	51.7	43.6	26.0	52.7
134	84.8	39.8	5.0	45.2	51.0	47.7	51.9	12.0	26.5
7	80.4	24.2	-----	26.7	34.1	52.4	44.9	12.0	52.5
16	70.6	21.3	-----	26.3	42.4	57.6	58.5	12.0	49.0

Table 2. (cont.)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	YIELD KG/HA	FLOW DAYS	MAT DAYS	STRP RT. L	STRP RT. H	LEAF RUST	STEM RUST
			NOBS:	(6)	(13)	(2)	(9)	(1)	(7)	(8)
23	BUCK BUCK"S" CM31678-R-4Y-2M-21Y-0M-3PTZ-0Y			2407.0	111.3	179.5	14.5	80.0	22.5	12.8
55	KVZ-K4500.L.A.4 SWD176-3M-1Y-4Y-1Y-1M-0Y-1PTZ- 0Y-1PTZ-0Y			2375.0	113.2	179.0	3.8	10.0	0.4	0.0
104	[BB-KAL(TP X CNO-NO66/BB-CNO)]KAL- BB X MILDRESS CM38796-E-3Y-500M-500Y-500M-500Y 500B-0Y-1PTZ-0Y			2344.0	112.9	183.5	2.7	0.0	0.0	0.8
53	AEPDGLOM-II.64.27 = MN72131 -0PTZ			2315.0	114.5	178.0	2.4	10.0	0.3	0.1
97	TOB"S"/CNO-JAR X KVZ CM20707-A-1Y-6M-1Y-0Y-0PTZ			2302.8	111.8	179.5	6.4	5.0	5.4	1.7
56	KVZ-K4500.L.A.4 SWD176-3M-1Y-4Y-1Y-1M-0Y-1PTZ- 0Y-2PTZ-0Y			2295.5	112.9	179.0	2.3	5.0	0.7	0.0
121	MARINGA-ALDAN"S" CM46961-12M-4Y-1M-002Y-4PTZ-0Y			2274.7	109.2	180.5	5.0	10.0	13.8	13.9
24	BUCK BUCK"S" CM31678-R-4Y-2M-21Y-0M-4PTZ-0Y			2236.0	107.4	179.5	12.2	80.0	12.4	11.6
64	MILDRESS-COCORA8UE75 SWM4127-1Y-1M-3Y-1M-1Y-0M-0PTZ			2090.0	111.7	177.0	2.7	1.0	0.0	5.6
88	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-1M-1Y-2M-0Y-0PTZ			2014.5	112.1	181.5	2.5	1.0	1.3	1.7
117	MARINGA-ALDAN"S" CM46961-1M-9Y-2M-0001Y-3PTZ-0Y			1960.7	110.3	183.0	3.0	0.0	18.5	2.9
142	M570.71-IAS20(2) X PELOTAS72380-ARTH R71 CMH76A.977-1B-10Y-6B-0Y-2PTZ-0Y			1905.7	114.2	180.5	21.8	40.0	32.5	21.7
143	TANORI71(CHECK)			1869.0	101.7	181.5	26.8	40.0	59.6	5.7
127	MARINGA-VALDIVIA"S" CM46962-3M-1Y-1M-002Y-1PTZ-0Y			1839.3	111.2	180.0	4.6	0.0	0.8	12.0
132	CMH74A.754 X PELOTAS72380-ARTHUR71 CMH77.204-4Y-1B-3Y-0PTZ			1838.5	111.5	178.5	27.1	60.0	3.9	0.0
140	YECORA70(CHECK)			1779.3	103.8	179.0	21.1	40.0	42.3	8.2
71	BAGE-HORK"S" X ALDAN"S" CM48016-P-2M-1Y-1M-0Y-1PTZ-0Y			1746.5	116.8	181.0	6.7	0.0	2.5	0.2
38	MUSALA"S" CM16780-1M-2Y-30M-0Y-1PTZ-0Y			1488.5	113.8	180.0	4.3	10.0	7.1	10.0
98	ZARAGOZA75/LD357E-TC(3) X GLL"S" X30520-1B-2Y-2B-0Y-0PTZ			1466.5	116.9	180.5	10.5	50.0	20.4	0.3
40	YECORA 70 (CHECK)			1241.3	107.3	175.5	26.6	80.0	40.0	20.0
1	LERMA ROJO (CHECK)			1236.3	106.9	178.0	35.6	10.0	47.3	11.5
100	LERMA ROJO64 (CHECK)			1108.8	107.6	178.5	25.7	80.0	55.0	3.3

Table 2. (cont.)

