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RESULTS OF THE SIXTH INTERNATIONAL SPRING WHEAT YIELD NURSERY, 1969-1970

This nursery forms part of a study on
"Biology of Adaptation - Spring Wheat"
conducted by CIMMYT in collaboration with the
INTERNATIONAL BIOLOGICAL PROGRAM (IBP)

Centro Internacional de Mejoramiento de Maíz y Trigo
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RESULTS OF THE SIXTH INTERNATIONAL
SPRING WHEAT YIELD NURSERY, 1969 - 1970

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RESULTS OF THE SIXTH INTERNATIONAL SPRING WHEAT YIELD NURSERY, 1969 - 1970

ABSTRACT

The Sixth International Spring Wheat Yield Nursery (ISWYN) was composed of 50 spring wheat varieties representative of the major spring wheat types. Data, received from 60 locations throughout the spring wheat regions of the world, included yield, agronomic traits and disease reactions. Location summaries with statistical analyses are presented for all traits measured at each reporting location.

INTRODUCTION

The cooperation we have received from the scientists conducting these experiments has been the major reason for the program's success. Currently, CIMMYT has 13 nurseries growing in a wide range of climatic, edaphic and disease conditions. From these studies it has been possible to identify current varieties and lines which are widely adapted and resistant to disease. Many varieties have been introduced directly into production in various parts of the world using information gathered from these trials. Additionally, wheat breeding programs have found such information useful in planning crosses to obtain better varieties.

INTERNATIONAL BIOLOGICAL PROGRAM (IBP)
BIOLOGY OF ADAPTATION

Biological scientists throughout the world are currently completing a series of experiments covering a wide range of different topics under the general heading "The Biological Basis of Productivity and Human Welfare". The biological experiments have been grouped into a number of categories, one of which is "The Use and Management of Natural Resources" known as Section UM. Experiments on the "Biology of Adaptation" are included within this section. They are concerned with studying the adaptation mechanisms of several crop plants. The crops being studied are spring wheat, rice and Cicer sp. (chickpea).

The spring wheat experiment is being carried out in collaboration with CIMMYT. CIMMYT agreed to use its 6th. International Spring Wheat Nursery as the basis for the experiment because of the large number of varieties and collaborators already involved. To supplement the 6th. ISWYN trial, a further 16 varieties were chosen as representatives of gene pools not found in the present ISWYN trial. The total IBP experiment, therefore, consisted of 66 varieties, 50 within the 6th. ISWYN, plus 16 supplementary varieties.

Only the results of the 50 varieties of the 6th. ISWYN are reported here. A special report with the combined data and detailed statistical analysis for the combined 66 varieties will be published. This special report will form the basis for further detailed experimentation by physiologists to determine the reasons for the particular adaptation behaviour of different wheat varieties in the present experiment.

METHODS AND MATERIALS

Seed for the Sixth ISWYN was produced in increase plots at the Centro de Investigaciones Agrícolas del Noroeste (CIANO) at Ciudad Obregón, Sonora, México, during the 1968-69 growing season. The seed was treated with Vitavax (registered trademark for 5, 6 - dihydro-2, methyl-1, 4-oxathiin-3-carboxanilide) disinfectant prior to packeting. The experimental plots usually consisted of six, 2.5 meter rows with three replications. Instructions concerning seeding, nursery management and note-taking, as well as data sheets, were included with each set of seed.

The fifty varieties (Triticum aestivum L.) in the nursery represented the principal varietal types of spring wheat grown in many areas of the world. Some of the varieties had been included in previous international nurseries (Var. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12) and others were chosen from those submitted by collaborators because they exhibited some outstanding trait in specific regions. An attempt was made to balance previous entries and new entries to keep the nursery current and meaningful.

The varieties entered for testing in the sixth ISWYN were[1]:

ARGENTINA-

Buck Manantial: Rafaela Mag - Buck Quequén. A normal height, tenacious grained wheat with moderate resistance to stripe rust and moderate susceptibility to stem and leaf rusts. Lodging may be a problem under high nitrogen fertilizer.

*Gaboto: Bagé 2018 x H44-Sinvalocho MAG/Bagé 1971/37 - One of the most important soft grained varieties in the northern part of the Argentina wheat belt. It is considered resistant to Septoria spp., Fusarium spp. and rusts.

*Klein Rendidor: [Sinvalocho x (Ardito x Vencedor)] x [(Ardito x Vencedor) x (38 M.A. x Kl. Acero)]. A hard grained, light sensitive variety with moderate to good resistance to the rusts. It is late maturing and may lodge under high nitrogen fertilizer.

Pato Argentino: Tezanos Pintos Precoz-Sonora 64A x Nariño 59. II 21974-4R-4M-2R-0Y-0P-0Y. A semidwarf, stiff strawed variety with resistance to all three rusts and Septoria spp.

Piamontes: A normal height excellent baking quality variety with moderate resistance to stem and stripe rusts and moderate susceptibility to leaf rust.

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1 Pedigree notations are: "S" = sib; E = dwarf and superscript numerals = number of backcrosses.

* An asterisk preceeding a variety or cross indicates entry in a previous ISWYN.

*Sonora 64-Klein Rendidor: 19975-68Y-1J-1Y-1J-5Y-1T.- A line of promising yield potential and broad adaptation. It is intermediate in maturity, semi-dwarf and has good disease resistance. It has some cold tolerance and has shown tolerance to Septoria in some parts of the world, especially North Africa and the Middle East.

*Sonora 64 x Tezanos Pintos Precoz - Nainari 60 (B): 18889-6T-4T-2T-1T-2B- Sister line of Jaral 66 and the third ISWYN entry Jaral "S". This line shows promise of a high yield potential, good resistance to stem and stripe rust, strong gluten and early maturity. One defect is low grain test weight.

AUSTRALIA-

*Gabo: Bobin^2- Gaza - An Australian variety of very wide adaptation. It is very susceptible to stripe rust.

*Lerma Rojo - N10B x Andes^{3}E: Designated WW15 - This line and selections from it have shown great promise in Australia. High stable yields characterize several selections from this cross. It is considered resistant to Septoria sp., but it is known to be susceptible to stem rust.

Timgalen: (Aguilera x Kenya x Marroqui x Supremo) x Gabo x Winglen - W3128. A medium-early maturity with erect early growth and slender straw of medium height. The head is white, tapering, curved, bearded and white grain of excellent milling and baking quality. This variety carries 5 factors for stem rust resistance and 3 for leaf rust as well as flag smut resistance.

Tr-236: IRN59. 111 x Gabo^3 - Charter W3201. A high yielding variety of good test weight, superior quality and resistance to flag smut, leaf and stem rust.

*Triple Dirk: A version of Dirk with additional genes for stem rust resistance. It has been grown commercially in Pakistan and India.

BRAZIL-

*Carazinho: Colonista-Frontana- A soft-red seeded commercial variety reported to be able to produce relatively good yield on acid soils. It has good stripe rust resistance under most conditions.

CANADA-

*Selkirk: McMurachy - Exchange x Redman[3]. Until recently, the most extensively grown variety in the moist parts of the northern hard red spring wheat areas of U.S.A. and Canada. It is stem rust resistant.

*Manitou: Thatcher[7]- Frontana x Thatcher[6] Kenya Farmer/Thatcher[6]- PI 170925. A tall variety with good resistance to stem rust. It is susceptible to leaf rust.

CHILE-

*Huelquen: The most widely grown commercial variety in Chile. It has shown good resistance to all three rusts and high yield potential. It is normal in height.

COLOMBIA-

*Bonza 55: Yaqui 50-Kentana 48 II-2254-2P-111B-4B-1B. An important commercial variety in Colombia and Ecuador which has maintained an effective level of resistance to both stripe and stem rust for 15 years. This is unique with the explosive stripe rust race situation in Colombia.

*Crespo 63: (Frocor (Newthatch/Mentana[2]-Kenya x Bagé) x Gabo II-11263-3T-1B-2T-1B-1T- A commercial variety released jointly by Ecuador and Colombia, having a good level of field resistance to stripe rust.

*Napo 63: Frocor-Frontana/Yaqui 48 x Nariño "S" II-9314-22T-1B-1T- An important variety in both Colombia and Ecuador showing very good resistance to stem and stripe rusts.

Palmira 1: Thatcher-Santa Catalina x Frocor 5962-4T-2B-1T-2B. This variety was included to test suspected adaptation to low land tropical warm climates.

Zipa 68: Frontana-Yaqui 48 x (Africa-Mayo)^2 12964-20B-3T-2T-1T. A variety of normal height, moderate resistant to stem and stripe rust and susceptibility to leaf rust.

EGYPT-

*Giza 155: Rg-G139^2/Md Cd-CI 12441 x H62^2. A white grained variety of hight test weight.

GERMANY-

*Kloka WM1353: A tall, late maturing variety of unknown adaptability.

GUATEMALA-

Xelaju: Fn x K58-N/Gb56 II 8325-4M-2R-2M. Semi-dwarf variety with high yield potential, extensively grown in Guatemala moderately resistant to Septoria, very resistant to stripe rust, has become moderately susceptible to stem rust lately.

INDIA-

*C-306: (Regent 1974 x Czechoslovakia 3) C591^{2}x(P19xC281). This medium tall variety of fair straw strength was bred for the central districts of Punjab. It is full bearded with pubescent chaff. It is considered tolerant to the rusts, but it is susceptible to loose smut.

Sonalika: II-53-388-An x Pi "S" - LR64/ B4946-A4-18-2.1 - Y53xY50^3 II 18427-4R-1M. This semi-dwarf variety has high yield potential and excellent grain type but is susceptible to the rusts and Septoria under some conditions. In previous literature it has been known as S-308 and or cross (II-53-388xAn) Yt54x N10B or II 53-388-An x Pi "S" - LR64.

ITALY-

*Victor I: II 50-35 x Mara 3 x Fn-K58-N. A promising breeding line of late maturity, intermediate growth habit and good yield potential. It is susceptible to leaf and stem rust, but has moderate resistance to stripe rust. In North Africa, Near and Middle East, it has shown resistance to Septoria spp. Defects are low test weight and weak glutten.

KENYA-

*(MD x K - Y) (Wis-Sup) 4625-HD3: A new semi-dwarf variety with good resistance to stem rust.

Kenya Leopard: (Lageadinho x K354P^3) x (CI-12632 3 K354P^3) 1346 A.2 A.1. Released in 1966, this variety was entered to test disease resistance from a different gene pool.

MEXICO-

*Inia 66: Lerma Rojo 64-Sonora 64 19008-83M-100Y-100M-100Y-100C- This joint release from CIMMYT and INIA (Instituto Nacional de Investigaciones Agrícolas) program is the earliest semi-dwarf now available and has shown excellent baking qualities, good yield potential, lodging resistance and resistance to many races of stem and stripe rusts. It is susceptible to bunt and barley yellow dwarf. White chaff and red seed characterize this variety.

*Lerma Rojo 64A: (Yaqui 50 x Norin 10-Brevor) (Lerma 52-Lerma Rojo^2) 8724-8Y-1C-1Y- A semi dwarf version of the original Lerma Rojo derived through backcrossing that has shown good adaptation in the Near East and Mexico. It is resistant to many races of stem and stripe rusts, but susceptible to bunt and powdery mildew.

*Nainari 60: [(Supremo-Mentana x Gabo) (Thatcher-Queretaro x Kenya-Mentana)] Gabo P4160-6H-3Y-2C - A tall strong straw variety now largely replaced by semi-dwarfs in Mexico. This once important commercial variety is still widely used in crossing programs. It has shown good adaptation in several Near Eastern countries and in the Inter-American International Yield Nurseries.

*Penjamo 62: (Frontana x Kenya 58-Newthatch) Norin 10-Brevor 7078-1R-6M-1R-1M - One of the first Mexican semi-dwarfs, this variety is still grown in a number of countries. Is has broad adaptation.

*Pitic 62: Yaktana 54 x Norin 10-Brevor 26-1C 7064-1Y-1H-1R-2M - First semi-dwarf variety released in Mexico this high yielding variety has done well in the Inter-American nurseries, all three Near East-American nurseries in the ISWYN'S. It has low test weight and susceptibility to current races of stem - rust. It is being grown commercially in some countries.

*Siete Cerros 66: Penjamo "S" - Gabo 55 8156-1M-2R 4M- A white grained, dwarf variety of very high yield potential and broad adaptation. This variety and its red seeded sister, Super X, and reselections are referred to under various names - including 8156, Kalyansona, S-227, PV-18, Indus 66, Mexipak 65, Laketch etc. These are now grown widely in Pakistan, India and other Near Eastern countries.

*Sonora 64: (Yaktana 54 x Norin 10-Brevor) Yaqui 54² 8469-2Y-6C-6Y-4C-2Y-1C - Once the most widely grown semi-dwarf wheat in Mexico. It has medium sized red grain of good quality. This lodging resistant variety is awned and has off-white glumes. It is valuable parent in several breeding programs because of its light insensitivity, earliness, high yield potential and good combining ability. Currently it is recommended only for areas where rusts are not a problem due to its susceptibility to new races.

*Tezanos Pintos Precoz-Sonora 64/ Lerma Rojo 64A-Tezanos Pintos Precoz x Andes (E) (B): 22429-16M-1Y-1M-0Y - A new semi-dwarf line with one gene for dwarfing. This line and a sister line designated (A) were entered in the Fifth ISWYN. They have both shown promise in local testing. It has strong gluten.

*Tobari 66: Tezanos Pintos Precoz-Sonora 64A 19021-4M-3Y-102M-100Y-101C - A red-seeded dwarf variety with good quality and outstanding disease resistance including Septoria. The yield potential may not be as high as Siete Cerros. It is widely grown in several countries.

PAKISTAN-

Chenab 70: C-271 x WT (E) - Son 64 - Pk 146-12A-42-12 A semi-dwarf, soft grain type with moderate resistance to stripe rust. Stem and leaf rusts may be severe under some conditions.

Sonora 64-C-271 No descriptive information available.

LR-P4160^3 (E) No descriptive information available.

RHODESIA-

Lundi: Mara x Lee-Selkirk - S595 A1 A6 B2 - Semi-dwarf variety with moderate susceptibility to leaf and stripe rusts.

Zambezi: 8156 x Lee - Th x K338 AC/Lee - Mida A siete cerros type variety with good yield potential.

SOUTH AFRICA-

Turpin 7: MY54-N10B x P4160^3 E - II 8715-7Y-1C A triple dwarf with extreme susceptibility to the prevalent races of Puccinia graminis tritici in Mexico and to Septoria in North Africa. It is also moderately susceptible to leaf and stripe rusts.

SUDAN-

36896 - CJ54 (2) - Yaktana (H): This semi-dwarf selection has a large head and has some resistance to the three rusts.

UNITED STATES OF AMERICA-

*Chris: Cl 13751 Frontana - Thatcher x II-44-29-Thatcher^2. II 53-525-1. A variety developed in Minnesota with excellent quality, good disease resistance and acceptable yield potential. It is widely grown in the U.S.A. and Canada. This variety, - listed previously as Minn II 53-525, is tall and partially light sensitive. It has fair resistance to Septoria.

*CIANO "S": Pitic 62-Chris "S" x Sonora 64 II 19957 18M-2Y-2M-1Y-7M-1Y - Sister line of the variety named for the "Centro de Investigaciones Agrícolas del Noroeste". This line is early, and has good baking quality. Selected in 1968 in Fort-Collins, Colorado for distinct plant type. This entry may be more susceptible to leaf rust than other CIANO selections.

*Crim: C1 13465 Klein Titan-Thatcher[3] x II-44-29-Thatcher[2]. II 53-404. This Minnesota variety has good quality, acceptable yield potential and disease resistance. However, it is tall and light sensitive.

*Thatcher: Marquis-lumillo x Marquis-Kanred. A Minnesota variety that was widely grown for many years in the Northern United States and Canada and is still grown in the drier areas of that region. It has been used as a standard for spring wheat quality and for that reason has been widely used in the parentage of many of the newer U.S. and Canadian Lines. It is extremely day length sensitive.

DATA UMMARIZATION

The metric system and percentages were chosen as the units of measurement for presentation. When possible, other systems were converted to the appropiate standard before computations were made. Every effort was made to assure the correctness of such conversions as well as the accuracy of translations of terms from other languages and interpretation of supplementary information. CIMMYT, however, takes full responsibility for any errors that may have been made. Data were neither analysed nor are presented for traits when no differential effect was observed.

Yield data were requested from the four center rows of a six row plot. Yields were converted from the units reported by the cooperator to kilograms per hectare (kg/ha). For readers more accustomed to yield in bushels per acre, 1000 kg/ha is equivalent to approximately 15 bushels per acre for wheat.

Both test weights and 1000 grain weights were requested because some cooperators do not have test weight equipment. Test weights are reported in kilograms per hectoliter (kg/hl) and 1000 grain weights are reported in grams. For readers more accustomed to test weights expressed in pounds per bushel, 75 kg/hl is roughly equivalent to 60 pounds per bushel.

Disease[1] notes were requested from cooperators when differential reactions were observed. Rust reactions were most commonly recorded with the international rust scale noting the percentage leaf area infected and reaction type (i.e. lesion size). For statistical analyses these rust notes were converted to a coefficient of infection as used by Dr. W. Q. Loegering (U.S.D.A. International Spring Wheat Rust Nursery 1959). This coefficient is calculated by multiplying the percentage of infection by a "response value" assigned to each infection type. Thus, the coefficient combines both the amount of infection and the reaction type. The response values are given in the following table:

Reaction Type	Abbreviation	Response value
0	0	0.0
Very resistant and resistant	VR and R	0.2
Moderately resistant	MR	0.4
Intermediate	M or X	0.6
Moderately susceptible	MS	0.8
Susceptible	S and VS	1.0

As examples, 20MS is expressed as (20 x 0.8) = 16.0 and 10MR is expressed as (10 x 0.4) = 4.0. Ranges of reaction are averaged, such that 5R-15S becomes 6.0 $\left(\frac{5 + 15}{2}\right) = 10$ and $\frac{0.2 + 1.0}{2} = 0.6$ with the 6.0 the product of 10 x 0.6.

When cooperators reported only percentage of rust, the value was used directly. Rust data were not transformed by the square root determination as had been done previously. While some may consider transformation necessary, comprehension of the mean of a transformed coefficient of rust infection is difficult. It was decided that it would be better to present values which are more readily comparable to the field scores used by collaborators.

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[1]For simplicity of reporting, all plant diseases are referred to by one common name. The following common names have been selected, followed by the causal agent in parentheses. Stem rust (*Puccinia graminis tritici*); leaf rust (*Puccinia recondita*); stripe rust (*Puccinia striiformis*); mildew (*Erisiphe graminis tritici*) and Septoria (*Septoria spp.*). For this last disease, distinction between the causal species has not always been possible from information supplied by cooperators.

The coefficients of infection can be analyzed statistically as well as correlated with other traits (e.g. yield). However, for tabular presentation in this report, the standard rust scale notes from the first replication at each location are presented since the coefficients are more difficult to use in visualizing the response of a particular variety. The mean rust reaction by location is presented with its related statistics as an index of the amount of rust at that location. Relatively low mean rust values indicate low incidence and/or virulence of the pathogen. Higher means are indicative of a higher incidence and/or virulence. These means provide a relative location comparison and a reflection of the extent of that pathogen in that nursery under the environmental conditions that existed.

Other indices of varietal performance were analyzed whenever possible and are presented in the tables. Most of these values were percentages. Several indices were transformed to percent.

The grand mean of each trait was calculated and is presented with pertinent statistics in the Tables. Error estimates can be calculated indirectly as residuals. Since incomplete data sets are often reported, indirect estimations of the error variance may give biased or even negative values. Therefore, estimated error variances were computed directly for all traits reported. This value was then used to calculate a standard error ratio of the grand mean, a coefficient of variation (the ratio of the standard deviation to the grand mean expressed as a percentage) and the least significant difference (LSD) at the 5% level. The coefficient of variation is useful as a unit basis comparison of variation between locations. The $LSD_{.05}$ can be used to compare two variety means at the same location.

Considerable insight into factors influencing yield can sometimes be gained by correlation studies. Correlations were performed on all possible pairs of factors by location using the mean value for each trait reported. Correlations were computed on the replication means rather than the raw values because some types of data were frequently reported for only one replication. The population size is fairly small for this type of analysis and some spurious correlations may be encountered. Discretion is advised in interpretation of these values. Many workers find correlation analyses interesting and useful and they are presented as part of the summary table for each location with an awareness of their limitations.

The overall location means were computed for each variable and are presented herein when the number of observations justified inclusion. With the exception of the rust data the reported units are those used throughout this report. For arithmetic purposes

the mean rust reactions were computed on the coefficient of infection values. Relative comparison are suggested for selecting potentially useful rust resistant varieties. Average values of less than 10 can be considered as quite resistant, while varieties with values greater than 20 might be considered susceptible.

Many problems have been encountered in the analyses and summary of these unique data. It has been our attempt to provide the reader with maximum amount of usable information and yet not confuse the picture with a great deal of computation detail.

RESULTS AND DISCUSSION

The data from sixty three trials were returned to CIMMYT for analysis for the Sixth ISWYN. Figure 1 presents a map of the reporting locations with their corresponding table numbers. Figure 2 illustrates the growing season at each site and its elevation above sea level. The trials were grown during the 1969-70 crop cycle.

The data is presented in the following tables, one table for each trial site.

The mean yield of the 50 varieties over all 63 locations was 2285.55 Kg/Ha. The three locations which produced the highest mean yields for all varieties were Toluca, Mexico (5230 Kg/Ha); Kathmandu, Nepal (4940 Kg/Ha); and California, U.S.A. (4843 Kg/Ha).

The 63 trial locations represented a wide range of climatic and edaphic conditions such as soil fertility, soil moisture (either the result of differences in rainfall or irrigation), climatic conditions and incidence of pests and diseases.

There were 17 new entries from 10 different countries, two of thes LR x P 4160^3E from Pakistan and Sonalika from India, had the highest mean yields over all locations (3500 and 3382 Kg/Ha respectively).

Another new entry ranked seventh within the top 10 varieties was C-271 x WT_E x Son 64A released in 1970 by Pakistan as a commercial variety named Chenab 70 - mean yield over all locations 3285 Kg/Ha.

Entry 30, LR x N10B x An^3 with a mean yield of 3276 Kg/Ha was ranked eight. This cross represents a group of varieties which have pro-

ved to be outstanding in several countries: WW 15 in Australia (1969); ANZA in the U.S.A. (1971); Mexicani in Sudan (1971); and Karamau in New Zealand (1972). This entry was ranked second in the 5th ISWYN.

Another important group of varieties is represented by entry 1. Sonora 64 - Klein Rendidor which was ranked 11. Sister lines of this cross have been named and released for commercial production in Argentina (1971) as Marcos Juarez INTA, and in Tunisia as Soltane and Zaafrane during the same year.

Varieties such as Pitic 62, Penjamo 62, Siete Cerros and Inia 66 continue to be ranked in the top 10 varieties when tested over all locations. The performance of these varieties indicate the value of wide adaptability which enables them to continue to maintain high yielding performance in many different environments.

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F I G U R E S

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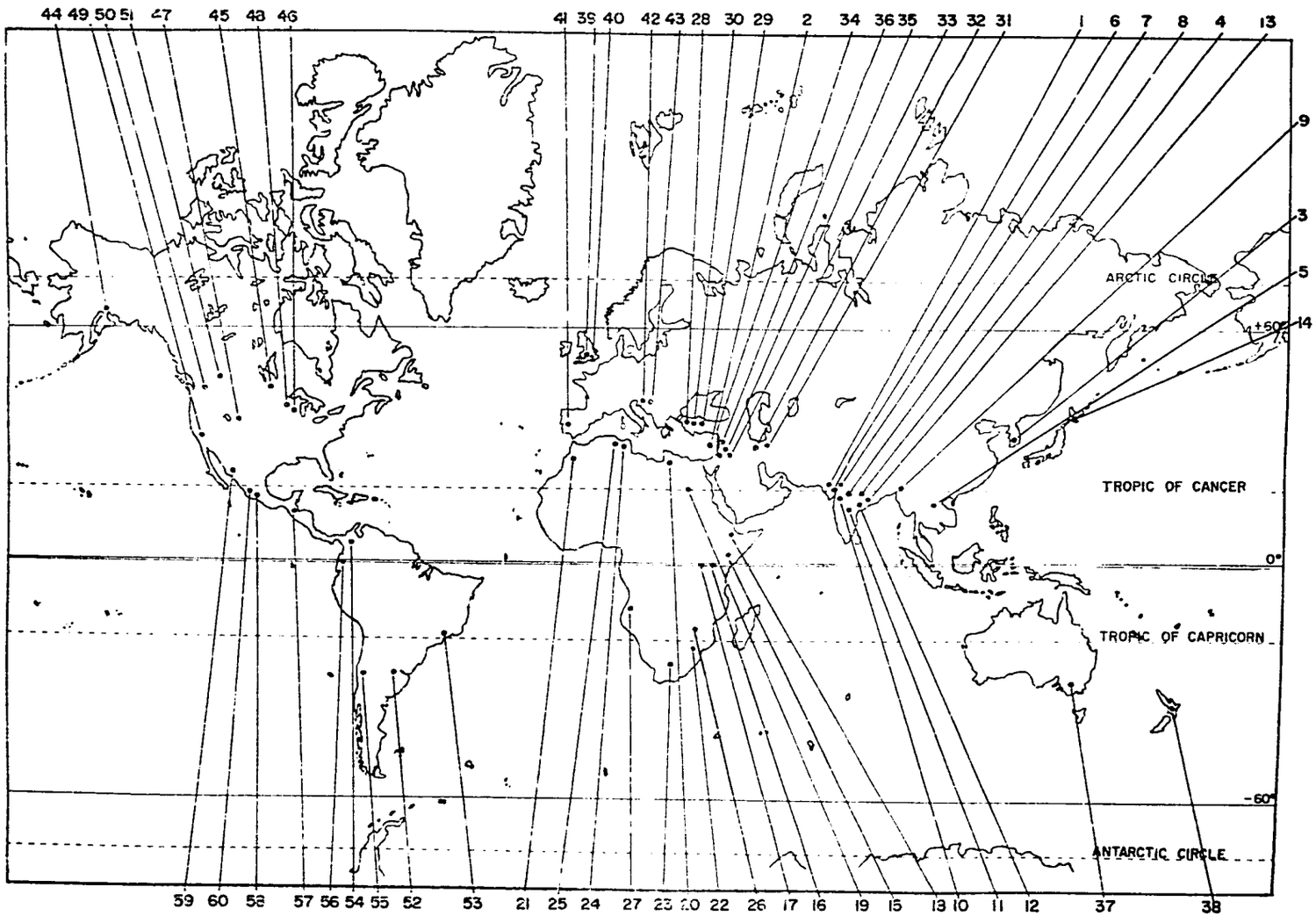
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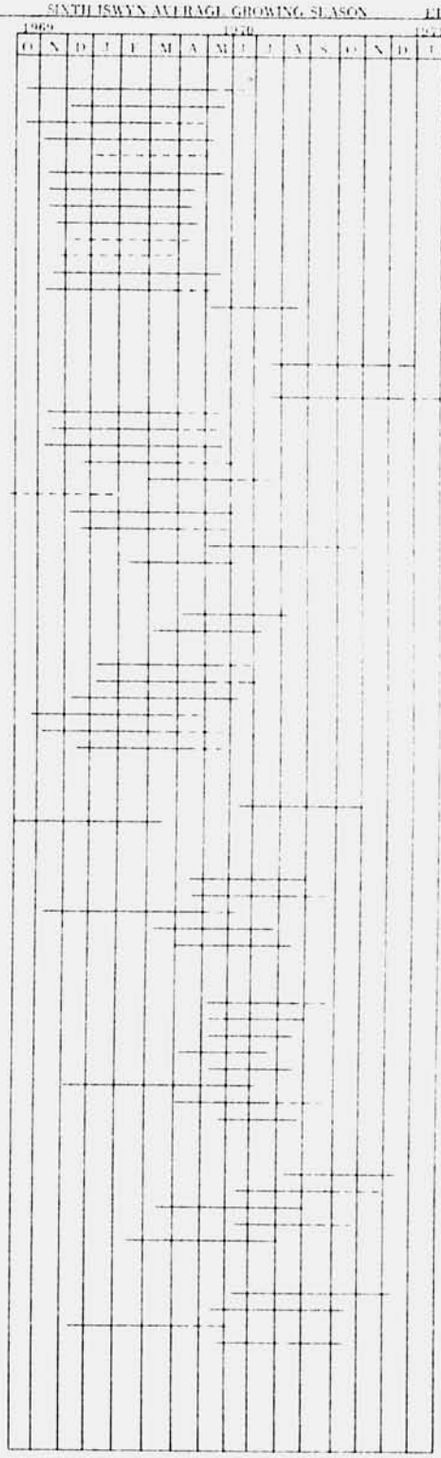
ANTARCTIC CIRCLE
59 60 58 57 56 54 55 52 53 21 25 24 27 23 20 22 26 17 16 19 15 13 10 11 12 37 38

FIGURE # PAGE	LOCATION NO.	NAME	SINTHISWYN AVERAGE GROWING SEASON	ELEVATION (meters)
		ASIA		
1	01	Darul Aman, Afghanistan		1,801
2	03	Athenon, Greece		2,0
3	12	Kwang Ju, South Korea		40
4	13	Kathmandu, Nepal		1,300
5	19	Rayathkhary, Thailand		470
6	24	Tandojam, West Pakistan		24
7	26	Lyallpur, West Pakistan		213
8	27	Lahore, West Pakistan		216
9	28	Dacca, Bangladesh		122
10	29	IARI, New Delhi, India		229
11	30	R.S. Pura, India		
12	31	Pantnagar, India		244
13	32	Powarkhera, India		402
14	41	Hokkaido, Japan		146
		AFRICA		
15	04	Debre Zeit, Ethiopia		1,860
16	06	Njoro, Kenya		
17	07	Molo, Kenya		2,300
18	09	El Damer, Sudan		
19	10	Khartoum, El Gerba, Sudan		440
20	21	Sakha, Egypt		
21	14	Merchouch, Morocco		400
22	16	Loam East, Pretoria, S. Africa		1,5
23	17	Lichtenburg, South Africa		1,140
24	18	Tanta, Tanzania		
25	23	Ben Salem, Tunisia		
26	39	Salisbury, Rhodesia		1,5
27	40	Nova Lisboa, Angola		
		MIDDLE EAST		
28	34	Eskisehir, Turkey		
29	35	Ankara, Turkey		
30	36	Afyonkarahisar, Turkey		
31	37	Gorgan, Iran		
32	22	Ahwaz, Iran		
33	18	Deir Alla, Jordan		1,124
34	24	Tel Amara, Lebanon		
35	24	Hosh Sneid, Lebanon		
36	11	R.D.S., Israel		
		OCEANIA		
37	42	Adelaide, South Australia		
38	43	Palmerston North, New Zealand		
		EUROPE		
39	44	Plas Gogerddan, Wales		
40	45	Cambridge, England		
41	49	Elvas, Portugal		
42	51	Novi Sad, Yugoslavia		
43	52	Zagreb, Yugoslavia		
		NORTH AMERICA		
44	53	Palmer, Alaska, U.S.A.		
45	56	Fargo, North Dakota, U.S.A.		
46	57	St. Paul, Minnesota, U.S.A.		
47	58	Ft. Collins, Colorado, U.S.A.		
48	60	Stanton, Minnesota, U.S.A.		
49	61	Davis, California, U.S.A.		
50	62	Aberdeen, Idaho, U.S.A.		
51	54	Saskatoon, Saskatchewan, Canada		
		SOUTH AMERICA		
52	67	Pergamino, Argentina		
53	70	Tabuleiro Castilhos, Brazil		
54	71	Ubaldata, Colombia		2,640
55	72	Santiago (La Platina), Chile		
56	73	Quito, Ecuador		
		MESOAMERICA		
57	74	Quezaltenango, Guatemala		2,307
58	76	El Batan, Mexico, Mexico		2,240
59	78	CIANO, Sonora, Mexico		40
60	82	Toluca, Mexico		2,600



Dotted lines are approximated dates

ASIA AFGHANISTAN
DARUL AMAN EXPERIMENT STATION,KABUL
LATITUDE 034 33'N LONGITUDE 069 12'E ELEVATION 431803 METERS ABOVE SEA LEVEL
COOPERATORS P.HAAD, A.AZIM, E.V.STAKER.
DATE PLANTED 10/27/69 DATE HARVESTED 069 773
NUMBER OF IRRIGATIONS 006 RAIN TIMES 03 AMOUNT OF MOISTURE 0610 MM
NITROGEN 120.0 KG/HA PHOSPHORUS 044.2 KG/HA POTASSIUM 041.5 KG/HA

LOCAL VARIETY NOT SPECIFIED. SEASON DRY AND TEMPERATURES ABOVE NORMAL. ARMY WORM INFESTATION SEVERE BUT CONTROLLED CHEMICALLY. WEEDS CONTROLLED AND BIRD DAMAGE WAS NEGLIGIBLE. DISEASES LESS THAN NORMAL PERHAPS DUE TO DRY SEASON. LITTLE SNOW AND NEARLY NO RAIN DURING GROWING SEASON.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.	SHATRNS	SHATRNS HEAD	1000 GRN WGT GRMS
46	SUV 64 X TZPP-NSI 60 (B)	ARGENTIN	6203.3	76.0	121.0	170.0	91.0	35.0	50.0	42.8
11	PITIC 62	MEXICO	6082.9	74.3	129.0	171.0	91.3	0.0	0.0	34.6
47	SUNALIKA	INDIA	5894.5	78.6	121.6	170.3	90.3	0.0	0.0	51.2
45	CIANJ "S"	MEXICO	5834.3	79.2	120.0	168.3	77.3	20.0	30.0	41.0
33	INIA 56	MEXICO	5637.8	79.6	120.0	165.3	79.6	0.0	0.0	44.3
7	VECTOR I	ITALY	5538.1	76.6	129.0	169.3	74.6	100.0	100.0	35.3
49	KELAJU	GUATEMAL	5532.9	77.4	129.0	170.6	104.6	18.0	30.0	38.6
25	LR X P4160J (E) T1	PAKISTAN	5331.8	78.7	121.0	166.6	67.0	63.0	90.0	40.4
36	NAPO 63	COLOMBIA	5335.9	76.7	121.0	165.6	135.6	10.0	20.0	33.7
31	PENJAMO 62	MEXICO	5333.9	77.8	122.0	165.3	76.6	42.0	60.0	37.6
14	GIZA 155	EGYPT	5259.6	77.8	122.0	169.6	96.6	0.0	0.0	43.0
41	LUNDI	RHODESIA	5177.2	75.1	129.0	169.3	70.6	33.0	60.0	34.7
18	CRESPO 63	COLOMBIA	5145.1	78.2	129.0	172.0	104.3	0.0	0.0	35.1
15	SIETE CERROS	MEXICO	5120.0	26.1	129.0	170.3	87.6	0.0	0.0	34.5
17	HUELQUEN	CHILE	5035.0	76.3	129.0	175.0	137.0	0.0	0.0	37.3
44	PATO ARGENTINO	ARGENTIN	4982.8	78.4	129.0	166.3	84.6	0.0	0.0	31.9
48	KLOKA WM 1353	GERMANY	4931.9	76.1	137.0	175.6	110.6	0.0	0.0	33.5
38	36896-CJ 54^2 X YT 54A (H)	SUDAN	4953.4	76.0	122.0	170.3	90.6	15.0	30.0	43.8
4	BUCK MANANTIAL	ARGENTIN	4925.2	0.0	129.0	169.3	85.0	0.0	0.0	32.8
23	LERMA ROJO 64A	MEXICO	4905.6	78.3	122.0	167.0	93.6	0.0	0.0	36.8
42	ZAMBEZI	RHODESIA	4905.1	76.8	129.0	170.6	91.0	0.0	0.0	34.9
43	TURPIN 7	SOUTH AF	4877.2	74.7	120.0	168.3	61.0	0.0	0.0	36.7
30	(LRKN 108)X ANO E	AUSTRALI	4836.5	78.9	127.0	164.6	76.6	0.0	0.0	33.2
19	SONORA 64	MEXICO	4835.9	78.1	121.0	169.5	72.3	60.0	30.0	35.5
13	NAINARI 6.	MEXICO	4820.8	75.2	122.0	168.0	93.6	0.0	0.0	41.4
16	BONCA 55	COLOMBIA	4800.2	75.3	129.0	171.3	113.6	0.0	0.0	34.6
6	CARAZINHO	BRAZIL	4747.8	76.4	127.0	168.3	120.0	0.0	0.0	38.4
50	LOCAL CHELK		4710.8	76.1	133.6	175.6	113.6	0.0	0.0	54.2
21	KENYA LEOPARD	KENYA	4654.7	76.5	136.0	171.0	196.6	65.0	80.0	38.6
34	TUBARI 65	MEXICO	4574.3	78.0	122.0	165.0	91.0	0.0	0.0	33.8
24	SUV 64 X L-271	PAKISTAN	4531.4	78.1	121.0	170.3	50.0	0.0	0.0	42.2
10	KLEIN RENDIDOR	ARGENTIN	4503.6	76.9	129.0	167.6	109.0	41.0	100.0	36.3
37	C-306	INDIA	4518.8	80.3	122.0	168.3	101.3	0.0	0.0	43.6
39	4255 - HD.3 (MD X K-Y) X (WIS - SUP) (F6)	KENIA	4503.4	76.5	135.0	173.6	139.6	65.0	80.0	39.9

1	SJN 64 X KL. RENDIDOR	ARGENTIN	4495.5	76.2	122.0	167.0	81.3	14.0	25.0	36.1
12	GABU	AUSTRALI	4433.5	74.1	122.0	169.3	90.3	81.0	100.0	36.6
3	CRIM	U.S.A.	4233.0	75.9	122.0	165.0	96.0	4.0	33.0	32.0
27	TIMGALEN	AUSTRALI	4253.5	74.9	122.0	166.0	77.0	0.0	0.0	31.9
29	PALMIRA 1	COLOMBIA	4241.7	72.4	122.0	163.3	97.3	23.0	63.0	37.1
9	THATCHER	U.S.A.	4147.0	75.4	136.0	175.6	113.0	64.0	100.0	42.9
8	PIAMONTES	ARGENTIN	4144.7	76.5	129.0	171.0	138.3	0.0	0.0	33.6
23	C-271XWT X SJN 64 (E)	PAKISTAN	4118.4	77.6	121.0	168.0	66.3	60.0	93.0	37.0
46	TRIPLE DIPR	AUSTRALI	4034.5	75.4	129.0	175.6	139.0	0.0	0.0	41.4
28	TR-236	AUSTRALI	3993.7	75.5	122.0	166.6	81.3	0.0	0.0	36.4
35	GABUTO	ARGENTIN	3933.1	76.3	129.0	168.0	99.6	0.0	0.0	34.6
32	CHRIS	U.S.A.	3873.4	76.6	120.0	171.0	112.0	0.0	0.0	33.5
5	SELKIRK	CANADA	3721.2	74.6	129.0	167.3	114.0	28.0	60.0	34.1
2	MANITOU	CANADA	3639.5	75.4	135.0	174.6	116.0	29.0	91.0	28.0
22	(TCPP-SUN64)(LK64A-TZPP-AN3E) (B)	MEXICO	3493.2	78.3	122.0	169.3	73.3	25.0	100.0	35.2
26	ZIPA 68	COLOMBIA	3358.8	73.6	128.0	170.6	97.3	0.0	0.0	33.7
		GRAND MEAN	4748.4	74.1	125.8	169.3	92.0	17.8	28.9	37.4
	STANDARD ERROR OF GRAND MEAN		66.1	0.5	0.0	0.2	0.1			0.2
	COEFFICIENT OF VARIATION		17.0	0.7	0.2	1.8	2.4			8.4
	LSD VARIETY MEANS 5 PC		1323.1	10.6	0.5	4.9	3.6			5.1

CORRELATIONS

YIELD	KG/HA							
TEST	WEIGHT	-0.04						
DAYS TO	FLOWER	-0.15	-0.15					
DAYS TO	MATURITY	-0.07	-0.04	0.65**				
HEIGHT	CM.	-0.24	0.03	0.57**	0.46**			
SHATRNS		0.02	0.13	0.12	0.05	-0.13		
SHATRNS	HEAD	-0.12	0.14	0.12	0.04	-0.07	0.91**	
1000 GRN	WGT GRMS	0.35*	0.18	-0.11	0.22	-0.00	0.02	-0.04

* SIGNIFICANT AT THE 5 % LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 3

MIDDLE EAST CYPRUS
ATHIENOU.
LATITUDE 033°30'N LONGITUDE 035°05'E ELEVATION +00250 METERS ABOVE SEA LEVEL
COOPERATORS A.HADJICHRISTODOULOU,L.DANIEL.
DATE PLANTED 12/10/69 DATE HARVESTED 05/22/70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0122 MM
NITROGEN 040.3 KG/HA PHOSPHORUS 019.0 KG/HA POTASSIUM 000.0 KG/HA

KYPEROUNDA WAS THE LOCAL CHECK. CLIMATIC CONDITIONS WERE VERY DRY DURING TEST. NO INSECT,WEED OR BIRD PROBLEMS REPORTED. SEPTORIA INFECTION NOTED IN EXPERIMENT UP TO 25 PER CENT. NO NOTES ON VARIETY REACTIONS RETURNED.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	STEM RUST	HEIGHT CM.	1000 GRN WGT GRMS
43	TURPIN 7	SOUTH AF	1676.8	74.0	3	54.3	31.8
25	LR X P41503 (E) T1	PAKISTAN	1635.3	78.0	3	65.0	33.3
11	PITIC 62	MEXICO	1611.6	74.6	5	67.3	32.0
36	NAPO 63	COLOMBIA	1557.9	75.8	5	87.6	30.8
15	SIETE CERROS	MEXICO	1550.9	79.0	15	70.0	31.5
31	PENJAMO 62	MEXICO	1553.9	78.0	10	68.6	33.8
17	HUELLEN	CHILE	1544.2	78.1	5	85.6	35.0
29	PALMIRA 1	COLOMBIA	1533.5	73.5	15	81.6	35.6
38	36896-CJ 54^2 X YT 544 (H)	SUDAN	1465.7	76.6	5	71.6	38.1
1	SON 64 X CL. RENDIDOR	ARGENTIN	1390.2	77.3	15	67.5	34.8
20	LERMA ROJO 64A	MEXICO	1387.2	76.6	5	59.3	32.0
42	ZAMBEZI	RHODESIA	1376.1	79.3	3	60.0	33.0
30	(LRKN 1(B)X ANB F	AUSTRALI	1359.8	80.0	3	58.6	29.6
13	NAINARI 60	MEXICO	1354.6	75.3	5	67.3	37.3
22	(TZPP-SON64)(L2664A-TZPP-ANBE) (B)	MEXICO	1336.1	80.1	3	66.0	34.1
47	SONALIKA	INDIA	1335.4	78.3	10	58.5	40.8
49	XELAJU	GUATEMAL	1315.4	78.5	5	73.6	35.6
24	SON 64 X C-271	PAKISTAN	1295.1	75.3	10	59.3	35.6
33	INIA 66	MEXICO	1289.5	77.3	5	67.6	30.6
46	TRIPLE DIRK	AUSTRALI	1280.6	78.0	15	80.6	39.3
23	C-271XWT X SON 54 (E)	PAKISTAN	1266.5	77.5	10	59.0	33.3
35	GABOTO	ARGENTIN	1259.1	79.6	15	81.6	32.1
7	VICTOR I	ITALY	1244.3	78.5	5	50.6	33.5
41	LUNDI	RHODESIA	1233.9	78.1	10	57.3	35.3
45	CIANO "S"	MEXICO	1229.5	78.8	3	60.0	36.1
37	C-366	INDIA	1216.1	81.6	5	83.3	38.5
18	CRESPO 63	COLOMBIA	1214.6	77.3	5	80.6	32.5
44	PATI ARGENTINO	ARGENTIN	1164.3	80.1	3	65.3	26.5