VTY	PLNT HT	LODG %	SHTR %	1000 G W.	POWD %	SEPT TRIT	SEPT NODO	FUS WILT	SCAB %
	(18)	(6)	(1)	(1)	(8)	(19)	(9)	(1)	(3)
23	79.4	30.5	5.0	28.9	39.5	60.5	42.5	12.0	52.5
55	83.1	23.2	-----	31.6	24.9	57.8	49.4	12.0	52.5
104	94.2	29.8	-----	42.4	32.4	52.0	46.1	26.0	29.0
53	80.7	36.5	-----	33.5	23.3	47.3	37.7	38.0	42.5
97	75.3	16.3	-----	28.0	20.8	50.8	37.8	62.0	52.5
56	79.4	9.0	-----	31.9	21.4	54.1	50.9	12.0	52.5
121	83.9	32.4	-----	40.0	36.3	43.7	44.8	12.0	46.5
24	79.5	25.6	5.0	29.8	40.6	58.1	45.5	12.0	39.0
64	79.3	43.0	-----	33.4	23.9	52.9	50.5	12.0	39.0
88	77.6	25.5	-----	35.6	19.8	49.8	53.1	12.0	39.3
117	80.8	31.3	-----	35.7	30.8	56.7	41.9	12.0	46.5
142	61.7	22.3	-----	29.8	67.9	53.6	53.3	12.0	80.0
143	76.5	22.0	-----	34.6	66.7	74.4	63.8	38.0	100.0
127	79.2	35.4	-----	34.2	19.9	46.8	45.9	26.0	46.5
132	77.3	39.8	5.0	38.9	18.6	53.4	51.5	38.0	32.5
140	64.8	34.5	-----	38.4	63.5	71.5	68.0	26.0	100.0
71	88.4	31.5	-----	39.8	26.8	42.3	39.8	12.0	39.0
38	75.5	32.7	-----	30.5	18.9	52.2	54.8	26.0	54.3
98	59.8	17.2	-----	24.9	36.0	63.1	54.8	38.0	59.0
40	66.7	43.0	-----	33.9	48.7	66.2	69.9	12.0	45.0
1	88.3	43.0	-----	32.1	51.5	68.2	48.8	12.0	26.0
100	90.2	52.8	-----	36.3	45.6	69.6	59.0	12.0	52.5

Table 3. Top performance entries: Septoria tritici

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	SEPT TRIT	SEPT NODO
			NOBS:	(19)	(9)
20	IAS. 20 (CHECK)			39.0	38.6
71	BAGE-HORK"S" X ALDAN"S" CM48016-P-2M-1Y-1M-0Y-1PTZ-0Y			42.3	39.8
137	IAS20(2)-H567.71 X PELOTAS72380-ARTH R71 CMH77.197-7Y-5B-1Y-5PTZ-0Y			43.2	45.1
121	MARINGA-ALDAN"S" CM46961-12M-4Y-1M-002Y-4PTZ-0Y			43.7	44.8
120	PAT7253(CHECK)			44.7	38.9
112	CONDOR"S"-ANAHUAC75 X CONDOR"S"-MUSA A"S" CM44321-A-1Y-3M-2Y-1M-0Y-0PTZ			44.8	46.7
44	TRIFON"S" F4-5Y-0M-2Y-0Y-1PTZ-0Y			45.6	54.6
4	BOBWHITE"S" CM33203-K-6M-1Y-0M-0PTZ			46.3	41.3
34	JUNCO"S" CM33483-C-7M-1Y-0M-15B-0Y-2PTZ-0Y			46.4	48.8
138	IAS20(2)-H567.71 X IAS58 CMH77.213-2Y-1B-1Y-2PTZ-0Y			46.8	54.6
127	MARINGA-VALDIVIA"S" CM46962-3M-1Y-1M-002Y-1PTZ-0Y			46.8	45.9
58	KVZ-CGN BE1006-9B-1B-7B-0B-2PTZ-0Y			47.1	38.4
78	KVZ-0V X TITO"S" CM30817-C-10Y-2M-1Y-0M-2PTZ-0Y			47.2	49.3
141	IAS20-H567.71 CMH76.480-13Y-5B-0Y-2B-0Y-3PTZ-0Y			47.2	39.0
135	IAS20-H567.71 CMH76.480-13Y-5B-1Y-2B-2Y-1PTZ-0Y			47.2	54.9
33	JUNCO"S" CM33483-C-7M-1Y-0M-15B-0Y-1PTZ-0Y			47.3	50.6
53	AEPOGLOM-II.64.27 = MN72131 -0PTZ			47.3	37.7
77	KVZ-0V X TITO"S" CM30817-C-10Y-2M-1Y-0M-1PTZ-0Y			47.4	48.0
122	MARINGA-ALDAN"S" CM46961-13M-1Y-2M-001Y-3PTZ-0Y			47.6	40.8
134	IAS20-H567.71 CMH76.480-13Y-5B-1Y-2B-1Y-1PTZ-0Y			47.7	51.9
59	KVZ-CGN BE1006-9B-1B-4B-0B-1PTZ-0Y			48.0	36.9
6	BOBWHITE"S" CM33203-K-9M-10Y-1M-5Y-0M-1PTZ-0Y			48.4	54.5
9	BOBWHITE"S" CM33203-K-9M-24Y-0M-1PTZ-0Y			48.8	40.2
131	CMH74A.754 X PELOTAS72380-ARTHUR71 CMH77.204-4Y-1B-2Y-0PTZ			48.9	43.6
94	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-2Y-1M-2Y-4M-0Y-0PTZ			49.1	46.8

Table 3. (cont.)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	SEPT TRIT	SEPT NODO
			NOBS:	(19)	(9)
139	H570.71-IAS20(2) X PELOTAS72380-ARTH R71 CMH76A.977-1B-10Y-6B-1Y-1PTZ-0Y			49.6	39.1
92	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-2M-3Y-3M-0Y-0PTZ			49.7	50.9
128	IA858-IA855 X ALDAN"S"/MARINGA B19789-C-502M-501Y-503M-002Y-2PTZ-0Y			49.7	48.3
87	CARIFEN X KAL-BB/NACOZARI76 CM41182-K-9M-1Y-2M-1Y-1M-0Y-0PTZ			49.7	39.8
114	(TZPP-IRN46-CNO/II.64.27)MUSALA"S" CM42422-25Y-1M-1Y-1M-0Y-1PTZ-0Y			49.7	53.1
88	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-1M-1Y-2M-0Y-0PTZ			49.8	53.1

Table 4. Top performance entries: Septoria nodorum

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	SEPT NODO	SEPT TRIT
			NOBS:	(9)	(19)
29	CHAT"S" CM33090-T-1M-4Y-0M-25B-0Y-2PTZ-0Y			31.4	55.7
32	CHAT"S" CM33090-T-1M-4Y-0M-176B-0Y-1PTZ-0Y			35.5	56.7
27	CHAT"S" CM33090-T-1M-4Y-0M-7B-0Y-1PTZ-0Y			35.5	54.7
61	KVZ-CGN SE1006-9S-3S-4S-0S-1PTZ-0Y			36.1	54.1
59	KVZ-CGN SE1006-9S-1S-4S-0S-1PTZ-0Y			36.9	48.0
53	AEPOGLOM-II.64.27 = MN72131 -0PTZ			37.7	47.3
97	TOB"S"/CNO-JAR X KVZ CM20707-A-1Y-8M-1Y-0Y-0PTZ			37.8	50.8
31	CHAT"S" CM33090-T-1M-4Y-0M-51B-0Y-2PTZ-0Y			37.9	51.4
2	ALONDRA"S" CM11683-A-1Y-1M-3Y-11M-0Y-0PTZ			38.0	54.4
58	KVZ-CGN SE1006-9S-1S-7S-0S-2PTZ-0Y			38.4	47.1
3	BOBWHITE"S" CM33203-F-4M-4Y-1M-1Y-0M-0PTZ			38.4	53.9
20	IAS. 20 (CHECK)			38.6	39.0
120	PAT7253(CHECK)			38.9	44.7
141	IAS20-H567.71 CMH76.480-13Y-5B-0Y-2B-0Y-3PTZ-0Y			39.0	47.2
57	KVZ-CGN SE1006-9S-1S-7S-0S-1PTZ-0Y			39.1	50.5
71	BAGE-HORK"S" X ALDAN"S" CM48016-P-2M-1Y-1M-0Y-1PTZ-0Y			39.8	42.3
9	BOBWHITE"S" CM33203-K-9M-24Y-0M-1PTZ-0Y			40.2	48.8
30	CHAT"S" CM33090-T-1M-4Y-0M-49B-0Y-1PTZ-0Y			40.7	53.7
122	MARINGA-ALDAN"S" CM46961-13M-1Y-2M-001Y-3PTZ-0Y			40.8	47.6
4	BOBWHITE"S" CM33203-K-8M-1Y-0M-0PTZ			41.3	46.3
109	JUP73-MUSALA"S"(CNO"S"-7C X CND-INIA TOB CM43601-K-3Y-3M-2Y-5M-0Y-1PTZ-0Y			41.7	54.8
117	MARINGA-ALDAN"S" CM46961-1M-9Y-2M-0001Y-3PTZ-0Y			41.9	56.7
123	MARINGA-ALDAN"S" CM46961-13M-1Y-2M-001Y-4PTZ-0Y			42.0	50.4
28	CHAT"S" CM33090-T-1M-4Y-0M-7B-0Y-3PTZ-0Y			42.3	51.7
23	BUCK BUCK"S" CM31678-R-4Y-2M-21Y-0M-3PTZ-0Y			42.5	60.5
54	BB-KAL CM9160-11M-5Y-1M-2Y-0M-0PTZ			42.9	55.1

Table 4. (cont.)