34	TUBARI 66	MEXICO	1161.3	76.1	5	68.6	27.6
10	KLEIN RENDIDOR	ARGENTIN	1135.4	78.6	5	79.3	35.8
3	GKIM	U.S.A.	1132.4	70.5	10	80.6	33.6
28	TK-436	AUSTRALI	1128.0	76.3	10	65.5	33.6
27	TIMGALEN	AUSTRALI	1111.7	76.5	10	58.0	33.1
6	CARAZINHO	BRAZIL	1109.5	78.1	3	77.3	37.5
14	GIZA 155	EGYPT	1108.0	70.6	2	67.0	37.1
8	PIAMONTES	ARGENTIN	1091.0	78.8	5	74.6	31.8
40	SUN 64 X TZPP-VAI 50 (B)	ARGENTIN	1072.4	74.5	5	58.3	32.6
16	BONZA 55	COLOMBIA	1058.0	74.6	5	76.6	30.3
12	GABO	AUSTRALI	1046.5	75.0	5	64.6	31.8
21	KENYA LEOPARD	KENYA	1044.3	70.6	5	64.3	35.8
19	SONORA 64	MEXICO	1019.8	74.5	10	59.0	26.8
26	ZIPA 68	COLOMBIA	995.9	77.3	5	63.3	30.0
39	4255 - HD.3 (MD X K-Y)X (HIS - SUP) (F6)	KENIA	973.9	77.5	15	72.6	33.5
32	CHRIS	U.S.A.	965.8	78.3	5	81.3	30.1
50	LOCAL CHECK		928.0	78.3	10	64.0	39.0
48	KLOKA WM 1353	GERMANY	856.2	78.8	5	62.0	32.6
4	BUCK MANANTIAL	ARGENTIN	839.1	80.0	7	58.0	27.3
5	SELKIRK	CANADA	358.8	25.3	5	49.0	32.5
9	THATCHER	U.S.A.	304.4	0.0	30	51.6	25.1
2	MANITOU	CANADA	259.2	0.0	10	48.3	26.0
		GRAND MEAN	1187.1	73.4	7.0	67.6	33.1
	STANDARD ERROR OF GRAND MEAN		17.4	0.5	0.2	0.5	0.1
	COEFFICIENT OF VARIATION		17.9	0.6	51.5	10.1	6.8
	LSD VARIETY MEANS 5 PC		348.5	10.3	5.9	11.2	3.6

CORRELATIONS

YIELD	KG/HA				
TEST	WEIGHT	0.71**			
STEM	RUST	-0.45**	-0.69**		
HEIGHT	CM.	0.42**	0.46**	-0.21	
1000 GRN WGT	GRMS	0.33**	0.42**	-0.25	0.33*

SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

ASIA SOUTH KOREA
KWANG JU, CROP EXPERIMENT STATION.
LATITUDE 035 00'N LONGITUDE 127 00'E ELEVATION 000040 METERS ABOVE SEA LEVEL
COOPERATORS H.O.CHOI, J.W.PEE.
DATE PLANTED 10/20/69 DATE HARVESTED 06/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0521 MM
NITROGEN 061.7 KG/HA PHOSPHORUS 012.3 KG/HA POTASSIUM 040.8 KG/HA

LOCAL VARIETY WAS NOT SPECIFIED. SEASON WAS DRY FOR EARLY DEVELOPMENT THEN TURNED COOL AND WET TOWARDS MATURITY. NO INSECT OR BIRD PROBLEMS. WEEDS WERE CONTROLLED BY HAND. RUST DEVELOPMENT SLIGHT. GOOD DEVELOPMENT OF SEED.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.	LODGING	1000 GRN WGT GRMS	FUSARIUM	FROST DAMAGE
45	CIANO "S"	MEXICO	5572.7	73.8	194.6	241.3	76.3	20.0	32.4	53.3	66.6
25	LR X P41603 (E) TI	PAKISTAN	5457.2	71.8	193.3	240.6	73.0	20.0	32.5	46.6	33.3
48	KLOKA WM 1353	GERMANY	5439.4	75.3	234.0	246.6	136.0	25.6	31.7	20.0	66.6
50	LOCAL CHECK		5345.3	64.9	197.6	243.6	81.3	86.6	32.5	33.3	20.0
13	NAINARI 50	MEXICO	5336.1	71.3	194.0	241.0	88.3	80.0	35.4	60.0	33.3
15	SIETE CERROS	MEXICO	5189.4	60.5	200.3	242.3	85.3	20.0	35.2	33.3	53.3
29	PALMIRA I	COLOMBIA	5038.3	72.0	198.0	243.3	136.3	66.6	38.9	20.0	73.3
40	SON 64 X TZPP-NAI 50 (B)	ARGENTIN	5083.9	76.0	194.3	242.6	79.0	20.0	35.8	60.0	60.0
41	LONDI	RHODESIA	5025.0	74.7	196.3	243.0	76.6	20.0	34.0	53.3	60.0
20	LERMA ROJO 64A	MEXICO	4955.0	75.9	195.6	241.6	88.3	20.0	34.1	20.0	53.3
30	(LRKN 108)X ANO E	AUSTRALI	4838.3	73.4	199.0	243.0	73.3	25.6	28.4	53.3	53.3
31	PENJAMO 62	MEXICO	4829.5	75.3	195.0	242.3	87.0	53.3	35.6	33.3	66.6
7	VICTOR I	ITALY	4838.3	71.8	200.6	242.6	74.3	20.0	35.2	20.0	40.0
49	KELAJU	GUATEMAL	4720.6	76.2	195.3	243.0	91.3	80.0	37.8	26.6	40.0
6	CARAZINHO	BRAZIL	4672.8	75.2	198.0	242.3	99.0	93.3	39.4	20.0	46.6
11	PITIC 62	MEXICO	4651.7	67.8	197.6	242.0	88.6	65.5	33.4	33.3	53.3
33	INIA 66	MEXICO	4650.6	76.5	193.3	240.3	81.0	33.3	34.2	53.3	46.6
34	TUBARI 65	MEXICO	4619.5	71.8	194.6	244.0	83.6	20.0	37.5	40.0	60.0
44	PATO ARGENTINO	ARGENTIN	4636.2	73.7	198.6	244.0	80.3	20.0	30.4	33.3	73.3
1	SON 64 X CL. RENDIDOR	ARGENTIN	4552.8	75.8	196.3	240.3	87.6	36.6	35.1	33.3	60.0
4	BUCK MANANTIAL	ARGENTIN	4559.5	76.1	200.3	245.3	101.3	86.6	29.7	40.0	20.0
14	GIZA 155	EGYPT	4529.5	77.4	195.6	244.0	97.6	26.6	40.0	46.6	60.0
46	TRIPLE DIRK	AUSTRALI	4393.6	76.5	198.6	244.0	108.6	86.6	43.3	26.6	33.3
19	SONORA 64	MEXICO	4395.1	76.4	195.0	242.0	76.6	20.0	32.2	40.0	80.0
23	C-271 WT X SON 64 (E)	PAKISTAN	4373.6	75.5	196.3	242.0	79.6	20.0	37.2	20.0	86.6
22	(TZPP-SON64)(LR64A-TZPP-ANOE) (B)	MEXICO	4361.7	77.7	194.0	242.0	76.3	20.0	36.8	26.6	66.6
17	HUEL JEN	CHILE	4339.5	75.5	198.3	242.6	104.3	70.0	37.9	20.0	40.0
26	ZIPA 58	COLOMBIA	4328.4	73.7	199.6	243.3	105.3	60.0	32.9	40.0	26.6
5	SELKIRK	CANADA	4325.1	72.4	202.3	242.6	108.3	93.3	32.9	33.3	53.3
12	GABO	AUSTRALI	4299.5	70.0	195.3	242.6	97.3	33.3	36.0	53.3	73.3
38	36896-CJ 54^2 X YT 54A (H)	SUDAN	4298.4	73.1	194.6	243.3	81.6	80.0	36.7	40.0	66.6
8	PIANDATES	ARGENTIN	4191.8	74.6	198.6	241.0	137.0	73.3	33.0	20.0	33.3
3	CRIM	U.S.A.	4183.6	77.9	197.6	241.3	100.0	93.3	31.3	33.3	46.6
36	NAPO 63	COLOMBIA	4173.4	70.3	193.6	240.6	99.0	40.0	34.6	40.0	53.3
43	TJRPIN 7	SOUTH AF	4153.6	64.6	195.3	240.6	58.0	20.0	31.0	50.0	46.6
35	GABUTO	ARGENTIN	4124.0	77.1	199.6	243.3	104.0	80.0	30.4	20.0	33.3

32	CHRIS	U.S.A.	4137.3	77.1	197.3	243.6	109.6	93.3	29.3	36.6	40.0
47	SUNALIKA	INDIA	4044.0	70.7	195.0	243.0	83.6	20.0	44.1	40.0	80.0
42	ZAMBEZI	RHODESIA	4037.3	70.8	198.3	244.0	83.6	20.0	32.1	53.3	73.3
27	TINGALEN	AUSTRALI	4016.2	71.7	198.0	243.0	83.3	26.6	33.0	23.3	66.6
18	CRESPO 63	COLOMBIA	4035.1	74.3	194.0	242.6	95.6	86.6	32.0	33.3	26.6
28	TK-236	AUSTRALI	3933.4	70.4	197.0	243.0	100.0	66.6	35.1	26.6	73.3
10	KLEIN KENDIDOR	ARGENTIN	3958.4	76.1	199.3	241.6	131.0	100.0	32.2	23.3	33.3
16	BUNCA 55	COLOMBIA	3934.3	72.6	197.0	243.0	116.6	60.0	31.7	23.3	40.0
37	C-306	INDIA	3771.8	66.1	195.0	240.6	97.0	100.0	35.5	43.0	53.3
21	KENYA LEOPARD	KENYA	3744.3	75.6	203.3	244.6	114.3	100.0	34.1	23.3	46.6
24	SUN 64 X C-271	PAKISTAN	3399.6	72.4	195.0	243.3	70.6	20.0	33.6	56.6	80.0
2	MANITOU	CANADA	3321.8	75.5	203.3	243.0	115.0	86.6	27.8	23.3	33.3
39	6255 - HD.3(MJ X C-Y)X (WIS - SUP) (F6)	KENIA	3194.1	73.3	232.6	247.6	97.3	100.0	35.1	33.3	46.6
9	THATCHER	U.S.A.	3075.2	75.2	203.6	243.3	115.0	86.6	29.8	23.0	40.0
		GRAND MEAN	4421.6	73.5	197.4	242.7	91.4	53.9	34.1	35.1	51.8
	STANDARD ERROR OF	GRAND MEAN	37.5	0.2	3.0	0.1	0.2	1.2	0.1	1.0	1.0
	COEFFICIENT OF	VARIATION	13.3	4.5	3.5	0.5	3.9	29.0	6.8	37.5	25.7
	LSD	VARIETY MEANS 5 PC	750.8	5.5	1.7	2.1	5.9	25.6	3.8	21.5	21.8

CORRELATIONS

YIELD	KG/HA								
TEST	WEIGHT	-0.35							
DAYS TO	FLOWER	-0.29*	0.12						
DAYS TO	MATURITY	-0.19	0.14	0.58**					
HEIGHT	CM.	-0.37**	0.31*	0.54**	0.29*				
LODGING		-0.33**	0.09	0.39**	0.17	0.70**			
1000 GRN	WGT GRMS	0.15	-0.05	-0.37**	-0.02	-0.07	-0.11		
FUSARIUM		0.23	-0.28*	-0.52**	-0.16	-0.57**	-0.39**	-0.33	
FROST	DAMAGE	-0.31	-0.06	-0.32*	-0.0[illegible]	-0.42**	-0.57**	0.34	0.22

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 13

ASIA NEPAL
KATHMANDU,AGRONOMY EXPERIMENTAL FARM.
LATITUDE 027°40'N LONGITUDE 085°20'E ELEVATION 01360 METERS ABOVE SEA LEVEL
COOPERATORS A.N.BHATTARAI,R.P.SAPKOTA,P.M.DIXIT.
DATE PLANTED 11/05/69 DATE HARVESTED 05/12/70
NUMBER OF IRRIGATIONS 003 RAIN TIMES AMOUNT OF MOISTURE MM
NITROGEN 120.0 KG/HA PHOSPHORUS 060.0 KG/HA POTASSIUM 030.0 KG/HA

LOCAL VARIETY NOT IDENTIFIED. WEEDS AND PESTS NOT SERIOUS. CLIMATE WAS GENERALLY GOOD. NO RAIN DURING TILLERING BUT 157MM. DURING BOOT TO HEAD. RUST DEVELOPMENT WAS SLOW.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.	1000 GRN WGT GRMS
23	C-271 X WT X SON 64 (E)	PAKISTAN	6350.4	84.0	117.0	165.0	105.3	52.6
15	SIETE CERROS	MEXICO	6241.5	81.3	124.0	168.3	95.6	42.0
14	GIZA 155	EGYPT	6137.1	80.0	116.0	166.0	124.0	51.3
36	NAPO 63	COLOMBIA	5937.1	79.0	107.0	165.0	115.0	42.5
24	SON 64 X C-271	PAKISTAN	5881.6	80.6	109.3	165.0	86.0	50.0
25	LR X P4160B (E) TI	PAKISTAN	5817.1	82.6	111.0	165.0	101.0	47.3
17	HUELQUEN	CHILE	5773.5	79.6	119.0	165.0	128.0	39.6
11	PITIC 62	MEXICO	5752.7	77.0	119.0	166.6	104.3	45.0
18	CRESPO 63	COLOMBIA	5741.6	80.3	114.6	165.0	122.0	39.6
37	C-306	INDIA	5726.0	83.3	115.3	166.0	126.6	50.5
29	PALMIRA I	COLOMBIA	5696.0	77.6	114.6	165.0	132.0	47.3
47	SONALIKA	INDIA	5670.5	79.6	97.0	156.6	95.6	53.5
20	LERMA ROJO 64A	MEXICO	5537.2	82.3	113.3	165.0	117.0	45.0
7	VICTOR I	ITALY	5526.1	79.3	130.0	173.0	101.3	38.0
6	CARAZINHO	BRAZIL	5439.4	82.0	125.0	167.6	143.0	44.6
30	(LRKN 1J8)X AN3 E	AUSTRALI	5440.5	81.3	124.6	169.3	91.6	38.0
31	PENJAMO 62	MEXICO	5429.4	77.0	109.3	165.0	97.6	42.6
42	ZAMBEZI	RHODESIA	5370.5	82.0	116.0	167.0	95.0	41.0
1	SON 64 X KL. RENDIDOR	ARGENTIN	5351.6	83.6	112.3	165.0	102.0	42.0
13	NAINARI 66	MEXICO	5297.2	79.6	116.6	165.0	126.0	45.0
38	36395-CJ 54^2 X YT 54A (H)	SUDAN	5240.5	78.6	108.3	167.0	107.6	48.0
34	TOBARI 66	MEXICO	5223.9	82.3	108.3	165.0	98.6	44.3
19	SONORA 64	MEXICO	5216.1	80.0	97.0	156.6	89.3	44.3
33	INIA 66	MEXICO	5070.5	81.0	99.6	159.0	103.3	43.6
49	KELAJU	GUATEMAL	5052.8	83.0	116.6	165.0	114.6	44.3
22	TZPP-SON64)CK64A-TZPP-AN3E (B)	MEXICO	4983.6	83.3	109.0	165.0	95.6	39.0
43	TORPIN 7	SOUTH AF	4979.4	80.0	125.0	166.0	74.3	43.3
4	BUCK MANANTIAL	ARGENTIN	4953.9	82.0	136.3	177.0	134.3	33.3

41	LUNDI	RHODESIA	4921.7	76.6	135.0	158.0	88.3	39.3
21	KENYA LEOPARD	KENYA	4936.1	82.6	135.0	170.6	135.6	41.3
46	TRIPLE DIRK	AUSTRALI	4871.7	82.3	123.6	165.0	139.0	49.3
45	GLANG "S"	MEXICO	4857.2	83.0	98.0	162.6	99.6	47.3
16	BONZA 55	COLOMBIA	4737.2	79.3	121.6	165.0	139.6	40.3
40	SUN 64 X TZPS-VAI 6F (B)	ARGENTIN	4730.6	80.6	114.6	165.0	95.3	45.0
44	PATU ARGENTINO	ARGENTIN	4731.7	80.3	124.6	168.0	133.0	33.0
12	GABL	AUSTRALI	4649.5	78.0	115.3	165.0	121.0	40.6
48	KLOKA NM 1353	GERMANY	4631.7	77.0	133.6	170.6	119.0	34.3
28	TK-236	AUSTRALI	4399.5	81.3	113.3	165.0	121.6	43.5
35	GABUTO	ARGENTIN	4292.8	85.3	129.0	168.0	146.6	33.6
27	TIMGALEN	AUSTRALI	4273.6	79.6	122.0	166.0	136.6	40.3
10	KLEIN RENDIDOR	ARGENTIN	4252.9	83.3	137.3	172.0	129.6	41.6
3	CRIM	U.S.A.	4233.6	82.0	116.0	165.0	134.6	38.3
26	ZIPA 58	COLOMBIA	4233.6	81.0	126.3	169.3	124.3	41.6
5	SELKIRK	CANADA	4119.5	81.0	133.6	168.0	147.0	36.3
8	DIAMONTES	ARGENTIN	4138.4	86.0	132.6	167.0	134.3	38.3
32	CHRIS	U.S.A.	4134.0	82.6	123.6	165.0	142.3	33.3
9	THATCHER	U.S.A.	3896.2	86.0	138.3	172.6	140.3	30.0
39	4265 - HD.3(ND X (-Y) X (WIS - SUP) (F6)	KENIA	3658.5	81.3	126.6	170.3	135.0	41.0
2	MANITOU	CANADA	3649.6	80.6	141.6	175.3	144.3	29.3
50	LOCAL CHECK		2753.0	85.6	135.0	168.0	148.0	28.5
		GRAND MEAN	4093.1	81.1	119.1	166.3	116.2	41.7
		STANDARD ERROR OF GRAND MEAN	44.0	0.1	0.2	0.1	0.4	0.1
		COEFFICIENT OF VARIATION	13.8	2.1	2.2	1.3	4.7	5.2
		LSD VARIETY MEANS 5 PC	883.0	2.8	4.3	3.5	9.0	3.5

CORRELATIONS

YIELD	KG/HA					
TEST	WEIGHT	-0.31*				
DAYS TO	FLOWER	-0.52**	0.31*			
DAYS TO	MATURITY	-0.33*	0.23	0.86**		
HEIGHT	CM.	-0.51**	0.33*	0.61**	0.44**	
1000 GRN	WGT GRMS	0.53**	-0.18	-0.64**	-0.53**	-0.40**

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 19

ASIA THAILAND
RIYADH,KHARJ STATION.
LATITUDE 024°15'N LONGITUDE 047°15'E ELEVATION +00430 METERS ABOVE SEA LEVEL
COOPERATORS M.Z.JOWANA.
DATE PLANTED 01/02/70 DATE HARVESTED / /70
NUMBER OF IRRIGATIONS 014 RAIN TIMES AMOUNT OF MOISTURE MM
NITROGEN 100.0 KG/HA PHOSPHORUS 032.7 KG/HA POTASSIUM 000.0 KG/HA

HENTA MAJINI WAS THE LOCAL VARIETY. SOME BIRD DAMAGE WAS NOTED. DISEASE DEVELOPMENT WAS NIL. LODGING NOTED IN LOCAL VARIETY ONLY.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	1000 GRN WGT GRMS	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.
50	LOCAL CHECK		3839.8	28.0	78.0	106.0	100.0
43	TURPIN 7	SOUTH AF	2965.7	38.3	73.0	104.0	45.0
3	CRIM	U.S.A.	2834.0	30.1	73.0	105.0	85.0
38	36896-CJ 54^2 X YT 54A (H)	SUDAN	2735.9	30.0	63.0	104.0	80.0
44	PATU ARGENTINO	ARGENTIN	2777.7	26.0	73.0	104.0	65.0
10	KLEIN KENDIDOR	ARGENTIN	2751.4	30.3	83.0	110.0	130.0
40	SUN 54 X TZPP-VAI 50 (B)	ARGENTIN	2557.2	32.7	55.0	101.0	70.0
21	KENYA LEOPARD	KENYA	2475.5	30.3	73.0	103.0	65.0
30	(LKXN 108)X AW3 E	AUSTRALI	2295.7	28.3	72.0	103.0	70.0
24	SUN 64 X L-271	PAKISTAN	2237.5	34.3	52.0	95.0	60.0
34	TUBARI 65	MEXICO	2253.0	31.0	53.0	96.0	75.0
49	KELAJU	GUATEMAL	2253.0	37.0	62.0	93.0	90.0
27	TINGA_EN	AUSTRALI	2238.5	30.0	70.0	93.0	75.0
35	GABUTO	ARGENTIN	2238.5	31.3	73.0	103.0	90.0
25	LK x P41603 (E) TI	PAKISTAN	2235.8	40.0	66.0	100.0	85.0
4	BUCK MANANTIAL	ARGENTIN	2165.0	23.1	76.0	110.0	90.0
8	PIAMONTES	ARGENTIN	2039.6	34.0	70.0	101.0	80.0
13	MAINARI 60	MEXICO	2033.3	51.0	57.0	100.0	85.0
2	MANITOU	CANADA	2058.8	18.0	88.0	120.0	100.0
6	CARAZINHO	BRAZIL	2053.6	35.0	70.0	102.0	95.0
9	THATCHER	U.S.A.	2034.3	20.0	86.0	115.0	90.0
39	4255 - HD.3 (MD X K-Y) X (WIS - SUP) (F6)	KENIA	1958.9	34.1	73.0	105.0	85.0
42	ZAMBEZI	RHODESIA	1836.6	33.0	62.0	97.0	75.0
5	SELKIRK	CANADA	1835.5	26.7	83.0	108.0	135.0
37	C-306	INDIA	1737.5	36.5	57.0	102.0	120.0
14	GIZA 155	EGYPT	1633.9	35.5	65.0	103.0	80.0
17	HUELQUEN	CHILE	1552.2	34.0	66.0	102.0	85.0
20	LERMA ROJO 64A	MEXICO	1445.0	34.0	52.0	93.0	70.0

31	PENJAMO 62	MEXICO	1330.7	33.0	54.0	98.0	70.0
29	PALMIRA I	COLOMBIA	1354.3	34.0	69.0	100.0	70.0
26	ZIPA 68	COLOMBIA	1339.8	33.3	70.0	100.0	50.0
12	GABO	AUSTRALI	1315.3	31.0	54.0	93.0	70.0
11	PITIC 62	MEXICO	1233.6	33.1	62.0	93.0	75.0
7	VICTOR I	ITALY	1119.2	28.0	70.0	100.0	50.0
32	CHRIS	U.S.A.	1052.0	26.0	70.0	103.0	90.0
48	KLOSA WM 1353	GERMANY	930.3	26.5	73.0	106.0	85.0
46	TRIPLE DIRK	AUSTRALI	939.5	33.1	55.0	103.0	95.0
28	TR-255	AUSTRALI	832.3	30.0	52.0	96.0	80.0
16	BONZA 55	COLOMBIA	857.8	27.0	71.0	102.0	85.0
23	C-271XWT X SUN 64 (E)	PAKISTAN	792.4	28.1	62.0	96.0	85.0
47	SUNALIKA	INDIA	686.2	42.0	50.0	93.0	75.0
15	SIETE CERROS	MEXICO	659.9	35.0	58.0	101.0	75.0
45	GIANO "S"	MEXICO	614.3	36.1	60.0	94.0	60.0
18	CRESPO 63	COLOMBIA	482.0	28.0	60.0	93.0	85.0
33	INIA 66	MEXICO	433.0	31.0	60.0	93.0	75.0
22	(TZPP-SUN64XLR64A-TZPP-4N3E) (B)	MEXICO	400.3	26.5	52.0	98.0	70.0
1	SUN 64 X K1. RENDIDOR	ARGENTIN	232.0	32.0	59.0	98.0	60.0
41	LONDI	RHODESIA	133.9	33.0	61.0	96.0	60.0
19	SONORA 64	MEXICO	130.7	28.0	60.0	93.0	70.0
36	NAPO 63	COLOMBIA	122.5	27.5	50.0	94.0	80.0
		GRAND MEAN	1609.1	31.8	57.8	100.4	78.1
	STANDARD ERROR OF GRAND MEAN		55.0				
	COEFFICIENT OF VARIATION		49.5				
	LSD VARIETY MEANS 5 PC		1300.8				

CORRELATIONS

YIELD	KG/HA				
1000 GRN WGT	GRMS	0.04			
DAYS TO	FLOWER	0.54**	-0.47**		
DAYS TO	MATURITY	0.48**	-0.42**	0.89**	
HEIGHT	CM.	0.22	-0.18	0.44**	0.45**

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 25

ASIA W. PAKISTAN
TANDOJAM, AGRI. RES. INSTITUTE.
LATITUDE 025 02' N LONGITUDE 068° 38' E ELEVATION +00019 METERS ABOVE SEA LEVEL
COOPERATORS Z.A. MUNSHI AND STAFF.
DATE PLANTED 11/14/69 DATE HARVESTED 05/ /70
NUMBER OF IRRIGATIONS RAIN TIMES AMOUNT OF MOISTURE +483 44
NITROGEN 134.4 KG/HA PHOSPHORUS 031.6 KG/HA POTASSIUM 000.0 KG/HA

NAYAB WAS THE LOCAL VARIETY. CROP SEASON WAS ABNORMALLY HIGH FOR TEMP. THERE WAS NO RAINFALL DURING THE EXPERIMENT. WEEDS WERE CONTROLLED MECHANICALLY. STEM AND LEAF RUSTS WERE OBSERVED IN THE AREA BUT LEAF RUST WAS NOT INTENSE.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	1000 GRN WGT GRMS	STEM RUST	HEIGHT CM.
47	SONALIKA	INDIA	4605.8	78.5	58.0	55.0	5S	91.4
23	C-271X WT X SON 64 (E)	PAKISTAN	4464.5	77.8	77.0	35.5	25S	101.5
33	INIA 66	MEXICO	4210.2	86.2	68.0	0.0	15MS	91.4
22	(TZPP-SON64XLR64A-TZPP-ANDE) (B)	MEXICO	4125.4	78.5	63.0	0.0	25S	93.9
25	LR X P416.3 (E) TI	PAKISTAN	3729.8	78.5	73.0	0.0	5S	91.4
42	ZAMBEZI	RHODESIA	3645.1	79.7	69.0	36.5	5S	88.8
15	SIETE CERROS	MEXICO	3616.8	77.2	74.0	0.0	60S	93.9
31	PENJAMO 62	MEXICO	3538.5	81.0	69.0	0.0	25S	88.8
19	SONORA 64	MEXICO	3560.3	81.0	57.0	38.0	15MS	78.7
24	SON 64 X C-271	PAKISTAN	3447.3	75.9	75.0	35.8	40S	86.3
29	PALMIRA I	COLOMBIA	3447.3	75.9	71.0	35.0	40S	114.2
41	LONDI	RHODESIA	3419.0	75.9	64.0	34.5	25S	88.8
1	SON 64 X KL. RENDIDOR	ARGENTIN	3334.2	83.6	70.0	0.0	10MS	86.3
7	VICTOR I	ITALY	3334.2	75.9	50.0	0.0	80S	93.9
17	MOELNJEN	CHILE	3193.0	76.5	75.0	0.0	0	114.2
34	TUBARI 66	MEXICO	3136.4	77.2	69.0	32.0	5MS	88.8
49	XELAJU	GUATEMAL	3138.2	81.0	68.0	43.5	15S	109.2
20	LERMA ROJO 64A	MEXICO	3079.9	77.2	72.0	36.0	5S	93.9
6	CARACINHO	BRAZIL	3079.9	78.5	82.0	0.0	40S	111.7
13	NAINARI 62	MEXICO	3051.7	74.6	83.0	35.5	10MS	114.2
11	PITIC 62	MEXICO	3023.4	74.6	72.0	35.0	25S	96.5
50	LOCAL CHECK		2938.6	74.6	75.0	38.5	25S	101.5
18	CRESPO 63	COLOMBIA	2938.6	77.8	67.0	0.0	10MS	111.7
44	PATO ARGENTINO	ARGENTIN	2910.4	78.5	71.0	0.0	25S	88.8
26	ZIPA 68	COLOMBIA	2910.4	79.7	75.0	0.0	60S	114.2
46	TRIPLE DIRK	AUSTRALI	2882.1	74.6	75.0	43.1	5S	134.6
45	GIANO "S"	MEXICO	2882.1	78.5	58.0	37.0	10S	96.5
35	GABUTO	ARGENTIN	2712.6	75.9	80.0	0.0	25S	114.2

43	TURPIN 7	SOUTH AF	2712.6	74.6	81.0	41.5	10S	73.6
12	GABU	AUSTRALI	2655.1	73.3	79.0	36.0	15S	106.6
16	BUNGA 55	COLOMBIA	2627.8	74.6	75.0	31.5	25S	121.9
30	(LKKN 10B)X AN3 E	AUSTRALI	2627.8	79.7	74.0	29.0	25S	83.8
28	TM-236	AUSTRALI	2599.6	78.5	72.0	39.5	15S	96.5
14	GIZA 155	EGYPT	2571.3	77.2	73.0	45.0	25S	119.3
38	36896-CJ 54 2 X YT 54A (H)	SUDAN	2543.0	75.9	61.0	35.6	5S	96.5
36	NAPU 63	COLOMBIA	2543.0	75.9	60.0	33.7	25S	101.5
27	TIMGALEN	AUSTRALI	2514.8	81.0	72.0	31.0	10S	88.8
21	KENYA LEOPARD	KENYA	2458.3	74.6	91.0	34.0	5S	121.9
40	SUN 64 X TZPP-VAI 60 (B)	ARGENTIN	2373.5	74.6	75.0	37.0	TRS	96.5
37	C-366	INDIA	2175.7	77.2	76.0	43.5	40S	119.3
39	4265 - HD.3 (MD X K-Y) X (WIS - SUP) (FC)	KENIA	2062.7	75.9	81.0	30.3	25S	119.3
3	GRIM	U.S.A.	1949.7	77.2	99.0	31.0	20S	116.8
8	DIAMONTES	ARGENTIN	1893.1	78.5	83.0	34.3	80S	111.7
32	CHRIS	U.S.A.	1864.9	77.2	72.0	29.8	25S	134.6
5	SELKIRK	CANADA	1299.8	68.2	98.0	27.0	40S	124.4
48	KLOKA WM 1353	GERMANY	1215.0	69.4	0.0	28.2	80S	106.6
10	KLEIN RENDIDOR	ARGENTIN	1158.5	0.0	99.0	19.5	60S	111.7
4	BUCK MANANTIAL	ARGENTIN	1073.7	66.9	100.0	20.0	40S	127.0
9	THATCHER	U.S.A.	508.6	0.0	101.0	15.0	25S	116.8
2	MANITOU	CANADA	480.3	66.9	100.0	18.0	0	116.8
		GRAND MEAN	2755.7	73.6	73.6	25.2	24.3	103.8
		STANDARD ERROR OF GRAND MEAN	54.7					
		COEFFICIENT OF VARIATION	24.2					
		LSD VARIETY MEANS 5 PC	1094.1					

CORRELATIONS

YIELD	KG/HA					
TEST	WEIGHT	0.55**				
DAYS TO	FLOWER	-0.35**	-0.37**			
1000 GRN	WGT GRMS	-0.07	0.06	-0.04		
STEM	RUST	-0.23	-0.21	-0.18	-0.21	
HEIGHT	CM.	-0.54**	-0.24	0.38**	0.04	0.15

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

ASIA W.PAKISTAN
LYALLPUR,LYUB-AGRI. RES. INSTITUTE.
LATITUDE 031 30'N LONGITUDE 073°13'E ELEVATION +00213 METERS ABOVE SEA LEVEL
COOPERATORS CEREAL BOTANIST.
DATE PLANTED 11/17/69 DATE HARVESTED 04/ /70
NUMBER OF IRRIGATIONS RAIN TIMES AMOUNT OF MOISTURE 0356 MM
NITROGEN 090.0 KG/HA PHOSPHORUS 025.2 KG/HA POTASSIUM 000.0 KG/HA

LOCAL VARIETY NOT IDENTIFIED. CLIMATIC CONDITIONS WERE NORMAL. PROBLEMS WITH WHITE-FLY REPORTED. ALSO,EPIDEMIC YEAR FOR STRIPE RUST.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	DAYS TO MATURITY	STRIPE RUST	LEAF RUST	STEM RUST	HEIGHT CM.	LODGING
23	C-271*WT X SON 64 (E)	PAKISTAN	5599.4	103.0	145.0	10MR	0	0	128.0	25.0
24	SON 64 X C-271	PAKISTAN	5399.4	94.3	142.6	25MS	40S	25MS	133.3	25.0
33	INIA 66	MEXICO	5177.2	87.6	134.6	5MR	0	0	115.0	50.0
25	LR X P41603 (E) TI	PAKISTAN	5056.1	95.0	141.3	0	0	0	139.8	50.0
43	TURPIN 7	SOUTH AF	4499.5	105.0	144.6	10MR	0	0	84.0	0.0
31	PENJAMO 62	MEXICO	4232.8	93.6	137.3	10MR	0	0	122.0	83.3
47	SONALIKA	INDIA	4044.0	90.6	141.6	5R	0	0	125.0	33.3
50	LOCAL CHECK		3977.3	104.6	146.6	10MR	40S	25MS	114.0	0.0
30	(LERMA ROJO)X AN3 E	AUSTRALI	3944.0	106.6	146.0	0	0	0	133.8	0.0
20	LERMA ROJO 64A	MEXICO	3932.9	102.0	143.0	0	0	0	128.0	75.0
22	(TZPP-SON64X-K64A-TZPP-AN3E) (B)	MEXICO	3932.9	94.3	145.3	0	0	0	113.0	50.0
41	LONDI	RHODESIA	3938.4	95.3	141.3	40S	0	0	134.0	25.0
40	SON 64 X TZPP-NAI 60 (B)	ARGENTIN	3744.0	100.0	146.0	25MS	0	0	137.0	25.0
1	SON 64 X KL. REDIDOR	ARGENTIN	3599.6	94.0	138.6	00VS	0	0	117.0	75.0
19	SONORA 64	MEXICO	3532.9	86.3	133.3	65S	0	0	104.0	33.3
45	CIANO "S"	MEXICO	3499.6	87.0	137.3	25MS	0	0	113.3	50.0
7	VICTOR I	ITALY	3421.8	113.0	147.0	5R	5MR	TR	139.0	25.0
15	SIETE CERROS	MEXICO	3410.7	107.6	145.6	40S	25MS	0	120.0	50.0
34	TUBARI 65	MEXICO	3355.2	98.3	144.3	0	0	0	112.3	50.0
35	GABOTO	ARGENTIN	2821.9	110.6	142.6	25MS	0	0	140.0	75.0
16	BONZA 55	COLOMBIA	2799.7	106.3	143.6	25MS	TR	TR	148.0	100.0
11	PITIC 62	MEXICO	2733.0	104.0	144.0	10MR	10MR	0	118.0	100.0
36	NAPO 63	COLOMBIA	2677.5	96.0	139.0	40S	0	0	140.0	100.0
17	HUELQUEN	CHILE	2599.7	106.0	142.3	0	0	0	137.8	33.3
44	PATO ARGENTINO	ARGENTIN	2555.2	108.6	143.6	5R	TR	0	115.0	50.0
6	CARAZINHO	BRAZIL	2544.1	106.6	141.3	25MS	0	0	142.0	100.0
13	NAINARI 60	MEXICO	2533.0	103.3	142.3	25MS	0	0	126.0	75.0
28	TK-236	AUSTRALI	2444.1	103.6	143.6	40S	0	0	123.3	75.0
26	ZIPA 66	COLOMBIA	2333.0	113.3	146.6	10MR	40S	40S	133.0	75.0
49	KELAJU	GUATEMAL	2310.8	103.6	145.0	5R	10MS	5R	124.0	83.3
38	36896-CJ 54^2 X YT 54A (H)	SUDAN	2244.2	95.0	144.0	40S	0	0	115.0	25.0
37	C-366	INDIA	2221.9	103.6	142.6	5R	25MS	40S	147.0	100.0
18	CRESPO 63	COLOMBIA	2210.8	96.3	138.3	5R	TR	0	132.0	75.0

29	PALMIRA-1	COLOMBIA	2133.1	98.6	142.3	40S	0	0	135.0	100.0
39	4255 - MD.3 (MD K K-Y) K (WIS - SUP) (F6)	KENIA	2355.3	114.3	148.6	0	TR	0	113.9	75.0
21	KENYA LEOPARD	KENYA	2322.0	112.6	146.6	0	TR	0	140.0	75.0
10	KLEIN RENDIDOR	ARGENTIN	1956.4	112.3	144.3	25MS	0	0	125.0	100.0
32	CHRIS	U.S.A.	1896.4	110.3	147.3	5MR	0	0	129.0	75.0
46	TRIPLE DIRK	AUSTRALI	1777.5	104.3	142.6	40S	0	0	138.9	83.3
42	ZAMBEZI	RHODESIA	1755.3	104.0	146.3	65S	0	0	115.0	0.0
27	TIMGALEN	AUSTRALI	1677.6	105.6	144.0	40S	0	0	118.0	50.0
14	GIZA 155	EGYPT	1577.6	100.6	141.3	65S	0	0	130.0	50.0
3	CRIN	U.S.A.	1377.6	107.0	145.3	65S	0	0	147.0	33.3
48	KLORA WM 1353	GERMANY	1322.0	112.6	149.0	10MR	40S	40S	124.0	66.6
8	DIAMONTES	ARGENTIN	1244.3	112.3	141.3	10MR	TR	0	140.0	100.0
4	BUCK MANANTIAL	ARGENTIN	1122.1	114.3	151.0	65S	0	0	137.0	100.0
2	MANITOU	CANADA	799.9	110.3	150.6	90VS	0	0	121.0	75.0
9	THATCHER	U.S.A.	777.6	120.6	152.6	65S	25MS	10MR	141.0	50.0
12	GABO	AUSTRALI	638.8	100.6	138.0	90VS	0	0	128.0	25.0
5	SELKIRK	CANADA	588.8	110.3	149.0	40S	0	0	140.0	75.0
		GRAND MEAN	2750.8	103.7	143.5	24.5	4.6	3.2	123.8	51.4
	STANDARD ERROR OF GRAND MEAN		42.3	0.1	0.1	0.3		0.0	0.2	0.8
	COEFFICIENT OF VARIATION		18.7	1.2	1.0	15.4		4.9	2.4	17.8
	LSD VARIETY MEANS 5 PC		845.2	2.0	2.3	6.1		0.2	4.9	17.9

CORRELATIONS

YIELD	KG/HA							
DAYS TO	FLOWER	-0.61**						
DAYS TO	MATURITY	-0.43**	0.80**					
STRIPE	RUST	-0.43**	0.05	-0.00				
LEAF	RUST	0.05	0.19	0.29*	-0.15			
STEM	RUST	-0.04	0.14	0.19	-0.20	0.84**		
HEIGHT	CM.	-0.57**	0.36**	0.07	0.11	-0.02	0.13	
LODGING		-0.43**	0.18	-0.06	-0.05	-0.15	0.02	0.73

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 27

ASIA W.PAKISTAN
TARNAB,AGRI. RES. INSTITUTE.
LATITUDE 32 33'N LONGITUDE 068 59'E ELEVATION +00340 METERS ABOVE SEA LEVEL
COOPERATORS CEREAL BOTANIST.
DATE PLANTED 02/24/69 DATE HARVESTED 04/ /70
NUMBER OF IRRIGATIONS 06 RAIN TIMES AMOUNT OF MOISTURE +305.44
NITROGEN 100.0 KG/HA PHOSPHORUS 035.2 KG/HA POTASSIUM 000.0 KG/HA

KHUSHA 69(518) WAS THE LOCAL VARIETY. WEEDS WERE CONTROLLED MECHANICALLY
GOOD EPIDEMIC OF STRIPE RUST DEVELOPED. WEATHER WAS COOL AND DRY DURING
NOV. TO JAN. AND HUMID AND COOL FEB. AND MARCH. TEMPERATURES HIGHER
AFTER MARCH 20.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	STRIPE RUST	LODGING
33	INIA 66	MEXICO	5022.3	115.0	90	90.0
23	C-271XWT X SUN 54 (E)	PAKISTAN	4558.7	121.0	25	80.0
24	SUN 64 X C-271	PAKISTAN	4434.1	118.0	65	40.0
50	LOCAL CHECK		4249.6	120.0	25	50.0
40	SUN 54 X TZPP-NAI 60 (B)	ARGENTIN	3853.3	119.0	15	65.0
25	LR X P416.3 (E) TI	PAKISTAN	3736.0	120.0	37	35.0
15	SIETE CERROS	MEXICO	3708.7	124.0	5	40.0
34	TOBARI 66	MEXICO	3476.9	110.0	40	90.0
1	SUN 54 X CL. RENDIDOR	ARGENTIN	3399.7	116.0	25	40.0
30	(LERMA 1.B)X ANB E	AUSTRALI	3245.1	124.0	7	60.0
19	SONORA 64	MEXICO	3245.1	115.0	90	80.0
20	LERMA ROJO 64A	MEXICO	3157.9	117.0	37	55.0
47	SONALIKA	INDIA	3157.9	118.0	5	73.3
13	NAINARI 60	MEXICO	3157.9	116.0	25	50.0
22	(TZPP-SUN64X(L.664A-TZPP-ANBE) (B)	MEXICO	3013.3	116.0	10	80.0
49	KENYA	GUATEMAL	2936.1	122.0	100	70.0
11	PITIC 62	MEXICO	2858.8	117.0	77	45.0
31	PENJAMO 62	MEXICO	2858.8	121.0	5	60.0
44	PATO ARGENTINO	ARGENTIN	2731.5	120.0	45	60.0
18	CRESPO 63	COLOMBIA	2704.3	116.0	45	83.3
36	NAPO 63	COLOMBIA	2704.3	119.0	15	73.3
41	LONDI	RHODESIA	2627.0	124.0	10	80.0
43	TURPIN 7	SOUTH AF	2627.0	124.0	10	50.0
45	CIANO "S"	MEXICO	2317.9	118.0	25	75.0
38	36896-LD 54² X YT 54A (H)	SUDAN	2153.4	117.0	10	35.0
28	TR-236	AUSTRALI	2153.4	120.0	10	55.0
7	VICTOR I	ITALY	1699.8	120.0	10	46.6
12	GABO	AUSTRALI	1699.8	125.0	90	60.0

42	ZAMBELI	RHODESIA	1639.8	125.0	15	83.3
6	CARACINHO	BRAZIL	1622.5	120.0	7	35.0
10	KLEIN KENDIDOR	ARGENTIN	1622.5	126.0	65	80.0
17	HUELQUEN	CHILE	1545.3	124.0	17	46.6
3	CRIM	U.S.A.	1545.3	117.0	65	35.0
32	CHRIS	U.S.A.	1545.3	124.0	65	60.0
26	ZIPA 58	COLOMBIA	1535.6	124.0	65	100.0
8	PIAMONTES	ARGENTIN	1458.0	127.0	10	65.0
37	C-366	INDIA	1458.0	118.0	5	10.0
35	SABUTO	ARGENTIN	1390.7	126.0	5	53.3
14	GIZA 155	EGYPT	1390.7	121.0	37	95.0
27	TIMGALEN	AUSTRALI	1390.7	124.0	65	80.0
46	TRIPLE DIRK	AUSTRALI	1274.8	124.0	45	80.0
4	BUCK MANANTIAL	ARGENTIN	1236.2	130.0	15	80.0
39	4255 - HD.3 (MJ X K-Y) X (WIS - SUP) (F6)	KENIA	1158.9	126.0	10	40.0
9	THATCHER	U.S.A.	1031.7	139.0	65	90.0
16	BONZA 55	COLOMBIA	927.1	122.0	17	55.0
21	KENYA LEOPARD	KENYA	927.1	125.0	55	50.0
29	PALMIRA I	COLOMBIA	772.6	121.0	90	53.3
2	MANITOU	CANADA	424.9	137.0	40	70.0
48	KLOKA KM 1353	GERMANY	386.3	129.0	90	90.0
5	SELKIRK	CANADA	347.6	135.0	90	20.0
		GRAND MEAN	2287.0	122.2	37.8	61.8
	STANDARD ERROR OF GRAND MEAN		57.6			2.3
	COEFFICIENT OF VARIATION		30.8			40.6
	LSD VARIETY MEANS 5 PC		1152.9			41.0