VTY NO	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	SEPT NODO	SEPT TRIT
			NOBS	(9)	(19)
105	[BB-KAL(TP X CNO-N066/BB-CNO)]KAL-BB X MILDREBS CM38796-E-3Y-500M-500Y-500M-500Y-500B-0Y-2PTZ-0Y			43.0	50.4
116	MARINGA-ALDAN"S" CM46961-1M-9Y-2M-0001Y-2PTZ-0Y			43.1	55.9
89	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-1M-2Y-2M-0Y-0PTZ			43.6	51.7
131	CMH74A.754 X PELOTAS72380-ARTHUR71 CMH77.204-4Y-1B-2Y-0PTZ			43.6	48.9
118	MARINGA-ALDAN"S" CM46961-1M-9Y-2M-002Y-2PTZ-0Y			43.9	52.7
81	MOCHIS73-TJ8259.29 X PAVON"S" CM43363-DD-2Y-1M-3Y-5M-0Y-1PTZ-0Y			44.0	54.2
18	BOBWHITE"S" CM33203-K-12M-14Y-3M-0Y-1PTZ-0Y-0PTZ			44.5	51.6
121	MARINGA-ALDAN"S" CM46961-12M-4Y-1M-002Y-4PTZ-0Y			44.8	43.7
7	BOBWHITE"S" CM33203-K-9M-10Y-1M-5Y-0M-2PTZ-0Y			44.9	52.4
119	MARINGA-ALDAN"S" CM46961-12M-3Y-1M-001Y-3PTZ-0Y			44.9	50.8

Table 5. Top performance entries: Stem rust

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	STEM RUST
			NOBS:	(8)
18	BOBWHITE"S" CM33203-K-12M-14Y-3M-0Y-1PTZ-0Y-0PTZ			0.0
73	CAR853-COCORAQUE75 X VEERY"S" CM47556-Q-1M-1Y-9M-0Y-2PTZ-0Y			0.0
55	KVZ-K4500.L.A.4 SW0176-3M-1Y-4Y-1Y-1M-0Y-1PTZ-0Y-1PTZ-0Y			0.0
56	KVZ-K4500.L.A.4 SW0176-3M-1Y-4Y-1Y-1M-0Y-1PTZ-0Y-2PTZ-0Y			0.0
130	CMH74A.754 X PELOTAS72380-ARTHUR71 CMH77.204-4Y-1B-1Y-2PTZ-0Y			0.0
6	BOBWHITE"S" CM33203-K-9M-10Y-1M-5Y-0M-1PTZ-0Y			0.0
28	CHAT"S" CM33090-T-1M-4Y-0M-7B-0Y-3PTZ-0Y			0.0
10	BOBWHITE"S" CM33203-K-4M-1Y-0M-56B-0Y-1PTZ-0Y			0.0
27	CHAT"S" CM33090-T-1M-4Y-0M-7B-0Y-1PTZ-0Y			0.0
132	CMH74A.754 X PELOTAS72380-ARTHUR71 CMH77.204-4Y-1B-3Y-0PTZ			0.0
75	CLEMENT-YECORA70 X MONCHO"S" CM43405-A-5Y-2M-2Y-3M-0Y-2PTZ-0Y			0.0
4	BOBWHITE"S" CM33203-K-8M-1Y-0M-0PTZ			0.0
9	BOBWHITE"S" CM33203-K-9M-24Y-0M-1PTZ-0Y			0.1
50	VEERY"S" CM33027-F-15M-500Y-0M-68B-0Y-0PTZ			0.1
58	KVZ-CON SE1006-9S-1S-7S-0S-2PTZ-0Y			0.1
7	BOBWHITE"S" CM33203-K-9M-10Y-1M-5Y-0M-2PTZ-0Y			0.1
99	WG-RM X KAL-BB SWM1445-8Y-2M-500Y-502M-500Y-502M-500Y-0M-1PTZ-0Y			0.1
42	TANAGER"B" CM30697-2M-14Y-0M-37B-0Y-1PTZ-0Y			0.1
57	KVZ-CON SE1006-9S-1S-7S-0S-1PTZ-0Y			0.1
16	BOBWHITE"S" CM33203-H-4M-1Y-0M-185B-0Y-1PTZ-0Y			0.1
17	BOBWHITE"S" CM33203-H-4M-1Y-0M-191B-0Y-3PTZ-0Y			0.1
105	(BB-KAL(TP X CNO-NO66/BB-CNO)]KAL-BB X MILDRESS CM38796-E-3Y-500M-500Y-500M-500Y-500B-0Y-2PTZ-0Y			0.1
83	TI71-TOB66 X ALONDRA"S" CM33217-Q-4M-1Y-0M-133B-0Y-1PTZ-0Y			0.1

Table 5. (cont.)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	STEM RUST
			NOBS:	(8)
133	MAYA"S" X PELOTAS72380-ARTHUR71 CMH76A.950-1B-8Y-1B-1Y-2PTZ-0Y			0.1
29	CHAT"S" CM33090-T-1M-4Y-0M-25B-0Y-2PTZ-0Y			0.1
45	TUCAN"S" CM2699-12M-1Y-5M-2Y-4M-0Y-1PTZ-0Y			0.1
77	KVZ-GV X TITO"S" CM30817-C-10Y-2M-1Y-0M-1PTZ-0Y			0.1
53	AEPOGLOM-II.64.27 = MN72131 -0PTZ			0.1
102	WG-RM X KAL-BB SWM1445-8Y-2M-500Y-518M-501Y-503M-500Y-0M-2PTZ-0Y			0.1
76	CLEMENT-YECORA70 X MONCHO"S" CM43405-A-5Y-2M-2Y-3M-0Y-3PTZ-0Y			0.1
101	WG-RM X KAL-BB SWM1445-8Y-2M-500Y-502M-500Y-502M-500Y-0M-3PTZ-0Y			0.1
79	KVZ-GV X TITO"S" CM30817-C-10Y-2M-1Y-0M-4PTZ-0Y			0.1
14	BOBWHITE"S" CM33203-H-4M-1Y-0M-157B-0Y-1PTZ-0Y			0.1
103	WG-RM X KAL-BB SWM1445-8Y-2M-500Y-518M-501Y-503M-500Y-0M-3PTZ-0Y			0.2
31	CHAT"S" CM33090-T-1M-4Y-0M-51B-0Y-2PTZ-0Y			0.2
51	VEERY"S" CM33027-F-15M-500Y-0M-75B-0Y-0PTZ			0.2
54	BB-KAL CM9160-11M-5Y-1M-2Y-0M-0PTZ			0.2
71	BAGE-HORK"S" X ALDAN"S" CM48016-P-2M-1Y-1M-0Y-1PTZ-0Y			0.2
61	KVZ-CGN SE1006-9S-3S-4S-0S-1PTZ-0Y			0.3
131	CMH74A.754 X PELOTAS72380-ARTHUR71 CMH77.204-4Y-1B-2Y-0PTZ			0.3
112	CONDOR"S"-ANAHUAC75 X CONDOR"S"-MUSA A"S" CM44321-A-1Y-3M-2Y-1M-0Y-0PTZ			0.3
32	CHAT"S" CM33090-T-1M-4Y-0M-176B-0Y-1PTZ-0Y			0.3
92	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-2M-3Y-3M-0Y-0PTZ			0.3
98	ZARAGOZA75/LD357E-TC(3) X GLL"S" X30520-1B-2Y-2B-0Y-0PTZ			0.3
2	ALONDRA"S" CM11683-A-1Y-1M-3Y-11M-0Y-0PTZ			0.4
59	KVZ-CGN SE1006-9S-1S-4S-0S-1PTZ-0Y			0.4
85	TI71-T0866 X ALONDRA"S" CM33217-G-4M-1Y-0M-133B-0Y-3PTZ-0Y			0.4
74	CAR853-CDCORAGUE75 X VEERY"S" CM47556-G-1M-2Y-6M-0Y-2PTZ-0Y			0.6

Table 5. (cont.)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	STEM RUST
			NOBS:	(8)
12	BOBWHITE"S" CM33203-H-4M-1Y-0M-6BB-0Y-2PTZ-0Y			0.6
3	BOBWHITE"S" CM33203-F-4M-4Y-1M-1Y-0M-0PTZ			0.6
49	VEERY"S" CM33027-F-15M-500Y-0M-7B-0Y-0PTZ			0.6
78	KVZ-GV X TITO"S" CM30817-C-10Y-2M-1Y-0M-2PTZ-0Y			0.6
15	BOBWHITE"S" CM33203-H-4M-1Y-0M-169B-0Y-1PTZ-0Y			0.6
72	CAR853-COCORAQUE75 X VEERY"S" CM47556-G-1M-1Y-9M-0Y-1PTZ-0Y			0.7
116	MARINGA-ALDAN"S" CM46961-1M-9Y-2M-0001Y-2PTZ-0Y			0.8
8	BOBWHITE"S" CM33203-K-9M-24Y-0M-0PTZ			0.8
125	MARINGA-ALDAN"S" CM46961-13M-1Y-7M-003Y-1PTZ-0Y			0.8
104	[BB-KAL(TP X CNO-NO66/BB-CNO)]KAL-BB X MILDRED8 CM38796-E-3Y-500M-500Y-500M-500Y-500B-0Y-1PTZ-0Y			0.8
110	[LFN-M2(4777/REI X Y-KT)]MAYA74"S" SWM4743-19Y-2M-1Y-1M-0Y-2PTZ-0Y			0.9
46	VEERY"S" CM33027-E-1M-11Y-0M-1PTZ-0Y			0.9
67	PICHIHUILA"S"-MAYA74 CM39442-7M-3Y-2M-1Y-1M-0Y-1PTZ-0Y			1.0
41	TANAGER"S" CM30697-2M-14Y-0M-22B-0Y-2PTZ-0Y			1.1
93	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-2Y-1M-1Y-3M-0Y-0PTZ			1.2
32	VEERY"S" CM33027-F-15M-500Y-0M-81B-0Y-0PTZ			1.3
84	TI71-T0866 X ALONDRA"S" CM33217-G-4M-1Y-0M-133B-0Y-2PTZ-0Y			1.4
114	(TZPP-IRN46-CNO/II.64.27)MUSALA"S" CM42422-25Y-1M-1Y-1M-0Y-1PTZ-0Y			1.4
91	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-1M-3Y-3M-0Y-2PTZS0Y			1.5
82	PENJAM062-ZARAGOZA75 X BOBITO"S" CM35855-E-3M-1Y-1M-0Y-0PTZ			1.5
30	CHAT"S" CM33090-T-1M-4Y-0M-49B-0Y-1PTZ-0Y			1.5
11	BOBWHITE"S" CM33203-H-4M-1Y-0M-68B-0Y-1PTZ-0Y			1.5
13	BOBWHITE"S" CM33203-H-4M-1Y-0M-127B-0Y-2PTZ-0Y			1.6
88	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-1M-1Y-2M-0Y-0PTZ			1.7
68	PICHIHUILA"S"-MAYA74 CM39442-7M-3Y-2M-1Y-1M-0Y-4PTZ-0Y			1.7