CORRELATIONS

YIELD	KG/HA			
DAYS TO	FLOWER	-0.63**		
STRIPE	RUST	-0.12	0.09	
LODGING		0.33	0.10	0.21

* SIGNIFICANT AT THE 5 % LEVEL ** SIGNIFICANT AT THE 1 % LEVEL

ASIA
DACCA,FARM,JOYDEBPUR, BANGLA DESH
LATITUDE 023°00'N LONGITUDE 092°00'E ELEVATION +00012 METERS ABOVE SEA LEVEL
COOPERATORS J.SEN,M.ISLAM,S.HOSSAIN,A.RAZZAQUE.
DATE PLANTED 11/26/69 DATE HARVESTED 04/ /70
NUMBER OF IRRIGATIONS 005 RAIN TIMES AMOUNT OF MOISTURE 0660 MM
NITROGEN 134.4 KG/HA PHOSPHORUS 134.4 KG/HA POTASSIUM 090.0 KG/HA

LOCAL VARIETY NOT IDENTIFIED. NO WEED OR PEST PROBLEMS. LEAF RUST WAS THE ONLY DISEASE OBSERVED. RAINFALL WAS BELOW NORMAL HUMIDITY WAS HIGH. HAIL STORM CAUSED SOME CROP DAMAGE AS NECK BREAKING.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	DAYS TO MATURITY	LEAF RUST	HEIGHT CM.	1000 GRN WGT GRMS
11	PITIC 62	MEXICO	4417.3	60.6	101.6	25MS	101.3	36.0
25	LR X P4163 (E) TI	PAKISTAN	4356.2	60.0	100.0	5R	83.5	37.1
29	PALMITO I	COLOMBIA	4101.8	60.0	101.3	-40S	115.1	44.0
24	SUN 64 X C-271	PAKISTAN	4099.5	60.0	113.6	25MS	82.1	40.0
23	C-271XWT X SUN 54 (E)	PAKISTAN	4038.7	60.0	112.3	-25S	105.1	42.0
14	GIZA 155	EGYPT	4007.1	60.6	112.0	10MS	122.3	39.2
15	SIETE CERROS	MEXICO	3849.3	50.3	98.3	25MS	82.8	31.5
20	LERMA ROJO 64A	MEXICO	3736.2	54.0	94.6	10R	98.5	37.5
50	LOCAL CHECK		3723.1	44.3	95.0	5R	76.3	36.8
13	NAINARI 6L	MEXICO	3723.1	70.0	110.0	2-MS	119.0	37.9
28	TK-436	AUSTRALI	3653.0	50.6	106.6	-5MR	111.5	40.9
49	KELAJU	GUATEMAL	3533.8	58.6	100.0	0	116.1	40.9
27	TIMGALEN	AUSTRALI	3533.8	67.3	106.3	5R	97.8	32.5
26	ZIPA 68	COLOMBIA	3470.7	61.0	103.6	40S	111.5	35.2
36	NAPO 63	COLOMBIA	3470.7	43.0	90.3	10R	90.0	40.2
33	INIA 66	MEXICO	3470.7	49.0	90.6	5R	84.8	39.6
46	TRIPLE DIRK	AUSTRALI	3470.7	50.6	101.6	5R	116.1	45.6
17	HUELQUEN	CHILE	3470.7	49.6	95.0	5R	108.6	38.9
31	PENJAMO 62	MEXICO	3437.6	54.6	100.0	5R	91.0	40.6
19	SONORA 64	MEXICO	3437.6	44.6	96.6	5MR	83.0	33.7
18	CHESPO 63	COLOMBIA	3218.3	57.5	109.0	5.0	118.2	36.9
6	CARAZINHO	BRAZIL	3218.3	68.0	110.0	0	141.0	43.1
45	LIANO "S"	MEXICO	3218.3	46.0	95.0	5R	83.1	41.2
40	SUN 54 X TZPP-VAI 50 (B)	ARGENTIN	3218.3	58.3	113.6	0	83.6	39.5
34	TUBARI 66	MEXICO	3218.3	52.3	99.3	5R	90.1	31.9
41	LONDI	RHODESIA	3218.3	48.6	95.0	-5MS	74.1	35.2
1	SUN 64 X KL. RENDIDOR	ARGENTIN	3155.2	47.3	95.6	0	75.8	37.8
47	SONALIKA	INDIA	3155.2	52.0	100.0	5R	82.3	55.1

30	(LRKN 10B)X AN3 E	AUSTRALI	3092.1	59.6	111.0	40MS	77.5	32.2
43	TURPIN 7	SOUTH AF	3029.0	72.0	115.6	0	64.8	31.9
42	ZAMBEZI	RHODESIA	3029.0	46.6	99.3	R-5R	67.8	33.1
22	(TZPP-SUN64)(LK64A-TZPP-AN3E) (B)	MEXICO	2997.4	49.0	97.6	R-5R	76.1	34.1
7	VICTOR I	ITALY	2934.3	70.3	112.0	50S	85.3	30.9
37	C-3L6	INDIA	2932.8	67.6	113.0	25MS	128.0	43.0
44	PATU ARGENTINO	ARGENTIN	2932.8	51.0	101.3	-5MR	79.6	30.6
39	4265 - HD.3 (MD X K-Y) X (WIS - SUP) (F6)	KENIA	2839.7	69.0	109.0	-5MS	124.6	33.3
35	GABOTO	ARGENTIN	2776.6	71.6	110.0	5R	128.8	30.0
12	GABO	AUSTRALI	2776.6	61.3	108.0	0	116.0	37.4
32	CHRIS	U.S.A.	2650.3	61.0	108.0	0	138.8	32.2
38	36896-CJ 54^2 X YT 54A (H)	SUDAN	2650.3	49.0	119.6	0	97.5	40.3
3	CRIM	U.S.A.	2587.2	84.0	111.3	5R	140.1	33.0
4	BUCK MANANTIAL	ARGENTIN	2524.1	86.3	125.0	5R	112.0	24.9
8	PIAMONTES	ARGENTIN	2397.9	70.3	106.6	25MS	127.8	38.4
16	BONZA 55	COLOMBIA	2334.8	66.0	107.0	10MS	127.1	34.9
21	KENYA LEOPARD	KENYA	2240.2	82.0	115.6	-5MR	132.3	36.5
48	KLOKA WM 1353	GERMANY	2141.1	59.3	107.6	100S	96.8	35.7
5	SELKIRK	CANADA	1641.3	91.6	121.0	25MS	123.8	24.9
2	MANITOU	CANADA	1372.7	98.6	127.6	0	114.5	23.9
10	KLEIN RENDIDOR	ARGENTIN	1039.6	111.0	136.0	0	95.6	25.1
9	THATCHER	U.S.A.	347.0	96.0	130.0	100S	117.8	27.8
		GRAND MEAN	3059.9	62.7	106.6	15.0	102.3	36.1
		STANDARD ERROR OF GRAND MEAN	29.1	0.2	0.2	0.6	0.3	0.1
		COEFFICIENT OF VARIATION	11.5	4.8	2.7	41.5	4.4	4.1
		LSD VARIETY MEANS 5 PC	530.7	5.0	4.7	10.2	7.4	2.4

CORRELATIONS

YIELD	KG/HA					
DAYS TO	FLOWER	-0.69**				
DAYS TO	MATURITY	-0.67**	0.90**			
LEAF	RUST	-0.25	0.18	0.24		
HEIGHT	CM.	-0.27*	0.59**	0.38**	0.11	
1000 GRN	WGT GRMS	0.55**	-0.54**	-0.50**	-0.05	-0.01

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 29

ASIA INDIA DELHI
NEW DELHI.
LATITUDE 28°15'N LONGITUDE 076°00'E ELEVATION +00228 METERS ABOVE SEA LEVEL
COOPERATORS INDIAN AGRICULTURAL RESEARCH INSTITUTE.
DATE PLANTED / /69 DATE HARVESTED / /70
NUMBER OF IRRIGATIONS RAIN TIMES AMOUNT OF MOISTURE MM
NITROGEN KG/HA PHOSPHORUS KG/HA POTASSIUM KG/HA

NO DESCRIPTIVE INFORMATION RETURNED.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	DAYS TO MATURITY	LEAF RUST	HEIGHT CM.	LODGING	1000 GRN WGT GRMS
47	SONALIKA	INDIA	5151.5	74.0	119.0	LR	102.0	0.0	47.5
42	ZAMBEZI	RHODESIA	4637.8	111.0	141.0	TS	90.0	0.0	32.0
31	PENJAMO 62	MEXICO	4443.4	92.0	132.0	TR	98.0	0.0	35.5
25	LR X P416L3 (E) TI	PAKISTAN	4413.4	100.0	134.0	0	87.0	0.0	40.0
1	SON 64 X KL. RENDIDOR	ARGENTIN	4338.6	80.0	137.0	TR	91.0	0.0	32.0
23	C-271X WT X SON 64 (E)	PAKISTAN	4338.6	100.0	139.0	TX	99.0	0.0	0.0
33	INIA 66	MEXICO	4338.6	102.0	136.0	MS	103.0	0.0	37.5
40	SON 64 X TZPP-NAI 60 (B)	ARGENTIN	3839.8	110.0	137.0	0	91.0	0.0	35.5
19	SONORA 64	MEXICO	3889.8	91.0	127.0	HS	94.0	0.0	27.0
15	SIETE CERROS	MEXICO	3815.0	113.0	145.0	HS	88.0	0.0	32.5
50	LOCAL CHECK		3740.2	91.0	129.0	LR	71.0	0.0	31.0
41	LONDI	RHODESIA	3655.4	100.0	130.0	LS	89.0	0.0	32.5
24	SON 64 X C-271	PAKISTAN	3655.4	111.0	140.0	HS	84.0	0.0	31.0
20	LERMA ROJO 64A	MEXICO	3590.6	62.0	122.0	TR	110.0	0.0	32.0
38	36896-CJ 542 X YT 544 (H)	SUDAN	3441.0	102.0	136.0	TS	104.0	10.0	39.5
28	TR-235	AUSTRALI	3441.0	106.0	132.0	LR	113.0	0.0	36.5
36	NAPO 63	COLOMBIA	3356.2	77.0	115.0	S	113.0	0.0	32.0
13	NAINARI 60	MEXICO	3216.6	103.0	142.0	TR	118.0	0.0	37.5
14	GIZA 155	EGYPT	3141.8	111.0	141.0	0	115.0	0.0	33.5
44	PATO ARGENTINO	ARGENTIN	3141.8	110.0	141.0	TR	98.0	0.0	27.0
27	TIMGALEN	AUSTRALI	3141.8	114.0	138.0	TX	97.0	0.0	27.0
22	(TZPP-SON64XLR64A-TZPP-ANBE) (F6)	MEXICO	3057.0	107.0	135.0	0	90.0	0.0	28.5
49	KELAJU	GUATEMAL	2892.1	106.0	135.0	LS	116.0	10.0	41.0
34	TOBARI 66	MEXICO	2892.1	92.0	137.0	0	100.0	0.0	34.5
45	CIANO "S"	MEXICO	2817.3	92.0	129.0	TR	88.0	0.0	37.0
30	(LRKN 108)X ANB E	AUSTRALI	2757.7	100.0	145.0	TX	79.0	0.0	23.0
7	VICTOR I	ITALY	2692.9	112.0	142.0	S	82.0	0.0	27.5
6	CARAZINHO	BRAZIL	2692.9	100.0	143.0	0	107.0	60.0	37.0

26	ZIPA 68	COLOMBIA	2618.1	110.0	141.0	TS	117.0	20.0	29.5
12	GABO	AUSTRALI	2618.1	102.0	138.0	HS	115.0	0.0	37.0
18	CRESPO 63	COLOMBIA	2458.5	110.0	135.0	TS	123.0	0.0	33.0
17	HUELQUEN	CHILE	2468.5	107.0	135.0	TR	122.0	0.0	32.5
11	PITIC 62	MEXICO	2468.5	105.0	134.0	TR	130.0	60.0	0.0
43	TURPIN 7	SOUTH AF	2468.5	114.0	146.0	0	61.0	0.0	30.0
37	C-306	INDIA	2393.7	112.0	142.0	HS	123.0	80.0	39.5
29	PALMIRA I	COLOMBIA	2393.7	107.0	136.0	LS	123.0	0.0	40.0
3	CKIM	U.S.A.	2393.7	110.0	140.0	0	122.0	10.0	0.0
46	TRIPLE DIRK	AUSTRALI	2318.9	112.0	147.0	TX	138.0	20.0	39.5
4	BUCK MANANTIAL	ARGENTIN	2294.5	112.0	139.0	0	113.0	0.0	20.5
16	BONZA 55	COLOMBIA	2019.7	108.0	132.0	TR	129.0	30.0	26.5
10	KLEIN KENDIDOR	ARGENTIN	1944.9	107.0	142.0	0	134.0	70.0	33.0
21	KENYA LEOPARD	KENYA	1944.9	112.0	147.0	0	117.0	20.0	30.0
32	CHRIS	U.S.A.	1944.9	108.0	139.0	TR	116.0	10.0	28.0
35	GABOTO	ARGENTIN	1870.1	112.0	139.0	0	120.0	20.0	29.5
8	PIAMONTES	ARGENTIN	1795.3	110.0	136.0	TR	113.0	10.0	31.5
39	4265 - HD.3 (MO X K-Y)X (WIS - SUP) (F6)	KENIA	1720.5	100.0	141.0	0	109.0	10.0	29.5
48	KLOKA WM 1353	GERMANY	1421.2	112.0	142.0	HS	108.0	20.0	28.0
2	MANITOU	CANADA	1271.6	114.0	147.0	TR	115.0	20.0	12.0
5	SELKIRK	CANADA	1122.0	110.0	151.0	TR	115.0	20.0	17.5
9	THATCHER	U.S.A.	822.8	120.0	149.0	HS	116.0	50.0	18.0
		GRAND MEAN	2010.4	105.3	137.5		104.6	10.5	31.9

STANDARD ERROR OF GRAND MEAN 47.7
COEFFICIENT OF VARIATION 20.1
LSD VARIETY MEANS 5 PC 955.3

CORRELATIONS

YIELD	KG/HA						
DAYS TO	FLOWER	-0.56**					
DAYS TO	MATURITY	-0.53**	0.85**				
LEAF	RUST	0.00	0.00	0.00			
HEIGHT	CM.	-0.48**	0.16	0.08	0.00		
LODGING		-0.50**	0.30*	0.34*	0.00	0.33*	
1000 GRN	WGT GRMS	0.32*	-0.31*	-0.25	0.00	0.00	-0.11

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 30

ASIA INDIA JAMMU
R.S.PURA, AGRICULTURAL RESEARCH INSTITUTE.
LATITUDE LONGITUDE ELEVATION METERS BELOW SEA LEVEL
COOPERATORS J.S.BIJRAL,B.B.ARORA.
DATE PLANTED 11/29/69 DATE HARVESTED / /70
NUMBER OF IRRIGATIONS 002 RAIN TIMES AMOUNT OF MOISTURE MM
NITROGEN 134.0 KG/HA PHOSPHORUS 029.5 KG/HA POTASSIUM 028.2 KG/HA

KALYAN WAS THE LOCAL VARIETY. WEEDS WERE A PROBLEM. ENVIRONMENTAL CONDITIONS MAY HAVE CAUSED POOR DISEASE DEVELOPMENT BUT CLIMATE WAS, IN GENERAL, SATISFACTORY FOR THE CROP.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	DAYS TO MATURITY	1000 GRN WGT GRMS	HEIGHT CM.
1	SON 64 X KL. RENDIDOR	ARGENTIN	2964.8	46.0	82.0	39.6	87.0
28	TR-236	AUSTRALI	2784.2	50.0	82.0	36.9	104.3
41	LUNDI	RHODESIA	2464.8	43.0	82.0	35.9	78.3
36	NAPU 53	COLOMBIA	2432.3	48.0	82.0	25.6	107.0
34	TUBARI 66	MEXICO	2345.8	47.0	82.0	35.1	91.6
23	C-271XWT X SON 54 (E)	PAKISTAN	2284.3	52.0	90.0	41.9	91.0
11	PITIC 62	MEXICO	2228.8	46.0	84.0	34.8	106.6
37	C-306	INDIA	2145.4	63.0	91.0	42.7	112.0
46	TRIPLE DIRK	AUSTRALI	2027.4	63.0	91.0	40.9	118.0
47	SONALIKA	INDIA	1999.6	52.0	84.0	47.1	96.0
17	HUELQUEN	CHILE	1999.6	62.0	84.0	35.9	112.3
3	CRIM	U.S.A.	1937.1	68.0	106.0	33.1	121.3
19	SONORA 64	MEXICO	1916.3	50.0	82.0	35.6	77.3
39	4265 - HD.3 (MD X K-Y) X (WIS - SUP) (F6)	KENIA	1909.4	59.3	97.3	33.0	116.3
50	LOCAL CHECK		1902.4	63.0	93.0	33.8	79.0
27	TIMGALEN	AUSTRALI	1838.5	62.0	91.0	32.9	96.3
29	PALMIRA I	COLOMBIA	1874.6	52.0	84.0	39.5	117.5
33	INIA 66	MEXICO	1874.6	43.0	82.0	41.6	89.3
20	LERMA ROJO 64A	MEXICO	1857.7	52.0	82.0	37.4	97.6
45	CIANO "S"	MEXICO	1857.7	43.0	82.0	38.9	84.3
40	SON 64 X TZPP-NAI 60 (B)	ARGENTIN	1857.7	52.0	84.0	36.7	92.3
31	PENJAMO 62	MEXICO	1853.8	63.0	91.0	39.5	89.6
25	LR X P4160-3 (E) TI	PAKISTAN	1835.2	62.0	84.0	40.7	85.3
15	SIETE CERROS	MEXICO	1770.5	63.0	91.0	37.9	93.6
44	PATO ARGENTINO	ARGENTIN	1753.6	52.0	84.0	30.6	90.3
16	BONZA 55	COLOMBIA	1742.7	52.0	82.0	34.4	109.6
13	NAINARI 66	MEXICO	1721.9	49.0	84.0	37.0	98.3
38	36896-CJ 54 X YT 54A (H)	SUDAN	1738.0	52.0	84.0	38.0	98.6

30	(LKKN 108)X AV3 E	AUSTRALI	1652.5	63.0	91.0	33.6	78.0
48	KLOKA #4 1353	GERMANY	1641.4	63.0	91.0	26.4	98.6
18	CRESPO 63	COLOMBIA	1617.7	52.0	84.0	36.6	108.6
10	KLEIN KENDIDOR	ARGENTIN	1603.9	63.0	84.0	34.9	110.3
14	GIZA 155	EGYPT	1603.9	49.0	91.0	33.0	108.0
26	ZIPA 68	COLOMBIA	1596.9	63.0	91.0	32.4	104.6
6	CARACINHO	BRAZIL	1534.4	63.0	91.0	39.0	113.0
4	BUCK MANANTIAL	ARGENTIN	1499.7	70.0	106.0	30.2	114.6
35	GABUTO	ARGENTIN	1395.6	63.0	91.0	30.7	114.0
42	ZAMBEZI	RHODESIA	1338.6	63.0	84.0	32.2	77.3
43	TURPIN 7	SOUTH AF	1234.5	52.0	84.0	35.4	63.3
49	KELAJJ	GUATEMAL	1165.6	52.0	84.0	37.8	102.0
24	SUN 64 X C-271	PAKISTAN	1069.2	52.0	90.0	29.9	70.6
21	KENYA LEOPARD	KENYA	1041.4	63.0	90.0	36.7	104.3
8	DIAMONTES	ARGENTIN	1034.5	63.0	91.0	33.7	93.3
7	VICTOR I	ITALY	1027.6	78.0	91.0	30.8	85.3
2	MANITOU	CANADA	958.1	78.0	108.0	20.6	114.0
22	(TEPP-SUN64)(LK64A-TZPP-AV3E) (B)	MEXICO	930.4	63.0	84.0	28.5	79.0
12	GABO	AUSTRALI	874.8	46.0	91.0	32.7	93.0
32	CHRIS	U.S.A.	847.0	63.0	91.0	29.9	118.6
5	SELKIRK	CANADA	819.3	78.0	106.0	24.3	113.6
9	THATCHER	U.S.A.	777.6	46.0	104.0	29.9	116.0
		GRAND MEAN	1685.3	57.1	88.6	34.7	98.4
	STANDARD ERROR OF GRAND MEAN		46.3	0.1	0.1	0.1	0.8
	COEFFICIENT OF VARIATION		33.5	2.6	1.8	4.9	10.2
	LSD VARIETY MEANS 5 PC		923.1	2.4	2.6	2.7	16.4

CORRELATIONS

YIELD	KG/HA				
DAYS TO FLOWER		-0.43**			
DAYS TO MATURITY		-0.45**	0.63**		
1000 GRN WGT GRMS		0.43**	-0.40**	-0.49**	
HEIGHT	CM.	-0.04	0.25	0.45**	-0.12

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 31

ASIA INDIA J.P.
PANTNAGAR,U.P. AGRICULTURAL UNIVERSITY.
LATITUDE 029 00'N LONGITUDE 079 33'E ELEVATION +00244 METERS ABOVE SEA LEVEL
COOPERATORS J.P.SRIVASTAVA.
DATE PLANTED 11/26/69 DATE HARVESTED 05/ /70
NUMBER OF IRRIGATIONS 005 RAIN TIMES AMOUNT OF MOISTURE +194.44
NITROGEN 134.0 KG/HA PHOSPHORUS 068.0 KG/HA POTASSIUM 045.0 KG/HA

LOCAL VARIETY NOT IDENTIFIED. NO WEED OR PEST PROBLEMS. GOOD STRIPE AND LEAF RUST DEVELOPMENT. WEATHER COOL AND A FEW LATE WINTER RAINS KEPT THE TEMPERATURE DOWN BELOW NORMAL UNTIL GRAIN FILLING.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	DAYS TO MATURITY	STRIPE RUST	LEAF RUST	STEM RUST	HEIGHT CM.	LODGING	1000 GRN WGT GRMS
23	C-271XWT X SON 64 (E)	PAKISTAN	5664.3	100.3	133.3	F	=	10	116.3	3.3	41.0
50	LOCAL CHECK		5249.9	97.0	135.6	F	F	F	89.6	50.0	38.0
1	SON 64 X KL. REYDIDOR	ARGENTIN	5122.1	88.6	126.0	F	TS	F	93.0	13.0	32.5
33	INIA 66	MEXICO	5088.8	88.3	128.0	F	TS	S	94.3	15.0	45.0
25	LR X P416.3 (E) TI	PAKISTAN	5916.6	91.6	129.3	F	S	3	91.3	13.3	41.0
19	SONORA 64	MEXICO	5511.0	85.6	92.6	S	S	10	84.6	41.6	31.0
41	LUNDI	RHODESIA	5222.1	88.6	128.6	TS	F	F	93.6	13.0	37.0
47	SONALIKA	INDIA	5177.7	83.6	126.6	F	F	F	111.0	50.0	40.0
38	36896-CJ 54^2 X YT 54A (H)	SUDAN	5149.9	91.6	134.0	F	S	F	101.6	55.0	42.0
22	(TZPP-SON64XLR64A-TZPP-ANJE) (B)	MEXICO	5033.2	94.6	130.0	F	F	F	80.0	11.6	35.0
20	LERMA ROJO 64A	MEXICO	4944.3	90.6	129.0	F	F	F	103.0	55.0	32.5
24	SON 64 X C-271	PAKISTAN	4927.7	91.3	130.6	TS	S	F	79.6	0.0	37.0
45	CIANJ "5"	MEXICO	4833.2	88.3	129.6	F	F	3	106.6	56.6	43.0
30	(LRKN 10B)X AN3 E	AUSTRALI	4816.6	101.6	133.6	TS	S	F	30.0	3.3	29.0
44	PATO ARGENTINO	ARGENTIN	4755.4	97.3	134.0	F	TS	F	109.0	51.6	26.0
11	PITIC 62	MEXICO	4755.4	90.6	129.3	F	TS	F	98.0	81.6	31.0
40	SON 64 X TZPP-WAI 60 (B)	ARGENTIN	4699.9	97.3	134.0	S	F	F	91.0	1.6	36.0
31	PENJAMO 62	MEXICO	4611.0	93.3	130.3	F	F	10	112.3	75.0	38.0
15	SIETE CERROS	MEXICO	4399.9	97.6	134.6	F	S	F	82.6	30.0	32.0
7	VICTOR I	ITALY	4277.7	105.6	132.6	F	S	F	58.5	16.6	31.0
49	KELAJU	GUATEMAL	4038.8	92.3	129.6	F	TR	5	105.6	95.0	40.0
43	TURPIN 7	SOUTH AF	4011.0	120.6	132.6	F	TS	F	55.0	3.3	34.0
34	TUBARI 66	MEXICO	3927.7	92.6	131.0	F	F	F	111.3	35.0	31.0
36	NAPO 63	COLOMBIA	3849.9	88.0	126.3	F	HS	F	110.6	53.3	35.5
46	TRIPLE DIRK	AUSTRALI	3799.9	97.6	132.3	S	F	F	124.0	96.6	44.0
18	CRESPO 63	COLOMBIA	3711.0	91.6	131.0	F	TS	S	124.6	85.0	32.0
26	ZIPA 68	COLOMBIA	3699.9	102.3	133.6	TR	S	F	125.0	81.6	34.0
28	TR-236	AUSTRALI	3411.0	92.3	129.6	S	F	F	107.6	93.0	38.0
17	HUELQUEN	CHILE	3411.0	95.0	139.6	F	F	F	113.3	86.6	35.0
6	CARAZINHO	BRAZIL	3355.5	99.0	134.6	S	S	F	128.0	86.6	41.0
4	BUCK MAMANTIA.	ARGENTIN	3299.9	123.6	140.6	F	TR	7	98.3	70.0	24.0
13	NAINARI 6L	MEXICO	3299.9	98.6	134.3	S	=	F	101.3	85.0	36.0
27	TIMGALEN	AUSTRALI	3144.4	102.3	126.0	HS	F	F	111.6	58.3	34.0
42	ZAMBEZI	RHODESIA	3111.0	91.3	130.0	S	=	F	90.0	13.3	23.0
21	KENYA LEOPARD	KENYA	3033.8	103.3	134.0	F	TR	5	92.0	86.6	37.0
29	PALMIRA I	COLOMBIA	3061.0	93.0	130.3	F	S	F	135.8	90.0	35.0
3	CRIM	U.S.A.	2999.9	102.0	133.6	TR	TR	F	109.8	86.6	41.0

10	KLEIN KENDIDJA	ARGENTIN	2949.9	110.0	135.0	F	F	S	133.8	95.0	33.0
35	GABUTJ	ARGENTIN	2927.7	105.3	134.0	F	F	F	127.0	93.3	32.0
37	C-366	INDIA	2911.0	96.6	134.3	S	S	F	131.3	98.3	46.0
39	4265 - HD.3 (M) X K-Y) X (WIS - SUP) (F6)	KENIA	2844.4	102.6	136.3	F	F	15	135.3	95.0	37.0
32	CHRIS	U.S.A.	2827.7	107.0	134.0	F	TS	F	124.0	93.3	33.5
16	BONZA 55	COLOMBIA	2694.4	98.6	132.3	S	S	S	119.8	93.3	36.0
8	DIAMONTES	ARGENTIN	2616.6	102.6	133.6	TS	S	S	121.6	86.6	38.0
14	GIZA 155	EGYPT	2333.3	93.6	131.3	HS	F	2	95.0	93.0	31.0
5	SELKIRK	CANADA	2133.3	120.0	141.0	F	S	F	124.0	51.6	32.0
2	MANITOU	CANADA	1993.3	124.0	146.0	F	TS	10	101.3	90.0	21.0
48	KLOKA WM 1353	GERMANY	1749.9	103.0	137.3	S	S	F	134.3	73.0	34.0
12	GABO	AUSTRALI	1544.4	96.0	133.0	HS	F	S	135.6	88.3	38.0
9	THATCHER	U.S.A.	727.7	123.3	144.6	S	HS	F	95.0	86.6	25.0
		GRAND MEAN	3871.0	98.6	131.9				133.4	59.7	34.9
	STANDARD ERROR OF GRAND MEAN		42.5	0.5	0.6				1.8	1.6	
	COEFFICIENT OF VARIATION		13.4	6.3	6.3				21.9	34.0	
	LSD VARIETY MEANS 5 PC		851.8	10.2	13.5				37.1	33.2	

CORRELATIONS

YIELD	KG/HA								
DAYS TO	FLOWER	-0.55**							
DAYS TO	MATURITY	-0.45**	0.63**						
STRIPE	RUST	0.00	0.00	0.00					
LEAF	RUST	0.00	0.00	0.00	0.00				
STEM	RUST	0.00	0.00	0.00	0.00	0.00			
HEIGHT	CM.	-0.34*	-0.02	0.15	0.00	0.00	0.00		
LODGING		-0.65**	0.20	0.24	0.00	0.00	0.00	0.66	
1000 GRN	WGT GRMS	0.37**	-0.46**	-0.17	0.00	0.00	0.00	0.23	0.02

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 32

ASIA INDIA 4. P.
POWARKHEDA,WHEAT RESEARCH STATION.
LATITUDE 022°46'N LONGITUDE 077°45'E ELEVATION +00302 METERS ABOVE SEA LEVEL
COOPERATORS WHEAT SPECIALIST.
DATE PLANTED 11/19/69 DATE HARVESTED 04/ /70
NUMBER OF IRRIGATIONS 004 RAIN TIMES AMOUNT OF MOISTURE +149 MM
NITROGEN 120.0 KG/HA PHOSPHORUS 050.0 KG/HA POTASSIUM 040.0 KG/HA

HD 1467 (HY65) WAS THE LOCAL VARIETY. NO WEED OR PEST PROBLEMS. RUST DEVELOPMENT CONSIDERED GOOD. THE CLIMATIC CONDITIONS WERE GOOD FOR CROP GROWTH.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	DAYS TO MATURITY	LEAF RUST	STEM RUST	HEIGHT CM.	1000 GRN WGT GRMS
42	ZAMBEZI	RHODESIA	3951.0	65.3	99.3	5S	R-MS	82.0	31.6
13	NAINARI 60	MEXICO	3738.8	73.3	110.0	5S	R-MS	109.3	39.7
18	CRESPO 63	COLOMBIA	3649.9	65.0	100.0	5S	5MS	104.6	35.0
15	SIETE CERROS	MEXICO	3516.6	68.0	99.6	25S	R-MS	91.3	32.9
50	LOCAL CHECK		3505.5	72.6	111.0	20S	20MR	115.6	39.1
1	SUN 64 X K1. RENDIDOR	ARGENTIN	3433.8	64.6	96.6	TRMR	TMR	77.6	38.4
47	SONALIKA	INDIA	3477.7	59.3	87.6	5S	20MR	86.3	52.8
17	HUELQUEN	CHILE	3444.4	66.3	99.0	10S	5S	103.3	39.9
49	KELAJU	GUATEMAL	3377.7	69.6	96.6	10S	20MR	102.3	37.7
x45	CIANO "S"	MEXICO	3288.8	62.0	96.3	5S	=	80.0	27.2
21	KENYA LEOPARD	KENYA	3238.8	88.3	119.	20S	F	111.3	39.1
x25	LR X P41603 (E) TI	PAKISTAN	3277.7	71.0	100.6	5S	R-MR	80.3	34.9
28	TR-236	AUSTRALI	3277.7	67.6	97.0	5R	5R	98.0	40.3
x23	C-271 X T X SUN 64 (E)	PAKISTAN	3216.6	74.0	104.6	5R	R-MS	97.6	38.5
x22	(TZPP-SON64XLR64A-TZPP-ANBE) (B)	MEXICO	3215.6	66.3	96.0	5S	=	77.6	34.7
33	INIA 66	MEXICO	3188.8	64.0	92.0	5S	0	91.0	43.6
x30	(LRKN 108 X ANB E	AUSTRALI	3156.6	73.6	107.0	10S	R-MS	77.5	30.4
20	LERMA ROJO 64A	MEXICO	3155.6	66.0	97.0	5S	5MR	97.6	39.4
44	PATO ARGENTINO	ARGENTIN	3144.4	66.0	101.0	5S	5R	79.0	29.3
x29	PALMIRA I	COLOMBIA	3138.8	67.3	94.6	10S	F	108.3	41.0
14	GIZA 155	EGYPT	3111.0	67.6	106.0	10S	5R	104.0	33.3
37	C-306	INDIA	3088.8	75.0	108.0	20S	40S	125.6	37.6
x38	36896-CJ 54^2 X YT 54A (H)	SUDAN	3077.7	65.6	103.6	5S	R-MS	103.3	29.5
x40	SUN 64 X TZPP-VAI 60 (B)	ARGENTIN	3038.8	69.0	103.0	10R	5MR	80.3	33.8
46	TRIPLE DIRK	AUSTRALI	3011.0	68.3	100.3	10S	MR-S	120.6	46.3
41	LUNDI	RHODESIA	2951.0	65.3	95.0	5S	5MR	65.3	36.0
6	CARAZINHO	BRAZIL	2927.7	78.3	110.3	10S	R-MS	119.6	41.4
26	ZIPA 68	COLOMBIA	2855.5	42.0	105.0	25S	MR-S	109.0	37.8

31	PENJAMO 62	MEXICO	2855.5	68.3	99.3	5S	5R	84.6	38.9
34	TOBARI 66	MEXICO	2855.5	65.6	97.0	F	=	86.6	34.9
16	BONZA 55	COLOMBIA	2844.4	72.6	102.3	25S	5R-S	119.0	34.4
27	TINGA-EN	AUSTRALI	2833.3	72.6	105.3	F	=	88.3	34.1
7	VICTOR I	ITALY	2811.0	80.3	113.3	20S	R-MS	78.0	27.1
32	CHRIS	U.S.A.	2733.3	71.3	103.6	F	5R	126.0	31.9
12	GABO	AUSTRALI	2644.4	71.0	101.3	20S	20MR	103.3	23.4
3	CRIM	U.S.A.	2588.8	88.6	117.6	5S	R-MS	112.6	35.1
19	SONORA 64	MEXICO	2555.5	50.3	88.6	20S	0	69.0	37.0
39	4265 - HD.3 (40 X K-Y) X (WIS - SUP) (F6)	KENIA	2477.7	70.3	113.6	10R	5MR	114.3	30.9
43	TURPIN 7	SOUTH AF	2469.9	86.6	113.0	5S	MS-S	59.3	32.1
36	NAPO 63	COLOMBIA	2455.5	62.0	91.6	5S	5R	103.0	35.1
35	GABUTO	ARGENTIN	2394.4	70.3	110.3	F	5MR	115.3	33.1
11	PITIC 62	MEXICO	2372.1	70.0	105.0	25S	10MR	85.5	32.1
24	SON 64 X C-271	PAKISTAN	2055.5	68.0	104.0	25S	5S	78.0	39.3
8	PIAMONTES	ARGENTIN	1977.7	82.3	109.6	25S	MR-S	111.0	34.5
4	BUCK MANANTIAL	ARGENTIN	1494.4	94.0	128.6	10S	25S	101.0	26.1
48	SLOKA WM 1353	GERMANY	1344.4	76.3	113.0	10S	S-MS	97.0	23.4
2	MANITOU	CANADA	1138.8	90.0	129.6	5S	5S	112.0	15.7
9	THATCHER	U.S.A.	1044.4	101.0	130.6	40S	5S	116.3	26.1
10	KLEIN RENDIDOR	ARGENTIN	977.7	106.3	130.6	25S	5MR	93.6	29.0
5	SELKIRK	CANADA	966.6	94.3	125.0	10S	25S	109.3	23.9
	GRAND MEAN		2791.9	73.1	105.3	11.6	9.3	97.2	34.4
	STANDARD ERROR OF GRAND MEAN		36.8	0.4	0.3	0.0	0.1	0.4	0.5
	COEFFICIENT OF VARIATION		16.1	6.9	3.6	7.2	17.3	5.3	18.0
	LSD VARIETY MEANS 5 PC		737.1	8.3	6.2	1.3	2.6	8.5	10.1

CORRELATIONS

YIELD	KG/HA						
DAYS TO	FLOWER	-0.68**					
DAYS TO	MATURITY	-0.70**	0.88**				
LEAF	RUST	-0.33*	0.23	0.32*			
STEM	RUST	-0.22	0.30*	0.32*	0.17		
HEIGHT	CM.	-0.15	0.24	0.36**	0.18	0.10	
1000 GRN	WGT GRMS	0.59**	-0.51**	-0.58**	-0.11	-0.15	0.01

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 41

ASIA JAPAN
HOKKAIDO,PREFECTURAL KITAMI AGRI. EXP. STATION.
LATITUDE 043°47'N LONGITUDE 143°12'E ELEVATION +00196 METERS ABOVE SEA LEVEL
COOPERATORS S.OZEKI,S.OKABE AND WHEAT STAFF.
DATE PLANTED 05/04/70 DATE HARVESTED 08/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0208 MM
NITROGEN 036.0 KG/HA PHOSPHORUS 025.4 KG/HA POTASSIUM 024.9 KG/HA

LOCAL VARIETY NOT IDENTIFIED. BLACK WHEAT LEAF MINER CONTROLLED WITH EPN AND CAUSED NO DAMAGE. MILDEW SPRAYED 3 TIMES BUT MAY HAVE CAUSED DAMAGE. LATE SNOW MELT DELAYED PLANTING BUT LATER SEASON WAS FAVORABLE FOR CROP.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.	1000 GRN WGT GRMS
19	SONORA 64	MEXICO	3398.5	75.3	62.3	90.3	84.0	31.0
29	PALMIRA I	COLOMBIA	3332.9	73.7	52.3	87.0	103.6	38.4
48	KLOKA WM 1353	GERMANY	3121.9	76.2	60.0	97.0	105.3	31.2
11	PITIC 62	MEXICO	3099.6	68.1	59.6	95.3	102.0	28.3
49	KELAJU	GUATEMAL	3055.2	76.8	57.6	94.0	104.3	33.3
18	CRESPO 63	COLOMBIA	3021.9	76.5	55.3	97.0	104.6	33.8
33	INIA 66	MEXICO	3010.8	78.0	52.0	88.6	85.6	35.7
45	GIANJ "S"	MEXICO	3010.8	74.7	52.0	88.0	85.3	30.5
17	HUELQUEN	CHILE	2921.9	73.7	58.3	89.0	108.6	30.2
20	LERMA ROJO 64A	MEXICO	2888.5	77.3	54.6	88.6	97.3	32.0
14	GIZA 155	EGYPT	2856.3	75.0	55.0	97.6	101.3	39.9
1	SUN 54 X KL. RENDIDOR	ARGENTIN	2833.0	75.6	54.0	90.6	92.0	33.2
26	ZIPA 58	COLOMBIA	2833.0	74.1	57.3	92.3	104.0	34.3
15	SIETE CERROS	MEXICO	2821.9	73.7	59.6	96.3	90.3	28.6
5	SELKIRK	CANADA	2738.6	75.0	60.0	91.0	112.0	34.2
9	THATCHER	U.S.A.	2744.1	76.0	58.3	92.3	109.0	28.3
4	BUCK MANANTIAL	ARGENTIN	2744.1	77.0	57.0	97.6	99.6	30.4
40	SUN 54 X TZPP-NAI 60 (B)	ARGENTIN	2744.1	73.5	53.0	90.6	95.6	33.3
6	CARAZINHO	BRAZIL	2733.0	75.5	62.0	98.0	126.3	34.1
36	NAPU 53	COLOMBIA	2733.0	72.3	52.0	91.0	104.0	29.1
30	(LRAN 108)X AN3 E	AUSTRALI	2733.0	75.8	59.3	100.6	78.6	28.1
3	CRIM	U.S.A.	2721.9	75.2	57.6	91.3	118.0	31.2
34	TUBARI 65	MEXICO	2655.2	74.7	56.0	94.6	92.0	27.5
41	LONDI	RHODESIA	2633.0	73.0	55.6	91.0	74.6	29.8
44	PATO ARGENTINO	ARGENTIN	2633.0	76.0	55.6	97.0	94.6	26.8
13	NAINARI 60	MEXICO	2610.8	72.3	59.0	94.6	103.0	34.7
27	TIMGALEN	AUSTRALI	2588.6	73.3	59.0	94.0	89.0	30.6
38	36896-C1 542 X YT 54A (H)	SUDAN	2577.5	71.3	56.3	96.3	100.3	35.1

31	PENJAMJ 62	MEXICO	2577.5	75.6	56.3	95.0	92.6	33.5
46	TRIPLE DIRK	AUSTRALI	2544.1	74.5	58.6	94.3	114.6	42.5
8	PIAMJNTES	ARGENTIN	2521.9	77.5	61.0	94.6	111.0	31.5
23	C-271XWT X SJN 54 (E)	PAKISTAN	2521.9	76.3	52.0	91.3	82.0	34.3
25	LR X P416C3 (E) TI	PAKISTAN	2499.7	75.1	57.0	89.3	77.3	33.1
32	CARIS	U.S.A.	2499.7	76.7	59.0	94.0	116.0	27.8
12	GABU	AUSTRALI	2456.4	70.5	56.3	95.6	95.6	32.7
7	VICTOR I	ITALY	2456.4	71.5	64.6	96.0	92.0	30.0
47	SUNALIKA	INDIA	2455.3	75.0	52.3	91.3	91.0	40.5
37	C-306	INDIA	2355.3	77.2	56.6	95.6	111.0	37.8
21	KENYA LEOPARD	KENYA	2299.7	75.5	56.3	99.6	122.0	34.3
24	SUN 64 X C-271	PAKISTAN	2255.3	71.0	54.0	94.0	75.3	30.3
39	4255 - HD.3 (MD X K-Y) X (WIS - SUP) (F6)	KENIA	2156.4	74.0	62.0	99.0	117.0	33.0
2	MANITOU	CANADA	2144.2	75.2	57.6	88.6	101.6	26.9
50	LOCAL CHECK		2122.0	75.5	57.0	92.6	116.6	29.4
28	TK-236	AUSTRALI	2038.6	72.5	55.3	86.0	97.6	32.4
16	BONZA 55	COLOMBIA	2077.5	70.0	60.6	96.3	122.6	30.2
43	TURPIN 7	SOUTH AF	2066.4	70.5	56.0	92.6	61.3	35.6
22	(TZPP-SUN64XLR64A-TZPP-ANBE) (B)	MEXICO	2033.1	76.8	53.0	92.3	80.3	31.3
42	ZAMBEZI	RHODESIA	1899.8	70.7	56.3	94.3	82.0	27.9
35	GABOID	ARGENTIN	1877.5	74.6	67.0	97.3	125.3	26.0
10	KLEIN RENDIDOR	ARGENTIN	444.3	0.0	79.6	0.0	106.0	27.5
	GRAND MEAN		2564.6	72.9	58.0	91.6	98.5	32.1
	STANDARD ERROR OF GRAND MEAN		30.8		0.3	0.2	0.3	0.1
	COEFFICIENT OF VARIATION		14.7		5.6	2.7	4.0	5.5
	LSD VARIETY MEANS 5 PC		616.9		6.3	4.0	6.4	2.9

CORRELATIONS

YIELD	KG/HA					
TEST	WEIGHT	0.67**				
DAYS TO	FLOWER	-0.55**	-0.66**			
DAYS TO	MATURITY	0.59**	0.94**	-0.52**		
HEIGHT	CM.	-0.05	-0.03	0.33*	-0.00	
1000 GRN	WGT GRMS	0.24	0.19	-0.32*	0.15	0.05

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 4

AFRICA ETHIOPIA
DEBRE ZEIT, AGRICULTURAL EXPERIMENT STATION.
LATITUDE 008°55'N LONGITUDE 038°58'E ELEVATION +01860 METERS ABOVE SEA LEVEL
COOPERATORS Z.DOMER,S.BERBE,W.M.TAYE.
DATE PLANTED 07/14/70 DATE HARVESTED 12/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0631 MM
NITROGEN 060.0 KG/HA PHOSPHORUS 050.0 KG/HA POTASSIUM 000.0 KG/HA

LOCAL CHECK NOT SPECIFIED. HEAVY RAINS DURING BEGINNING OF EXPERIMENT.
DISEASE DEVELOPMENT WAS NORMAL AND NO INSECT,WEED OR BIRD PROBLEMS WERE
REPORTED. STRIPE AND LEAF RUST NOTES OCT.8,1970 AND STEM RUST OCT.26.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	STRIPE RUST	HEIGHT CM.
47	SUNALIKA	INDIA	4096.6	76.3	50.0	106.6	0	96.6
36	NAPO 63	COLOMBIA	3995.0	72.5	48.6	105.0	0	106.6
33	INIA 56	MEXICO	3898.3	76.3	53.0	111.3	0	101.6
17	HUELQUEN	CHILE	3860.0	74.6	55.0	106.6	0	108.3
31	PENJAMO 62	MEXICO	3850.0	69.9	58.3	112.6	5R	95.6
1	SUN 64 X KL. RENDIDOR	ARGENTIN	3721.6	72.5	54.0	105.0	5MR	90.0
19	SONORA 64	MEXICO	3718.3	72.0	50.6	105.0	TRR	85.0
15	SIETE CERROS	MEXICO	3393.3	69.9	57.3	111.0	0	85.0
20	LERMA ROJO 64A	MEXICO	3233.3	76.3	54.0	108.0	5R	100.0
45	GIANT "S"	MEXICO	3215.0	70.3	52.0	108.0	TRR	88.3
46	TRIPLE DIRK	AUSTRALI	3141.6	64.4	65.0	120.0	TRR	140.0
34	TOBARI 66	MEXICO	3126.6	73.7	54.0	109.6	0	85.0
29	PALMIRA I	COLOMBIA	3110.0	66.1	55.0	108.0	15MS	121.6
23	C-271XWT X SUN 64 (E)	PAKISTAN	3081.6	68.6	56.3	116.0	5R	95.0
24	SUN 64 X C-271	PAKISTAN	3000.0	68.6	56.0	112.6	5R	80.0
22	(TZPP-SUN64)(LK64A-TZPP-AN3E) (B)	MEXICO	2983.3	75.0	51.3	108.0	5MR	75.0
25	LK X P4160B3 (E) T1	PAKISTAN	2950.0	72.5	62.3	113.0	5R	78.3
41	LONDI	RHODESIA	2838.3	69.9	54.0	109.6	0	81.6
26	ZIPA 68	COLOMBIA	2825.0	70.8	58.6	110.0	5R	116.6
42	ZAMBEZI	RHODESIA	2798.3	71.6	53.0	109.6	0	78.3
18	CHESPO 63	COLOMBIA	2783.3	69.1	60.6	116.0	10MR	126.6
30	(LRKN 10B)X AN3 E	AUSTRALI	2700.0	72.9	64.0	120.0	15MS	78.3
12	GABO	AUSTRALI	2690.0	60.6	65.6	114.6	5MR	118.3
38	36896-CJ 54C X YT 54A (H)	SUDAN	2535.0	69.1	52.0	122.3	5MR	95.0
48	KLOKA WM 1353	GERMANY	2503.3	65.2	64.0	120.0	5MR	116.6
40	SUN 64 X TZPP-VAI 60 (B)	ARGENTIN	2495.0	63.1	58.6	122.3	0	83.3
14	GIZA 155	EGYPT	2431.6	70.3	59.3	118.0	0	128.3
11	PITIC 62	MEXICO	2321.6	56.8	60.0	120.0	35S	98.3

13	NAINARI 60	MEXICO	2280.0	64.8	70.6	122.3	5R	113.3
44	PATU ARGENTINO	ARGENTIN	2243.3	71.2	53.0	105.0	TRR	78.3
28	TR-236	AUSTRALI	2225.0	68.6	60.0	113.0	0	115.0
49	KELAJU	GUATEMAL	2146.6	72.0	55.3	122.3	5MR	123.3
27	TIMGALEN	AUSTRALI	2048.3	69.9	67.3	116.0	TRR	93.3
32	CHRIS	U.S.A.	2043.3	72.0	63.0	120.0	5MR	133.3
50	LOCAL CHECK		1953.3	68.2	58.0	124.6	5R	123.3
3	CRIM	U.S.A.	1941.6	22.4	70.0	122.3	0	131.6
6	CARACINHO	BRAZIL	1930.0	68.6	69.6	122.3	10MS	118.3
16	BONZA 55	COLOMBIA	1853.3	59.7	70.0	124.6	10MR	125.6
43	TURPIN 7	SOUTH AF	1710.0	18.2	73.6	120.0	0	60.0
39	4265 - HD.3 (HD X K-Y) X (WIS - SUP) (F6)	KENIA	1660.0	21.1	68.0	122.3	0	126.6
5	SELKIRK	CANADA	1596.6	20.7	79.6	127.0	0	115.0
21	KENYA LEOPARD	KENYA	1501.6	25.0	78.3	127.0	0	110.0
37	C-366	INDIA	1455.0	22.8	67.0	127.0	5R	123.3
4	BUCK MANANTIAL	ARGENTIN	1418.3	20.3	72.0	127.0	5R	113.3
7	VICTOR I	ITALY	1411.6	20.3	77.0	124.6	35MS	81.6
8	PIAMONTES	ARGENTIN	1240.0	21.1	72.0	122.3	35MS	120.0
9	THATCHER	U.S.A.	1215.0	21.1	81.0	124.6	35MS	121.6
2	MANITOU	CANADA	1215.0	20.7	79.6	124.6	10MS	120.0
35	GABOTO	ARGENTIN	1006.6	23.3	79.6	124.6	5R	113.3
10	KLEIN RENDIDOR	ARGENTIN	0.0	0.0	0.0	0.0	0	0.0
	GRAND MEAN		2468.8	56.6	61.5	114.2	3.8	102.3
	STANDARD ERROR OF GRAND MEAN		27.1	1.5	0.1	0.3		0.4
	COEFFICIENT OF VARIATION		13.4	32.5	2.7	3.3		5.2
	LSD VARIETY MEANS 5 PC		543.0	30.0	2.7	6.1		8.7

CORRELATIONS

YIELD	KG/HA					
TEST	WEIGHT	0.81**				
DAYS TO	FLOWER	-0.27*	-0.27*			
DAYS TO	MATURITY	0.05	0.07	0.88**		
STRIPE	RUST	-0.29*	-0.28*	0.27*	0.17	
HEIGHT	CM.	-0.00	0.04	0.64**	0.70**	0.08

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION :

AFRICA KENYA
NJORO PLANT BREEDING STATION.
LATITUDE 00 18'S LONGITUDE 035 55'E ELEVATION 2032164 METERS ABOVE SEA LEVEL
COOPERATORS W.W.PATEL.
DATE PLANTED 06/05/73 DATE HARVESTED 11/ /73
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 3365 MM
NITROGEN 121.0 KG/HA PHOSPHORUS 027.7 KG/HA POTASSIUM 000.0 KG/HA

LOCAL CHECK NOT SPECIFIED. CLIMATIC CONDITIONS WERE FAIR. FEW DRY TIMES IN JUNE. AFTERWARD THERE WERE MORE RAINY DAYS. RUST DEVELOPMENT WAS NORMAL AND SEPTORIA LEVEL WAS HIGHER THAN USUAL. WEED WERE CONTROLLED BY HAND. KLEIN WENDIDDR GREW AS A SEMI-WINTER TYPE AND DID NOT HEAD.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	DAYS TO MATURITY	STRIPE RUST	LEAF RUST	STEM RUST	HEIGHT CM.	LODGING	1000 GRN WGT GRMS	SEPTORIA SPP.
33	INIA 66	MEXICO	3138.5	61.3	135.3	40S	5MR	40MS	93.3	3.0	30.9	7.3
34	TUBARI 66	MEXICO	2727.5	68.0	116.6	5MS	10MR	10S,30MS	89.0	3.0	27.2	11.0
26	ZIPA 68	COLOMBIA	2416.4	70.3	116.6	0	30MS-S	30MS-S	139.0	3.0	27.2	29.5
50	LOCAL CHECK		2333.3	69.0	112.3	5MS	MS-S	15MR-MS	113.0	13.0	25.6	14.7
15	SIBIL CERKUS	MEXICO	2299.7	69.0	117.0	15S	60S	20S	85.0	3.0	20.8	22.1
25	LR X P41613 (E) T1	PAKISTAN	2271.9	69.3	111.6	2MS	20MR	40MS-S	93.3	3.0	22.8	25.8
47	SONALIKA	INDIA	2235.3	69.6	133.6	30MS	2MR	40S	93.6	3.3	27.7	7.3
39	4265 - HD.3 (MD X K-V) X (WIS - SUP) (F1)	KENIA	2194.2	76.0	131.3	TMS	5MS	5S	118.0	43.3	30.0	7.3
14	GIZA 155	EGYPT	2133.1	77.3	127.0	TMS	60S	10S	115.0	13.0	31.3	18.4
13	NAINARI 6.	MEXICO	2072.0	75.3	118.6	40S	15S	50S	117.0	3.3	23.8	3.6
41	LONDI	RHODESIA	2050.9	62.3	137.6	2MS	40MS-S	30MS-S	74.6	3.0	23.3	11.0
21	KENYA LEOPARD	KENYA	2035.3	90.0	142.6	TMR	60S	2S	116.0	53.3	32.8	7.3
1	SUN 64 X K1. WENDIDOR	ARGENTIN	1853.9	62.0	136.6	10MS	2MR	MS-S	35.3	3.0	21.3	3.0
36	NAPU 63	COLOMBIA	1777.5	60.6	113.6	2MS	50MS-S	20MS	132.3	13.0	24.1	25.8
3	CNIM	U.S.A.	1716.4	74.6	122.6	15MS	20S	MS-S	128.3	33.3	26.6	14.7
43	TORPIN 7	SOUTH AF	1633.1	74.6	116.6	40S	5MR	60S	53.6	3.0	18.7	14.7
27	TIMBALEN	AUSTRALI	1627.6	78.0	126.3	15S	50S	20S	96.6	23.3	26.8	7.3
45	CIANO '5	MEXICO	1538.7	60.0	137.3	30S	15S	20S	85.0	3.3	22.5	22.1
40	SUN 64 X TZPP-VAI 60 (B)	ARGENTIN	1499.8	62.0	137.3	10S	TMS	40MS	81.6	3.0	19.7	3.6
16	BONGA 55	COLOMBIA	1455.4	76.6	129.6	2MS	30S	MS-S	124.0	33.0	22.1	33.2
5	SELKIRK	CANADA	1353.9	86.6	136.0	10S	60S	MS-S	121.0	23.0	18.2	5.5
23	C-271XWT X SUN 64 (E)	PAKISTAN	1322.0	70.6	139.6	2MS	15MR-MS	70S	92.0	13.0	14.9	14.7
37	C-366	INDIA	1133.2	77.0	134.0	5S	70S	20S	117.3	36.6	27.5	18.4
17	MUELJEN	CHILE	1096.5	67.0	137.6	10MS	5MR	30S	135.6	23.0	15.9	44.3
19	SONORA 64	MEXICO	933.2	59.6	133.0	40S	TMS	60S	81.0	3.0	15.2	3.6
31	PENJAMO 62	MEXICO	838.7	67.0	134.6	2MS	20MS	50MS-S	89.6	23.0	11.5	7.3
24	SUN 64 X C-271	PAKISTAN	833.2	64.6	117.3	2S	80MS-S	40MS	74.3	3.3	16.2	3.6
44	PATO ARGENTINO	ARGENTIN	834.8	63.0	139.0	5MS	15S	70S	80.6	6.6	12.7	11.0
22	(TZPP-SUN64)X(4604A-TZPP-4N3E) (B)	MEXICO	755.4	61.3	136.3	TMS	5MS	70S	92.8	3.3	10.3	14.7
42	ZAMBEZI	RHODESIA	744.3	62.3	117.6	70S	10MR-MS	50S	79.0	3.0	13.6	11.0
12	GABO	AUSTRALI	651.2	70.0	137.6	40S	30S	MS-S	99.6	13.3	15.2	3.6
28	TM-236	AUSTRALI	622.1	65.6	135.6	20S	40S	30S	132.8	13.3	14.9	22.1
30	(LRKN 168)X AN3 E	AUSTRALI	619.9	71.6	137.6	5S	2MS	90S	76.6	3.0	9.2	18.4
32	LRKIS	U.S.A.	555.4	71.3	114.6	2MS	10MR	70S	131.3	23.0	10.9	33.2
46	TRIPLE DIRK	AUSTRALI	511.0	70.3	112.3	80S	15MS	50S	113.3	23.3	14.6	14.7
20	LERMA ROJO 64A	MEXICO	339.9	68.0	132.6	20S	10MR	50MS	95.0	16.6	10.9	22.1
48	SLOKA NM 1353	GERMANY	334.4	74.0	114.0	TMS	60S	50S	33.3	13.0	9.3	18.4
35	GABUTO	ARGENTIN	333.2	78.6	124.6	10S	5MR	60S	129.0	26.6	8.1	7.3
18	CRESPO 63	COLOMBIA	333.2	60.6	136.0	0	5MS	MS-S	119.8	23.3	8.9	22.1
49	KELAJU	GUATEMAL	134.4	73.3	137.3	2MS	50S	70S	137.9	23.0	7.3	18.4

6	CARAZINHO	BRAZIL	188.8	80.3	115.0	40S	10MS	8MS	132.8	33.3	7.8	14.7
4	BUCK MANANTIAL	ARGENTIN	144.4	82.0	122.0	5MS	20S	40MS	130.5	3.3	7.7	33.2
38	30896-CJ 542 X YT 54A (M)	SUDAN	138.8	61.6	132.6	30S	40S	60S	99.0	13.3	8.0	7.3
11	PITIC 62	MEXICO	127.7	71.6	105.0	2MS	60S	90S	85.3	26.6	6.2	11.0
29	PALMIRA I	COLOMBIA	94.4	65.6	131.3	5MS	60S	90S	136.3	36.6	6.2	22.1
7	VICTOR I	ITALY	83.3	88.6	114.3	5S	60S	MS-S	73.8	3.0	6.1	11.0
8	PIAMJATES	ARGENTIN	77.7	80.0	114.0	2MS	20S	90S	116.8	13.3	7.4	18.4
2	MANITOU	CANADA	44.4	87.3	111.0	5MS	20MR	60S	115.9	23.3	4.7	14.7
9	THATCHER	U.S.A.	33.3	93.6	114.0	TMS	80S	70S	104.8	13.3	4.7	7.3
10	KLEIN REYNIDOR	ARGENTIN	3.3	118.3	3.0	20S	10MR	40S	99.0	13.3	0.0	3.0
		GRAND MEAN	1129.3	72.1	111.3	13.6	21.6	44.5	99.4	13.7	16.6	14.9
	STANDARD ERROR OF GRAND MEAN		18.0	0.1	3.2	0.5	0.7	0.6	3.2	3.6	0.2	3.8
	COEFFICIENT OF VARIATION		19.6	1.7	2.3	54.1	44.7	16.7	3.5	54.2	16.8	65.7
	LSD VARIETY MEANS 5 PC		261.4	2.1	4.2	12.0	15.8	12.1	5.6	12.2	4.5	16.0

CORRELATIONS

YIELD	KG/HA										
DAYS TO	FLOWER	-0.33*									
DAYS TO	MATURITY	0.29*	-0.27*								
STRIPE	RUST	-0.13	-0.10	-0.15							
LEAF	RUST	-0.35	0.11	0.26	-0.39**						
STEM	RUST	-0.69**	0.02	-0.24	0.05	-0.15					
HEIGHT	CM.	-0.37	0.30*	0.33*	-0.05	0.03	-0.11				
LODGING		-0.19	0.34*	0.26	-0.12	0.26	-0.11	0.86			
1000 GRN WGT	GRMS	0.92**	-0.32*	0.45**	-0.06	0.07	-0.77**	0.08	0.03		
SEPTORIA	SPP.	-0.35	-0.14	0.19	-0.25	-0.02	0.02	0.26	0.35	-0.33	

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

SERIES KENYA
MOLO, SEEDKWA FARM.
LATITUDE 00 15'N LONGITUDE 034 47'E ELEVATION 1320.5 METERS ABOVE SEA LEVEL
COOPERATORS V.P.PATEL.
DATE PLANTED 07/22/79 DATE HARVESTED 01/ /81
NUMBER OF IRRIGATIONS 5 RAIN TIMES AMOUNT OF MOISTURE 3600 MM
NITROGEN 221.0 KG/HA PHOSPHORUS 227.7 KG/HA POTASSIUM 092.0 KG/HA

LOCAL CHECK NOT SPECIFIED. CLIMATIC CONDITIONS WERE GOOD THROUGHOUT THE SEASON. ALL LEVELS OF DISEASE DEVELOPMENT WERE NORMAL EXCEPT SEPTORIA WAS SLIGHTLY MORE INTENSE THAN USUAL. WEEDS WERE CONTROLLED BY HAND.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	STRIPE RUST	STRIPE HEAD	STEM RUST	HEIGHT CM.	LODGING	1000 GRN WGT GRMS	SEPTORIA SPP.	SEPT. SNEAF	SEPT. EAR
125	LR A P41603 (E) T1	PAKISTAN	4755.1	80.5	82.3	144.6	70S	1	37.3	93.3	16.6	39.1	13.3	23.3	20.0
34	TOBARI 66	MEXICO	4713.6	81.1	85.0	151.0	40MS	5	38.8	89.6	23.3	37.5	10.0	10.0	10.0
36	NAPO 63	COLOMBIA	3616.3	77.3	93.6	145.3	30MS	0	1.3	135.6	33.3	33.1	16.6	23.3	33.3
44	PATO ARGENTINO	ARGENTIN	3535.2	79.2	91.0	155.3	40MS	0	56.6	91.3	6.6	27.1	13.3	13.3	10.0
17	HUELQUEN	CHILE	3298.5	80.5	92.0	150.0	30MS	0	13.3	113.3	46.6	34.6	20.0	23.3	33.3
21	KENYA LEDERU	KENYA	3255.3	79.5	133.3	161.6	50MS	5	9.9	123.3	66.6	36.2	13.3	26.6	16.6
39	4685 - MO.3 (MO X K-Y) X (WES - SUP) (F1)	KENIA	3171.8	79.0	99.3	166.3	20MS	0	19.3	112.0	43.3	38.7	10.0	13.3	10.6
16	SUNZA 55	COLOMBIA	3133.3	77.9	93.0	158.3	50MS	2	23.8	122.6	40.6	36.2	10.0	16.6	16.6
26	TIPA 68	COLOMBIA	2977.4	79.3	95.3	161.6	70S	1	16.6	131.0	6.6	34.7	16.6	23.3	33.3
47	SUNMAIKA	INDIA	2971.0	73.4	95.6	145.3	70S	5	9.0	97.6	26.6	41.7	23.0	23.3	26.6
22	(TZPP-SUN59X(K694-TZPP-4V3L) (B)	MEXICO	2944.1	77.9	93.3	143.3	30MS	2	56.5	98.0	20.0	37.7	10.0	13.3	13.0
13	NAINARI 66	MEXICO	2935.2	74.0	95.6	151.0	50S	25	33.3	116.0	33.3	36.4	13.0	13.3	10.0
18	GNESPO 63	COLOMBIA	2853.8	73.5	93.6	147.3	10MS	2	63.9	121.0	50.0	26.4	13.3	23.3	20.0
40	SUN 64 X TZPP-4X1 SU (B)	ARGENTIN	2844.1	79.6	94.6	156.0	70S	25	44.9	94.6	13.3	38.0	7.3	13.3	7.3
33	INIA 56	MEXICO	2844.1	80.5	78.3	146.0	70S	0	23.6	91.6	33.3	39.1	13.3	20.0	26.6
53	LUCA CHELA		2433.7	77.0	91.6	159.3	50S	10	19.0	111.6	30.0	35.6	10.0	16.6	16.6
35	GABOTO	ARGENTIN	2471.9	78.1	99.0	150.3	40S	5	53.3	132.3	60.6	22.8	10.0	16.6	23.3
24	SUN 64 X C-271	PAKISTAN	2433.0	72.7	94.0	141.3	40MS	30	26.0	92.3	23.3	31.7	13.3	16.6	16.6
48	ALCAA WM 1353	GERMANY	2334.2	63.5	96.3	156.3	10MS	5	57.0	135.0	6.6	21.0	10.0	13.3	16.6
45	CIANO "S"	MEXICO	2235.3	67.7	79.0	151.3	60S	50	25.0	97.6	23.3	33.7	16.6	23.3	16.6
20	LERMA ROJO 64A	MEXICO	2194.2	64.2	81.0	145.6	50S	50	23.6	132.6	33.3	25.7	23.3	33.3	30.0
6	CARAZINHO	BRAZIL	2077.5	77.6	95.6	161.0	50S	25	50.0	137.0	63.3	37.7	13.3	16.6	30.0
31	MENARO 62	MEXICO	2022.3	74.4	95.6	146.0	70S	10	53.0	99.0	30.6	27.8	10.0	13.3	13.3
8	DIAMANTES	ARGENTIN	1933.6	74.3	94.0	156.3	30MS	2	53.3	122.6	23.3	27.8	10.0	13.3	26.6
43	TURPIN 7	SOUTH AF	1838.6	63.9	92.6	152.3	60S	2	55.5	55.6	10.0	25.8	10.0	13.3	16.6
41	LUNA	RODESIA	1813.9	78.2	93.3	147.0	50S	5	33.3	71.0	10.0	31.8	13.3	13.3	16.6
23	C-271XT X SUN 54 (E)	PAKISTAN	1744.2	68.0	87.3	141.3	70S	40	33.3	91.6	26.6	27.7	13.3	20.0	20.0
7	WICIUR I	ITALY	1744.2	50.5	97.6	151.3	80S	1	75.6	70.0	0.0	18.8	10.0	16.6	13.3
49	KELAJU	GUATEMAL	1613.9	69.8	91.0	143.3	5MR	1	66.8	139.0	50.0	23.1	20.0	26.6	33.3
37	C-3.C	INDIA	1455.4	76.2	88.3	153.6	60MS	25	5.9	111.3	43.3	34.4	16.6	30.0	20.0
11	PETIL 62	MEXICO	1344.3	51.1	95.6	131.0	20MS	10	73.0	132.3	30.0	17.3	16.6	23.3	16.6
27	EMUELEN	AUSTRALI	1238.7	63.0	91.6	157.6	60S	50	33.3	133.6	0.0	25.4	10.0	16.6	20.0
15	SIETE CERROS	MEXICO	1272.3	60.1	92.3	155.0	60MS	80	61.6	23.6	13.3	25.7	16.6	20.0	16.6
29	PALMIRA 1	COLOMBIA	1235.4	57.8	94.6	142.0	40MS	15	56.6	113.3	60.6	21.7	16.6	23.3	16.6
32	CHRIS	USSR	1135.4	72.2	91.6	159.3	90S	20	33.3	112.3	30.6	26.7	13.3	20.0	13.3
4	BUCK MANANTIAL	ARGENTIN	1072.1	61.2	108.0	165.6	80S	15	65.6	136.0	20.6	27.1	10.0	13.3	26.6
38	30890-6J 54* X YT 544 (H)	SUDAN	1355.4	60.8	84.0	147.6	50S	1	50.0	94.3	30.0	24.9	10.0	13.3	13.3
30	(LAKIN 1,8)X AW3 E	AUSTRALI	916.5	64.2	95.3	148.0	60MS	1	75.6	91.6	20.0	15.3	13.3	23.3	23.3
14	GIZA 155	EGYPT	851.0	55.1	87.0	150.3	60MS	70	6.0	111.0	13.3	23.3	20.0	30.0	33.3
1	SUN 64 X KL. 4E4J13DN	ARGENTIN	844.3	62.7	92.0	153.0	50S	90	53.3	98.3	6.6	23.7	16.6	23.3	20.0
10	KLEIN PENCIDJA	ARGENTIN	735.4	37.7	139.6	177.0	60S	30	50.0	133.3	26.6	17.6	13.3	16.6	10.0
5	SELAIRA	CANADA	648.8	39.5	111.6	170.6	90S	50	6.0	93.3	0.0	22.0	13.3	13.3	16.6
12	GABU	AUSTRALI	440.3	14.1	96.6	158.3	30MS	70	15.6	34.6	6.6	18.3	23.3	30.0	23.3
19	SUNONA 66	MEXICO	344.4	0.0	77.0	153.0	70MS	70	50.0	93.6	0.0	23.1	20.0	23.3	26.6
42	ZAMBEZI	RHODESIA	277.7	0.0	90.0	157.6	30MS	80	53.3	95.0	13.3	15.7	20.0	33.3	26.6
3	CHIN	USSR	251.0	0.0	92.0	154.6	90S	70	6.6	136.0	20.0	12.8	23.3	30.0	26.6
46	TRIPLE DIRK	AUSTRALI	234.4	0.0	95.6	165.6	80S	60	60.0	134.3	13.3	14.7	20.0	36.6	30.0
2	NAVAJO	CANADA	188.8	0.0	115.6	166.3	80S	60	65.6	92.3	10.0	8.5	16.6	23.3	16.6
28	TR-236	AUSTRALI	172.2	0.0	83.6	152.0	80S	90	2.0	134.6	0.0	11.8	30.0	50.0	30.0
9	THATCHER	USSR	133.3	0.0	120.0	164.6	70S	40	53.3	98.3	0.0	17.3	13.3	16.6	20.0

GRAND MEAN		1833.5	58.5	91.2	153.7	49.2	27.2	39.1	133.5	24.5	26.5	14.6	20.8	20.4
STANDARD ERROR OF GRAND MEAN		33.0	0.6	0.1	0.2	1.1	0.7	0.7	0.3	0.8	0.2	0.4	0.5	0.5
COEFFICIENT OF VARIATION		21.5	14.0	2.4	1.0	28.0	33.0	22.1	4.5	49.3	11.1	35.8	33.4	31.4
LSD VARIETY MEANS 5 PC		651.4	13.4	3.6	4.6	22.5	14.6	14.1	7.4	16.1	4.8	8.6	11.3	10.5

CORRELATIONS

YIELD	KG/HA													
TEST	HEIGHT	0.73**												
DAYS TO	FLOWER	-0.33*	-0.29*											
DAYS TO	MATURITY	-0.33*	-0.32*	0.79**										
STRIPE	RUST	-0.45**	-0.42**	0.09	0.26									
P. STRIPE	HEAD	-0.73**	-0.76**	-0.02	0.27*	0.46**								
STEM	RUST	-0.11	0.05	0.15	-0.14	-0.07	-0.22							
HEIGHT	CM.	0.21	0.24	0.18	0.22	-0.25	-0.21	-0.12						
LODGING		0.39**	0.49**	-0.02	-0.13	-0.32*	-0.45**	-0.85	0.73**					
1000 GRN WGT	GRMS	0.83**	0.83**	-0.46**	-0.22	-0.29*	-0.52**	-0.95	0.16	0.39**				
SEPTORIA	SEP.	-0.41**	-0.35**	-0.23	-0.13	0.13	0.63**	-0.39	-0.39	-0.15	-0.37**			
SEPT.	SWEAF	-0.38**	-0.51**	-0.19	-0.07	0.09	0.55**	-0.38	0.35	-0.05	-0.36**	0.89**		
SEPT.	EAR	-0.10	-0.22	-0.09	-0.03	-0.05	0.24	-0.84	0.23	0.26	-0.17	0.63**	0.65**	

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVE.

TABLE LOCATION 9

AFRICA SUDAN
ED DAMER, HUDEIBA AGRICULTURAL RESEARCH STATION
LATITUDE 017°35'N LONGITUDE 033°27'E ELEVATION +00353 METERS ABOVE SEA LEVEL
COOPERATORS A.G.IBRAHIM IMAN
DATE PLANTED 11/20/69 DATE HARVESTED 04/ /70
NUMBER OF IRRIGATIONS 009 RAIN TIMES 00 AMOUNT OF MOISTURE MM
NITROGEN 075.0 KG/HA PHOSPHORUS 000.0 KG/HA POTASSIUM 000.0 KG/HA

LOCAL CHECK NOT SPECIFIED. CLIMATIC CONDITIONS GENERALLY COOL AND SUNNY.
NO INSECT, BIRD OR PLANT PATHOGEN PROBLEMS AND WEED CONTROLLED BY HAND.
IRRIGATION APPLIED EVERY 10 TO 15 DAYS.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.	1000 GRN WGT GRMS
30	(LREN 108)X AN3 E	AUSTRALI	3583.3	56.0	101.3	64.6	35.5
38	36896-CJ 542 X YT 54A (H)	SUDAN	3338.8	44.0	101.6	72.0	38.6
44	PATU ARGENTINO	ARGENTIN	3175.5	45.3	92.3	59.0	27.7
23	C-271AWT X SJN 54 (E)	PAKISTAN	3161.1	64.0	102.6	84.0	34.6
49	KE-AJU	GUATEMAL	3116.6	54.6	77.3	84.6	32.4
45	CIANO "S"	MEXICO	3038.8	43.0	93.0	58.0	37.7
34	TUBARI 66	MEXICO	2933.3	46.0	101.0	62.0	32.1
14	GIZA 155	EGYPT	2944.4	50.0	106.0	97.0	36.4
12	GABO	AUSTRALI	2921.1	62.3	99.3	78.6	32.0
33	INIA 66	MEXICO	2815.5	44.0	88.3	61.0	36.5
40	SUN 64 X TEPP-NAI 66 (B)	ARGENTIN	2788.8	57.3	100.6	64.3	32.2
11	PITIC 62	MEXICO	2761.1	57.0	102.3	74.0	31.3
24	SUN 64 X C-271	PAKISTAN	2748.8	52.6	104.0	53.6	39.5
25	LK X P41633 (E) TI	PAKISTAN	2672.2	57.3	103.0	65.3	32.7
18	CRESPO 63	COLOMBIA	2649.9	47.6	93.6	77.3	39.6
8	DIAMONTES	ARGENTIN	2633.3	60.3	101.6	86.6	32.4
37	C-306	INDIA	2616.6	66.0	106.0	87.6	37.2
13	NAINARI 60	MEXICO	2438.8	72.0	109.3	78.3	35.4
27	TIMGALEN	AUSTRALI	2493.3	66.3	101.6	75.0	28.7
20	LERMA ROJO 64A	MEXICO	2477.7	52.0	93.3	77.6	35.7
7	VICTOR I	ITALY	2433.3	60.0	99.6	65.3	32.6
15	SIETE CERROS	MEXICO	2433.3	46.0	96.6	63.6	32.7
31	PENJAMO 62	MEXICO	2422.2	47.0	87.6	62.6	35.2
28	TK-236	AUSTRALI	2377.7	50.6	101.3	77.6	36.9
26	ZIPA 68	COLOMBIA	2251.1	57.6	101.3	78.3	33.6
41	LONDI	RHODESIA	2238.8	46.6	92.3	51.6	34.2
29	PALMIRA I	COLOMBIA	2222.2	57.6	95.6	84.6	29.0
17	HUELGUEN	CHILE	2194.4	45.3	91.0	72.0	34.6

42	ZAMBEZI	RHODESIA	2149.9	44.0	95.3	62.6	34.0
1	SON 64 X K1. RENDIDOR	ARGENTIN	2116.6	42.3	89.0	61.3	39.4
36	NAPU 63	COLOMBIA	2099.9	40.3	89.6	65.0	34.5
46	TRIPLE DIKK	AUSTRALI	2027.7	58.6	96.6	91.3	35.3
21	KENYA LEOPARD	KENYA	2016.6	78.3	112.3	85.0	33.0
19	SONORA 64	MEXICO	1944.4	39.3	88.6	50.6	35.7
32	CHRIS	U.S.A.	1927.7	56.6	94.6	98.0	27.1
50	LOCAL CHECK		1888.8	58.0	108.6	73.6	29.3
47	SONALIKA	INDIA	1816.6	39.6	87.6	67.0	45.0
39	4265 - HD.3 (MD X K-Y) X (WIS - SUP)(F6)	KENIA	1694.4	65.0	101.6	90.0	29.1
16	BONZA 55	COLOMBIA	1616.6	58.0	96.0	83.6	30.8
43	TURPIN 7	SOUTH AF	1551.1	74.0	107.3	54.0	28.0
6	CARAZINHO	BRAZIL	1555.5	68.0	107.6	88.0	36.2
48	KLOKA WM 1353	GERMANY	1251.1	61.0	101.3	78.6	27.0
22	(TZPP-SON64XLR64A-TZPP-AN3E)(B)	MEXICO	1155.5	42.0	90.3	57.6	33.9
4	BUCK MANANTIAL	ARGENTIN	1077.7	76.0	130.0	61.6	22.8
3	CHIM	U.S.A.	1000.0	86.0	123.3	97.6	29.6
35	GABUTO	ARGENTIN	944.4	77.3	112.0	93.0	25.8
9	THATCHER	U.S.A.	594.4	91.6	130.3	90.6	20.1
2	MANITOU	CANADA	544.4	94.0	131.3	89.3	18.8
5	SELKIRK	CANADA	494.4	80.6	132.3	87.6	37.6
10	KLEIN RENDIDOR	ARGENTIN	38.8	96.0	133.3	60.3	14.1
		GRAND MEAN	2149.0	59.3	102.0	74.2	32.5
	STANDARD ERROR OF GRAND MEAN		40.7	0.3	0.4	0.6	0.3
	COEFFICIENT OF VARIATION		23.2	7.9	5.1	11.3	13.3
	LSD VARIETY MEANS 5 PC		815.0	7.7	8.5	13.8	7.0

CORRELATIONS

YIELD	KG/HA				
DAYS TO	FLOWER	-0.64**			
DAYS TO	MATURITY	-0.53**	0.89**		
HEIGHT	CM.	-0.21	0.49**	0.32*	
1000 GRN	WGT GRMS	0.57**	-0.65**	-0.59**	-0.15

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 10

AFRICA SUDAN
KHASHM EL GIRBA, AGRICULTURAL RESEARCH SUBSTATION.
LATITUDE 015°18'N LONGITUDE 035°45'E ELEVATION +00440 METERS ABOVE SEA LEVEL
COOPERATORS D.AHMED DAFALLA.
DATE PLANTED 11/25/69 DATE HARVESTED 04/ /70
NUMBER OF IRRIGATIONS 008 RAIN TIMES AMOUNT OF MOISTURE 0704.44
NITROGEN 142.8 KG/HA PHOSPHORUS 000.0 KG/HA POTASSIUM 000.0 KG/HA

LOCAL CHECK NOT SPECIFIED. THE SEASON WAS SHORT AND GENERALLY WARM WITH LATE DEVELOPMENT OF STEM RUST. APHID INFESTATIONS CONTROLLED WITH FOUR APPLICATIONS OF ROGER INSECTICIDE. IRRIGATIONS WERE APPLIED EVERY 12-14 DAYS. KLEIN RENDIDOR DID NOT HEAD. MANITOU AND THATCHER HEADED TOO LATE.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.	1000 GRN WGT GRMS
14	GIZA 155	EGYPT	2837.4	57.0	101.0	99.6	30.3
12	G48C	AUSTRALI	2648.6	62.0	101.3	83.3	29.6
37	C-366	INDIA	2644.1	59.6	103.3	87.6	32.0
25	LR A P41663 (E) TI	PAKISTAN	2456.4	52.3	89.3	61.0	31.6
38	36896-LJ 542 X RT 54A (H)	SUDAN	2433.0	43.0	88.3	69.3	36.0
7	VICTOR I	ITALY	2373.0	64.0	95.6	65.3	26.0
24	SUN 64 X C-271	PAKISTAN	2351.9	54.0	97.3	60.3	36.6
31	PENJAMO 62	MEXICO	2279.7	44.0	77.3	62.3	33.6
29	PALMIRA I	COLOMBIA	2243.8	55.3	93.0	88.6	32.0
15	SIEFE CERROS	MEXICO	2238.6	42.3	76.3	60.0	32.3
27	TIMGALEN	AUSTRALI	2132.3	63.0	99.0	68.3	25.3
23	C-271XWT X SUN 54 (E)	PAKISTAN	2132.3	56.0	101.0	74.6	30.0
30	(LRKN 1-8)X AN3 E	AUSTRALI	2145.4	57.3	98.3	59.3	34.0
40	SUN 64 X TZPP-NAI 56 (B)	ARGENTIN	2138.6	56.3	96.3	67.0	29.3
6	CARAZINHO	BRAZIL	2095.3	62.6	98.0	98.0	29.3
26	ZIPA 68	COLOMBIA	2053.6	60.0	95.6	89.0	31.6
20	LERMA ROJO 64A	MEXICO	2007.5	42.6	77.6	70.0	33.3
11	PITIC 62	MEXICO	1979.8	45.0	91.0	73.3	29.3
16	BONZA 55	COLOMBIA	1958.6	53.6	88.6	92.3	31.0
50	LOCAL CHECK		1838.6	64.6	103.0	84.6	28.3
46	TRIPLE DIRK	AUSTRALI	1857.5	55.3	95.0	90.3	36.6
21	KENYA LEOPARD	KENYA	1854.2	72.0	114.6	88.6	24.6
28	TR-235	AUSTRALI	1845.3	56.0	96.0	75.6	29.3
33	INIA 66	MEXICO	1834.2	40.6	76.3	60.3	32.0
8	DIAMONTES	ARGENTIN	1735.3	58.0	96.0	90.0	28.3
42	ZAMBEZI	RHODESIA	1733.1	42.0	78.6	56.3	28.6
13	NAINARI 56	MEXICO	1758.7	75.0	135.3	76.0	25.6
22	(TZPP-SUN64X N64A-TZPP-AN3E) (B)	MEXICO	1753.1	41.6	77.0	53.3	31.6

36	NAPC 63	COLOMBIA	1757.6	40.0	74.3	67.3	30.6
19	SONORA 64	MEXICO	1733.1	39.0	75.3	44.0	30.3
18	CRESPO 63	COLOMBIA	1700.9	42.3	77.0	72.6	28.3
45	CIANO "S"	MEXICO	1698.7	40.0	77.0	51.6	33.3
17	HUELQUEN	CHILE	1619.8	45.0	77.6	72.3	28.3
49	KELAJU	GUATEMAL	1604.2	45.3	81.0	70.5	31.3
47	SONALIKA	INDIA	1595.3	36.6	74.0	57.0	41.6
1	SON 64 X KL. RENDIDOR	ARGENTIN	1573.1	40.6	76.3	56.0	34.0
34	TOBARI 66	MEXICO	1557.6	42.0	75.3	60.6	30.3
41	LONDI	RHODESIA	1556.5	41.6	77.3	48.0	28.6
32	CHRIS	U.S.A.	1468.7	50.6	87.3	84.6	24.6
39	4255 - HD.3 (MU X K-Y) X (WIS - SUP) (F6)	KENIA	1335.4	67.0	102.0	84.0	22.6
35	GABOTO	ARGENTIN	1252.0	62.6	104.0	96.3	19.6
48	KLOKA HM 1353	GERMANY	1213.2	57.6	96.0	72.3	25.6
43	TURPIN 7	SOUTH AF	1157.6	75.6	109.6	47.3	25.6
3	CRIM	U.S.A.	1051.0	75.6	118.6	83.0	20.6
44	PATO ARGENTINO	ARGENTIN	839.9	42.3	79.3	46.0	23.0
4	BUCK MANANTIAL	ARGENTIN	723.2	95.0	117.0	68.0	17.6
5	SELKIRK	CANADA	439.9	95.0	118.0	80.3	24.0
10	KLEIN RENDIDOR	ARGENTIN	0.0	56.0	92.0	70.0	0.0
9	THATCHER	U.S.A.	0.0	103.3	132.6	68.3	0.0
2	MANITOU	CANADA	0.0	102.0	125.3	71.0	0.0
		GRAND MEAN	1709.6	56.6	92.9	71.5	27.5
	STANDARD ERROR OF GRAND MEAN		35.4	0.3	0.3	0.6	0.1
	COEFFICIENT OF VARIATION		25.4	7.2	4.5	10.4	8.4
	LSD VARIETY MEANS 5 PC		709.7	6.6	6.9	12.1	3.7

CORRELATIONS

YIELD	KG/HA				
DAYS TO	FLOWER	-0.51**			
DAYS TO	MATURITY	-0.37**	0.95**		
HEIGHT	CM.	0.15	0.34*	0.44**	
1000 GRN WGT	GRMS	0.79**	-0.67**	-0.60**	-0.08

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 21

AFRICA EGYPT
SAKHA,AGRICULTURAL RES. STATION.
LATITUDE 031°00'N LONGITUDE 031 00'E ELEVATION 000021 METERS ABOVE SEA LEVEL
COOPERATORS S.M.DESSOUKI AND STAFF.
DATE PLANTED 11/18/69 DATE HARVESTED 05/ /70
NUMBER OF IRRIGATIONS 005 RAIN TIMES AMOUNT OF MOISTURE 44
NITROGEN 143.0 KG/HA PHOSPHORUS 000.0 KG/HA POTASSIUM 000.0 KG/HA

LOCAL VARIETY NOT IDENTIFIED. NO INSECT,WEED OR PEST PROBLEMS REPORTED.
STEM AND LEAF RUST DEVELOPMENT NORMAL.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	LEAF RUST	STEM RUST	HEIGHT CM.	LODGING	1000 GRN WGT GRMS
25	LR X P41603 (E) TI	PAKISTAN	5518.8	81.3	87.3	132.3	40S	0	90.0	0.0	52.5
11	PITIC 62	MEXICO	5139.9	79.0	91.3	139.6	30S	0	95.0	40.0	46.7
38	36896-CJ 54^2 X YT 54A (H)	SUDAN	4875.4	80.3	84.6	135.6	10MR	0	110.0	0.0	54.2
30	(LRKEN 10B)A AND E	AUSTRALI	4747.7	81.3	98.6	141.0	20S	TRR	35.0	0.0	40.5
1	SUN 64 X SL. RENDIDOR	ARGENTIN	4643.2	82.0	87.6	138.0	0	0	90.0	0.0	48.0
15	SIETE CERROS	MEXICO	4544.3	82.0	93.0	141.6	60S	0	95.0	0.0	44.8
20	LERMA ROJO 64A	MEXICO	4458.8	81.6	87.6	131.3	10S	0	115.0	40.0	49.9
23	C-271XWT X SUN 54 (E)	PAKISTAN	4438.8	81.6	93.3	130.0	30S	0	95.0	0.0	54.2
27	TIMBALEN	AUSTRALI	4397.7	79.6	98.0	139.0	10S	0	105.0	0.0	43.7
33	INIA 66	MEXICO	4371.0	82.0	94.3	131.0	5MR	0	95.0	0.0	52.7
42	ZAMBEZI	RHODESIA	4315.5	82.0	89.0	138.0	40S	0	100.0	0.0	42.9
44	PATO ARGENTINO	ARGENTIN	4262.1	81.3	96.6	141.0	5MS	0	130.0	0.0	37.9
36	NAPO 63	COLOMBIA	4258.8	79.6	94.3	131.6	30S	0	113.0	40.0	43.7
31	FENOMAD 62	MEXICO	4227.7	80.6	93.3	132.6	10MS	0	100.0	0.0	48.3
14	GIZA 155	EGYPT	4187.7	80.0	89.6	144.3	40S	0	120.0	40.0	51.3
13	NAINARI 66	MEXICO	3977.7	80.3	97.3	145.3	10S	0	120.0	0.0	49.2
43	TURPIN 7	SOUTH AF	3941.0	77.3	97.6	153.3	10S	0	53.0	0.0	48.0
18	CHESPO 63	COLOMBIA	3915.5	82.0	89.3	145.0	5R	0	125.0	40.0	43.1
22	(TZPP-SON64)(R068-TZPP-ANDE) (B)	MEXICO	3887.7	82.6	86.3	134.0	0	0	100.0	0.0	43.2
29	PALMIRA I	COLOMBIA	3879.9	78.6	92.6	133.3	30S	0	120.0	0.0	51.0
6	CARAZINHO	BRAZIL	3872.1	81.0	99.3	146.6	TRS	0	133.0	60.0	47.0
35	GABUFO	ARGENTIN	3854.3	81.6	133.0	153.0	5MS	10S	145.0	40.0	35.0
40	SUN 64 X TZPP-NAI 60 (B)	ARGENTIN	3837.7	80.3	96.0	141.3	0	0	135.0	0.0	48.7
10	KLEIN RENDIDOR	ARGENTIN	3738.8	80.3	139.6	157.0	0	0	125.0	60.0	42.3
7	VICTOR I	ITALY	3775.5	80.6	133.0	144.6	5MS	15S	90.0	0.0	41.7
17	MUELQUEN	CHILE	3744.4	80.0	91.0	135.6	5S	0	115.0	40.0	45.9
28	TR-236	AUSTRALI	3742.1	80.3	90.0	132.0	5MR	0	125.0	0.0	48.8
45	CIANO "S"	MEXICO	3727.7	82.0	83.0	131.3	0	0	95.0	0.0	49.9
46	TRIPLE DIRK	AUSTRALI	3724.4	80.3	96.3	153.3	0	0	130.0	40.0	51.5
24	SUN 64 X C-271	PAKISTAN	3712.1	81.6	87.3	129.3	130VS	0	95.0	0.0	46.9
41	LUNDI	RHODESIA	3652.1	79.3	95.6	133.6	10MS	0	80.0	0.0	44.8
3	CHIM	U.S.A.	3634.4	81.0	136.0	146.6	20S	0	120.0	40.0	40.2
12	GABO	AUSTRALI	3598.8	79.3	96.3	148.0	30S	10S	125.0	40.0	43.8
34	TUBARI 66	MEXICO	3551.0	82.0	84.3	133.3	0	0	95.0	0.0	48.2
21	KENYA LEOPARD	KENYA	3526.6	81.3	136.0	154.0	5MS	0	115.0	60.0	42.0