Table 5. (cont.)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	STEM RUST
			NOBS:	(S)
119	MARINGA-ALDAN"S" CM46961-12M-3Y-1M-001Y-3PTZ-0Y			1.7
97	TOB"S"/CNO-JAR X KVZ CM20707-A-1Y-8M-1Y-0Y-0PTZ			1.7
43	TANAGER"S" CM30697-2M-14Y-0M-5BB-0Y-2PTZ-0Y			2.1
94	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-2Y-1M-2Y-4M-0Y-0PTZ			2.1
48	VEERY"S" CM33027-F-15M-500Y-0M-6B-0Y-1PTZ 0Y			2.1
19	BROCHIS"S" CM5872-C-1Y-1M-1Y-3M-0Y-2PTZ-0Y			2.6
90	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-1M-3Y-3M-0Y-1PTZB 0Y			2.6
106	GALLO-AUST II.61.157 X CNO-N066/PAVO "S" CM30326-2M-7Y-3M-1Y-2B-0Y-0PTZ			2.7
117	MARINGA-ALDAN"S" CM46961-1M-9Y-2M-0001Y-3PTZ-0Y			2.9
5	BOBWHITE"S" CM33203-K-9M-1Y-6M-4Y-0M-0PTZ			2.9
47	VEERY"S" CM33027-E-1M-11Y-0M-2PTZ-0Y			3.0

Table 6. Top performance entries: Leaf rust

VTY NO	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	LEAF RUST
			NOBS:	(7)
107	KL H645.Y48000-JUP73(KAL-BB(CNO X BB-GALLO(167 X S310-P162/LR64-II.1847))CGN) CM36090-I-2M-1Y-5M-1Y-1M-0Y-2PTZ-0Y			0.0
6	BOBWHITE"S" CM33203-K-9M-10Y-1M-5Y-0M-1PTZ-0Y			0.0
7	BOBWHITE"S" CM33203-K-9M-10Y-1M-5Y-0M-2PTZ-0Y			0.0
64	MILDRESS-COCORAQUE75 SWM4127-1Y-1M-3Y-1M-1Y-0M-0PTZ			0.0
112	CONDOR"S"-ANAHUAC75 X CONDOR"S"-MUSA A"S" CM44321-A-1Y-3M-2Y-1M-0Y-0PTZ			0.0
74	CAR853-COCORAQUE75 X VEERY"S" CM47556-G-1M-2Y-6M-0Y-2PTZ-0Y			0.0
104	(BB-KAL(TP X CNO-NO66/BB-CNO)KAL-BB X MILDRESS CM38796-E-3Y-500M-500Y-500M-500Y 500B-0Y-1PTZ-0Y			0.0
29	CHAT"S" CM33090-T-1M-4Y-0M-25B-0Y-2PTZ-0Y			0.1
73	CAR853-COCORAQUE75 X VEERY"S" CM47556-G-1M-1Y-9M-0Y-2PTZ-0Y			0.1
14	BOBWHITE"S" CM33203-H-4M-1Y-0M-157B-0Y-1PTZ-0Y			0.1
17	BOBWHITE"S" CM33203-H-4M-1Y-0M-191B-0Y-3PTZ-0Y			0.1
4	BOBWHITE"S" CM33203-K-8M-1Y-0M-0PTZ			0.1
44	TRIFON"S" F4-5Y-0M-2Y-0Y-1PTZ-0Y			0.1
18	BOBWHITE"S" CM33203-K-12M-14Y-3M-0Y-1PTZ-0Y-0PTZ			0.1
82	PENJAM062-ZARAGOZA75 X BOBITO"S" CM35855-E-3M-1Y-1M-0Y-0PTZ			0.2
16	BOBWHITE"S" CM33203-H-4M-1Y-0M-185B-0Y-1PTZ-0Y			0.2
135	1A820-H567.71 CMH76.480-13Y-5B-1Y-2B-2Y-1PTZ-0Y			0.2
79	KVZ-GV X TITO"S" CM30817-C-10Y-2M-1Y-0M-4PTZ-0Y			0.2
85	TI71-T0866 X ALONDRA"S" CM33217-G-4M-1Y-0M-133B-0Y-3PTZ-0Y			0.2
12	BOBWHITE"S" CM33203-H-4M-1Y-0M-68B-0Y-2PTZ-0Y			0.2
61	KVZ-CGN SE1006-9S-3S-4S-0S-1PTZ-0Y			0.2
3	BOBWHITE"S" CM33203-F-4M-4Y-1M-1Y-0M-0PTZ			0.3