26	ZAPA 68	COLOMBIA	3533.2	79.6	96.0	146.0	30S	10S	125.0	0.0	43.7
34	BUCK MANANTIAL	ARGENTIN	3339.9	80.6	110.0	55.0	0	10MS	130.0	0.0	32.4
50	LOCAL CHECK		3279.9	80.0	96.0	148.6	0	0	120.0	50.0	57.4
39	4255 - HD.3 (MD X K-Y) X (WIS - SUP) (F6)	KENIA	3211.0	80.0	103.6	154.3	20S	0	110.0	40.0	30.1
49	KELAJU	GUATEMAL	3013.3	81.6	91.3	135.3	10S	0	115.0	80.0	46.8
47	SONALIKA	INDIA	2835.5	80.3	77.6	132.6	10MR	0	90.0	0.0	0.0
16	BONZA 55	COLOMBIA	2672.1	78.3	96.3	135.0	20S	0	120.0	80.0	41.0
37	C-306	INDIA	2672.1	82.0	94.0	142.3	30S	0	135.0	80.0	40.3
19	SONORA 64	MEXICO	2638.8	81.3	81.6	131.0	10S	0	85.0	0.0	48.1
32	CHRIS	U.S.A.	2636.6	80.3	99.0	145.3	0	0	125.0	50.0	36.5
8	PIAMONTES	ARGENTIN	2433.3	82.3	100.6	145.3	5MS	0	125.0	0.0	41.4
48	KLOKA WM 1353	GERMANY	2138.8	78.6	102.0	158.0	20S	40S	115.0	0.0	36.5
2	MANITOU	CANADA	1771.0	77.0	118.0	55.0	20MR	15R	150.0	50.0	28.4
5	SELKIRK	CANADA	1423.3	76.3	124.3	53.6	30S	10S	140.0	0.0	31.0
9	THATCHER	U.S.A.	1287.7	75.6	127.0	56.0	100S	5MR	145.0	0.0	22.8
	GRAND MEAN		3653.1	80.4	95.6	133.8	16.8	2.1	109.8	20.7	44.4
	STANDARD ERROR OF GRAND MEAN		41.7	0.0	0.3	2.2					0.1
	COEFFICIENT OF VARIATION		13.9	0.9	4.7	20.4					2.8
	LSD VARIETY MEANS 5 PC		834.6	1.2	7.3	44.7					2.0

CORRELATIONS

YIELD	KG/HA								
TEST	WEIGHT	0.49**							
DAYS TO	FLOWER	-0.57**	-0.59**						
DAYS TO	MATURITY	0.47**	0.47**	-0.50**					
LEAF	RUST	-0.13	-0.27	0.17	-0.27				
STEM	RUST	-0.33*	-0.26	0.30*	-0.03	0.02			
HEIGHT	CM.	-0.49**	-0.34*	0.63**	-0.35*	0.32	0.20		
LODGING		-0.21	-0.04	0.16	0.16	-0.14	-0.14	0.43	
1000 GRN	WGT GRMS	0.53**	0.34*	-0.38**	0.41**	-0.09	-0.23	-0.25	0.04

* SIGNIFICANT AT THE 5 %LEVEL ** SIGNIFICANT AT THE 1% LEVEL

AFRICA MOROCCO
MERCHOUCH.MOROCCO
LATITUDE 033°50'N LONGITUDE 007°00'W ELEVATION +00400 METERS ABOVE SEA LEVEL
COOPERATORS A.ACOSTA.
DATE PLANTED 12/26/69 DATE HARVESTED 06/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0361 MM
NITROGEN 100.0 KG/HA PHOSPHORUS 017.6 KG/HA POTASSIUM 033.2 KG/HA

BT-908 WAS THE LOCAL VARIETY. HESSIAN FLY, SAWFLY, WHEAT STEM MAGGOT WILD OATS AND BIRDS WERE ALL PRESENT. EARLY SEASON DISEASE DEVELOPMENT WAS GOOD. DRY PERIOD AT TILLERING AND AFTER FLOWERING MAY HAVE REDUCED YIELDS.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.
25	LR x P41603 (E) TI	PAKISTAN	3057.1	80.8	87.0	135.0	80.0
1	SUN 64 X CL. RENDIDOR	ARGENTIN	3053.0	78.1	94.0	141.0	88.3
33	INIA 66	MEXICO	2730.7	81.0	89.0	136.0	90.0
43	TURPIN 7	SOUTH AF	2433.5	71.6	98.0	142.0	63.3
11	PITIC 62	MEXICO	2429.3	72.3	100.0	142.0	96.6
42	ZAMBEZI	RHODESIA	2423.8	78.3	97.0	142.0	81.6
46	TRIPLE DIRK	AUSTRALI	2325.5	77.5	109.0	144.0	128.3
19	SONORA 64	MEXICO	2315.4	77.1	84.0	135.0	81.6
20	LERMA ROJO 64A	MEXICO	2291.8	70.8	95.0	139.0	105.0
49	XELAJU	GUATEMAL	2291.8	70.7	96.0	139.0	106.6
23	C-271 WT x SON 64 9E0	PAKISTAN	2277.9	75.1	97.0	144.0	88.3
47	SONALIKA	INDIA	2241.8	78.6	87.0	138.0	96.6
22	(TZPP-SON64XLK64A-TZPP-AN3E) (B)	MEXICO	2198.7	81.0	94.0	140.0	88.3
10	KLEIN RENDIDOR	ARGENTIN	2190.4	77.1	110.0	144.0	113.3
15	SIETE CERROS	MEXICO	2176.5	77.0	99.0	144.0	85.0
41	LONDI	RHODESIA	2146.0	76.5	96.0	140.0	76.6
44	PATO ARGENTINO	ARGENTIN	2123.7	70.0	98.0	142.0	90.0
30	(LRXN 1LB)X AN3 E	AUSTRALI	2111.2	70.1	108.0	144.0	85.0
21	KENYA LEOPARD	KENYA	2090.4	70.5	106.0	144.0	115.0
45	CIANO "S"	MEXICO	2052.6	70.1	93.0	139.0	80.0
40	SON 64 x TZPP-NAI 60 (B)	ARGENTIN	2045.9	74.5	109.0	142.0	91.6
13	NAINARI 60	MEXICO	2036.2	74.5	98.0	139.0	101.6
27	TIMGA_EN	AUSTRALI	1997.3	75.2	110.0	144.0	85.0
35	GABOTO	ARGENTIN	1979.3	78.3	109.0	144.0	120.0
50	LOCAL CHECK		1959.8	75.5	108.0	144.0	93.3
26	ZIPA 68	COLOMBIA	1954.3	74.7	109.0	144.0	106.6
17	HUELQUEN	CHILE	1947.3	76.5	99.0	140.0	113.3
38	36896-CJ 54² x YT 54A (H)	SUDAN	1937.0	77.0	94.0	140.0	100.0

31	PENJAMO 62	MEXICO	1893.2	77.7	96.0	139.0	86.6
16	BONZA 55	COLOMBIA	1873.7	75.7	99.0	144.0	118.3
28	TR-235	AUSTRALI	1865.4	77.0	97.0	140.0	105.0
7	VICTOR I	ITALY	1825.1	74.0	111.0	145.0	75.0
29	PALMIRA I	COLOMBIA	1809.8	73.1	97.0	139.0	115.0
24	SON 64 X C-271	PAKISTAN	1786.2	74.7	95.0	142.0	76.6
37	C-306	INDIA	1783.4	79.5	98.0	142.0	115.0
34	TUBARI 65	MEXICO	1764.0	79.7	93.0	140.0	88.3
18	CRESPO 63	COLOMBIA	1737.6	77.0	97.0	142.0	110.0
4	BUCK MANANTIAL	ARGENTIN	1732.0	73.5	115.0	150.0	118.3
32	CHRIS	U.S.A.	1722.3	77.5	109.0	140.0	123.3
3	CHIM	U.S.A.	1712.6	77.0	119.0	144.0	120.0
48	KLOKA WM 1353	GERMANY	1701.5	73.5	110.0	144.0	101.6
12	GABO	AUSTRALI	1698.7	74.2	97.0	140.0	101.6
6	CARACINHO	BRAZIL	1658.4	76.6	109.0	144.0	116.6
36	NAPO 63	COLOMBIA	1643.1	75.6	90.0	135.0	111.6
14	GIZA 155	EGYPT	1366.7	77.0	97.0	139.0	100.0
39	4265 - HD.3 (MO X <-Y)X (WIS - SUP) (F6)	KENIA	1345.9	76.2	112.0	146.0	111.6
8	PIAMONTES	ARGENTIN	1298.7	77.7	108.0	142.0	115.0
9	THATCHER	U.S.A.	1288.9	72.0	123.0	0.0	121.6
2	MANITOU	CANADA	1186.2	71.7	121.0	160.0	115.0
5	SELKIRK	CANADA	912.5	76.6	122.0	160.0	121.6
		GRAND MEAN	1968.1	76.7	101.5	139.3	100.3
	STANDARD ERROR OF GRAND MEAN		29.2				0.5
	COEFFICIENT OF VARIATION		18.2				6.7
	LSD VARIETY MEANS 5 PC		585.5				11.0

COPRELATIONS

YIELD KG/HA					
TEST WEIGHT	0.33**				
DAYS TO FLOWER	-0.59**	-0.45**			
DAYS TO MATURITY	0.10	0.17	-0.14		
HEIGHT CM.	-0.51**	-0.07	0.50**	-0.11	

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 36

AFRICA SOUTH AFRICA
LYNN EAST, PRETORIA.
LATITUDE 025°35'S LONGITUDE 028°21'E ELEVATION +00358 METERS ABOVE SEA LEVEL
COOPERATORS D.ROSSOUW,D.MALAN,L.ROBERTSON,E.WHITLOCK
DATE PLANTED 02/06/70 DATE HARVESTED / /70
NUMBER OF IRRIGATIONS RAIN TIMES 3 AMOUNT OF MOISTURE 3500 MM
NITROGEN 180.0 KG/HA PHOSPHORUS 240.0 KG/HA POTASSIUM 050.0 KG/HA

ZAMBEZI-2 WAS THE LOCAL CHECK VARIETY. WEATHER WAS COLD AND DRY. NO INSECT,WEED OR PEST PROBLEMS WERE ENCOUNTERED.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.	LODGING	1000 GRN WGT GRMS
25	LR X P41603 (E) TI	PAKISTAN	3801.2	80.5	83.0	130.0	91.6	10.0	43.6
23	C-271*WT X SUN 54 (E)	PAKISTAN	3731.8	80.7	87.6	136.6	98.3	40.0	43.1
43	TURPIN 7	SOUTH AF	3526.3	79.8	88.3	138.3	68.3	0.0	40.3
42	ZAMBEZI	RHODESIA	3487.4	76.3	83.6	138.3	91.6	16.6	39.5
24	SUN 64 X L-271	PAKISTAN	3439.7	79.0	83.0	131.6	85.0	3.3	42.5
15	SIETE CERROS	MEXICO	3380.8	80.7	85.6	138.3	95.0	16.6	37.1
31	PENJAMO 62	MEXICO	3268.1	80.7	82.3	130.0	95.0	33.3	42.1
30	(LRXN 10B)X AN3 E	AUSTRALI	3243.3	78.0	93.6	141.6	91.6	36.6	25.0
50	LOCAL CHECK		3132.0	79.0	86.3	136.6	93.3	63.3	35.6
1	SUN 64 X K1. RENDIDOR	ARGENTIN	3101.5	79.9	86.6	135.0	98.3	20.0	39.1
33	INIA 66	MEXICO	3090.4	81.4	78.6	128.3	98.3	25.6	41.6
47	SONALIKA	INDIA	3042.4	79.7	78.0	128.3	96.6	33.3	49.8
45	GIANJ "S"	MEXICO	2971.0	81.1	77.6	126.6	88.3	55.5	41.6
14	GIZA 155	EGYPT	2954.3	80.5	84.6	136.6	113.3	60.0	45.8
11	PITIC 62	MEXICO	2954.3	75.2	87.6	133.3	98.3	33.3	38.6
34	TUBARI 66	MEXICO	2837.7	82.8	84.0	131.6	95.0	25.6	40.1
13	NAINARI 60	MEXICO	2829.4	79.2	88.3	136.6	106.6	53.3	43.3
22	(TZPP-SON64XLR64A-TZPP-AN3E) (B)	MEXICO	2839.9	81.6	94.6	136.6	93.3	16.6	36.5
49	KELAJU	GUATEMAL	2734.9	82.0	92.6	136.6	118.3	66.6	47.3
41	LONDI	RHODESIA	2771.1	77.8	80.3	125.0	90.0	10.0	40.1
7	VICTOR I	ITALY	2718.3	76.9	98.6	141.6	90.0	5.6	39.1
44	PATO ARGENTINO	ARGENTIN	2701.6	78.2	94.6	138.3	95.0	13.3	27.3
40	SUN 64 X TZPP-NAI 60 (B)	ARGENTIN	2635.0	78.6	86.0	138.3	93.3	30.0	43.3
38	36896-CJ 54² X YT 54A (M)	SUDAN	2637.8	79.2	81.0	131.6	98.3	30.0	44.0
12	GABO	AUSTRALI	2595.6	77.5	81.6	130.0	100.0	30.0	42.1
20	LERMA ROJO 64A	MEXICO	2532.3	81.4	84.6	131.6	105.0	35.6	38.5
37	C-306	INDIA	2485.1	80.5	83.0	133.3	108.3	66.6	43.8
19	SONORA 64	MEXICO	2454.5	79.7	77.6	125.0	86.6	20.0	43.8

27	TIMGA-EN	AUSTRALI	2374.3	79.2	86.6	131.6	86.6	50.0	38.3
26	ZIPA 68	COLOMBIA	2351.2	78.8	93.3	140.0	113.3	30.0	40.1
46	TRIPLE DIRK	AUSTRALI	2329.6	80.1	95.3	135.0	116.6	30.0	44.8
28	TK-235	AUSTRALI	2293.5	78.4	78.6	125.0	95.0	70.0	40.6
17	HUELGUEN	CHILE	2235.1	81.6	93.0	135.0	116.6	43.3	40.1
36	NAPJ 63	COLOMBIA	2258.5	77.3	81.3	128.3	110.0	66.5	35.5
18	CRESPO 63	COLOMBIA	2258.5	80.1	87.0	135.0	113.3	56.6	35.0
4	BUCK MANANTIAL	ARGENTIN	2235.2	80.9	100.3	140.0	113.3	53.3	29.3
8	DIAMONTES	ARGENTIN	2214.1	81.4	97.6	140.0	113.3	53.3	35.5
16	BONZA 55	COLOMBIA	2121.3	79.4	90.3	135.0	118.3	63.3	35.3
39	PALMIRA I	COLOMBIA	2101.9	76.7	98.3	131.6	115.0	76.6	41.6
3	CRIM	U.S.A.	1957.5	80.1	85.6	133.3	108.3	53.3	38.5
21	KENYA LEOPARD	KENYA	1949.2	80.7	98.3	140.0	106.6	70.0	38.6
10	KLEIN RENDIDOR	ARGENTIN	1871.4	78.4	103.3	150.0	115.0	76.6	37.5
6	CARAZINHO	BRAZIL	1727.0	79.2	96.6	140.0	125.0	80.0	41.1
32	CHRIS	U.S.A.	1468.8	79.4	96.0	138.3	108.3	56.6	32.1
48	KLOKA WM 1353	GERMANY	1457.7	77.5	95.3	135.0	108.3	36.6	29.1
39	4265 - MD.3 (MD X K-Y) X (WIS - SUP)(F6)	KENIA	1338.3	78.8	100.0	141.6	110.0	53.3	35.6
35	GABOID	ARGENTIN	1277.2	79.4	98.0	140.0	116.6	56.6	31.0
9	THATCHER	U.S.A.	1096.2	74.4	0.0	0.0	120.0	66.6	23.8
5	SELKIRK	CANADA	1085.6	74.8	106.6	141.6	125.0	70.0	33.0
2	MANITOU	CANADA	974.6	74.4	93.0	100.0	118.3	86.6	30.6
		GRAND MEAN	2500.4	79.0	87.1	131.6	102.9	43.1	38.2
		STANDARD ERROR OF GRAND MEAN	28.0	0.1	0.3	1.0	0.6	1.8	0.3
		COEFFICIENT OF VARIATION	13.7	1.6	4.9	9.7	7.8	51.8	11.6
		LSD VARIETY MEANS 5 PC	561.7	2.1	7.0	20.8	13.1	36.5	7.2

CORRELATIONS

YIELD	KG/HA						
TEST	WEIGHT	0.21					
DAYS TO	FLOWER	-0.02	0.18				
DAYS TO	MATURITY	0.27*	0.30*	0.90**			
HEIGHT	CM.	-0.71**	0.08	0.08	-0.14		
LODGING		-0.64**	0.00	0.02	-0.16	0.73**	
1000 GRN	WGT GRMS	0.51**	0.30*	0.07	0.31*	-0.25	-0.20

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 37

AFRICA SOUTH AFRICA
LICHTENBURG, CENTRAL SEED GROWERS COOPERATIVE.
LATITUDE 026°10'S LONGITUDE 026°13'E ELEVATION +01340 METERS ABOVE SEA LEVEL
COOPERATORS
DATE PLANTED 09/21/69 DATE HARVESTED 01/ /70
NUMBER OF IRRIGATIONS RAIN TIME AMOUNT OF MOISTURE 44
NITROGEN KG/HA PHOSPHORUS KG/HA POTASSIUM KG/HA

SON64/2/TZpp/Y54/3/KOALISIE/2/K= WAS THE LOCAL VARIETY. GOOD DEVELOPMENT OF LEAF AND STEM RUSTS. WEATHER WAS DRY AND HOT UNTIL DEC. PLOTS WERE IRRIGATED WITH 25MM EVERY 10 DAYS WHEN RAINFALL WAS LESS THAN 15MM.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	LEAF RUST	STEM RUST	HEIGHT CM.
42	ZAMBEZI	RHODESIA	2999.5	74.2	59.6	100.0	90S	80S	56.0
17	HUELQUEN	CHILE	2997.0	71.6	59.6	97.0	50S	10S	79.1
18	CRESPO 63	COLOMBIA	2731.7	76.1	59.0	100.6	10S	5S	93.8
16	BONZA 55	COLOMBIA	2693.0	71.8	65.3	102.3	10S	15S	81.2
21	KENYA LEOPARD	KENYA	2631.0	74.4	71.6	120.6	20S	0	79.3
45	CIANO "S"	MEXICO	2617.1	73.3	50.0	95.0	0	0	50.9
46	TRIPLE DIRK	AUSTRALI	2594.8	73.3	55.3	104.3	100S	100S	39.3
11	PITIC 62	MEXICO	2529.3	70.5	51.0	96.0	60S	60S	59.0
50	LOCAL CHECK		2501.0	75.2	63.3	105.0	60S	5R	71.9
1	SON 64 X KL. RENDIDOR	ARGENTIN	2436.5	71.8	54.6	95.3	0	0	52.6
38	36896-CJ 54 2 X YT 54A (H)	SUDAN	2478.6	72.5	65.6	110.0	100S	30MS	70.6
40	SON 54 X TZPP-VAI 60 (B)	ARGENTIN	2454.4	66.2	51.0	103.6	20MS	30R	55.6
25	LR X P41603 (E) TI	PAKISTAN	2437.9	71.6	62.6	101.3	80S	100S	55.8
49	KE-AJJ	GUATEMAL	2425.6	70.3	62.0	105.0	60S	5R	75.1
20	LERMA ROJO 64A	MEXICO	2399.5	72.5	53.6	90.3	0	TRR	76.6
4	BUCK MANANTIAL	ARGENTIN	2390.5	75.5	69.6	111.3	TRS	5R	59.8
34	TOBARI 66	MEXICO	2376.3	74.6	55.6	95.3	5S	10R	52.6
31	PENJAMO 62	MEXICO	2367.3	72.9	54.6	95.6	5S	50S	55.8
2	MANITOU	CANADA	2298.2	74.8	58.3	114.6	5R	5R	36.3
30	(LKKN 108)X AN3 E	AUSTRALI	2293.5	72.2	63.3	103.3	100S	100S	53.4
47	SONALIKA	INDIA	2284.1	72.7	51.0	90.0	10S	60S	32.9
35	GABOTO	ARGENTIN	2276.8	73.7	74.0	115.3	50S	20R	82.9
27	TIMGALEN	AUSTRALI	2252.9	73.1	65.3	106.0	0	0	54.7
28	TR-235	AUSTRALI	2197.8	69.2	58.0	103.3	10S	TRS	71.9
19	SONORA 64	MEXICO	2176.2	72.9	54.0	92.0	10S	5R	50.5
44	PATO ARGENTINO	ARGENTIN	2159.4	73.7	56.6	98.0	30S	100S	51.8
13	NAINARI 60	MEXICO	2163.0	66.7	62.6	101.0	100S	100S	59.0
36	NAPO 63	COLOMBIA	2136.5	53.6	51.0	87.3	10S	0	72.8

39	4255 - MD.3 (MD X K-Y) X (WIS - SUP) (FO)	KENIA	2099.5	71.8	67.0	108.3	0	0	77.4
3	CRIM	U.S.A.	2054.1	72.5	66.0	102.3	50S	40S	77.8
29	PALMIRA I	COLOMBIA	2048.5	66.9	58.0	90.6	5S	5R	75.1
26	ZIPA 68	COLOMBIA	2020.9	71.8	62.6	102.6	70S	100S	74.5
22	(TZPP-SON64XLR64A-TZPP-AN3E) (B)	MEXICO	1999.3	75.2	67.6	102.0	25S	10R	51.8
9	THATCHER	U.S.A.	1978.1	72.7	72.6	108.6	70S	30S	86.7
23	C-271XWT X SON 64 (E)	PAKISTAN	1932.9	68.4	53.0	104.0	100S	100S	72.8
24	SON 64 X C-271	PAKISTAN	1910.3	71.6	62.6	100.0	80S	100S	58.8
15	SIETE CERROS	MEXICO	1894.9	67.5	63.6	90.0	60S	80S	63.0
32	CHRIS	U.S.A.	1852.3	73.3	64.6	105.0	5R	5R	82.9
33	INIA 66	MEXICO	1834.0	75.9	51.0	90.6	0-TRS	5R	58.8
12	GABO	AUSTRALI	1771.2	64.1	63.0	95.0	70S	100S	71.9
5	SELKIRK	CANADA	1727.4	68.4	57.6	104.6	30MS	50S	74.9
14	GIZA 155	EGYPT	1703.3	69.2	59.0	92.0	100S	100S	80.4
6	CARAZINHO	BRAZIL	1523.9	71.4	52.6	106.3	40S	10R	72.3
8	PIAMONTES	ARGENTIN	1514.4	74.8	63.6	102.6	0	0	77.4
7	VICTOR I	ITALY	1485.1	61.3	64.0	101.3	100S	100S	48.2
48	KLOKA WM 1353	GERMANY	1338.7	63.4	54.3	110.6	100S	100S	75.3
41	LONDI	RHODESIA	1310.2	60.7	58.6	95.3	100S	100S	54.1
43	TURPIN 7	SOUTH AF	1233.8	52.8	55.0	100.0	100S	100S	48.2
37	C-306	INDIA	1229.5	68.8	66.6	119.0	100S	100S	79.1
10	KLEIN RENDIDOR	ARGENTIN	0.0	0.0	0.0	0.0	100S	100S	0.0
		GRAND MEAN	2095.6	69.1	60.2	99.4	46.8	42.2	71.0
	STANDARD ERROR OF GRAND MEAN		38.1	0.2	0.0	0.0	0.7	0.9	0.6
	COEFFICIENT OF VARIATION		22.3	4.8	0.8	0.9	20.7	27.7	11.0
	LSD VARIETY MEANS 5 PC		753.4	5.4	0.8	1.5	15.8	19.1	12.8

CORRELATIONS

YIELD	KG/HA						
TEST	WEIGHT	0.70**					
DAYS TO	FLOWER	0.40**	0.76**				
DAYS TO	MATURITY	0.49**	0.84**	0.94**			
LEAF	RUST	-0.39**	-0.37**	-0.03	-0.10		
STEM	RUST	-0.39**	-0.35**	-0.12	-0.19	0.87**	
HEIGHT	CM.	0.54**	0.75**	0.71**	0.75**	-0.20	-0.25

* SIGNIFICANT AT THE 5 %LEVEL ** SIGNIFICANT AT THE 1% LEVE.

TABLE LOCATION 38

AFRICA TUNISIA
TUNIS,INRAT.
LATITUDE 037 00'N LONGITUDE 010°00'E ELEVATION +00010 METERS ABOVE SEA LEVEL
COOPERATORS ACCELERATED CEREAL PRODUCTION PROJECT.
DATE PLANTED 12/05/69 DATE HARVESTED 06/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0507 44
NITROGEN 026.4 KG/HA PHOSPHORUS 019.8 KG/HA POTASSIUM 000.0 KG/HA

ARIANA 66 WAS THE LOCAL VARIETY. HESSIAN FLY, SAWFLY AND BIRDS DID SOME DAMAGE. CEREAL LEAF BEETLE WAS ALSO OBSERVED. STEM AND LEAF RUSTS DEVELOPED LATE. MILDEW DEVELOPMENT NORMAL. LITTLE SEPTORIA AND STRIPE RUST PRESENT. EARLY SEASON RAINFALL WAS GOOD BUT LATER IT WAS DRIER.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	HEIGHT CM.	1000 GRN WGT GRMS	MILDEW	SEPTORIA SPP.
47	SUNALIKA	INDIA	3857.3	82.0	100.6	86.6	49.8	0.0	0.0
38	36896-CJ 54 2X.YT 54A (H)	SUDAN	3752.0	80.0	105.3	96.6	47.0	0.0	0.0
43	TURPIN 7	SOUTH AF	3441.3	80.5	109.0	0.0	0.0	0.0	0.0
25	LR X P41603 (E) TI	PAKISTAN	3436.0	83.0	103.3	78.3	43.1	0.0	0.0
42	ZAMBEZI	RHODESIA	3389.3	82.5	111.3	85.0	44.0	0.0	0.0
33	INIA 66	MEXICO	3381.3	82.0	103.6	81.6	39.7	0.0	0.0
40	SON 64 X TZPP-NAI 60 (B)	ARGENTIN	3253.3	81.0	112.3	90.0	46.0	0.0	0.0
1	SON 54 x <1. RENDIDOR	ARGENTIN	3204.0	82.5	108.6	83.3	42.8	0.0	0.0
11	PITIC 62	MEXICO	3158.6	80.0	109.6	88.3	39.6	0.0	0.0
23	C-271XNT X SON 54 (E)	PAKISTAN	3055.3	80.0	109.6	81.6	42.0	0.0	0.0
46	TRIP_E DIRK	AUSTRALI	3061.3	81.0	117.3	111.6	41.0	0.0	0.0
41	LUNDI	RHODESIA	3035.3	80.5	109.6	76.6	41.5	0.0	0.0
13	NAINARI 60	MEXICO	3003.0	79.5	112.0	96.6	38.0	0.0	0.0
24	SON 64 x C-271	PAKISTAN	2994.6	80.5	109.3	70.0	43.1	0.0	0.0
49	KE-AJU	GUATEMAL	2949.3	82.0	108.3	93.3	40.0	0.0	0.0
30	(LRKN 108)X ANB E	AUSTRALI	2938.6	82.0	114.3	78.3	30.0	0.0	0.0
31	PENJAMO 62	MEXICO	2930.6	80.0	110.6	86.6	36.8	0.0	0.0
15	SIETE CERROS	MEXICO	2921.0	80.5	116.3	88.3	37.5	0.0	0.0
20	LERMA ROJO 64A	MEXICO	2912.0	81.0	109.0	96.6	39.2	0.0	0.0
34	TOBARI 66	MEXICO	2902.6	82.0	106.0	83.3	43.0	0.0	0.0
27	TINGALEN	AUSTRALI	2892.0	80.0	112.6	85.0	35.0	0.0	0.0
50	LOCAL CHECK		2881.3	84.0	117.0	100.0	45.1	0.0	0.0
28	TR-236	AUSTRALI	2822.6	81.0	109.0	96.6	41.0	0.0	0.0
45	CIANO "S"	MEXICO	2790.0	0.0	105.5	76.6	42.0	9/S	0/MS
17	HUELQUEN	CHILE	2751.3	81.5	113.0	100.0	41.0	0.0	0.0
22	(TZPP-SON64)(L264A-TZPP-ANBE) (B)	MEXICO	2740.0	83.5	108.3	83.3	39.8	0.0	0.0
36	NAPU 63	COLOMBIA	2693.3	80.0	108.3	96.6	38.0	0.0	0.0
12	GABU	AUSTRALI	2653.6	80.0	110.3	100.0	40.0	0.0	0.0

37	C-305	INDIA	2573.3	84.0	138.6	96.6	44.6	0.0	0.0
19	SONORA 64	MEXICO	2542.6	81.5	132.0	75.0	40.1	0.0	0.0
16	BONZA 55	COLOMBIA	2531.3	80.5	139.3	106.6	39.7	0.0	0.0
7	VICTOR I	ITALY	2493.3	81.0	118.6	75.0	39.7	0.0	0.0
29	PALMIRA I	COLOMBIA	2435.6	77.0	112.3	102.5	0.0	0.0	0.0
48	KLOKA WM 1353	GERMANY	2468.0	81.0	124.0	90.0	36.7	0.0	0.0
18	CRESPO 63	COLOMBIA	2445.3	81.0	136.3	98.3	34.8	0.0	0.0
14	GIZA 155	EGYPT	2444.0	81.0	112.0	95.0	40.0	0.0	0.0
6	CARACINHO	BRAZIL	2272.0	81.5	114.0	108.3	40.0	0.0	0.0
35	GABOTO	ARGENTIN	2135.6	82.0	117.0	106.6	32.5	0.0	0.0
3	CKIM	U.S.A.	2184.0	82.0	121.6	106.6	35.1	0.0	0.0
26	ZIPA 68	COLOMBIA	2166.6	80.5	116.0	93.3	37.2	0.0	0.0
4	BUCK MANANTIAL	ARGENTIN	2097.3	82.0	131.0	96.6	32.5	0.0	0.0
39	4255 - HD.3 (MD X K-Y) X (WIS - SUP) (F6)	KENIA	2041.3	81.0	119.6	96.6	38.0	0.0	0.0
10	KLEIN RENDIDOR	ARGENTIN	2028.0	81.5	113.3	101.6	38.5	0.0	0.0
21	KENYA LEOPARD	KENYA	2008.0	82.0	122.0	98.3	44.0	0.0	0.0
8	PIAMONTES	ARGENTIN	1842.6	82.5	117.0	103.3	37.3	0.0	0.0
32	CHRIS	U.S.A.	1774.6	81.5	116.6	110.0	32.8	0.0	0.0
2	MANITOU	CANADA	1329.3	79.0	135.0	98.3	44.1	0.0	0.0
9	THATCHER	U.S.A.	1122.6	81.0	135.6	98.3	27.6	0.0	0.0
5	SELKIRK	CANADA	1031.3	77.5	133.3	96.6	37.7	0.0	0.0
		GRAND MEAN	2650.4	81.1	113.3	90.7	38.7		
		STANDARD ERROR OF GRAND MEAN	36.9		0.0	0.3			
		COEFFICIENT OF VARIATION	16.8		1.0	5.0			
		LSD VARIETY MEANS 5 PC	728.1		1.9	7.4			

CORRELATIONS

YIELD	KG/HA						
TEST	WEIGHT	-0.00					
DAYS TO	FLOWER	-0.78**	0.11				
HEIGHT	CM.	-0.42**	0.12	0.29*			
1000 GRN	WGT GRMS	0.15	-0.02	-0.15	0.36**		
MILDEW		0.00	0.00	0.00	0.00	0.00	
SEPTORIA	SPP.	0.00	0.00	0.00	0.00	0.00	0.00

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

AFRICA TUNISIA
BOU SALEM, INRAT.
LATITUDE 036 35'N LONGITUDE 009 00'E ELEVATION +00134 METERS ABOVE SEA LEVEL
COOPERATORS ACCELERATED CEREAL PRODUCTION PROJECT.
DATE PLANTED 12/29/69 DATE HARVESTED 04/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0624 MM
NITROGEN 033.0 KG/HA PHOSPHORUS 000.0 KG/HA POTASSIUM 000.0 KG/HA

ARIANA 66 WAS THE LOCAL VARIETY. HESSIAN FLY, SAWFLY AND CEREAL LEAF BEETLE WERE ALL PROBLEMS. BIRDS ALSO DID SOME DAMAGE. STRIPE RUST AND SEPTORIA DEVELOPED WELL. HEAVY RAINS DURING LATE FALL AND EARLY DEC. JAN. TO MARCH COOL AND CLOUDY. STRONG DRY WINDS DURING APRIL DRIED LEAF.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	STRIPE RUST	HEIGHT CM.	LODGING	MILDEW	SEPTORIA SPP.
15	SIETE CERROS	MEXICO	4954.6	116.0	0.0	95.0	0.0	0.0	30.0
20	LERMA ROJO 64A	MEXICO	4780.0	102.0	0.0	95.0	0.0	20.0	4.0
1	SON 64 X K1. RENDIDOR	ARGENTIN	4621.3	103.3	32.0	90.0	0.0	0.0	0.0
14	GIZA 155	EGYPT	4530.6	135.0	0.0	110.0	0.0	0.0	40.0
47	SONALIKA	INDIA	4525.6	98.0	24.0	100.0	0.0	0.0	12.0
11	PITIC 62	MEXICO	4478.6	135.0	24.0	95.0	30.0	0.0	24.0
43	TURPIN 7	SOUTH AF	4457.3	104.6	16.0	65.0	0.0	72.0	48.0
44	PATO ARGENTINO	ARGENTIN	4448.0	139.6	0.0	90.0	0.0	0.0	0.0
24	SON 64 X C-271	PAKISTAN	4446.6	101.0	80.0	80.0	0.0	90.0	24.0
30	GRKN 108 X ANB E	AUSTRALI	4444.0	112.6	0.0	75.0	0.0	0.0	0.0
40	SON 64 X TZPP-NAI 60 (B)	ARGENTIN	4420.0	102.6	30.0	95.0	0.0	56.0	0.0
41	LONDI	RHODESIA	4418.0	103.3	80.0	85.0	0.0	0.0	40.0
7	VICTOR I	ITALY	4373.3	116.0	24.0	85.0	0.0	28.0	8.0
25	LR X P416.3 (E) T1	PAKISTAN	4372.0	100.0	0.0	90.0	0.0	80.0	24.0
34	TUBARI 66	MEXICO	4328.0	98.6	0.0	90.0	0.0	0.0	0.0
31	PENJAMO 62	MEXICO	4262.6	104.3	0.0	95.0	0.0	0.0	24.0
19	SONORA 64	MEXICO	4206.6	98.0	90.0	80.0	0.0	0.0	24.0
33	INIA 66	MEXICO	4196.0	98.3	60.0	95.0	0.0	60.0	24.0
42	ZAMBEZI	RHODESIA	4052.6	107.0	32.0	100.0	0.0	0.0	12.0
13	NAINARI 60	MEXICO	4052.0	104.6	80.0	105.0	30.0	50.0	70.0
16	BONZA 55	COLOMBIA	4042.6	105.0	0.0	130.0	30.0	0.0	0.0
27	TIMGALEN	AUSTRALI	4013.6	105.0	32.0	90.0	0.0	0.0	24.0
49	KELAJU	GUATEMAL	4002.6	104.3	0.0	95.0	0.0	0.0	24.0
28	TR-236	AUSTRALI	3982.6	103.0	32.0	115.0	60.0	56.0	16.0
38	36896-CJ 54^2 X YT 54A (H)	SUDAN	3978.6	101.0	90.0	105.0	0.0	0.0	8.0
22	(TZPP-SON64XLR64A-TZPP-ANBE) (B)	MEXICO	3954.0	101.0	0.0	90.0	0.0	0.0	0.0
18	CRESPO 63	COLOMBIA	3794.6	105.0	16.0	115.0	30.0	0.0	0.0
36	NAPO 63	COLOMBIA	3752.0	101.0	0.0	115.0	0.0	0.0	30.0

46	TRIPLE DIRK								
17	HUELLJEN	AUSTRALI	3688.0	114.0	24.0	130.0	30.0	0.0	0.0
26	ZIPA 68	CHILE	3684.0	111.0	0.0	110.0	0.0	0.0	0.0
10	KLEIN RENDIDOR	COLOMBIA	3597.3	112.6	0.0	105.0	0.0	0.0	48.0
45	CIANO "S"	ARGENTIN	3590.6	110.3	30.0	110.0	0.0	0.0	0.0
29	PALMIRA 1	MEXICO	3589.3	99.0	0.0	90.0	40.0	0.0	12.0
23	C-271XWT X SJN 54 (E)	COLOMBIA	3554.6	106.0	0.0	120.0	60.0	0.0	4.8
32	CHRIS	PAKISTAN	3399.3	103.0	32.0	90.0	0.0	0.0	16.0
48	KLOKA WM 1353	U.S.A.	3337.3	111.6	40.0	130.0	30.0	0.0	4.0
3	CHIM	GERMANY	3320.0	113.0	0.0	100.0	0.0	0.0	4.0
50	LOCAL CHECK	U.S.A.	3318.6	111.0	0.0	125.0	90.0	0.0	0.0
21	KENYA LEOPARD		3288.0	116.6	0.0	110.0	0.0	0.0	24.0
6	CARAZINHO	KENYA	3225.3	117.3	0.0	120.0	80.0	0.0	0.0
35	GABUTO	BRAZIL	3216.0	111.3	0.0	125.0	30.0	56.0	0.0
4	BUCK MANANTIAL	ARGENTIN	3149.3	113.3	24.0	125.0	30.0	0.0	24.0
8	PIAMONTES	ARGENTIN	2914.6	122.0	60.0	120.0	30.0	0.0	0.0
12	GABO	ARGENTIN	2882.6	115.6	0.0	115.0	0.0	0.0	0.0
2	MANITOU	AUSTRALI	2740.0	103.0	80.0	110.0	0.0	0.0	0.0
39	4255 - HO.3 (MO K K-Y) K (WIS - SUP) (F6)	CANADA	2657.3	122.6	90.0	120.0	40.0	0.0	0.0
9	THATCHER	KENIA	2457.3	116.0	60.0	125.0	30.0	0.0	0.0
5	SELKIRK	U.S.A.	2350.6	123.3	90.0	130.0	30.0	48.0	0.0
37	C-306	CANADA	2237.3	124.6	0.0	125.0	40.0	0.0	24.0
		INDIA	0.0	102.3	0.0	130.0	80.0	0.0	40.0
		GRAND MEAN	3721.6	107.9	25.4	104.8	16.3	12.3	14.1
	STANDARD ERROR OF GRAND MEAN		56.9	0.1					
	COEFFICIENT OF VARIATION		18.6	1.4					
	LSD VARIETY MEANS 5 PC		1135.9	2.5					

CORRELATIONS

YIELD	KG/HA						
DAYS TO FLOWER		-0.43**					
STRIPE RUST		-0.05	0.00				
HEIGHT	CM.	-0.65**	0.48**	-0.03			
LODGING		-0.55**	0.27*	-0.07	0.53**		
MILDEW		0.20	-0.19	0.22	-0.24	-0.07	
SEPTORIA	SPP.	0.03	-0.25	0.06	-0.26	-0.10	0.24

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 39

AFRICA RHODESIA
SALISBURY, RESEARCH STATION.
LATITUDE 017'48 S LONGITUDE 031°05' E ELEVATION +01495 METERS ABOVE SEA LEVEL
COOPERATORS I.B.EDWARDS,M.S.ARNOTT.
DATE PLANTED 05/05/70 DATE HARVESTED / /73
NUMBER OF IRRIGATIONS RAIN TIMES 0 AMOUNT OF MOISTURE 0862 MM
NITROGEN 190.0 KG/HA PHOSPHORUS 249.2 KG/HA POTASSIUM 083.8 KG/HA

LOCAL CHECK VARIETY NOT SPECIFIED. SOME DAMAGE DUE TO BIRDS AND RATS.
A LITTLE STEM RUST WAS OBSERVED IN SOME OF THE LATER VARIETIES. THE
WINTER WAS GENERALLY MILD, WITH NO FROST.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.	LODGING
24	SUN 64 X C-271	PAKISTAN	7640.3	83.9	93.0	141.0	96.5	25.5
30	(LRKH ILB)X AN3 E	AUSTRALI	7535.9	83.3	99.6	145.3	88.0	50.0
50	LOCAL CHECK		7398.1	76.9	94.6	145.0	74.5	0.0
38	36895-CJ 54 2 X YT 54A (H)	SUDAN	7354.8	78.6	91.6	140.3	117.6	65.0
43	TURPIN 7	SOUTH AF	7034.8	79.6	99.3	144.3	69.4	15.0
1	SUN 64 X KL. RENDIDOR	ARGENTIN	5972.6	82.9	35.0	131.6	101.5	26.6
42	ZAMBEZI	RHODESIA	5873.7	81.1	91.6	137.3	99.9	6.6
25	LR X P41663 (E) TI	PAKISTAN	5745.9	83.9	94.0	136.3	96.5	23.3
15	SIETE CERROS	MEXICO	5518.2	79.4	97.0	143.3	104.9	43.3
40	SUN 64 X TZPP-VAI 60 (B)	ARGENTIN	5432.6	80.9	95.3	139.0	104.9	1.6
22	(TZPP-SUN64)X(LR64A-TZPP-ANJE) (B)	MEXICO	5192.6	84.4	89.6	134.0	102.4	31.6
11	PITIC 62	MEXICO	5129.3	75.5	95.3	137.3	105.8	80.0
41	LONGI	RHODESIA	5057.1	81.7	85.3	130.6	92.2	3.3
44	PATO ARGENTINO	ARGENTIN	5034.9	81.7	96.3	141.3	107.5	40.0
31	PENJAMO 62	MEXICO	5037.1	81.0	94.6	137.3	102.4	85.0
47	SONALIKA	INDIA	5666.0	85.4	82.6	131.6	115.9	23.3
23	C-271XKT X SUN 54 (E)	PAKISTAN	5535.0	81.7	101.0	143.0	109.2	81.5
33	INIA 66	MEXICO	5126.1	85.1	86.0	127.6	115.1	5.0
45	CIANO "S"	MEXICO	5096.1	82.3	85.0	135.0	96.5	91.5
34	TUBARI 65	MEXICO	4978.3	81.8	93.3	138.6	104.9	75.0
7	VICTOR I	ITALY	4947.2	80.6	113.3	146.6	100.7	46.5
36	NAPO 63	COLOMBIA	4832.8	82.2	86.3	131.0	116.8	81.6
20	LERMA ROJO 64A	MEXICO	4629.5	81.8	99.6	133.0	119.0	75.0
19	SONORA 64	MEXICO	4501.7	82.6	83.3	127.0	99.9	23.3
12	GABO	AUSTRALI	4336.2	78.8	93.6	131.6	115.1	76.6
4	BUCK MANANTIAL	ARGENTIN	4175.1	78.4	109.3	145.3	125.3	88.3
26	ZIPA 68	COLOMBIA	4146.2	80.9	94.6	134.3	109.2	51.6
21	KENYA LEOPARD	KENYA	4136.2	80.9	108.6	146.3	109.2	95.0