Table 6. (cont.)

VTY NO	VARIETY OR CROSS AND PEDIGREE	CHAIN	ORIGIN	LEAF RUST
			NOBS	(?)
53	AEPOGLOM-II 64 27 * MN72131 OPTZ			0.3
15	BOBWHITE"S" CM33203-H 4M 1Y 0M-169B-0Y-1PTZ 0Y			0.3
9	BOBWHITE"S" CM33203-K-9M-24Y-0M-1PTZ-0Y			0.4
55	KVZ-K4500 L A 4 SW0176-3M-1Y-4Y-1Y-1M-0Y-1PTZ-0Y-1PTZ-0Y			0.4
75	CLEMENT-YECORA70 X MONCHO"S" CM43405-A-5Y-2M-2Y-3M-0Y-2PTZ-0Y			0.4
49	VEERY"S" CM33027-F-15M-500Y-0M-7B-0Y-0PTZ			0.5
58	KVZ-CGN SE1006-9S-1S-7S-0S-2PTZ-0Y			0.6
65	PICHIHUILA"S"-MAYA74 CM39442-7M-1Y-3M-1Y-1M-0Y-1PTZ-0Y			0.6
83	TI71-TOB66 X ALONDRA"S" CM33217-G-4M-1Y-0M-133B-0Y-1PTZ-0Y			0.6
28	CHAT"S" CM33090-T-1M-4Y-0M-7B-0Y-3PTZ-0Y			0.6
56	KVZ-K4500 L A 4 SW0176-3M-1Y-4Y-1Y-1M-0Y-1PTZ-0Y-2PTZ-0Y			0.7
90	VEERY"S" CM33027-F-15M-500Y-0M-68B-0Y-0PTZ			0.7
66	PICHIHUILA"S"-MAYA74 CM39442-7M-1Y-3M-1Y-1M-0Y-3PTZ-0Y			0.8
84	TI71-TOB66 X ALONDRA"S" CM33217-G-4M-1Y-0M-133B-0Y-2PTZ-0Y			0.8
5	BOBWHITE"S" CM33203-K-9M-1Y-6M-4Y-0M-0PTZ			0.8
127	MARINGA-VALDIVIA"S" CM46962-3M-1Y-1M-002Y-1PTZ-0Y			0.8
131	CMH74A.754 X PELOTAS72380-ARTHUR71 CMH77.204-4Y-1B-2Y-0PTZ			0.8
118	MARINGA-ALDAN"S" CM46961-1M-9Y-2M-002Y-2PTZ-0Y			0.9
32	CHAT"S" CM33090-T-1M-4Y-0M-176B-0Y-1PTZ-0Y			0.9
30	CHAT"S" CM33090-T-1M-4Y-0M-49B-0Y-1PTZ-0Y			0.9
57	KVZ-CGN SE1006-9S-1S-7S-0S-1PTZ-0Y			0.9
113	MAYA74"S"/GALLO-AUST II.61.157 X CNO NO66 CM29229-2M-5Y-4M-1Y-2B-0Y-2PTZ-0Y			0.9
134	IAS20-H367 71 CMH76.480-13Y-5B-1Y-2B-1Y-1PTZ-0Y			1.0
62	MAYA74"S"-NURI 70 RESEL. CM40691-11M-2Y-1M-2Y-1M-0Y-0PTZ			1.0

Table 6. (cont.)