29	PALMIRA I	COLOMBIA	4373.7	78.3	91.3	129.6	116.8	81.6
17	HUELLJEN	CHILE	4041.8	80.8	95.3	140.0	118.5	78.3
28	TK-236	AUSTRALI	3971.8	81.9	91.6	137.0	104.1	91.6
27	TIMGALEN	AUSTRALI	3831.8	79.4	100.3	142.6	99.0	86.5
37	C-306	INDIA	3774.0	82.1	99.0	143.3	116.8	100.0
39	4265 - HD.3 (MD X K-Y) X (WIS - SUP) (F6)	KENIA	3655.1	80.3	104.0	145.6	112.6	95.0
13	NAINARI 60	MEXICO	3615.1	79.9	97.0	143.0	110.9	88.3
3	CRIM	U.S.A.	3376.3	81.5	95.3	141.0	123.6	91.5
16	BONZA 55	COLOMBIA	3216.3	79.4	97.6	143.3	121.0	91.5
49	KELAJU	GUATEMAL	3138.5	82.4	97.6	141.0	112.6	83.3
35	GABOTO	ARGENTIN	2983.0	78.3	106.6	147.6	122.7	100.0
14	GIZA 155	EGYPT	2980.8	80.4	95.3	144.3	115.9	95.0
8	PIAMONTES	ARGENTIN	2978.5	80.1	106.6	144.3	115.1	93.3
46	TRIPLE DIRK	AUSTRALI	2934.1	81.7	96.6	138.0	128.6	76.6
6	CARAZINHO	BRAZIL	2927.4	78.9	111.3	148.6	103.2	100.0
18	CRESPO 63	COLOMBIA	2859.7	80.3	93.0	138.3	115.1	81.6
48	KLOKA WM 1353	GERMANY	2850.8	78.9	98.0	141.3	117.6	45.0
5	SELKIRK	CANADA	2698.6	74.6	116.0	151.0	133.7	93.3
32	CHRIS	U.S.A.	2656.3	82.1	97.0	135.3	142.2	93.3
10	KLEIN RENDIDOR	ARGENTIN	2656.3	78.1	125.3	158.0	105.8	100.0
9	THATCHER	U.S.A.	2553.0	76.3	115.6	149.3	114.2	100.0
2	MANITOU	CANADA	2474.1	75.4	122.3	151.3	126.9	95.0
		GRAND MEAN	4655.0	80.6	97.6	140.1	119.4	65.4
	STANDARD ERROR OF GRAND MEAN		60.0	0.1	0.2	0.3	0.6	1.5
	COEFFICIENT OF VARIATION		15.7	2.5	2.5	2.6	7.1	29.2
	LSD VARIETY MEANS 5 PC		1200.4	3.3	4.1	6.0	12.8	31.2

CORRELATIONS

YIELD	KG/HA					
TEST	WEIGHT	0.34*				
DAYS TO	FLOWER	-0.49**	-0.64**			
DAYS TO	MATURITY	-0.32*	-0.59**	0.89**		
HEIGHT	CM.	-0.63**	-0.19	0.23	0.05	
LODGING		-0.74**	-0.39**	0.49**	0.43**	0.57**

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 40

AFRICA ANGOLA
NOVA LISBOA.
LATITUDE 012°44'S LONGITUDE 015°53'W ELEVATION 01700 METERS ABOVE SEA LEVEL
COOPERATORS V.GONCALVES DE MACEDO.
DATE PLANTED 02/18/70 DATE HARVESTED 06/ /70
NUMBER OF IRRIGATIONS 001 RAIN TIMES AMOUNT OF MOISTURE 0472 MM
NITROGEN 126.0 KG/HA PHOSPHORUS 040.0 KG/HA POTASSIUM 102.0 KG/HA

MAIA DE VALE WAS THE LOCAL VARIETY. NO WEED OR PEST PROBLEMS. LATE INFECTION OF LEAF AND STEM RUSTS. RAINS STOPPED IN MID-MARCH AND INTO MID-APRIL.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	LEAF RUST	STEM RUST	HEIGHT CM.
25	LR X P41663 (E) TI	PAKISTAN	3568.8	83.8	57.0	111.3	0	-MS¤	58.3
27	TIMGALEN	AUSTRALI	3381.0	81.0	58.6	107.6	0	0	83.3
45	CIANO "S"	MEXICO	3299.9	85.0	42.6	96.3	0	0	58.3
42	ZAMBEZI	RHODESIA	3132.1	84.6	43.0	97.3	TMR	10S	70.0
38	36896-CJ 54^2 X YT 54A (H)	SUDAN	3131.0	81.7	42.6	107.6	10MS	TMS	83.3
47	SONALIKA	INDIA	3129.9	84.5	39.6	92.0	0	S-S¤	71.6
32	CHRIS	U.S.A.	3077.7	82.6	51.3	106.0	0	0	113.3
29	PALMIRA I	COLOMBIA	3049.9	84.6	47.0	96.3	0	TS	95.0
39	4265 - HO.3 (MO X KLY) X (WIS - SUP) (F6)	KENIA	3034.4	82.8	56.0	114.3	0	0	96.6
18	CRESPO 63	COLOMBIA	2975.5	84.3	49.6	100.3	0	10S	103.3
34	TUBARI 66	MEXICO	2924.4	85.2	44.3	96.3	0	TMS	70.0
33	INIA 66	MEXICO	2903.3	86.2	45.0	94.0	0	20S	71.5
8	PIAMONTES	ARGENTIN	2876.6	83.5	55.6	103.6	0	TMS	103.3
31	PENJAMO 62	MEXICO	2819.9	84.9	48.3	95.3	0	30MS	81.6
1	SON 64 X KL. RENDIDOR	ARGENTIN	2813.3	84.5	43.6	93.6	20R	R-MS	70.0
3	CRIM	U.S.A.	2799.9	80.6	62.3	113.0	0	TS	113.3
21	KENYA LEOPARD	KENYA	2783.3	83.1	66.3	120.0	R-MS	0	95.6
20	LERMA ROJO 64A	MEXICO	2775.5	84.2	45.3	96.6	0	80MR	86.6
44	PATO ARGENTINO	ARGENTIN	2725.5	85.8	44.0	95.0	0	TMS	53.3
28	TR-235	AUSTRALI	2673.8	84.8	49.3	98.3	0	20MS	81.6
26	ZIPA 58	COLOMBIA	2635.5	82.2	49.6	101.3	0	20S	93.3
35	GABOTO	ARGENTIN	2629.9	83.7	71.3	120.6	0	MS-S	113.3
36	NAPO 63	COLOMBIA	2564.4	82.3	39.3	86.6	0	TMR	75.0
37	C-306	INDIA	2553.3	84.2	53.3	122.0	10S	20S	101.6
15	SIETE CERROS	MEXICO	2533.3	84.7	45.3	93.3	0	R-MS	71.6
16	BONZA 55	COLOMBIA	2478.8	78.7	58.3	112.0	-MS¤	MS-S	103.3
17	HUELQUEN	CHILE	2475.5	84.1	44.0	93.3	TR	10S	76.6
30	(GREN T/B)x AVA =	AUSTRALI	2368.8	83.8	48.6	100.3	0	80MS	73.0

46	TRIPLE DIFR	AUSTRALI	2253.3	79.2	51.6	98.0	0	S-S3	96.6
40	SUN 64 X TZPP-VAI 5C (B)	ARGENTIN	2336.6	80.4	48.3	98.6	0	-MS0	73.3
11	PITIC 62	MEXICO	2316.6	75.6	49.6	105.0	20MS	50MS	35.5
6	CARACINHO	BRAZIL	2312.1	79.0	51.0	117.6	0	R-MR	106.5
41	LONGI	RHODESIA	2207.7	80.8	44.6	90.3	0	80MS	51.5
22	(TZPP-SUN64)(CK64A-TZPP-AN3E) (B)	MEXICO	2175.5	83.8	42.3	93.0	0	30S	53.3
43	TURPIN 7	SOUTH AF	2144.4	66.5	64.3	119.6	0	30S	58.3
13	NAINARI 5.	MEXICO	2122.2	69.7	53.3	118.3	TR	100S	100.0
49	KELAJU	GUATEMAL	2112.1	80.6	53.3	102.3	0	MS-S	86.6
19	SONORA 64	MEXICO	1992.2	83.2	39.3	87.0	0	90S	56.6
5	SELKIRK	CANADA	1939.9	77.8	73.3	120.0	50MR	10S	106.6
14	GIZA 155	EGYPT	1847.7	79.8	57.0	114.0	R-MS	S-S3	95.0
50	LOCAL CHECK		1773.3	82.2	49.6	98.6	0	MS-S	98.3
7	VICTOR I	ITALY	1659.9	75.1	61.0	110.0	0	60S	66.6
23	C-271XMT X SUN 54 (F)	PAKISTAN	1636.6	75.5	54.3	100.0	20MR	MS-S	35.5
4	BUCK MANANTIAL	ARGENTIN	1457.7	76.0	63.0	118.0	0	10R	88.8
24	SUN 54 X C-271	PAKISTAN	1441.0	80.7	45.3	94.6	0	-40S	53.0
48	KLORA WM 1353	GERMANY	1331.0	77.1	59.0	96.0	0	-MS0	81.6
12	GABO	AUSTRALI	886.6	66.6	53.6	96.3	TS	100S	91.6
2	MANITOU	CANADA	783.3	80.1	76.3	127.6	0	TS	93.3
9	THATCHER	U.S.A.	227.7	79.6	83.3	124.0	30MS	R-MS	80.0
10	KLEAN KENDIDOR	ARGENTIN	0.0	80.2	52.0	101.0	10R	10R	84.0
		GRAND MEAN	2345.1	81.0	52.7	103.9	2.5	28.2	96.0
		STANDARD ERROR OF GRAND MEAN	46.1	0.1	0.1	0.2			0.4
		COEFFICIENT OF VARIATION	24.1	2.3	2.8	3.0			5.5
		LSD VARIETY MEANS 5 PC	923.9	2.0	2.4	5.2			9.1

CORRELATIONS

YIELD	KG/HA						
TEST	WEIGHT	0.52**					
DAYS TO	FLOWER	-0.39**	-0.38**				
DAYS TO	MATURITY	-0.20	-0.31*	0.97**			
LEAF	RUST	-0.27	-0.13	0.44**	0.45**		
STEM	RUST	-0.32*	-0.44**	-0.12	-0.20	-0.03	
HEIGHT	CM.	0.01	-0.08	0.50**	0.54**	0.23	-0.13

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 14

MIDDLE EAST TURKEY
ESKISEHIR,PLANT BREEDING AND EXPERIMENT STATION.
LATITUDE 039°45'N LONGITUDE 030°39'E ELEVATION 000789 METERS ABOVE SEA LEVEL
COOPERATORS F.ALTAY.
DATE PLANTED 04/02/70 DATE HARVESTED 08/ /70
NUMBER OF IRRIGATIONS 000 RAIN TIMES AMOUNT OF MOISTURE 0927 MM
NITROGEN 100.0 KG/HA PHOSPHORUS 025.2 KG/HA POTASSIUM 000.0 KG/HA

LOCAL VARIETY NOT IDENTIFIED. FALL WAS VERY DRY. WINTER MILD AND RAINY.
VERY DRY AND COOL SPRING. SUMMER WAS DRY. BIRD DAMAGE WAS A PROBLEM.
WEEDS CONTROLLED WITH 2,4-D APPLIED TWICE. STEM RUST DEVELOPMENT SEVERE.
STRIPE AND LEAF RUSTS LATE AND MILD FOR THIS AREA.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.	1000 GRN WGT GRMS
34	TUBARI 66	MEXICO	4416.6	84.9	68.3	106.0	82.0	37.1
42	ZAMBEZI	RHODESIA	4250.0	81.1	71.0	112.0	76.6	32.8
49	KELAJU	GUATEMAL	4233.3	80.4	70.0	110.3	94.3	39.3
50	LOCAL CHECK		4191.6	79.8	74.0	111.0	112.0	30.7
1	SUN 54 X K1. RENDIDOR	ARGENTIN	4133.3	81.2	67.0	102.3	83.6	36.1
28	TK-236	AUSTRALI	4066.6	80.9	69.0	107.0	90.3	42.5
36	NAPU 63	COLOMBIA	3975.0	81.1	67.0	103.3	94.0	38.1
15	SIETE CERROS	MEXICO	3941.6	80.3	72.0	110.3	78.6	31.2
45	CIANO "S"	MEXICO	3875.0	81.7	68.3	105.3	70.6	38.3
38	30896-CJ 54^2 X YT 54A (H)	SUDAN	3808.3	78.3	68.3	111.6	86.0	41.0
25	LR X P4163 (E) T1	PAKISTAN	3791.6	82.1	69.3	107.3	64.0	39.0
29	PALMIRA I	COLOMBIA	3741.6	78.3	66.6	101.6	99.3	42.4
41	LONDI	RHODESIA	3658.3	79.7	69.0	107.0	66.6	35.8
11	PITIC 62	MEXICO	3633.3	76.0	72.0	107.0	83.6	33.2
40	SUN 54 X T2P2-NAI 50 (B)	ARGENTIN	3633.3	79.2	67.0	107.0	73.3	38.4
30	LRXN 1.8)X ANB E	AUSTRALI	3658.3	78.9	73.3	112.0	67.3	34.0
46	TRIPLE DIKK	AUSTRALI	3400.0	81.5	72.6	108.6	103.6	42.7
31	PENJAMO 62	MEXICO	3325.0	81.9	58.3	101.6	72.3	37.7
44	PATO ARGENTINO	ARGENTIN	3300.0	82.2	69.0	105.3	78.3	31.5
21	KENYA LEOPARD	KENYA	3283.3	82.3	77.0	117.0	109.6	37.8
23	C-271XWT X SUN 64 (E)	PAKISTAN	3256.6	81.5	66.0	101.6	79.3	38.4
33	INIA 66	MEXICO	3241.6	83.2	67.3	97.3	76.6	38.7
39	4255 - HD.3 (MD X K-Y) X (WIS - SUP) (F6)	KENIA	3216.6	81.6	74.0	113.6	101.0	38.5
3	CRIM	U.S.A.	3183.3	81.6	70.0	102.6	109.0	36.2
27	TIMGALEN	AUSTRALI	3033.3	78.3	73.3	110.3	74.6	31.4

47	SUNALIKA	INDIA	2916.6	78.5	66.0	108.6	80.0	44.5
22	(TZPP-SON64XLR64A-TZPP-AN3E) (B)	MEXICO	2938.3	82.6	57.0	106.0	73.3	36.7
2	MANITOU	CANADA	2866.6	79.8	74.0	107.0	109.0	28.9
20	LERMA ROJO 64A	MEXICO	2866.6	81.6	70.0	105.0	85.0	39.8
18	CRESPO 63	COLOMBIA	2833.3	82.0	75.0	107.0	101.0	38.5
17	HUELQUEN	CHILE	2783.3	80.8	71.6	110.3	95.0	37.7
35	GABUTO	ARGENTIN	2775.0	80.7	74.0	113.6	108.3	31.8
26	ZIPA 68	COLOMBIA	2741.6	78.4	72.6	112.0	84.0	34.0
7	VICTOR I	ITALY	2738.3	75.5	77.0	115.0	66.3	31.4
37	C-306	INDIA	2625.0	78.9	71.0	112.6	95.3	41.3
9	THATCHER	U.S.A.	2616.6	79.3	73.3	107.0	113.0	29.2
16	BONZA 55	COLOMBIA	2591.6	76.1	74.0	112.3	101.0	32.9
32	CHRIS	U.S.A.	2558.3	80.8	72.6	107.0	110.0	30.9
6	CARAZINHO	BRAZIL	2500.0	79.4	75.0	110.3	93.6	38.4
14	GIZA 155	EGYPT	2475.0	80.7	70.0	112.0	84.0	39.3
13	NAINARI 60	MEXICO	2441.6	74.1	73.0	98.3	77.0	33.0
43	TURPIN 7	SOUTH AF	2291.6	78.3	68.3	106.0	49.3	36.9
24	SON 64 X C-271	PAKISTAN	2225.0	79.2	71.0	111.0	58.3	38.4
4	BUCK MANANTIAL	ARGENTIN	2208.3	80.7	74.0	110.3	91.0	31.9
19	SONORA 64	MEXICO	2158.3	79.4	67.6	96.6	64.0	32.6
48	KLOKA WM 1353	GERMANY	2133.3	77.3	75.0	112.0	81.6	28.7
8	PIAMONTES	ARGENTIN	2033.3	79.7	74.0	112.6	87.3	33.8
5	SELKIRK	CANADA	2033.3	75.9	76.0	106.0	101.6	33.1
12	GABO	AUSTRALI	1815.6	77.5	59.0	95.6	86.0	29.2
10	KLEIN RENDIDOR	ARGENTIN	0.0	76.6	71.0	106.0	0.0	36.5
		GRAND MEAN	3040.3	79.8	70.8	107.6	84.2	35.9
		STANDARD ERROR OF GRAND MEAN	50.4	0.1	0.1	0.2	0.6	0.1
		COEFFICIENT OF VARIATION	20.3	2.3	2.0	2.9	9.0	5.3
		LSD VARIETY MEANS 5 PC	1039.3	3.0	2.4	5.2	12.4	3.1

CORRELATIONS

YIELD	KG/HA					
TEST	WEIGHT	0.45**				
DAYS TO	FLOWER	-0.28*	-0.31*			
DAYS TO	MATURITY	0.05	-0.05	0.65**		
HEIGHT	CM.	0.34*	0.18	0.30*	0.17	
1000 GRN	WGT GRMS	0.25	0.31*	-0.50**	-0.02	-0.07

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 15

MIDDLE EAST TURKEY
ANKARA,
LATITUDE 039°57'N LONGITUDE 032°53'E ELEVATION +00850 METERS ABOVE SEA LEVEL
COOPERATORS A.DEMIRLICAKMAK.
DATE PLANTED 03/05/70 DATE HARVESTED 07/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0303 MM
NITROGEN 104.2 KG/HA PHOSPHORUS 014.4 KG/HA POTASSIUM 000.0 KG/HA

RUDEKI WAS THE LOCAL VARIETY. NO WEED OR PEST PROBLEMS. THE FALL AND SPRING WERE VERY DRY.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	HEIGHT CM.	1000 GRN WGT GRMS
2	MANITOU	CANADA	1299.8	78.0	79.0	90.0	28.0
11	PITIC 62	MEXICO	1283.2	76.0	75.0	80.0	33.0
50	LOCAL CHECK		1255.5	74.7	79.0	100.0	26.0
42	ZAMBEZI	RHODESIA	1211.0	80.0	74.0	70.0	30.0
4	BUCK MANANTIAL	ARGENTIN	911.0	81.5	77.0	90.0	31.0
9	THATCHER	U.S.A.	877.6	78.7	78.0	100.0	27.0
1	SUN 64 X K1. RENDIDOR	ARGENTIN	855.4	78.7	75.0	75.0	34.0
3	CHIM	U.S.A.	844.3	78.0	7 .0	100.0	30.0
15	SIETE CERROS	MEXICO	835.4	79.1	7 .0	70.0	30.0
47	SONALIKA	INDIA	788.8	78.7	71.0	70.0	35.0
18	CRESPO 63	COLOMBIA	772.1	80.0	76.0	90.0	34.0
46	TRIPLE DIRK	AUSTRALI	755.4	79.1	78.0	90.0	35.0
8	PIAMONTES	ARGENTIN	733.2	80.3	77.0	90.0	35.0
6	CARAZINHO	BRAZIL	717.4	78.0	75.0	100.0	33.0
23	C-271 WT X SUN 54 (E)	PAKISTAN	716.5	80.0	74.0	70.0	30.0
10	KLEIN RENDIDOR	ARGENTIN	699.9	79.5	78.0	90.0	33.0
27	TIMGALEN	AUSTRALI	694.3	78.3	78.0	60.0	30.0
39	4255 - HD.3 (ND K (-Y) K (WIS - SUP) (F5)	KENIA	694.3	77.5	76.0	85.0	30.0
35	GABUTO	ARGENTIN	677.7	78.7	78.0	95.0	24.0
36	NAPO 63	COLOMBIA	672.1	80.0	76.0	80.0	29.0
14	GIZA 155	EGYPT	672.1	80.0	73.0	85.0	35.0
21	KENYA LEOPARD	KENYA	672.1	80.3	76.0	80.0	30.0
49	KELAJO	GUATEMAL	627.7	80.3	75.0	65.0	32.0
43	TURPIN 7	SOUTH AF	622.1	76.7	72.0	50.0	38.0
28	TK-236	AUSTRALI	611.0	78.7	75.0	70.0	32.0
25	LR X P41663 (E) TI	PAKISTAN	594.3	80.7	76.0	65.0	40.0
12	GABO	AUSTRALI	594.3	76.3	74.0	75.0	34.0
19	SONORA 64	MEXICO	583.2	78.0	72.0	65.0	31.0

16	BONZA 55	COLOMBIA	577.7	76.3	76.0	90.0	34.0
34	TOBARI 66	MEXICO	572.1	79.5	75.0	85.0	27.0
45	CIANJ "S"	MEXICO	572.1	79.5	74.0	60.0	29.0
7	VICTOR I	ITALY	555.4	77.5	79.0	65.0	29.0
37	C-306	INDIA	549.9	81.1	76.0	80.0	32.0
44	PATO ARGENTINO	ARGENTIN	516.6	80.3	74.0	70.0	25.0
32	CHRIS	U.S.A.	511.0	78.3	78.0	50.0	25.0
13	NAINARI 60	MEXICO	494.3	78.0	73.0	80.0	35.0
33	INIA 66	MEXICO	449.9	80.0	74.0	65.0	30.0
17	HUELQUEN	CHILE	438.8	78.3	75.0	85.0	33.0
29	PALMIRA I	COLOMBIA	427.7	75.5	75.0	80.0	32.0
38	36896-LJ 54^2 X YT 54A (H)	SJOAN	416.6	76.3	77.0	80.0	35.0
30	(LRKN 1JB)X AN3 E	AUSTRALI	377.7	79.1	74.0	65.0	26.0
22	(TZPP-SUN54)X(LR64A-TZPP-AN3E) (B)	MEXICO	373.1	80.3	72.0	65.0	30.0
48	KLOKA WM 1353	GERMANY	372.1	76.0	79.0	75.0	23.0
5	SELKIRK	CANADA	351.0	74.3	78.0	95.0	27.0
26	ZIPA 68	COLOMBIA	351.0	74.3	79.0	70.0	25.0
20	LERMA ROJO 64A	MEXICO	349.9	79.5	73.0	80.0	35.0
41	LUNDI	RHODESIA	306.3	76.7	72.0	60.0	25.0
31	PENJAMO 62	MEXICO	277.7	76.0	75.0	65.0	26.0
24	SUN 64 X C-271	PAKISTAN	272.1	77.1	75.0	60.0	30.0
40	SUN 64 X TZPP-NAI 60 (B)	ARGENTIN	251.3	74.3	75.0	65.0	29.0
		GRAND MEAN	628.9	78.3	75.5	76.7	30.6
		STANDARD ERROR OF GRAND MEAN	35.7				
		COEFFICIENT OF VARIATION	59.5				
		LSD VARIETY MEANS 5 PC	714.0				

CORRELATIONS

YIELD	KG/HA				
TEST	WEIGHT	0.17			
DAYS TO	FLOWER	0.23	-0.20		
HEIGHT	CM.	0.44**	-0.00	0.37**	
1000 GRN WGT	GRMS	0.13	0.25	-0.33*	0.04

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 16

MIDDLE EAST TURKEY
ADAPAZARI, AGRICULTURAL EXPERIMENT STATION.
LATITUDE 040 47'N LONGITUDE 029 33'E ELEVATION +00033 METERS ABOVE SEA LEVEL
COOPERATORS S.DEMIROZ.
DATE PLANTED 11/27/69 DATE HARVESTED 06/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0584.44
NITROGEN 016.0 KG/HA PHOSPHORUS 000.0 KG/HA POTASSIUM 004.0 KG/HA

MENTANA WAS THE LOCAL VARIETY. WINTER WAS MILD WITH GOOD RAINS. NO WEED OR PEST PROBLEMS NOTED. THERE WERE NATUPAL EPIDEMICS OF THE THREE RUSTS.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.	LODGING	1000 GRN WGT GRMS
40	SUN 64 X TZPP-NAI 60 (B)	ARGENTIN	5477.2	80.3	137.3	189.0	96.6	23.3	40.4
23	C-271XMT X SUN 54 (E)	PAKISTAN	5443.8	75.3	135.0	181.0	97.3	20.0	35.3
31	PENJAMO 62	MEXICO	5299.4	75.8	134.3	182.3	97.0	33.3	35.9
44	PATO ARGENTINO	ARGENTIN	5277.2	70.3	136.0	191.0	97.3	3.3	30.4
18	CRESPO 63	COLOMBIA	5099.4	72.3	133.6	183.0	105.3	20.0	32.4
7	VICTOR I	ITALY	5021.7	70.8	141.3	186.0	87.6	0.0	30.8
22	(TZPP-SUN64XLR64A-TZPP-ANJE) (B)	MEXICO	4849.5	75.0	133.3	181.0	89.0	5.0	35.9
47	SUNALIKA	INDIA	4810.6	82.2	132.6	186.0	94.6	8.3	42.3
13	NAINARI 56	MEXICO	4755.0	77.4	135.6	185.3	107.6	5.5	37.3
19	SONORA 64	MEXICO	4755.0	70.9	132.6	182.0	92.0	6.6	30.9
33	INIA 66	MEXICO	4721.7	75.8	134.3	180.0	94.3	10.0	35.9
25	LR X P416L3 (E) TI	PAKISTAN	4721.7	75.6	136.3	179.0	86.3	0.0	35.6
15	SIETE CERROS	MEXICO	4710.5	70.7	141.6	183.0	91.6	33.3	25.4
28	TK-636	AUSTRALI	4693.9	76.2	134.3	191.0	107.0	11.6	36.3
29	PALMIRA I	COLOMBIA	4638.4	70.2	133.6	194.0	114.3	75.0	39.3
26	ZIPA 58	COLOMBIA	4555.1	[illegible]	138.6	179.0	108.0	8.3	34.6
30	(LRKN 168)X ANJ E	AUSTRALI	4555.2	71.3	140.0	186.0	90.3	0.0	31.3
38	36896-CJ 542 X YT 54A (H)	SUDAN	4555.2	77.4	137.0	188.0	98.3	13.3	37.5
1	SUN 64 X KL. RENDIDOR	ARGENTIN	4549.5	74.6	133.6	185.0	96.6	35.0	34.5
45	GIANO "S"	MEXICO	4543.9	74.1	132.6	181.0	88.3	48.3	34.1
20	LERMA ROJO 64A	MEXICO	4532.8	77.2	134.6	181.0	104.0	51.6	37.1
11	PITIC 62	MEXICO	4499.5	72.1	144.6	183.3	98.6	65.0	31.5
27	TIMGALEN	AUSTRALI	4499.5	74.3	137.6	191.0	97.3	65.0	34.0
12	GABO	AUSTRALI	4410.6	72.8	133.6	185.0	107.3	8.3	32.5
41	LUNDI	RHODESIA	4356.2	70.2	133.3	181.0	90.0	0.0	30.2
4	BUCK MANANTIAL	ARGENTIN	4356.2	69.7	150.3	193.0	124.6	56.6	27.6
34	TUBARI 66	MEXICO	4356.2	73.2	133.3	184.3	90.0	8.3	33.4
21	KENYA LEOPARD	KENYA	4256.2	73.4	142.3	191.0	101.3	78.3	33.4

49	KELAJJ								
48	KLOKA WM 1353	GUATEMAL	4255.2	75.9	132.6	181.0	99.3	28.3	35.4
6	CARAZINHO	GERMANY	4255.1	77.5	142.0	190.0	117.0	10.0	25.0
42	ZAMBEZI	BRAZIL	4199.5	76.7	139.0	192.0	113.3	76.6	36.8
36	NAPU 63	RHODESIA	4177.3	69.8	138.3	192.0	92.6	10.0	29.2
14	GIZA 155	COLOMBIA	4099.5	72.8	133.0	184.0	103.3	16.6	33.0
46	TRIPLE DIRK	EGYPT	4038.4	79.8	138.0	185.0	111.3	28.3	39.8
50	LOCAL CHECK	AUSTRALI	3998.4	79.9	143.3	192.0	116.6	13.3	40.1
17	HUELQUEN		3955.1	75.6	132.3	183.0	108.0	48.3	35.5
39	4255 - HD.3 (MD x K-Y) x (WIS - SUP) (F6)	CHILE	3910.7	76.4	137.3	186.0	109.0	36.5	35.4
32	CHRIS	KENIA	3899.6	75.2	143.3	191.0	106.6	75.0	35.1
43	TURPIN 7	U.S.A.	3877.3	71.6	141.0	187.0	122.6	45.5	32.0
35	GABUTO	SOUTH AF	3856.2	72.5	139.6	179.0	75.6	0.0	32.4
10	KLEIN RENDIDOR	ARGENTIN	3749.6	70.5	139.3	182.0	117.0	66.5	33.6
3	CRIM	ARGENTIN	3705.1	74.9	136.6	185.0	109.6	23.3	35.0
16	BONZA 55	U.S.A.	3610.7	73.2	142.3	189.0	108.0	63.3	33.3
2	MANITOU	COLOMBIA	3599.6	70.1	134.3	190.0	109.3	3.3	30.1
24	SUN 64 X C-271	CANADA	3599.6	71.9	147.6	191.0	129.6	63.3	28.0
8	DIAMONTES	PAKISTAN	3349.6	70.2	135.3	181.0	86.6	0.0	28.3
5	SELKIRK	ARGENTIN	3094.1	76.7	143.0	185.0	115.0	33.3	35.1
9	THATCHER	CANADA	2855.2	68.9	146.6	196.0	132.0	33.3	27.7
37	C-306	U.S.A.	2593.0	69.1	149.6	193.0	129.6	73.3	23.2
		INDIA	2110.8	70.6	134.6	180.0	111.3	68.3	28.9
		GRAND MEAN	4257.3	74.1	137.8	185.9	103.5	30.1	33.4
	STANDARD ERROR OF GRAND MEAN		38.1	0.1	0.2	0.1	0.4	1.7	0.1
	COEFFICIENT OF VARIATION		10.9	2.1	1.9	0.8	5.8	71.1	4.5
	LSD VARIETY MEANS 5 PC		753.5	2.5	4.3	2.6	9.8	35.0	2.4

CORRELATIONS

YIELD	KG/HA						
TEST	WEIGHT	0.34*					
DAYS TO	FLOWER	-0.39**	-0.27*				
DAYS TO	MATURITY	-0.17	-0.01	0.53**			
HEIGHT	CM.	-0.51**	-0.02	0.54**	0.57**		
LODGING		-0.37**	-0.02	0.40**	0.35*	0.52**	
1000 GRN	WGT GRMS	0.41**	0.87**	-0.44**	-0.12	-0.17	-0.05

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVE.

TABLE LOCATION 17

MIDDLE EAST IRAN
GORGAN.
LATITUDE 031°20'N LONGITUDE 048°50'E ELEVATION +00020 METERS ABOVE SEA LEVEL
COOPERATORS M.DADAIN.
DATE PLANTED 01/03/70 DATE HARVESTED 06/ /70
NUMBER OF IRRIGATIONS 005 RAIN TIMES AMOUNT OF MOISTURE MM
NITROGEN 120.0 KG/HA PHOSPHORUS 025.4 KG/HA POTASSIUM 000.0 KG/HA

LOCAL VARIETY NOT IDENTIFIED. SEASON WAS NORMAL WITH 176 MM. OF RAIN.
RUST DEVELOPMENT WAS NORMAL.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	HEIGHT CM.	1000 GRN WGT GRMS
47	SUNALIKA	INDIA	4010.7	124.0	89.0	51.6
45	CIANJ "S"	MEXICO	3944.0	128.0	82.6	39.6
30	(LRKN 1.B)X AN3 E	AUSTRALI	3577.4	141.0	84.3	31.5
31	PENJAMO 62	MEXICO	3456.3	133.0	91.6	38.6
29	PALMIRA I	COLOMBIA	3321.8	120.0	105.6	44.3
44	PATO ARGENTINO	ARGENTIN	3266.3	136.0	85.0	34.5
20	LERMA ROJO 64A	MEXICO	3244.1	128.0	97.0	43.6
23	C-271XWT X SON 54 (E)	PAKISTAN	3155.2	130.0	88.0	42.3
37	C-306	INDIA	3144.1	126.0	111.6	41.6
10	KLEIN KENDIDOR	ARGENTIN	3144.1	120.0	104.3	38.0
15	SIETE CERROS	MEXICO	3133.0	142.0	89.6	32.0
13	NAINARI 5L	MEXICO	3133.0	132.0	90.0	32.0
33	INIA 66	MEXICO	3121.9	126.0	85.6	41.5
7	VICTOR I	ITALY	3099.5	142.0	71.6	33.0
16	BONZA 55	COLOMBIA	3033.0	132.0	108.6	32.6
17	HUELQUEN	CHILE	3033.0	142.0	93.0	35.0
49	KELAJU	GUATEMAL	2977.4	130.0	94.0	40.0
40	SON 64 X TZPP-NAI 66 (B)	ARGENTIN	2955.2	134.0	84.3	35.0
36	NAPO 55	COLOMBIA	2866.3	120.0	100.0	34.0
11	PITIC 62	MEXICO	2866.3	142.0	80.6	38.0
1	SON 64 X KL. RENDIDOR	ARGENTIN	2844.1	140.0	76.0	39.0
41	LONDI	RHODESIA	2833.0	136.0	74.6	35.5
27	TIMGALEN	AUSTRALI	2833.0	135.0	93.3	33.0
46	TRIPLE DIRK	AUSTRALI	2833.0	142.0	104.3	38.5
18	CRESPO 63	COLOMBIA	2810.8	132.0	103.3	38.3
26	ZIPA 68	COLOMBIA	2777.4	140.0	89.6	34.3
6	CARAZINHO	BRAZIL	2755.2	166.0	106.3	36.6
28	TK-236	AUSTRALI	2733.0	127.0	96.6	40.3

32	CHRIS	U.S.A.	2588.6	135.0	113.0	28.0
22	(TCPP-SUN54)C K64A-TZPP-ANSE) (B)	MEXICO	2577.5	130.0	85.6	37.5
38	36895-CJ 54² X YT 54A (H)	SUDAN	2566.4	129.0	85.0	36.5
34	TUBARI 66	MEXICO	2513.8	126.0	82.3	42.0
14	GIZA 155	EGYPT	2466.4	133.0	100.3	37.0
8	PIAMONTES	ARGENTIN	2433.0	130.0	106.6	35.6
21	KENYA LEOPARD	KENYA	2421.9	145.0	104.3	33.3
24	SUN 54 X L-271	PAKISTAN	2399.7	131.0	76.0	35.0
4	BUCK MANANTIAL	ARGENTIN	2299.7	147.0	103.0	25.3
25	LR A P4165 (E) TI	PAKISTAN	2238.6	129.0	70.3	43.0
50	LOCAL CHECK		2256.4	134.0	96.3	42.0
39	4255 - HD.3 (MJ X C-Y) X (WIS - SUP) (F6)	KENIA	2221.9	141.0	108.6	33.0
48	KEJRA WM 1353	GERMANY	2199.7	143.0	101.3	24.3
35	GABOTO	ARGENTIN	2188.6	142.0	93.6	28.5
42	ZAMBEZI	RHODESIA	2010.9	141.0	80.0	33.0
3	CRIM	U.S.A.	1999.7	141.0	110.6	27.5
43	TURPIN 7	SOUTH AF	1944.2	136.0	56.0	34.0
12	GABO	AUSTRALI	1877.5	163.0	92.6	25.6
19	SONORA 64	MEXICO	1822.0	130.0	75.0	30.0
2	MANITOU	CANADA	1466.5	146.0	115.3	18.3
9	THATCHER	U.S.A.	1311.0	140.0	90.6	17.0
5	SELKIRK	CANADA	811.0	154.0	96.3	19.5
		GRAND MEAN	2053.7	136.8	92.6	34.8
	STANDARD ERROR OF GRAND MEAN		47.0		1.2	0.3
	COEFFICIENT OF VARIATION		21.6		15.9	10.3
	LSD VARIETY MEANS 5 PC		943.4		24.1	5.8

CORRELATIONS

YIELD	KG/HA			
DAYS TO	FLOWER	-0.49**		
HEIGHT	CM.	-0.08	0.18	
1000 GRN	WGT GRMS	0.71**	-0.63**	-0.20

SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 22

MIDDLE EAST IRAN
AHWAZ,KHUZESTAN.
LATITUDE 31° 20' N LONGITUDE 048°43' E ELEVATION 43923 METERS ABOVE SEA LEVEL
COOPERATORS M.DASAIN.
DATE PLANTED 01/03/70 DATE HARVESTED 06/ /70
NUMBER OF IRRIGATIONS 005 RAIN TIMES AMOUNT OF MOISTURE MM
NITROGEN 120.0 KG/HA PHOSPHORUS 025.4 KG/HA POTASSIUM 000.0 KG/HA

LOCAL CHECK VARIETY WAS NOT SPECIFIED. RAINFALL WAS NORMAL. CLIMATIC CONDITIONS CONSIDERED NORMAL.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	DAYS TO MATURITY	STRIPE RUST	HEIGHT CM.	1000 GRN WGT GRMS
23	C-271XNT X SON 64 (E)	PAKISTAN	4277.3	65.3	131.0	10MS	95.0	36.0
25	LR X P4163B (E) TI	PAKISTAN	3932.9	65.0	134.0	30S	78.3	39.5
34	TOBARI 66	MEXICO	3921.8	64.3	99.3	0	90.0	38.3
30	(LERMA 1.B)X ANB E	AUSTRALI	3844.0	75.0	138.3	20S	81.6	37.0
22	(TZPP-SON64)(LR64A-TZPP-ANBE) (B)	MEXICO	3799.6	66.6	136.6	0	90.0	39.5
1	SON 64 X K1. RENDIDOR	ARGENTIN	3610.7	65.0	99.6	50S	88.3	37.3
49	KELAJU	GUATEMAL	3610.7	80.3	134.6	20S	108.3	36.6
41	LONDI	RHODESIA	3566.3	63.3	132.3	20S	75.0	42.6
18	CRESPO 63	COLOMBIA	3555.1	67.0	131.0	0	110.0	38.6
15	SIETE CERROS	MEXICO	3455.2	66.6	133.6	20S	93.3	31.0
44	PATC ARGENTINO	ARGENTIN	3355.2	66.6	134.0	0	91.6	29.0
45	CIANO "S"	MEXICO	3299.6	64.0	131.0	20S	78.3	37.3
33	INIA 66	MEXICO	3221.8	63.3	131.6	40S	90.0	35.5
17	HUELQUEN	CHILE	3110.7	68.3	133.0	10S	101.6	34.3
14	GIZA 155	EGYPT	3088.5	66.6	133.6	20S	111.6	35.6
16	BONZA 55	COLOMBIA	3066.3	69.6	99.3	40S	118.3	34.5
47	SONALIKA	INDIA	3044.1	69.6	131.6	20S	90.0	44.6
36	NAPO 63	COLOMBIA	3044.1	65.0	135.3	0	110.0	34.3
40	SON 64 X TZPP-NAI 60 (B)	ARGENTIN	2999.6	68.3	136.0	30S	86.6	31.6
46	TRIPLE DIRK	AUSTRALI	2910.8	72.0	136.3	40S	121.6	39.0
42	ZAMBEZI	RHODESIA	2888.5	68.0	137.3	80S	90.0	31.6
11	PITIC 62	MEXICO	2856.3	67.3	98.3	20S	88.3	30.0
13	NAINARI 60	MEXICO	2788.6	69.6	132.0	40S	100.0	37.0
24	SON 64 X C-271	PAKISTAN	2721.9	68.0	138.0	0	76.6	41.5
31	PENJAMO 62	MEXICO	2638.6	64.3	98.3	30S	88.3	43.3
27	TIMGALEN	AUSTRALI	2577.5	70.3	132.3	40S	83.3	31.0
8	DIAMONTES	ARGENTIN	2555.2	71.0	133.3	0	118.3	28.6
43	TURPIN 7	SOUTH AF	2521.9	71.6	137.3	30S	65.0	37.3

35	GABUTO	ARGENTIN	2433.0	70.6	107.3	10S	110.0	25.3
10	KLEIN RENDIDOR	ARGENTIN	2421.9	71.6	102.3	20S	103.3	31.3
26	ZIPA 68	COLOMBIA	2410.8	70.3	105.6	0	113.3	33.3
37	C-306	INDIA	2377.5	68.0	106.0	0	118.3	33.6
19	SONORA 64	MEXICO	2299.7	69.0	100.3	40S	75.6	30.3
50	LOCAL CHELK		2199.7	75.6	108.6	0	105.0	26.0
21	KENYA LEOPARD	KENYA	2199.7	77.6	107.3	0	98.3	30.0
39	4255 - HD.3 (ND X K-Y) X (WIS - SUP((F6)	KENIA	2188.6	78.6	109.6	0	111.6	35.3
20	LERMA ROJO 64A	MEXICO	2099.7	65.3	102.6	20S	96.6	36.3
38	36896-CJ 54^2 X YT 54A (H)	SUDAN	1988.6	63.0	105.3	30S	86.6	34.3
7	VICTOR I	ITALY	1944.2	76.6	105.6	0	78.3	29.3
6	CARALINHO	BRAZIL	1844.2	68.3	105.3	60S	110.0	35.6
28	TK-236	AUSTRALI	1810.9	66.0	99.6	30S	100.0	41.6
32	CHRIS	U.S.A.	1610.9	76.6	101.6	30S	115.0	24.3
29	PALMIRA I	COLOMBIA	1444.2	67.3	104.0	70S	110.0	34.3
3	CRIM	U.S.A.	1433.1	78.0	108.6	40S	100.0	34.0
12	GABO	AUSTRALI	1133.2	76.0	100.6	60S	83.3	28.3
48	KLOKA WM 1353	GERMANY	799.9	76.0	105.0	0	105.0	26.0
5	SERNIPK	CANADA	599.9	90.0	112.6	30S	100.0	30.6
2	MAYITOU	CANADA	566.6	90.3	114.3	30S	108.3	24.0
9	THATCHER	U.S.A.	511.0	90.3	114.3	40S	100.0	30.3
4	BUCK MANANTIAL	ARGENTIN	438.8	87.0	105.6	20S	90.0	21.6
		GRAND MEAN	2542.6	71.0	104.4	23.2	96.5	33.8
		STANDARD ERROR OF GRAND MEAN	44.1	0.3	0.2	0.5	0.2	0.1
		COEFFICIENT OF VARIATION	21.1	6.2	3.2	30.9	2.8	5.2
		LSD VARIETY MEANS 5 PC	833.0	7.2	5.5	11.7	4.5	2.8

CORRELATIONS

YIELD	KG/HA					
DAYS TO	FLOWER	-0.69**				
DAYS TO	MATURITY	-0.45**	0.69**			
STRIPE	RUST	-0.22	-0.05	-0.11		
HEIGHT	CM.	-0.21	0.22	0.15	-0.13	
1000 GRN	WGT GRMS	0.57**	-0.55**	-0.32*	0.02	-0.22

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 1P

MIDDLE EAST JORDAN
DEIR ALLA, JORDAN VALLEY.
LATITUDE 032 12'N LONGITUDE 035 37'E ELEVATION -00224 METERS BELOW SEA LEVEL
COOPERATORS Z.SHOSHEH,A.MASADEH,H.A.AZIZ,E.JABER.
DATE PLANTED 12/27/64 DATE HARVESTED 06/ /73
NUMBER OF IRRIGATIONS 005 RAIN TIMES AMOUNT OF MOISTURE +200 MM
NITROGEN 150.0 KG/HA PHOSPHORUS 017.0 KG/HA POTASSIUM 000.0 KG/HA