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	LEAF RUST
			NOBS:	(7)
27	CHAT"S" CM33090-T-1M-4Y-0M-7B-0Y-1PTZ-0Y			1.1
114	(TZPP-IRN46-CNO/II.64.27)MUSALA"S" CM42422-25Y-1M-1Y-1M-0Y-1PTZ-0Y			1.3
88	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-1M-1Y-2M-0Y-0PTZ			1.3
109	JUP73-MUSALA"S"(CNO"S"-7C X CNO-INIATOB CM43601-K-3Y-3M-2Y-5M-0Y-1PTZ-0Y			1.4
108	KL.H645.Y48000-JUP73[KAL-BB[CNO X BB-GALLO(167 X S310-PI62/LR64-II.1847)]CGN] CM36090-I-2M-1Y-5M-1Y-1M-0Y-3PTZ0Y			1.5
59	KVZ-CGN SE1006-9S-1S-4S-0S-1PTZ-0Y			1.7
111	MAYA74"S"/GALLO-AUST II.61.157 X CNONO66 CM29229-2M-5Y-4M-1Y-2B-0Y-1PTZ-0Y			1.7
8	BOBWHITE"S" CM33203-K-9M-24Y-0M-0PTZ			2.0
11	BOBWHITE"S" CM33203-H-4M-1Y-0M-68B-0Y-1PTZ-0Y			2.0
13	BOBWHITE"S" CM33203-H-4M-1Y-0M-127B-0Y-2PTZ-0Y			2.2
31	CHAT"S" CM33090-T-1M-4Y-0M-51B-0Y-2PTZ-0Y			2.2
138	IAS20(2)-H567.71 X IAS58 CMH77.213-2Y-1B-1Y-2PTZ-0Y			2.2
70	PROTOR-JUPATEC073 CM36876-3M-1Y-2M-0Y-1PTZ-0Y			2.5
71	BAGE-HORK"S" X ALDAN"S" CM48016-P-2M-1Y-1M-0Y-1PTZ-0Y			2.5
48	VEERY"S" CM33027-F-15M-500Y-0M-6B-0Y-1PTZ0Y			2.5

Table 7. Top performance entries: Stripe rust on the leaf

VTY NO.	VARIETY OR CROSS AND PEDIGREE	GRAIN	ORIGIN	STRP RT. L	STRP RT. H
			NOBS:	(9)	(1)
93	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-2Y-1M-1Y-3M-0Y-0PTZ			0.5	5.0
105	[BB-KAL(TP X CNO-NO66/BB-CNO)]KAL-BB X MILDRESS CM38796-E-3Y-500M-500Y-500M-500Y-500B-0Y-2PTZ-0Y			1.3	0.0
112	CONDOR"S"-ANAHUAC75 X CONDOR"S"-MUSA A"S" CM44321-A-1Y-3M-2Y-1M-0Y-0PTZ			1.5	0.0
31	CHAT"S" CM33090-T-1M-4Y-0M-51B-0Y-2PTZ-0Y			1.8	0.0
28	CHAT"S" CM33090-T-1M-4Y-0M-7B-0Y-3PTZ-0Y			1.8	10.0
56	KVZ-K4500.L.A.4 SW0176-3M-1Y-4Y-1Y-1M-0Y-1PTZ-0Y-2PTZ-0Y			2.3	5.0
91	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-1M-3Y-3M-0Y-2PTZS 0Y			2.3	1.0
77	KVZ-GV X TITO"S" CM30817-C-10Y-2M-1Y-0M-1PTZ-0Y			2.4	1.0
53	AEPOGLOM-II.64.27 = MN72131 -0PTZ			2.4	10.0
90	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-1M-3Y-3M-0Y-1PTZS 0Y			2.5	1.0
88	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-1M-1Y-2M-0Y-0PTZ			2.5	1.0
44	TRIFON"S" F4-5Y-0M-2Y-0Y-1PTZ-0Y			2.5	0.0
94	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-2Y-1M-2Y-4M-0Y-0PTZ			2.5	5.0
8	BOBWHITE"S" CM33203-K-9M-24Y-0M-0PTZ			2.5	0.0
27	CHAT"S" CM33090-T-1M-4Y-0M-7B-0Y-1PTZ-0Y			2.6	0.0
92	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-2M-3Y-3M-0Y-0PTZ			2.6	5.0
64	MILDRESS-COCORAQUE75 SWM4127-1Y-1M-3Y-1M-1Y-0M-0PTZ			2.7	1.0
104	[BB-KAL(TP X CNO-NO66/BB-CNO)]KAL-BB X MILDRESS CM38796-E-3Y-500M-500Y-500M-500Y-500B-0Y-1PTZ-0Y			2.7	0.0
30	CHAT"S" CM33090-T-1M-4Y-0M-49B-0Y-1PTZ-0Y			2.8	0.0
47	VEERY"S" CM33027-E-1M-11Y-0M-2PTZ-0Y			2.8	10.0
78	KVZ-GV X TITO"S" CM30817-C-10Y-2M-1Y-0M-2PTZ-0Y			2.8	1.0
89	GOLDEN VALLEY-AZTECA67 X MUSALA"S" CM41257-I-8M-1Y-1M-2Y-2M-0Y-0PTZ			2.9	1.0
117	MARINGA-ALDAN"S" CM46961-1M-9Y-2M-0001Y-3PTZ-0Y			3.0	0.0