LOCAL VARIETY NOT IDENTIFIED. THE GROWING SEASON WAS NOT NORMAL WITH BAD DISTRIBUTION OF RAIN. SOME PROBLEMS WITH WEEDS NOTED. LEAF RUST WAS THE MOST SERIOUS DISEASE,BUT STEM RUST WAS ALSO PRESENT.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	LEAF RUST	STEM RUST	HEIGHT CM.	1000 GRN WGT GRMS
42	ZAMBEZI	RHODESIA	5355.0	85.5	77.0	132.0	S	0	93.3	37.0
25	CK A P4163 (E)	PAKISTAN	5277.2	87.5	76.0	126.6	S	0	90.0	43.3
31	PENJAMO 62	MEXICO	5132.8	85.5	77.6	127.3	X	S	98.3	41.6
33	INIA 66	MEXICO	5121.6	89.0	75.0	126.0	TR	0	103.3	44.6
34	TUBARI 65	MEXICO	5121.6	86.5	76.0	127.3	TR	0	95.0	38.6
15	SIETE CERROS	MEXICO	4821.7	86.5	81.3	130.0	X	0	98.3	36.6
30	(LERN 1-B)X ANB E	AUSTRALI	4655.0	89.5	87.3	138.0	S	0	81.6	33.3
41	LONDI	RHODESIA	4616.1	86.0	76.0	132.0	MS	0	92.6	40.0
20	LERMA ROJO 64A	MEXICO	4555.0	89.0	75.3	128.0	40	R	100.0	36.6
24	SUN 64 X C-271	PAKISTAN	4455.1	84.5	90.3	130.6	X	TR	85.5	40.0
28	TR-236	AUSTRALI	4443.9	86.0	79.6	132.6	MR	MR	103.3	42.6
45	CIANO "S"	MEXICO	4443.9	89.0	75.3	124.6	TR	0	90.0	40.6
17	HUELQUEN	CHILE	4333.4	86.0	80.3	129.3	MR	TR	111.6	37.6
14	GIZA 155	EGYPT	4377.3	87.0	82.3	132.3	X	0	110.0	47.0
44	PMTC ARGENTINO	ARGENTIN	4377.3	88.0	75.0	128.6	TR	0	88.3	34.0
38	36895-CJ 542 X YT 54A (H)	SUDAN	4377.3	85.0	78.6	130.0	MS	0	100.0	43.3
18	CHESPO 63	COLOMBIA	4355.1	87.5	80.3	128.6	MR	0	105.3	40.0
47	SONALIKA	INDIA	4310.6	87.0	71.3	124.6	TR	0	101.6	48.6
49	REFAJO	GUATEMAL	4310.6	87.5	76.0	125.3	MS	MR	103.3	42.3
43	TURPIN 7	SOUTH AF	4255.1	83.5	85.0	134.0	MR	TR	61.6	38.3
29	PALMIRA I	COLOMBIA	4188.4	84.0	92.3	131.3	MR	0	105.6	44.3
1	SUN 54 X K1. RENDIDOR	ARGENTIN	4132.9	85.5	77.0	127.0	TR	0	93.3	39.3
23	C-271XMT X SUN 54 (E)	PAKISTAN	4088.4	87.5	82.3	135.6	MR	TR	95.0	42.3
40	SUN 64 X TZPP-MAI 60 (B)	ARGENTIN	4055.2	83.0	87.0	138.0	TR	0	88.3	40.6
22	(TZPP-SUN64)X(K68A-TZPP-ANBE) (B)	MEXICO	3956.2	88.0	75.0	126.6	TR	MR	90.0	37.0
11	PIFIC 62	MEXICO	3921.8	84.0	79.0	126.6	MR	R	98.3	43.6
10	KLEIN RENDIDOR	ARGENTIN	3832.9	84.5	94.3	140.3	0	0	111.6	38.0
27	TINGALEN	AUSTRALI	3799.6	84.0	86.0	135.3	MR	0	95.6	36.0
13	MAINARI 5C	MEXICO	3756.2	82.5	88.0	136.0	MR	0	108.3	40.6
12	GABO	AUSTRALI	3677.4	84.5	88.0	138.0	MS	0	113.0	40.3
37	C-366	INDIA	3655.1	87.5	86.0	138.0	X	MS	106.6	45.0
36	NAPO 63	COLOMBIA	3456.3	85.0	73.0	123.3	S	0	105.6	39.3
46	TRIPLE DIRK	AUSTRALI	3332.9	85.0	88.0	138.0	TR	0	118.3	41.6

19	SONORA 64	MEXICO	3233.0	86.0	69.0	126.0	TR	D	95.0	38.3
26	ZIPA 58	COLOMBIA	3221.8	83.5	92.3	135.3	S	MS	108.3	38.6
7	VICTOR I	ITALY	3210.7	83.5	91.6	139.0	MR	S	39.3	36.3
21	KENYA LEOPARD	KENYA	3155.2	84.0	95.0	140.6	MR	D	105.8	37.3
50	LOCAL CHECK		3121.9	84.5	95.6	141.0	S	D	113.3	40.0
16	BONGA 55	COLOMBIA	3110.7	84.0	83.3	133.3	MR	D	105.6	38.3
8	PIAMONTES	ARGENTIN	2944.1	86.0	91.0	138.3	MR	MR	110.0	34.3
35	GABOIO	ARGENTIN	2899.7	85.5	92.3	139.6	TR	D	110.0	33.6
32	CHRIS	U.S.A.	2833.0	86.0	90.0	138.3	D	TR	106.6	32.0
4	BOCA MANANTIAL	ARGENTIN	2838.6	81.0	99.6	142.6	MR	R	115.0	30.0
3	CRIM	U.S.A.	2433.0	83.0	99.3	143.6	R	D	123.3	29.3
39	4265 - HD.3 (MD X K-Y) X (MIS - SUP) (F6)	KENIA	2421.9	84.5	92.3	139.3	MS	D	110.0	37.3
6	CARACINHO	BRAZIL	1910.9	83.0	90.0	135.3	R	MR	116.6	38.6
2	MANITOU	CANADA	1444.2	76.5	110.0	153.3	D	D	110.0	22.6
48	KLOKA NM 1353	GERMANY	1299.8	82.5	89.0	134.6	X	R	100.0	33.6
5	SELKIRK	CANADA	1210.9	75.0	117.3	152.0	MS	MR	113.3	28.6
9	THATCHER	U.S.A.	1011.0	77.5	118.0	152.6	S	TR	111.6	22.6
		GRAND MEAN	3689.9	84.8	85.4	134.1			101.9	38.1
	STANDARD ERROR OF GRAND MEAN		43.0		0.2	0.2			0.4	0.2
	COEFFICIENT OF VARIATION		14.2		3.6	2.6			5.8	6.5
	LSD VARIETY MEANS 5 PC		850.7		5.1	5.7			9.3	4.1

CORRELATIONS

YIELD	KG/HA							
TEST	WEIGHT	0.75**						
DAYS TO	FLOWER	-0.79**	-0.62**					
DAYS TO	MATURITY	-0.74**	-0.76**	0.96**				
LEAF	RUST	0.00	0.00	0.00	0.00			
STEM	RUST	0.00	0.00	0.00	0.00	0.00		
HEIGHT	CM.	-0.51**	-0.31*	0.47**	0.41**	0.00	0.00	
1000 GRN	WGT GRMS	0.65**	0.63**	-0.73**	-0.68**	0.00	0.00	-0.17

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

PAGE TABLE LOCATION 23

MIDDLE EAST LEBANON
TEL-AMARA, AGRICULTURAL RESEARCH INSTITUTE.
LATITUDE 033°55'N LONGITUDE 035°29'E ELEVATION 000956 METERS ABOVE SEA LEVEL
COOPERATORS M.A.ANTOUN,G.KINGMA,I.MARVAEZ.
DATE PLANTED 10/30/69 DATE HARVESTED 04/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0590 MM
NITROGEN 140.0 KG/HA PHOSPHORUS 033.0 KG/HA POTASSIUM 000.0 KG/HA

FLORENCE AURORE WAS THE LOCAL VARIETY. WILD OATS CAUSED SOME PROBLEMS.
VERY GOOD DEVELOPMENT OF THE RUSTS. NORMAL AND UNIFORM DISTRIBUTION OF
RAINFALL. FROST WAS LATE.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	STRIPE RUST	LEAF RUST	HEIGHT CM.	LODGING	1000 GRN WGT GRMS
15	SIETE CERROS	MEXICO	4853.3	82.0	169.0	211.0	10MS	5MS	100.0	85.0	36.0
30	(LAKEN 10B)X AN3 E	AUSTRALI	4536.6	85.4	167.0	205.0	5MS	10MS	85.0	0.0	37.0
4	BUCK MANANTIAL	ARGENTIN	4523.3	86.0	129.0	214.0	40S	0	135.0	0.0	32.0
42	ZAMBEZI	RHODESIA	4073.3	81.5	150.0	201.0	100S	TR	95.0	0.0	35.0
24	SUN 64 X C-271	PAKISTAN	3846.6	82.6	160.0	203.0	50MS	70S	35.0	98.0	43.0
1	SUN 64 X KL. RENDIDOR	ARGENTIN	3739.9	83.3	159.0	200.0	100S	0	110.0	81.0	40.0
7	VICTOR I	ITALY	3716.6	81.7	172.0	208.0	70MS	5MS	90.0	0.0	36.0
8	PIAMONTES	ARGENTIN	3623.3	84.3	158.0	203.0	10MS	0	125.0	53.0	36.0
49	KE-AJU	GUATEMAL	3246.6	83.8	159.0	197.0	5R	TR	100.0	96.0	39.0
46	TRIPLE DIRK	AUSTRALI	3243.3	82.8	155.0	205.0	30MS	0	122.0	35.0	44.0
23	C-271XWT X SUN 64 (E)	PAKISTAN	3150.0	81.6	160.0	201.0	5MS	TR	95.0	94.0	35.0
6	CARAZINHO	BRAZIL	3116.6	83.5	158.0	208.0	50MS	0	132.0	96.0	40.0
11	PITIC 62	MEXICO	3113.3	75.5	164.0	203.0	5R	30MS	100.0	91.0	34.0
48	KLOSA WM 1353	GERMANY	3019.9	81.9	171.0	206.0	TR	0	110.0	0.0	32.0
18	CRESPO 63	COLOMBIA	3013.3	83.7	160.0	205.0	TR	TR	135.0	89.0	40.0
13	NAINARI 60	MEXICO	2879.9	81.0	150.0	205.0	100S	TR	115.0	84.0	40.0
26	ZIPA 68	COLOMBIA	2856.6	82.0	163.0	206.0	10MR	0	120.0	87.0	37.0
21	KENYA LEOPARD	KENYA	2843.3	80.7	159.0	206.0	5R	TR	137.0	86.0	38.0
44	PATO ARGENTINO	ARGENTIN	2835.6	84.8	157.0	201.0	TR	0	90.0	86.0	34.0
31	PENJAMO 62	MEXICO	2795.6	82.1	159.0	196.0	15MR	10MS	135.0	92.0	44.0
39	4255 - HD.3 (WD X K-Y) X (WIS - SUP) (F6)	KENIA	2653.3	83.5	169.0	209.0	5MS	0	115.0	15.0	41.0
50	LOCAL CHECK		2576.6	81.5	159.0	206.0	70S	0	140.0	98.0	43.0
3	GRIM	U.S.A.	2549.9	82.4	159.0	206.0	60S	0	125.0	85.0	36.0
47	SONALIKA	INDIA	2533.3	81.1	152.0	203.0	10MS	0	100.0	42.0	40.0
32	CHRIS	U.S.A.	2489.9	82.4	164.0	203.0	5R	0	115.0	96.0	34.0
14	GIZA 155	EGYPT	2453.3	82.2	151.0	206.0	5R	10MS	100.0	87.0	43.0
35	GABOTO	ARGENTIN	2439.9	82.7	168.0	199.0	15MS	0	115.0	85.0	33.0
12	GABO	AUSTRALI	2425.6	80.1	159.0	203.0	100S	0	107.0	84.0	35.0
38	36896-CJ 54^2 X YT 54A (H)	SUDAN	2390.0	80.2	159.0	206.0	80S	0	100.0	32.0	41.0
20	LERMA ROJO 64A	MEXICO	2279.9	82.3	159.0	196.0	10MS	0	132.0	31.0	42.0
29	PALMIRA I	COLOMBIA	2253.3	77.1	161.0	201.0	30MS	0	112.0	83.0	38.0
22	(TZPP-SUN64)CR64A-TZPP-ANBE) (B)	MEXICO	2239.9	82.6	159.0	203.0	5MR	0	85.0	0.0	34.0
40	SUN 64 X TZPP-NAI 60 (B)	ARGENTIN	2233.3	80.7	160.0	206.0	10MS	0	95.0	83.0	43.0
17	HUELQUEN	CHILE	2219.9	81.5	170.0	206.0	TR	0	112.0	89.0	34.0
27	TINGALEN	AUSTRALI	2203.3	80.9	163.0	207.0	50S	0	130.0	85.0	36.0
36	NAPO 63	COLOMBIA	2143.3	82.6	158.0	195.0	TR	TR	95.0	0.0	39.0
9	THATCHER	U.S.A.	2133.3	80.4	175.0	208.0	100S	5MS	135.0	86.0	30.0

33	INIA 66	MEXICO	2039.9	82.8	154.0	201.0	TR	0	135.0	0.0	30.0
5	SELKIRK	CANADA	1929.9	77.8	179.0	208.0	5MS	0	125.0	98.0	32.0
34	TUBARI 66	MEXICO	1936.6	82.6	157.0	19.5	5R	0	95.0	0.0	40.0
28	TR-436	AUSTRALI	1855.6	81.7	159.0	205.0	40S	0	137.0	82.0	40.0
16	BONZA 55	COLOMBIA	1829.9	78.6	159.0	205.0	10R	TR	110.0	95.0	32.0
2	MANITOU	CANADA	1819.9	77.1	183.0	211.0	40S	0	133.0	85.0	28.0
43	TURPIN 7	SOUTH AF	1729.9	82.1	161.0	203.0	100S	5S	70.0	0.0	50.0
45	CIANO "S"	MEXICO	1723.3	84.0	157.0	203.0	TR	0	93.0	82.0	45.0
25	LR & P41603 (E) TI	PAKISTAN	1586.6	81.0	157.0	206.0	30MS	15S	92.0	83.0	40.0
10	KLEIN RENDIDOR	ARGENTIN	1553.3	80.0	169.0	206.0	5R	0	122.9	91.0	32.0
37	C-366	INDIA	1476.6	87.7	159.0	207.0	50MS	5MS	105.0	86.0	45.0
41	LUNDI	RHODESIA	1456.6	80.5	159.0	207.0	30MS	TR	35.0	86.0	37.0
19	SONORA 64	MEXICO	1356.6	81.6	155.0	203.0	10MS	0	90.0	0.0	37.0
		GRAND MEAN	2630.0	81.8	152.1	200.6	28.4	3.0	135.0	54.3	38.0
	STANDARD ERROR OF GRAND MEAN		80.5								
	COEFFICIENT OF VARIATION		37.5								
	LSD VARIETY MEANS 5 PC		1611.8								

CORRELATIONS

YIELD	KG/HA							
TEST	WEIGHT	0.39**						
DAYS TO	FLOWER	-0.05	-0.34*					
DAYS TO	MATURITY	0.13	-0.07	0.11				
STRIPE	RUST	0.24	-0.07	-0.09	0.14			
LEAF	RUST	0.22	-0.05	-0.02	0.03	0.02		
HEIGHT	CM.	0.06	-0.11	0.17	0.15	0.13	-0.27*	
LODGING		-0.12	-0.30*	0.26	0.25	0.04	0.14	0.34
1000 GRN	WGT GRMS	-0.39	0.29*	-0.34*	-0.09	0.04	0.16	-0.36 -0.34

* SIGNIFICANT AT THE 5 % LEVEL ** SIGNIFICANT AT THE 1 % LEVEL.

TABLE LOCATION 24

MIDDLE EAST LEBANON
ADJSH SNEID,AGRI. RES. AND EDUCATIONAL CENTER
LATITUDE 033 55'N LONGITUDE 036 24'E ELEVATION 000995 METERS ABOVE SEA LEVEL
COOPERATORS M.NASR, V.GUIRAGOSSIAN.
DATE PLANTED 11/27/69 DATE HARVESTED / /73
NUMBER OF IRRIGATIONS 000 RAIN TIMES AMOUNT OF MOISTURE 0490 MM
NITROGEN 017.4 KG/HA PHOSPHORUS 013.6 KG/HA POTASSIUM 000.0 KG/HA

NAJAH WAS THE LOCAL VARIETY. LODGING WAS A PROBLEM DUE TO HEAVY RAINS IN FEB. AND MARCH FOLLOWED BY HEAVY WINDS. STRIPE RUST PRESENT BUT NOT VERY SERIOUS.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	HEIGHT CM.	LODGING
23	C-271 X WTX SON 64 (E)	PAKISTAN	4440.0	148.0	101.6	0.0
30	(LERN 10B)X AN3 E	AUSTRALI	4110.0	153.0	91.6	0.0
41	LONDI	RHODESIA	3743.3	141.0	95.0	0.0
34	TOBARI 66	MEXICO	3733.3	147.0	110.0	0.0
24	SON 64 X C-271	PAKISTAN	3683.3	143.0	93.3	0.0
44	PATO ARGENTINO	ARGENTIN	3380.0	155.0	134.0	0.0
31	PENJAMO 62	MEXICO	3323.3	140.0	110.3	0.0
33	INIA 66	MEXICO	3313.3	140.0	111.0	0.0
47	SONALIKA	INDIA	3230.0	140.0	109.6	0.0
7	VEGTOR I	ITALY	3153.3	155.0	96.0	0.0
25	LR X P416.3 (E) TI	PAKISTAN	3016.6	141.0	100.0	0.0
26	ZIPA 68	COLOMBIA	3036.6	152.0	115.0	0.0
13	NAINARI 66	MEXICO	2963.3	143.0	116.0	0.0
42	ZAMBEZI	RHODESIA	2946.6	140.0	97.6	0.0
11	PITIC 62	MEXICO	2936.6	145.0	101.3	0.0
18	CRESPO 63	COLOMBIA	2866.6	140.0	118.3	0.0
38	30890-OJ 54[illegible] K YT 54A (H)	SUDAN	2833.3	147.[illegible]	107.6	0.0
1	SON 64 X KL. RENDIDOR	ARGENTIN	2743.3	140.0	98.3	0.0
43	TUPPIN 7	SOUTH AF	2740.0	146.0	83.0	0.0
15	SIETE CERROS	MEXICO	2726.6	156.0	101.3	0.0
20	LERMA ROJO 64A	MEXICO	2696.6	140.0	118.3	0.0
17	HUECHEN	CHILE	2693.3	152.0	110.0	0.0
3	CRIM	U.S.A.	2663.3	143.0	116.6	0.0
19	SONORA 64	MEXICO	2653.0	142.0	96.3	0.0
37	C-306	INDIA	2646.6	142.0	115.0	0.0
45	GIANO "S"	MEXICO	2540.0	140.0	91.6	0.0
12	GABO	AUSTRALI	2520.0	143.0	121.0	0.0
49	KELAJU	GUATEMAL	2496.6	140.0	112.6	0.0

48	KEUKA WM 1353	GERMANY	2433.3	158.0	111.0	0.0
50	LOCAL CHECK		2433.3	146.0	122.3	0.0
21	KENYA LEOPARD	KENYA	2333.3	158.0	139.3	0.0
16	SUNZA 55	COLOMBIA	2350.0	151.0	117.3	0.0
36	NAPU 63	COLOMBIA	2316.6	141.0	111.6	0.0
27	TIMGALEN	AUSTRALI	2193.3	140.0	96.6	0.0
22	(TZPP-SUN64X LK64A-TZPF-AN3E) (B)	MEXICO	2193.3	145.0	131.6	0.0
42	SUN 64 X TZPP-NAI 60 (B)	ARGENTIN	2133.3	145.0	139.0	0.0
9	THATCHER	U.S.A.	2036.6	165.0	121.6	0.0
29	PALMIRA I	COLOMBIA	2033.0	147.0	116.6	0.0
8	PIAMONTES	ARGENTIN	1986.6	155.0	137.6	0.0
35	GABOTO	ARGENTIN	1973.3	158.0	114.0	0.0
14	SIRA 155	EGYPT	1956.6	148.0	113.6	0.0
5	SEKURA	CANADA	1853.3	160.0	113.3	0.0
28	TR-235	AUSTRALI	1846.6	147.0	112.3	0.0
2	MANITOU	CANADA	1833.3	168.0	118.3	0.0
32	CHRIS	U.S.A.	1773.3	155.0	118.3	0.0
6	CARAZINHO	BRAZIL	1773.3	153.0	113.3	0.0
4	BUCK MANANTIAL	ARGENTIN	1646.6	162.0	137.6	0.0
10	KLEIN KENDIDUR	ARGENTIN	1610.0	156.0	116.6	0.0
46	TRIPLE DIRK	AUSTRALI	1543.3	156.0	113.3	0.0
39	4265 - HD.3 (MD X K-Y) X (WIS - SUP) (F5)	KENIA	676.6	160.0	134.6	0.0

GRAND MEAN	2573.5	149.7	138.0
STANDARD ERROR OF GRAND MEAN	68.9		3.6
COEFFICIENT OF VARIATION	32.8		7.2
LSD VARIETY MEANS 5 PC	1379.8		12.8

CORRELATIONS

YIELD	KG/HA			
DAYS TO FLOWER		-0.46**		
HEIGHT	CM.	-0.43**	0.25	
LODGING		0.00	0.00	0.00

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 33

MIDDLE EAST ISRAEL
R.D.S. DE GAT.
LATITUDE 031 37'N LONGITUDE 034°47'E ELEVATION +00120 METERS ABOVE SEA LEVEL
COOPERATORS J.ATSMON.
DATE PLANTED 12/15/69 DATE HARVESTED 05/ /70
NUMBER OF IRRIGATIONS 002 RAIN TIMES AMOUNT OF MOISTURE 0281 MM
NITROGEN 056.7 KG/HA PHOSPHORUS 000.0 KG/HA POTASSIUM 000.0 KG/HA

LOCAL VARIETY NOT IDENTIFIED. WEEDS WERE CONTROLLED CHEMICALLY. ONLY LOW ATTACK OF STRIPE RUST AND STEM RUST. LEAF RUST ATTACK HEAVY. GROWING SEASON WAS DRIER THAN USUAL. WARM SPRING CAUSED EARLY MATURING.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	HEIGHT CM.	1000 GRN WGT GRMS	SEPTORIA TRITICI
47	SONALIKA	INDIA	5211.6	79.4	64.6	106.6	50.1	S-VS
38	36896-CJ 54² X YT 544 (H)	SUDAN	5682.5	77.7	74.6	106.6	44.0	5MS
33	INIA 66	MEXICO	5417.9	80.9	83.0	95.0	39.7	20S
41	LONDI	RHODESIA	5343.9	75.9	87.6	88.3	35.3	30VS
20	LERMA ROJO 64A	MEXICO	5195.7	80.5	87.0	106.6	41.9	S-VS
25	LR X P41603 (E) T1	PAKISTAN	5132.2	79.2	82.3	88.3	38.8	S-VS
22	(TZPP-SON64)(LR64A-TZPP-AN3E) (B)	MEXICO	5047.6	81.2	85.6	93.3	38.7	10S
40	SON 64 X TZPP-WAI 60 (B)	ARGENTIN	5037.0	76.6	93.3	98.3	37.5	5MS
19	SONORA 64	MEXICO	4994.6	78.0	76.6	85.0	34.4	20VS
12	GABO	AUSTRALI	4952.9	76.2	89.3	116.6	38.0	40VS
28	TR-236	AUSTRALI	4952.3	78.6	85.0	116.6	40.0	20VS
31	PENJAMO 62	MEXICO	4952.3	79.3	86.0	101.6	36.3	S-MS
50	LOCAL CHECK		4910.0	74.8	78.6	90.0	36.4	MS-S
30	(LRKN 1(B)X AN3 E	AUSTRALI	4878.2	80.0	94.3	89.3	31.4	10S
34	TOBARI 66	MEXICO	4834.2	80.7	86.0	100.0	36.5	MS-S
42	ZAMBEZI	RHODESIA	4751.3	77.2	85.0	95.0	31.2	30VS
18	CRESPO 63	COLOMBIA	4719.5	79.0	79.6	118.3	35.5	T.MS
45	CIANO "S"	MEXICO	4666.6	79.8	85.0	93.3	39.5	S-VS
15	SIETE CERROS	MEXICO	4518.5	76.3	89.6	98.3	39.5	MS-S
23	C-2714AT X SON 54 (E)	PAKISTAN	4517.9	77.9	87.0	98.3	36.7	30VS
43	TURPIN 7	SOUTH AF	4497.3	63.2	93.3	68.3	27.9	50VS
49	XELAJU	GUATEMAL	4444.4	80.6	87.0	110.0	38.7	MS-S
11	PITIC 62	MEXICO	4444.4	60.9	87.3	108.3	32.6	S-VS
44	PATO ARGENTINO	ARGENTIN	4370.3	80.7	92.6	98.3	29.6	T.MS
29	PALMIRA I	COLOMBIA	4253.9	75.0	87.0	125.0	41.5	10S
1	SON 64 X K1. RENDIDOR	ARGENTIN	4222.2	78.7	87.3	95.0	35.6	T.MS
13	NAINARI 60	MEXICO	4211.3	75.1	90.6	116.6	37.6	20VS
7	VICTOR I	ITALY	4159.3	76.3	94.6	85.0	34.5	T.MS

27	T...GALEN	AUSTRALI	4084.6	78.6	92.6	101.6	35.8	S-VS
17	HUELQUEN	CHILE	3999.9	80.0	92.7	120.0	39.2	20VS
36	NAPU 63	COLOMBIA	3894.1	74.5	83.0	120.0	32.6	5MS
10	KLEIN RENDIDOR	ARGENTIN	3756.6	80.7	95.3	116.6	36.1	T.MS
6	CARAZINHO	BRAZIL	3576.7	79.0	91.0	131.6	37.8	T.MS
46	TRIPLE DIRK	AUSTRALI	3502.6	79.4	92.6	136.6	39.8	2MS
16	BONZA 55	COLOMBIA	3312.1	75.2	89.3	126.6	35.4	30VS
48	KLOKA WM 1355	GERMANY	3195.7	74.7	100.0	111.6	28.0	MS-S
35	GABOTO	ARGENTIN	3058.1	81.1	93.6	125.0	32.8	2MS
26	ZIPA 68	COLOMBIA	3037.0	73.7	90.6	118.3	30.4	10S
37	C-306	INDIA	3035.2	80.3	88.6	119.3	38.3	50VS
3	CRIM	U.S.A.	2740.7	78.8	95.3	132.6	34.0	VS
14	GIZA 155	EGYPT	2730.1	78.0	88.6	116.6	37.7	30VS
8	PIAMONTES	ARGENTIN	2719.5	80.2	93.3	130.0	36.8	10S
24	SUN 64 X C-271	PAKISTAN	2687.8	69.3	87.0	88.3	30.8	10S
32	CHRIS	U.S.A.	2582.0	79.9	91.0	136.6	31.2	TMS
39	4255 - HD.3 (MD X K-Y) X (WIS - SUP) (F6)	KENIA	2571.4	77.4	95.0	123.3	33.7	MS-S
21	KENYA LEOPARD	KENYA	2455.0	79.9	94.3	125.0	34.9	-TMS
4	BUCK MANANTIAL	ARGENTIN	2190.4	77.6	95.0	125.0	27.1	T.MS
2	MANITOU	CANADA	1862.4	75.5	127.0	131.6	26.5	T.MS
5	SELKIRK	CANADA	1058.7	70.5	90.0	128.3	25.6	S-VS
9	THATCHER	U.S.A.	539.6	74.1	90.0	130.0	20.6	T.S
		GRAND MEAN	3057.2	77.4	89.0	109.7	35.1	
		STANDARD ERROR OF GRAND MEAN	45.9	0.1	0.3	0.3	0.1	
		COEFFICIENT OF VARIATION	14.2	2.2	4.7	4.4	6.6	
		LSD VARIETY MEANS 5 PC	919.6	2.8	6.9	7.9	3.7	

CORRELATIONS

YIELD	KG/HA					
TEST	WEIGHT	0.22				
DAYS TO	FLOWER	-0.58**	-0.11			
HEIGHT	CM.	-0.64**	0.19	0.33*		
1000 GRN	WGT GRMS	0.65**	0.47**	-0.55**	-0.08	
SEPTORIA	TRITICI	0.00	0.00	0.00	0.00	0.00

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 42

OCEANIA AUSTRALIA S.AUSTRALIA
ADELAIDE,WAITE AGRI. RES. INSTITUTE.
LATITUDE 034° 58 S LONGITUDE 138° 38' E ELEVATION +00123 METERS ABOVE SEA LEVEL
COOPERATORS A.J.RATHJEN.
DATE PLANTED 06/25/70 DATE HARVESTED 10/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0344 MM
NITROGEN 000.0 KG/HA PHOSPHORUS 017.6 KG/HA POTASSIUM 000.0 KG/HA

LOCAL CHECK VARIETY NOT SPECIFIED. 85 RAINY DAYS. COOL, CLOUDY- NO HOT WEATHER IN THE SPRING.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	HEIGHT CM.	1000 GRN WGT GRMS
40	SUN 64 X TZPP-WAI 60 (B)	ARGENTIN	2847.9	78.5	115.3	91.6	42.4
18	CRESPO 63	COLOMBIA	2765.3	77.6	116.3	100.0	40.1
38	368 38-CJ 54 2 X YT 54A (H)	SUDAN	2683.6	75.9	113.0	93.3	45.0
19	SONORA 64	MEXICO	2657.3	77.6	112.6	86.6	40.1
47	SONALIKA	INDIA	2545.6	75.9	112.0	88.3	44.6
15	SIETE CERROS	MEXICO	2542.0	80.6	117.3	90.0	39.9
30	(CRKN 1CB) X AN3 E	AUSTRALI	2428.3	79.7	117.6	76.6	39.0
42	ZAMBEZI	RHODESIA	2398.2	78.0	113.3	91.6	42.0
23	C-271XWT X SUN 54 (E)	PAKISTAN	2335.4	77.6	113.0	85.0	41.2
6	CARACINHO	BRAZIL	2157.9	77.2	117.3	115.0	41.8
33	INIA 66	MEXICO	2098.8	77.2	113.0	85.0	41.9
50	LOCAL CHECK		2057.5	79.7	119.3	98.3	40.5
16	BONZA 65	COLOMBIA	2056.6	76.7	116.0	116.6	35.3
17	HUELQUEN	CHILE	2020.0	77.6	115.6	100.0	39.0
7	VICTOR I	ITALY	2003.1	77.5	117.6	76.6	37.7
46	TRIPLE DIRK	AUSTRALI	1989.9	79.7	117.0	123.3	45.1
34	TUBARI 65	MEXICO	1959.9	76.7	113.0	96.6	41.8
24	SUN 64 X C-271	PAKISTAN	1957.0	78.5	114.3	73.3	38.6
49	KELADJ	GUATEMAL	1953.2	77.2	113.0	88.3	39.5
36	NAPO 63	COLOMBIA	1951.9	76.6	113.0	100.0	37.6
10	KLEIN RENDIDOR	ARGENTIN	1948.2	76.3	118.6	110.0	38.9
31	PENJAMO 62	MEXICO	1942.6	75.5	114.3	85.0	38.7
44	PATO ARGENTINO	ARGENTIN	1934.1	78.5	115.6	81.6	38.0
25	CK A 241623 (E) TI	PAKISTAN	1827.5	78.0	113.0	66.6	41.1
27	TIMGALEN	AUSTRALI	1793.7	78.0	115.6	81.6	40.0
20	LERMA ROJO 64A	MEXICO	1770.3	75.9	112.6	91.6	37.9
45	CIANO "S"	MEXICO	1736.5	76.7	113.0	83.3	38.9
21	KENYA LEOPARD	KENYA	1729.9	78.0	119.3	95.0	41.6

39	4255 - HD.3 (HD) X K-Y)X (WIS - SUP) (FB)	KENIA	1713.0	79.7	82.0	110.0	41.4
41	LUNDI	RHODESIA	1699.9	75.9	113.0	70.0	36.8
35	GABUTO	ARGENTIN	1653.5	79.7	117.3	108.3	35.3
26	ZIPA 58	COLOMBIA	1643.6	77.6	115.3	91.6	39.7
43	TURPIN 7	SOUTH AF	1589.1	74.6	114.3	58.3	42.4
14	GIZA 155	EGYPT	1553.8	75.9	116.6	86.6	40.5
13	NAINARI 5L	MEXICO	1474.6	76.7	115.6	91.6	40.0
8	PIAMONTES	ARGENTIN	1458.6	76.3	117.6	100.0	36.2
48	KLOKA WM 1353	GERMANY	1431.4	78.0	117.6	80.0	35.5
11	PITIC 62	MEXICO	1421.1	77.6	115.6	81.6	36.9
37	C-306	INDIA	1413.3	80.2	114.0	91.6	39.0
29	PALMIRA T	COLOMBIA	1412.3	75.0	114.3	96.6	38.4
12	GABO	AUSTRALI	1390.1	77.2	114.3	86.6	36.3
22	(TZPP-SUN64)(UK64A-TZPP-ANDE) (B)	MEXICO	1363.8	79.3	113.0	80.0	36.6
28	TR-236	AUSTRALI	1337.5	76.3	113.0	91.6	36.6
32	CHRIS	U.S.A.	1321.9	78.9	117.0	108.3	36.4
1	SON 64 X <1. RENDIDOR	ARGENTIN	1274.7	76.3	112.6	83.3	39.8
3	CRIM	U.S.A.	1239.3	78.9	118.3	100.0	39.8
4	BUCK MANANTIAL	ARGENTIN	938.7	54.0	132.0	81.6	32.4
5	SELKIRK	CANADA	836.3	71.7	132.0	93.3	34.2
9	THATCHER	U.S.A.	752.8	26.1	132.0	91.6	31.9
2	MANITOU	CANADA	546.3	51.4	98.0	93.3	33.4
		GRAND MEAN	1779.7	75.4	115.0	90.7	39.0
	STANDARD ERROR OF GRAND MEAN		42.8	0.9	1.2	0.6	0.3
	COEFFICIENT OF VARIATION		29.4	14.9	12.8	8.5	9.8
	LSD VARIETY MEANS 5 PC		856.6	10.4	24.1	12.6	6.2

CORRELATIONS

YIELD	KG/HA				
TEST	WEIGHT	0.49**			
DAYS TO	FLOWER	-0.06	-0.17		
HEIGHT	CM.	0.35	0.05	-0.05	
1000 GRN	WGT GRMS	0.69**	0.53**	-0.24	0.02

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 43

OCEANIA NEW ZEALAND
PALMERSTON NORTH, CROP RESEARCH DIVISION, D.S.I.R.
LATITUDE 040° 30' S LONGITUDE 176° 00' E ELEVATION 00061 METERS ABOVE SEA LEVEL
COOPERATORS J.M. MCEWAN.
DATE PLANTED 09/04/69 DATE HARVESTED 03/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 44
NITROGEN 000.0 KG/HA PHOSPHORUS 026.0 KG/HA POTASSIUM 000.0 KG/HA

RAVEN WAS THE LOCAL VARIETY. BIRDS CAUSED SOME DAMAGE TO THE EARLY VARIETIES IN REP 1. LEAF RUST WAS GENERAL. STEM RUST ATTACKED ONLY THE LATE VARIETIES. CONDITIONS IN DISTRICT WERE MUCH DRIER THAN NORMAL.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	HEIGHT CM.	LODGING
11	PITIC 62	MEXICO	5337.1	75.2	78.0	77.8	33.3
17	HUELQUEN	CHILE	5273.4	77.6	78.3	92.2	40.0
18	CRESPO 63	COLOMBIA	5139.1	78.9	76.3	88.8	33.3
31	PENJAMO 62	MEXICO	5139.1	82.6	77.3	74.5	33.3
38	36896-LJ 542 X YT 544 (H)	SUDAN	4983.7	75.3	75.6	82.9	33.3
15	SIETE CERROS	MEXICO	4946.0	78.3	82.0	82.1	6.6
4	BUCK MANANTIAL	ARGENTIN	4912.8	79.9	84.6	94.8	20.0
29	PALMIRA I	COLOMBIA	4845.4	75.2	76.6	99.0	40.0
28	TK-636	AUSTRALI	4814.1	77.1	76.6	89.7	16.6
20	LERMA ROJO 64A	MEXICO	4787.2	79.0	76.0	84.6	23.3
14	GIZA 155	EGYPT	4772.0	72.8	76.3	93.9	36.6
45	CIANO [illegible]	MEXICO	4752.2	80.0	74.3	70.2	16.6
34	TOBARI 66	MEXICO	4678.7	79.3	76.0	74.5	16.6
13	NAINARI 6.	MEXICO	4653.4	75.4	78.6	92.2	30.0
25	LR X P41603 (E) TI	PAKISTAN	4554.8	78.2	75.0	71.1	10.0
30	(LERMA ROJO)X ANB E	AUSTRALI	4539.7	78.4	81.6	67.7	3.3
43	SUN 64 X TZPP-NAI 60 (B)	ARGENTIN	4502.9	78.2	76.0	77.0	13.3
42	ZAMBEZI	RHODESIA	4458.0	76.8	83.0	76.1	16.6
6	CARAZINHO	BRAZIL	4435.2	78.7	81.0	99.9	40.0
27	TIMGALEN	AUSTRALI	4396.1	77.2	79.3	76.1	20.0
47	SONALIKA	INDIA	4374.3	77.8	73.3	75.3	13.3
7	VICTOR I	ITALY	4357.6	75.5	83.0	59.2	0.0
16	BONZA 55	COLOMBIA	4334.6	76.2	80.0	93.1	40.0
21	KENYA LEOPARD	KENYA	4256.7	81.3	88.0	99.9	46.6
46	TRIPLE DIRK	AUSTRALI	4274.1	76.5	83.0	102.4	26.6
10	KLEIN KENDIDOR	ARGENTIN	4249.9	75.9	84.6	100.7	26.6
49	KELAJJ	GUATEMAL	4124.4	81.2	76.3	83.8	33.3
35	GABOTO	ARGENTIN	4078.6	77.0	84.0	105.8	36.6

26	ZIPA 66	COLOMBIA	3938.9	76.4	82.3	90.5	10.0
39	4265 - HD.3 (MD X K-Y) X (WIS - SUP) (F6)	KENIA	3927.9	78.5	87.0	100.7	33.3
50	LOCAL CHECK		3924.3	75.3	82.0	104.9	20.0
43	TURPIN 7	SOUTH AF	3899.2	71.0	77.0	55.0	0.0
3	CRIM	U.S.A.	3892.9	76.5	79.3	96.5	36.6
33	INIA 56	MEXICO	3872.5	76.9	74.0	73.6	3.3
8	PIAMONTES	ARGENTIN	3841.8	78.3	79.6	95.6	26.6
12	GABO	AUSTRALI	3813.1	72.5	76.0	89.7	40.0
9	THATCHER	U.S.A.	3737.1	77.9	86.6	104.1	43.3
32	CHRIS	U.S.A.	3773.9	74.6	82.0	98.2	40.0
36	NAPO 63	COLOMBIA	3693.8	76.2	74.3	84.6	40.0
24	SON 64 X C-271	PAKISTAN	3537.1	76.8	76.6	68.5	10.0
2	MANITOU	CANADA	3523.7	73.1	87.0	107.5	33.3
1	SON 64 x K1. RENDIDOR	ARGENTIN	3515.3	79.7	75.3	73.6	10.0
44	PATO ARGENTINO	ARGENTIN	3454.3	78.6	78.3	70.2	10.0
22	(TZPP-SON64)(LR64A-TZPP-ANJE) (B)	MEXICO	3450.7	77.1	75.6	71.9	3.3
37	C-306	INDIA	3439.0	77.4	75.6	93.1	40.0
48	KLOKA KM 1353	GERMANY	3384.3	72.6	84.6	88.0	3.3
23	C-271XWT X SON 64 (E)	PAKISTAN	3139.0	77.6	75.3	74.5	6.6
41	LONDI	RHODESIA	3021.0	75.4	75.3	67.7	0.0
5	SELKIRK	CANADA	2813.3	72.9	87.6	104.1	20.0
19	SONORA 64	MEXICO	2504.4	76.8	73.6	69.4	10.0
	GRAND MEAN		4156.8	76.9	79.2	85.3	22.9
	STANDARD ERROR OF GRAND MEAN		39.8	0.1	0.0	0.4	0.6
	COEFFICIENT OF VARIATION		11.7	1.6	1.5	6.1	33.3
	LSD VARIETY MEANS 5 PC		797.0	2.0	1.9	8.5	12.5

CORRELATIONS

YIELD	KG/HA				
TEST	WEIGHT	0.29*			
DAYS TO	FLOWER	-0.03	-0.13		
HEIGHT	CM.	0.02	-0.10	0.58**	
LODGING		0.27*	0.07	0.21	0.71**

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 44

EUROPE WALES
PLAS GOGERDDAN,WELSH PLANT BREEDING STATION.
LATITUDE 52°26'N LONGITUDE 004°21'W ELEVATION +00033 METERS ABOVE SEA LEVEL
COOPERATORS J.D.HAYES,J.P.COOPER
DATE PLANTED 04/19/70 DATE HARVESTED 09/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0377 MM
NITROGEN 030.0 KG/HA PHOSPHORUS 000.0 KG/HA POTASSIUM 000.0 KG/HA

LOCAL VARIETY NOT IDENTIFIED. NO WEED OR PEST PROBLEMS. DISEASE DEVELOPMENT WAS NOT SERIOUS. EXPERIMENT PLANTED LATE BECAUSE OF WET WINTER. DRY PERIODS UNTIL HARVEST TIME WERE REPORTED.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	DAYS TO MATURITY	1000 GRN WGT GRMS	HEIGHT CM.	LODGING	SHATRNG	SHATRNG HEAD
11	PIFIC 62	MEXICO	3978.4	50.3	133.3	48.9	78.0	18.3	5.0	40.0
50	LOCAL CHECK		3925.1	51.6	131.3	52.6	91.6	10.0	5.0	5.0
30(	LKKN 10BJX ANB E	AUSTRALI	3916.2	48.3	133.0	47.0	61.3	3.3	23.0	11.6
18	CHESPO 63	COLOMBIA	3638.5	47.0	135.0	47.2	86.0	21.6	90.0	13.3
38	3693B-CJ 542 X YT 54A (H)	SUDAN	3543.7	47.3	133.3	56.2	74.3	23.3	20.0	5.0
17	HUELQUEN	CHILE	3513.7	49.3	97.6	48.9	76.6	36.6	33.3	8.3
49	KELAJJ	GUATEMAL	3509.6	47.0	99.3	49.9	77.3	30.0	10.0	13.0
34	TOBARI 66	MEXICO	3449.6	47.3	133.6	46.3	64.0	3.3	18.3	5.0
47	SUNALIKA	INDIA	3305.2	46.6	131.6	59.1	72.0	16.6	50.0	23.0
48	KLOKA WM 1353	GERMANY	3271.8	49.3	133.6	41.7	76.6	3.3	133.0	36.6
21	KENYA LEOPARD	KENYA	3244.1	50.3	136.3	49.0	88.3	36.6	23.0	18.3
4	BUCK MANANTIAL	ARGENTIN	3244.1	46.6	134.0	42.2	75.0	33.0	5.0	5.0
15	SIETE CERROS	MEXICO	3138.5	50.0	133.0	46.1	57.6	1.6	23.0	8.3
45	CIANO "S"	MEXICO	3135.2	45.0	131.0	49.1	56.3	0.0	43.3	16.6
26	ZIPA 68	COLOMBIA	3135.2	47.0	98.0	48.2	79.0	10.0	23.0	13.3
13	NAINARI 60	MEXICO	3099.6	47.3	99.3	51.8	71.6	20.0	60.0	13.3
42	ZAMBEZI	RHODESIA	3075.2	49.6	137.3	43.9	66.0	0.0	8.3	6.6
31	PENJAMO 62	MEXICO	3038.5	48.0	132.0	49.5	69.6	18.3	70.0	33.0
39	4265 - HD.3 (MD X K-Y) X (WIS - SUP) (F6)	KENIA	3015.2	50.6	132.3	48.4	80.6	40.0	15.0	8.3
36	NAPU 63	COLOMBIA	3011.9	44.3	95.6	43.9	78.0	40.0	83.3	33.3
12	GABO	AUSTRALI	2999.6	46.6	99.0	44.7	65.0	5.0	5.0	5.0
46	TRIPLE DIRK	AUSTRALI	2994.1	50.0	130.0	52.2	92.0	20.0	23.3	5.0
6	CARAZINHO	BRAZIL	2977.4	49.6	132.6	47.7	92.6	36.6	90.0	13.0
1	SON 64 X KL. RENDIDOR	ARGENTIN	2947.4	46.3	132.3	47.9	65.6	36.6	23.0	13.3
2	MANITOU	CANADA	2935.2	47.6	97.6	37.2	83.0	36.6	10.0	10.0
29	PALMIRA I	COLOMBIA	2933.0	44.0	94.0	53.4	74.3	46.6	73.0	11.6
44	PATO ARGENTINO	ARGENTIN	2927.4	47.3	132.6	46.7	65.6	0.0	130.0	55.0
32	CHRIS	U.S.A.	2835.3	48.6	131.3	39.0	94.3	43.3	6.6	5.0
7	VICTOR I	ITALY	2877.4	53.0	136.0	39.7	54.0	20.0	93.3	46.6
28	TR-236	AUSTRALI	2843.8	47.0	133.0	48.4	68.3	3.3	7.6	16.6
3	CHIM	U.S.A.	2716.3	47.6	97.3	42.3	81.0	43.3	50.0	6.6
23	C-271 XWT X SON 54 (E)	PAKISTAN	2713.0	46.0	99.3	47.1	64.3	5.0	56.6	33.3
35	GABOTO	ARGENTIN	2644.1	52.0	134.6	37.6	90.6	18.3	33.3	6.0

40	SUN 64 X TZPP-WAI 60 (B)	ARGENTIN	2643.8	46.3	136.0	47.9	58.6	0.0	20.0	5.0
20	LERMA ROJO 64A	MEXICO	2638.6	45.0	133.0	49.5	67.6	30.0	53.0	33.0
5	SELKIRK	CANADA	2616.4	47.6	96.3	43.6	82.0	33.3	5.0	13.0
33	INIA 66	MEXICO	2614.1	43.0	139.3	46.6	62.0	5.0	46.5	22.7
25	LR X P4160-3 (E) TI	PAKISTAN	2543.7	45.6	133.0	48.3	54.0	0.0	18.3	16.6
19	SONORA 64	MEXICO	2537.5	46.3	98.3	46.4	59.3	1.5	53.3	13.0
16	BONZA 55	COLOMBIA	2519.7	40.0	133.0	46.7	77.6	31.6	60.0	13.0
9	THATCHER	U.S.A.	2535.3	46.3	97.6	36.9	85.3	21.5	5.0	5.0
24	SON 64 X C-271	PAKISTAN	2434.1	48.0	131.0	49.5	55.3	0.0	21.6	53.0
8	PIAMONTES	ARGENTIN	2335.3	48.3	133.6	42.4	78.0	35.3	5.0	5.0
22	(TZPP-SUN64)(LR64A-TZPP-AN3E) (B)	MEXICO	2236.4	45.0	99.6	42.8	61.3	8.3	50.0	43.3
41	LONDI	RHODESIA	2134.2	46.3	135.3	43.4	53.3	0.0	4.3	4.3
27	TIMGALEN	AUSTRALI	2038.6	40.0	98.3	42.1	57.3	0.0	93.3	35.6
37	C-366	INDIA	1957.5	46.0	135.0	44.5	77.0	20.0	4.3	4.3
14	GIZA 155	EGYPT	1955.3	46.3	82.6	46.4	81.3	33.6	5.0	5.0
43	FURPIN 7	SOUTH AF	1859.8	47.3	131.0	51.1	45.0	0.0	93.3	25.0
10	KLEIN KENDIDR	ARGENTIN	1525.4	56.3	116.0	46.8	97.0	5.0	0.0	3.0
		GRAND MEAN	2077.9	47.8	131.0	46.5	72.4	18.0	37.9	16.1
	STANDARD ERROR OF GRAND MEAN		31.2	0.0	0.3	0.1	0.4	0.9	3.2	3.3
	COEFFICIENT OF VARIATION		13.3	2.1	4.6	3.8	7.4	63.5	9.4	26.6
	LSD VARIETY MEANS 5 PC		625.4	1.7	7.7	2.9	8.7	18.7	5.1	7.0

CORRELATIONS

YIELD	KG/HA							
DAYS TO	FLOWER	0.35						
DAYS TO	MATURITY	0.33	0.52**					
1000 GRN	WGT GRMS	0.29*	-0.13	-0.05				
HEIGHT	CM.	0.21	0.40**	-0.01	-0.08			
LODGING		0.12	-0.03	-0.31*	-0.05	0.62**		
SHATRNG		0.01	-0.38	-0.09	0.09	-0.21	-0.00	
SHATRNG	HEAD	-0.01	-0.09	-0.03	0.01	-0.41**	-0.25	0.55

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL.

TABLE LOCATION 45

EUROPE ENGLAND
CAMBRIDGE,PLANT BREEDING INSTITUTE.
LATITUDE 052° 10 N LONGITUDE 000° 05' E ELEVATION +00015 METERS ABOVE SEA LEVEL
COOPERATORS R.N.H.WHITEHOUSE.
DATE PLANTED 04/20/70 DATE HARVESTED / /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0180 MM
NITROGEN KG/HA PHOSPHORUS KG/HA POTASSIUM KG/HA

KOLIBRI WAS THE LOCAL VARIETY. EXPERIMENT WAS FERTILIZED WITH FISONS 52 PLUS MG AT 3.5 CWTS PER ACRE (392 KG.PER HA.) MILDEW INFECTIONS WERE EARLY IN CROP CYCLE. LEAF RUST CAME TOO LATE TO HAVE MUCH EFFECT. APRIL TEMPS BELOW NORMAL. SUMMER WARM AND DRIER THAN NORMAL.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.	1000 GRN WGT GRMS	MILDEW
21	KENYA LEOPARD	KENYA	2746.9	76.5	56.0	127.0	88.0	43.0	14.7
18	CRESPO 63	COLOMBIA	2694.5	82.0	60.0	114.0	91.3	46.0	73.9
11	PITIC 62	MEXICO	2555.5	77.2	62.0	116.0	77.6	39.0	59.1
50	LOCAL CHECK		2552.7	81.7	62.0	127.0	86.6	48.1	14.7
15	SIETE CERROS	MEXICO	2458.2	78.5	63.0	116.0	72.0	41.3	14.7
49	KENAFF	GUATEMAL	2375.1	82.7	59.0	119.6	75.0	44.5	73.9
42	ZAMBEZI	RHODESIA	2324.0	79.5	59.0	115.3	74.6	41.5	66.5
17	HUELQUEN	CHILE	2231.9	80.7	51.0	116.0	88.0	42.6	73.9
38	36896-CJ 54² X YT 54A (:)	SUDAN	2272.9	76.7	59.0	116.0	79.3	45.6	73.9
34	TOBARI 66	MEXICO	2247.4	84.0	59.0	116.0	69.3	46.0	44.3
16	BONZA 55	COLOMBIA	2214.1	77.2	62.0	119.6	93.3	41.3	55.4
39	4255 - HD.3 (MJ X K-Y) X (WIS - SUP) (F6)	KENIA	2203.9	79.7	62.0	116.0	86.3	44.3	18.4
3	CRIM	U.S.A.	2154.3	81.7	50.0	114.0	96.6	41.5	25.8
29	PALMIRA I	COLOMBIA	2127.3	77.5	57.0	116.0	79.6	47.6	88.7
4	BUCK MANANTIAL	ARGENTIN	2123.4	84.5	59.0	114.6	80.6	39.5	77.8
26	ZIPA 68	COLOMBIA	2115.5	78.0	59.0	116.0	79.0	44.0	44.3
47	SONALIKA	INDIA	2085.1	79.0	58.0	116.0	75.0	54.5	88.2
31	PENJAMO 62	MEXICO	2072.3	80.7	58.3	116.0	71.3	45.1	77.8
5	SELKIRK	CANADA	2059.5	76.5	59.0	116.0	89.3	43.8	73.9
32	CHRIS	U.S.A.	2044.2	77.2	61.0	127.0	93.6	36.1	73.2
36	NAPO 63	COLOMBIA	2039.1	79.0	59.0	116.0	86.0	42.6	88.7
48	KLOKA WM 1353	GERMANY	2030.2	79.0	61.0	114.0	80.3	38.0	48.0
41	LONDI	RHODESIA	2013.6	77.5	58.0	114.0	54.0	44.5	44.3
14	GIZA 155	EGYPT	1991.8	73.2	59.0	123.3	81.0	48.1	48.0
35	GABOTO	ARGENTIN	1990.6	80.5	55.0	123.3	93.6	35.7	56.5
27	TIMGALEN	AUSTRALI	1988.0	78.5	62.0	116.0	69.0	41.3	44.3
30	(LRXN 1JB)X AW3 E	AUSTRALI	1930.3	80.7	51.0	116.0	67.0	34.5	70.2
33	INIA 66	MEXICO	1979.1	82.0	53.0	116.0	65.0	44.6	38.7

1	SUN 64 X (L. RENDIDOR	ARGENTIN	1976.5	82.0	57.0	114.0	72.0	45.5	66.5
20	LERMA ROJO 64A	MEXICO	1967.6	83.5	59.0	116.0	75.3	42.0	38.8
40	SUN 64 X TZPP-NAI 50 (B)	ARGENTIN	1939.4	80.0	59.0	114.0	65.0	46.0	59.2
13	NAINARI 60	MEXICO	1933.2	80.2	59.0	116.0	75.6	47.5	51.7
2	NAVITOU	CANADA	1926.7	82.0	59.0	114.0	87.6	34.8	81.3
45	CIANO "S"	MEXICO	1898.6	81.0	58.0	114.0	61.3	42.0	88.7
46	TRIPLE DIRK	AUSTRALI	1876.8	79.7	61.0	119.6	92.0	51.3	88.7
23	C-271XNT X SUN 54 (E)	PAKISTAN	1852.6	81.0	59.0	114.6	67.0	43.8	88.7
6	CARAZINHO	BRAZIL	1797.6	77.5	63.0	127.0	91.3	44.0	88.7
22	(TZPP-SUN64)X(LR64A-TZPP-AN3E) (B)	MEXICO	1775.9	83.0	59.0	119.6	63.0	38.3	77.6
19	SONORA 64	MEXICO	1746.5	81.5	57.0	114.0	65.6	42.1	38.7
9	THATCHER	U.S.A.	1736.3	81.7	59.0	114.0	91.6	34.6	88.7
12	GABO	AUSTRALI	1635.2	76.2	59.0	116.0	76.3	41.5	81.3
44	PATO ARGENTINO	ARGENTIN	1630.1	79.0	61.0	119.6	70.0	34.8	81.3
10	KLEIN RENDIDOR	ARGENTIN	1629.0	76.5	75.0	116.0	101.6	41.1	40.5
28	TK-235	AUSTRALI	1623.9	73.2	59.0	116.0	74.3	45.5	85.0
7	VICTOR I	ITALY	1618.8	75.5	65.0	114.0	56.6	28.5	73.9
8	DIAMONTES	ARGENTIN	1565.1	79.2	64.0	114.0	83.3	38.8	73.9
25	LR X P415_3 (E) TI	PAKISTAN	1535.7	80.2	59.0	116.0	58.0	40.5	88.7
24	SUN 64 X C-271	PAKISTAN	1275.1	81.0	60.0	115.3	58.3	41.0	38.7
43	TURPIN 7	SOUTH AF	1243.1	72.0	59.0	116.0	46.0	42.6	85.0
37	C-305	INDIA	1155.2	74.2	59.0	127.0	93.3	46.6	59.1
		GRAND MEAN	1933.5	79.2	60.2	117.1	77.3	42.3	55.9
	STANDARD ERROR OF GRAND MEAN		24.3		0.0	0.1	0.3	0.1	0.9
	COEFFICIENT OF VARIATION		15.0		0.2	2.0	5.0	4.0	16.8
	LSD VARIETY MEANS 5 PC		437.2		0.2	3.9	6.4	2.8	18.4

CORRELATIONS

YIELD KG/HA						
TEST WEIGHT	0.29*					
DAYS TO FLOWER	0.03	-0.25				
DAYS TO MATURITY	0.08	-0.26	0.25			
HEIGHT CM.	0.31*	-0.01	0.41**	0.39**		
1000 GRN WGT GRMS	0.20	-0.06	-0.31*	0.12	0.07	
MILDEW	-0.47**	0.10	-0.42**	-0.23	-0.25	-0.08

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 49

EUROPE PORTUGAL
ELVAS, PLANT BREEDING STATION.
LATITUDE 038°53'N LONGITUDE 007°09'W ELEVATION +00208 METERS ABOVE SEA LEVEL
COOPERATORS M.T.BARRADAS, F.BASULHO.
DATE PLANTED 11/11/69 DATE HARVESTED 06/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 3640 MM
NITROGEN 130.0 KG/HA PHOSPHORUS 018.5 KG/HA POTASSIUM 041.5 KG/HA

CHAMITE WAS THE LOCAL VARIETY. WEEDS WERE CONTROLLED BY HAND. SEVERE ATTACK OF CEREUS FLY. BIRDS DID SOME DAMAGE TO EARLY VARIETIES. LIGHT EPIDEMICS OF SEPTORIA TRITICI, STRIPE AND STEM RUSTS. MONTH OF JANUARY HAD AN EXCESS OF RAINFALL. MARCH AND APRIL WERE DRY. JUNE WAS RAINY.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.	LODGING	SHATTERING HEAD	1000 GRN WGT GRMS	SEPTORIA TRITICI	NECK BREAK
21	KENYA LEOPARD	KENYA	3236.3	83.5	147.0	199.3	112.0	33.3	56.5	48.5	60.0	58.3
50	LOCAL CHECK		3198.5	85.2	143.3	196.6	92.3	77.0	56.5	45.2	66.6	66.6
11	PITIC 62	MEXICO	3158.5	82.4	133.3	193.6	99.3	55.5	33.2	47.5	53.3	41.6
42	ZAMBEZI	RHODESIA	3119.6	85.9	133.6	194.3	92.3	76.0	56.5	42.7	53.3	25.0
13	NAINARI 60	MEXICO	3039.6	83.5	135.6	194.0	138.6	53.3	56.5	54.1	53.3	83.3
15	SIETE CERROS	MEXICO	3079.6	86.4	142.3	196.6	93.3	75.3	44.8	43.8	60.0	33.3
46	TRIPLE DIRK	AUSTRALI	3036.3	84.7	143.6	197.0	117.0	67.6	66.5	51.2	26.6	58.3
14	GIZA 155	EGYPT	2977.4	82.9	137.6	199.6	176.3	63.0	55.5	51.8	53.3	66.6
36	NAPO 63	COLOMBIA	2955.2	84.3	139.3	191.6	116.0	51.5	44.3	41.8	80.0	41.6
38	36596-CJ 54^2 X YT 54A (H)	SUDAN	2954.1	82.3	127.6	191.6	108.3	42.0	55.4	54.2	73.3	58.3
44	PATO ARGENTINO	ARGENTIN	2957.4	87.6	139.6	195.3	92.6	78.0	33.2	38.2	60.0	75.0
17	HUELQUEN	CHILE	2949.7	84.0	138.6	195.0	110.3	52.6	55.6	44.7	80.0	66.6
29	PALMIRA I	COLOMBIA	2934.1	82.9	138.0	195.0	116.3	59.3	55.4	51.3	53.3	75.0
12	GABO	AUSTRALI	2933.0	82.7	134.6	194.0	130.6	65.5	35.6	46.6	53.3	41.6
1	SON 64 X K1. RENDIDOR	ARGENTIN	2791.9	84.9	132.0	192.0	99.3	67.6	66.5	48.1	46.6	33.3
18	CRESPO 63	COLOMBIA	2739.7	84.5	132.0	193.0	135.3	59.0	66.5	47.0	46.6	33.3
35	GABOTO	ARGENTIN	2716.3	86.2	143.3	196.0	121.0	51.0	55.4	37.2	46.6	41.6
49	KELAJU	GUATEMAL	2678.6	84.6	131.3	192.0	99.6	64.3	49.9	44.9	66.6	33.3
37	C-306	INDIA	2635.4	86.4	134.6	194.6	137.3	54.6	56.5	51.6	53.3	58.3
30	(LERN 108)X A43 E	AUSTRALI	2621.9	86.5	143.0	197.3	87.6	81.3	35.6	44.7	33.3	58.3
3	CRIM	U.S.A.	2634.1	84.8	148.3	197.0	115.3	53.0	49.9	41.8	46.6	66.6
40	SON 64 X TZPP-4AI 50 (B)	ARGENTIN	2590.8	84.0	135.6	193.6	88.6	77.3	55.5	53.5	60.0	58.3
33	INIA 66	MEXICO	2543.8	84.7	126.3	191.3	102.6	72.0	55.4	47.1	80.0	25.0
4	BUCK MANANTIAL	ARGENTIN	2474.1	85.1	153.0	205.0	138.6	78.3	66.5	38.1	46.6	83.3
48	KLOKA WW 1353	GERMANY	2452.8	82.8	153.3	198.0	96.0	79.0	35.6	38.7	80.0	50.0
39	4265 - HO.3 (M) X K-Y)(X (WIS - SUP) (F6)	KENIA	2419.7	83.9	145.0	199.3	110.0	61.6	66.5	44.6	40.0	75.0
41	LUNDI	RHODESIA	2359.7	83.2	132.0	191.6	88.6	74.6	22.2	41.5	80.0	58.3
22	(TZPP-SON6XXL364A-TZPP-AN3E) (H)	MEXICO	2352.8	84.9	131.6	192.6	89.6	76.3	33.2	43.9	60.0	33.3
43	TURPIN 7	SOUTH AF	2338.6	83.2	133.0	192.0	65.3	97.3	66.5	54.8	66.6	33.3
31	PENJAMO 62	MEXICO	2235.3	81.6	134.3	192.3	98.3	74.3	33.2	49.8	73.3	33.3
27	TINGALEN	AUSTRALI	2277.5	82.9	137.6	195.6	90.0	68.3	44.3	44.5	53.3	58.3
8	DIAMONTES	ARGENTIN	2271.9	85.9	143.6	196.0	138.3	64.3	56.5	45.5	40.0	58.3
16	BONZA 55	COLOMBIA	2251.9	83.3	131.6	192.6	113.0	57.5	55.5	43.0	66.6	50.0
47	SONALIKA	INDIA	2237.5	81.3	123.6	191.3	97.6	71.0	55.4	55.3	80.0	33.3
45	CIANO "S"	MEXICO	2235.4	87.3	128.6	192.5	90.3	75.0	56.5	49.0	73.3	41.6
20	LERMA ROJO 64A	MEXICO	2156.4	85.5	131.0	192.3	104.0	59.0	55.4	45.6	66.5	41.6
26	ZIPA 68	COLOMBIA	2136.4	83.1	140.6	197.3	136.0	70.5	66.5	42.5	73.3	91.0
28	TR-236	AUSTRALI	2112.0	84.0	133.6	193.3	102.6	72.0	60.5	49.3	66.6	41.6
24	SON 64 X C-271	PAKISTAN	2075.3	84.2	132.6	193.0	91.0	79.0	33.2	57.0	66.6	58.3
34	TOBARI 66	MEXICO	1993.1	86.0	128.6	191.0	93.0	68.5	44.0	47.3	66.6	50.0
32	CHRIS	U.S.A.	1875.3	84.7	139.5	196.0	113.6	70.3	66.0	39.6	33.3	66.6

9	*MAICHER	U.S.A.	1838.4	81.3	151.3	204.0	120.0	67.6	68.8	36.1	49.9	88.0
2	MANITOU	CANADA	1756.4	81.9	161.6	204.0	115.6	70.3	88.8	32.0	26.6	91.6
7	VICTOR I	ITALY	1745.3	83.5	162.3	193.3	78.0	78.0	11.0	40.0	66.6	50.0
19	SONORA 64	MEXICO	1732.0	85.1	124.0	191.3	81.6	79.3	32.2	44.9	80.0	25.0
25	LR X P41603 (E) T1	PAKISTAN	1695.3	85.3	124.6	191.0	88.3	82.3	55.6	44.3	53.3	41.6
23	C-271-MT X SJN 54 (E)	PAKISTAN	1634.2	84.7	135.3	195.6	90.3	79.3	22.1	48.0	66.6	66.6
10	KLEIN REVOLIDOR	ARGENTIN	1649.8	84.8	135.0	191.3	112.3	59.3	56.5	44.7	26.6	33.3
6	CARAZINHO	BRAZIL	1593.9	84.9	138.3	197.0	109.6	59.3	55.6	47.7	53.3	66.6
5	SELKIRK	CANADA	1432.3	79.2	162.3	203.6	111.6	66.6	54.8	35.9	46.6	91.6
		GRAND MEAN	2443.3	84.2	137.7	195.0	101.1	67.4	56.8	45.5	57.5	53.8
	STANDARD ERROR OF GRAND MEAN		38.4	0.0	0.1	0.0	0.6	0.6	1.1	0.1	0.7	1.3
	COEFFICIENT OF VARIATION		19.3	0.7	1.2	0.5	5.0	12.5	24.8	2.8	16.7	29.6
	LSD VARIETY MEANS 5 PC		769.8	1.0	2.8	1.7	8.3	13.7	22.1	2.1	15.7	26.0

CORRELATIONS

YIELD	KG/HA									
TEST	WEIGHT	0.18								
DAYS TO	FLOWER	-0.08	-0.26							
DAYS TO	MATURITY	-0.05	-0.26	0.93**						
HEIGHT	CM.	0.13	-0.18	0.40**	0.43**					
LODGING		-0.35**	0.12	-0.03	-0.05	-0.73**				
SHATRNG	HEAD	0.15	-0.02	0.25	0.34*	0.48**	-0.22			
1000 GRN	WGT GRMS	0.25	0.02	-0.63**	-0.52**	-0.28*	-0.07	0.08		
SEPTORIA	TRITICI	0.09	-0.02	-0.55**	-0.53**	-0.43**	0.10	-0.62	0.31*	
NECK	BREAK	-0.09	-0.25	0.65**	0.70**	0.38**	-0.14	0.20	-0.25	-0.31*

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL.

TABLE LOCATION 51

EUROPE YUGOSLAVIA
NOVI SAD, INSTITUTE FOR AGRICULTURAL RESEARCH.
LATITUDE 045 03 N LONGITUDE 019 33 E ELEVATION 00084 METERS ABOVE SEA LEVEL
COOPERATORS S.BOROJEVIC.
DATE PLANTED 03/03/73 DATE HARVESTED 07/23/73
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0268 MM
NITROGEN 056.0 KG/HA PHOSPHORUS 038.7 KG/HA POTASSIUM 063.1 KG/HA

LOCAL VARIETY WAS NOT INCLUDED IN EXPERIMENT. NO WEED OR PEST PROBLEMS.
DISEASE DEVELOPMENT WAS CONSIDERED GOOD. SPRING WAS LATE. RAINY PERIOD
DURING HARVEST NOTED.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	LEAF RUST	HEIGHT CM.	1000 GRN WGT GRMS
21	KENYA LEOPARD	KENYA	1655.6	62.3	66.3	101.0	100	92.6	31.7
3	CRIM	U.S.A.	1658.3	68.6	53.3	94.3	0	99.3	28.7
47	SUNALIKA	INDIA	1641.6	68.9	56.3	91.6	80	74.3	35.4
22	(TZPP-SON64)(LR64A-TZPP-ANBE) (B)	MEXICO	1355.6	74.6	58.6	91.3	20	64.3	29.6
35	GABOTO	ARGENTIN	1366.6	72.7	65.0	98.6	0	91.3	27.0
5	SELKIRK	CANADA	1233.3	67.1	53.6	94.0	0	97.0	27.8
39	4255 - HD.3 (MO X -Y)X (WIS - SUP) (F6)	KENIA	1233.3	70.8	66.0	99.6	80	90.0	30.9
11	PITIC 62	MEXICO	1233.3	58.8	64.3	95.3	100	77.6	22.9
32	CHRIS	U.S.A.	1175.0	70.6	64.3	97.0	0	92.0	26.7
27	TIMGALEN	AUSTRALI	1175.0	66.7	53.3	92.6	20	71.0	29.1
34	TOBARI 66	MEXICO	1156.6	73.5	62.0	95.3	0	70.6	28.4
10	KLEIN RENDIDOR	ARGENTIN	1155.6	69.7	55.6	103.0	0	82.6	29.5
40	SON 64 X TZPP-NAI 60 (B)	ARGENTIN	1116.6	68.1	59.6	94.3	60	69.3	27.0
44	PATO ARGENTINO	ARGENTIN	1100.0	73.3	50.6	93.3	100	73.3	24.9
26	ZIPA 68	COLOMBIA	1100.0	61.5	63.6	94.0	80	83.6	25.4
41	LONDI	RHODESIA	1091.6	64.3	59.3	92.6	100	59.5	25.1
29	PALMIRA I	COLOMBIA	1056.6	66.5	59.6	92.0	80	89.6	32.0
33	INIA 66	MEXICO	1055.6	69.6	58.3	92.6	50	55.3	29.7
48	KLOKA WM 1353	GERMANY	1033.3	63.9	63.6	94.0	80	83.0	21.0
49	KELAJU	GUATEMAL	1025.0	68.5	62.0	93.3	100	80.0	25.5
6	CARAZINHO	BRAZIL	1016.6	68.4	53.6	97.6	0	89.6	30.6
31	PENJAMO 62	MEXICO	1016.6	66.9	62.6	94.3	80	72.3	28.2
14	GIZA 155	EGYPT	991.6	67.9	52.6	95.6	60	83.0	29.7
19	SONORA 64	MEXICO	966.6	66.1	55.6	91.0	100	64.3	25.8
43	TURPIN 7	SOUTH AF	950.0	66.3	55.0	92.3	0	48.6	33.4
42	ZAMBEZI	RHODESIA	908.3	66.1	62.0	93.3	0	64.5	25.8
36	NAPO 63	COLOMBIA	900.0	64.5	50.3	92.0	60	88.0	25.5
15	SIETE CERROS	MEXICO	891.6	63.1	64.3	94.3	100	70.3	22.9

25	LR X P41603 (E) TI	PAKISTAN	833.3	67.1	53.6	92.0	100	56.5	28.1
20	LERMA ROJO 64A	MEXICO	883.3	60.1	57.6	91.0	60	75.0	29.4
4	BUCK MANANTIAL	ARGENTIN	833.3	70.5	53.3	95.0	80	85.5	24.7
12	GABO	AUSTRALI	875.0	62.5	53.0	95.6	0	72.6	27.5
16	BONZA 55	COLOMBIA	858.3	61.3	64.3	93.5	60	88.5	25.7
13	NAINARI 60	MEXICO	850.0	63.5	54.0	94.6	40	75.0	30.0
45	CIANO "S"	MEXICO	850.0	65.6	56.6	92.6	60	67.3	25.9
18	CRESPO 63	COLOMBIA	841.6	67.0	53.3	94.3	100	86.5	24.5
46	TRIPLE DIRK	AUSTRALI	733.3	66.8	54.0	96.0	100	92.0	30.5
23	C-271X WT X SON 64 (E)	PAKISTAN	783.3	62.1	59.0	91.0	60	56.0	25.5
2	MANITOU	CANADA	758.3	66.9	53.6	94.6	0	93.3	24.1
9	THATCHER	U.S.A.	743.3	67.5	65.0	95.0	100	93.3	20.9
17	HUELQUEN	CHILE	741.6	64.[illegible]	53.6	92.6	60	85.0	24.4
37	C-366	INDIA	691.6	70.7	60.3	92.3	80	82.0	42.0
1	SON 64 X K1. RENDIDOR	ARGENTIN	683.3	46.9	58.3	91.3	80	72.0	29.1
38	36896-CJ 54² X YT 54A (H)	SUDAN	633.3	50.5	62.6	94.0	80	74.0	27.6
24	SON 64 X C-271	PAKISTAN	575.0	61.3	62.6	92.6	100	52.0	24.0
8	DIAMONTES	ARGENTIN	558.3	67.7	54.3	95.0	80	88.6	23.6
28	TR-235	AUSTRALI	508.3	62.5	62.0	92.0	60	75.0	25.8
30	(LRKN 1.8)X ANB E	AUSTRALI	458.3	62.6	54.3	93.6	100	58.5	20.9
7	VICTOR I	ITALY	436.6	56.9	65.3	92.0	80	55.0	17.9
		GRAND MEAN	956.9	65.9	62.2	94.1	59.7	77.4	27.2
		STANDARD ERROR OF GRAND MEAN	18.0	0.5	0.0	0.0	0.1	0.3	0.2
		COEFFICIENT OF VARIATION	22.6	10.1	1.6	1.2	2.7	5.2	12.7
		LSD VARIETY MEANS 5 PC	358.3	10.9	1.7	1.0	2.6	6.5	5.6

CORRELATIONS

YIELD	KG/HA						
TEST	HEIGHT	0.42**					
DAYS TO	FLOWER	-0.00	-0.05				
DAYS TO	MATURITY	0.38**	0.24	0.68**			
LEAF	RUST	-0.30*	-0.27*	-0.16	-0.24		
HEIGHT	CM.	0.31*	0.21	0.37**	0.50**	-0.14	
1000 GRN	WGT GRMS	0.35**	0.29*	-0.24	0.07	-0.20	0.13

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 52

EUROPE YUGOSLAVIA
ZAGREB, SUTINEC.
LATITUDE 045 45'N LONGITUDE 015 55'E ELEVATION +00116 METERS ABOVE SEA LEVEL
COOPERATORS Z.MARTENIC.
DATE PLANTED 04/04/72 DATE HARVESTED 07/ /72
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0443 MM
NITROGEN 120.0 KG/HA PHOSPHORUS 035.0 KG/HA POTASSIUM 074.7 KG/HA

MARA WAS THE LOCAL VARIETY. SERIOUS ATTACKS BY INSECTS CONTROLLED BY CHEMICAL SPRAYS. WEEDS CONTROLLED CHEMICALLY. GOOD DEVELOPMENT OF RUSTS AND MODERATE ATTACKS OF MILDEW, PUSARIUM AND SEPTORIA SP. SPRING COOL AND WET. GENERALLY SEASON WAS UNFAVORABLE. WEATHER CAUSED LATE SEEDING.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	LEAF RUST	STEM RUST	HEIGHT CM.	1000 GRN WGT GRMS	MILDEW
34	TUBARI 66	MEXICO	2233.7	77.9	55.6	94.6	TRR	0	70.8	35.6	26.6
47	SUNALIKA	INDIA	2077.5	74.7	52.3	94.6	0	10	70.8	42.3	63.3
18	CRESPO 63	COLOMBIA	1877.5	76.4	57.3	94.6	20MS	0	81.3	35.3	80.0
38	36896-LJ 54^2 X YT 54A (MJ	SUDAN	1813.9	71.3	56.0	95.3	40MS	20	58.3	35.4	60.0
22	(TZPP-SUN64)(4864A-TZPP-AN3E) (B)	MEXICO	1835.3	77.5	53.3	94.6	10MR	70	50.3	35.2	56.6
32	CHRIS	U.S.A.	1694.2	74.3	58.6	95.3	0	0	86.6	33.0	63.3
17	HUELQUEN	CHILE	1638.7	74.3	59.0	94.0	0	20	92.3	37.1	73.3
45	CIANO "S"	MEXICO	1655.4	74.6	53.6	93.6	0	0	52.3	32.6	46.6
39	4265 - HD.3(MJ X K-Y) X (WIS - SUP)(F6)	KENIA	1644.2	73.5	61.0	96.0	40S	10	81.0	38.0	10.0
31	PENJAMO 62	MEXICO	1644.2	70.6	56.3	93.0	30MS	80	55.3	28.5	63.3
29	PALMIRA 1	COLOMBIA	1616.5	69.8	54.0	92.0	80S	20	81.0	37.2	70.0
1	SUN 64 X KL. RENDIDOR	ARGENTIN	1538.7	72.4	54.3	92.5	5MR	60	55.3	31.7	23.3
3	CHIM	U.S.A.	1533.1	73.5	57.3	94.0	20MR	0	39.3	36.3	46.6
40	SUN 64 X TZPP-VAI 66 (B)	ARGENTIN	1494.2	72.8	55.3	94.0	0	50	54.3	36.3	26.6
42	ZANDEZI	RODDESIA	1477.6	72.4	56.3	95.0	10MR	99	55.0	27.5	56.6
46	TRIPLE DIRK	AUSTRALI	1444.2	74.7	59.3	94.6	80S	80	87.6	37.8	86.6
2	MANITOU	CANADA	1433.1	74.2	59.6	93.5	20MR	0	35.8	29.9	73.3
33	INIA 56	MEXICO	1416.5	75.2	52.6	91.6	10MR	10	56.0	31.6	60.0
21	KENYA LEOPARD	KENYA	1399.8	74.9	63.3	96.6	60MS	50	33.8	32.5	13.3
26	ZIPA 68	COLOMBIA	1377.6	66.2	58.0	93.6	80MS	60	81.0	28.2	23.3
25	LR A P4163 (E) T1	PAKISTAN	1377.6	74.0	55.0	91.6	0	20	51.3	34.8	73.3
11	PITIC 62	MEXICO	1310.9	61.5	59.0	94.0	10DS	50	71.6	23.9	36.6
28	TK-236	AUSTRALI	1233.2	69.2	55.6	92.6	20MR	0	73.6	33.5	63.3
5	SELKIRK	CANADA	1222.0	67.7	60.3	92.3	100S	60	39.3	30.1	70.0
36	NAPO 53	COLOMBIA	1210.9	71.8	54.0	93.3	100S	10	76.0	30.4	60.0
44	PATO ARGENTINO	ARGENTIN	1199.8	73.3	56.0	93.0	40MS	90	53.0	24.6	66.6
35	GABOTO	ARGENTIN	1166.5	74.4	50.3	95.0	0	80	31.5	33.9	73.3
49	KELAJU	GUATEMAL	1144.3	72.0	56.6	92.6	80S	40	72.3	29.3	30.0
6	CARAZINHO	BRAZIL	1110.9	72.6	59.0	95.0	0	90	31.5	36.0	80.0
27	TIMGALEN	AUSTRALI	1315.5	46.5	58.6	95.3	TRR	20	50.3	32.0	46.6
13	NAINARI 60	MEXICO	1311.0	59.0	56.6	92.0	15MR	99	73.0	25.9	60.0
20	LERMA ROJO 64A	MEXICO	1305.4	73.7	54.6	92.6	40MR	0	56.3	33.6	63.3
43	TURPIN 7	SOUTH AF	966.5	63.1	55.3	92.6	10MR	99	49.3	28.4	70.0
4	BUCK MANANTIAL	ARGENTIN	949.9	71.8	58.6	94.3	10R	99	73.3	27.3	80.0
19	SONORA 64	MEXICO	933.2	67.6	53.3	91.3	40MS	40	61.3	25.0	53.3
16	BONZA 55	COLOMBIA	927.6	66.5	58.0	93.6	30MR	10	76.3	24.9	43.3
10	KLEIN RENDIDOR	ARGENTIN	899.9	70.2	43.6	95.0	TRR	99	80.3	29.0	63.3

41	LUNDI	RHODESIA	898.7	65.9	56.0	92.6	80S	50	56.3	29.2	13.3
9	THATCHER	U.S.A.	888.7	70.4	59.3	91.0	100S	40	84.6	23.0	82.3
14	GIZA 155	EGYPT	877.6	72.8	55.0	77.6	80S	99	78.8	33.7	43.3
23	C-271 WT X SJN 54 (E)	PAKISTAN	855.4	67.0	54.0	91.6	60MS	99	52.8	25.2	73.3
12	GABU	AUSTRALI	827.6	62.7	56.0	93.3	10MS	90	59.0	28.2	66.6
15	SIETE CERROS	MEXICO	735.4	57.5	59.3	92.0	100S	99	51.8	18.6	23.3
30	GREEN LOB X ANB E	AUSTRALI	638.8	60.3	60.0	93.3	40MS	90	57.6	22.9	73.3
24	SUN 64 X C-271	PAKISTAN	627.7	61.9	55.3	91.0	100S	40	58.3	24.8	60.0
7	VICTOR I	ITALY	511.0	61.3	51.0	92.6	100S	40	53.9	21.9	66.6
8	DIAMONTES	ARGENTIN	494.3	71.3	59.6	93.6	60MS	70	75.8	28.2	63.3
48	KLOKA WM 1353	GERMANY	438.8	54.1	62.3	91.0	100S	90	79.6	14.3	16.6
37	C-306	INDIA	355.5	68.5	55.3	91.6	100S	90	77.8	25.8	66.6
50	LOCAL CHECK		216.6	40.8	61.3	92.3	60MS	99	50.6	12.5	30.0
		GRAND MEAN	1233.3	60.2	57.2	93.1	35.6	51.0	71.5	29.8	54.7
		STANDARD ERROR OF GRAND MEAN	17.0	0.4	3.0	0.3	0.7	3.8	3.3	3.1	0.7
		COEFFICIENT OF VARIATION	17.4	8.5	3.9	4.4	25.8	20.5	5.2	6.0	16.7
		LSD VARIETY MEANS 5 PC	341.7	0.6	3.8	6.7	15.0	17.1	5.1	2.9	14.9

CORRELATIONS

YIELD	KG/HA								
TEST	WEIGHT	3.64**							
DAYS TO	FLOWER	-3.31*	-0.25						
DAYS TO	MATURITY	3.35**	0.12	3.28*					
LEAF	RUST	-3.45**	-0.34*	3.18	-0.38**				
STEM	RUST	-3.53**	-0.39**	3.19	-0.18	3.18			
HEIGHT	CM.	3.25	0.34*	3.38**	0.11	0.06	-0.28*		
1000 GRN	WGT GRMS	3.77**	0.67**	-3.31*	0.29	-0.43**	-0.55**	0.31	
MILDEW		-3.31	3.24	-3.09	3.02	-0.21	0.04	0.13	3.15

* SIGNIFICANT AT THE 5 % LEVEL ** SIGNIFICANT AT THE 1 % LEVEL

TABLE LOCATION 53

NORTH AMERICA U.S.A. ALASKA
PALMER, UNIVERSITY OF ALASKA.
LATITUDE 061°34'N LONGITUDE 149°15'W ELEVATION +00061 METERS ABOVE SEA LEVEL
COOPERATORS R.L.TAYLOR.
DATE PLANTED 05/08/70 DATE HARVESTED 09/ /70
NUMBER OF IRRIGATIONS 001 RAIN TIMES AMOUNT OF MOISTURE 0186 MM
NITROGEN 010.7 KG/HA PHOSPHORUS 044.8 KG/HA POTASSIUM 017.8 KG/HA

LOCAL CHECK VARIETY WAS NOT SPECIFIED. WEEDS WERE CONTROLLED WITH DNBP.
COOLER THAN NORMAL WEATHER MAY HAVE RESULTED IN DELAYED MATURITY. PLOT
WAS IRRIGATED BEFORE PLOWING.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.
15	SIETE CERROS	MEXICO	3953.5	72.5	61.3	129.3	82.9
30	(LRKN 108)X AN3 E	AUSTRALI	3863.2	72.5	61.3	130.3	70.2
7	VICTOR I	ITALY	3736.3	70.9	63.6	128.6	66.8
11	PITIC 62	MEXICO	3653.2	70.9	62.3	129.3	81.2
38	36895-CJ 54^2 X YT 54A (H)	SUDAN	3643.0	69.4	63.0	129.3	86.3
20	LERMA ROJO 64A	MEXICO	3636.3	71.8	56.0	127.3	88.0
26	ZIPA 68	COLOMBIA	3599.4	72.0	67.0	126.0	90.5
47	SONALIKA	INDIA	3373.2	73.5	55.0	129.0	83.8
29	PALMIRA 1	COLOMBIA	3324.4	72.2	54.3	125.0	82.1
17	HUELGUEN	CHILE	3234.2	71.6	61.3	129.6	84.6
48	KLOKA RM 1353	GERMANY	3225.8	71.4	62.3	131.0	82.1
16	BONCA 55	COLOMBIA	3221.7	72.7	62.3	131.0	100.7
41	LONDI	RHODESIA	3209.2	69.4	58.6	127.6	67.7
12	SABU	AUSTRALI	3202.2	69.6	55.0	126.6	55.5
18	CRESPO 63	COLOMBIA	3143.9	73.3	56.0	129.0	88.8
5	SELKIRK	CANADA	3130.0	72.0	58.3	126.6	93.9
36	NAPO 63	COLOMBIA	2938.4	72.5	55.0	129.0	85.5
13	NAINARI 60	MEXICO	2910.6	72.1	59.6	125.0	92.[illegible]
25	LK X P41563 (E) T1	PAKISTAN	2837.0	69.9	59.6	125.0	73.6
14	GIZA 155	EGYPT	2834.2	71.2	55.0	128.0	82.9
9	THATCHER	U.S.A.	2818.9	73.3	60.3	126.0	87.2
4	BUCK MANANTIAL	ARGENTIN	2774.5	72.5	55.0	130.6	75.3
2	MANITOU	CANADA	2730.1	72.9	60.3	126.6	87.2
6	CARAZINHO	BRAZIL	2721.7	72.7	62.6	127.0	99.9
24	SUN 64 X L-271	PAKISTAN	2694.0	70.1	55.0	129.3	66.0
49	KELAJU	GUATEMAL	2650.9	72.9	53.0	128.0	82.1
42	ZAMBEZI	RHODESIA	2635.6	70.3	58.6	130.6	72.8
1	SUN 64 X KL. RENDIDOR	ARGENTIN	2624.5	72.5	56.6	126.3	77.0

8	PIAMONTES	ARGENTIN	2521.8	74.8	51.6	125.3	92.2
23	C-271 XMT X SON 54 (E)	PAKISTAN	2439.8	69.9	55.0	126.3	97.4
28	TK-236	AUSTRALI	2428.7	71.4	56.6	125.0	86.3
50	LOCAL CHECK		2331.1	72.9	54.0	124.3	90.5
34	TUBARI 65	MEXICO	2255.1	73.3	53.3	126.6	93.8
46	TRIPLE DIRR	AUSTRALI	2171.8	71.8	62.0	128.6	98.2
37	C-366	INDIA	2091.3	71.2	59.0	129.3	99.0
3	CHIM	U.S.A.	1919.1	69.2	59.6	129.6	96.5
21	KENYA LEOPARD	KENYA	1912.1	70.9	58.0	131.0	131.5
35	GABUTO	ARGENTIN	1830.2	71.2	58.0	129.0	110.9
33	INIA 66	MEXICO	1778.8	69.0	54.6	126.3	77.8
31	PENJAMO 62	MEXICO	1538.0	68.4	59.6	125.3	84.6
45	GIANT [illegible]	MEXICO	1511.1	71.4	56.0	128.0	64.3
19	SONORA 64	MEXICO	1331.7	69.4	55.3	127.3	66.0
32	CARIS	U.S.A.	1302.5	72.5	62.6	128.0	96.5
44	PMS ARGENTINO	ARGENTIN	1152.5	71.2	59.3	129.0	72.8
27	TAMGALEN	AUSTRALI	1120.6	66.4	51.3	129.3	72.8
22	(TZPP-SON64)(LR64A-TZPP-A43L) (M)	MEXICO	796.4	70.4	56.0	127.3	68.5
39	4255 - HD.3 (MD X K-Y) X (WIS - SOP) (F)	KENIA	686.0	0.0	63.3	131.0	92.9
43	TUBERIN 7	SOUTH AF	557.9	18.6	59.3	128.6	55.0
40	SON 54 X TZP-NAI 60 (F)	ARGENTIN	477.7	0.0	55.0	128.6	68.5
10	KLEIN PENDIDOR	ARGENTIN	0.0	0.0	33.0	0.0	0.0
		GRAND MEAN	2447.9	66.0	59.7	125.4	83.0
		STANDARD ERROR OF GRAND MEAN	±5.8	0.3	0.1	0.1	0.4
		COEFFICIENT OF VARIATION	22.9	7.2	2.2	1.3	6.7
		LSD VARIETY MEANS 5 PC	917.2	7.8	2.1	2.6	9.1

CORRELATIONS

YIELD	KG/HA				
TEST	WEIGHT	0.63**			
DAYS TO	FLOWER	-0.23	-0.35*		
DAYS TO	MATURITY	0.35**	0.49**	-0.68**	
HEIGHT	CM.	0.33**	0.55**	-0.27	0.70**

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 56

NORTH AMERICA U.S.A. N.DAKOTA
FARGO, NORTH DAKOTA STATE UNIVERSITY.
LATITUDE 046°54'N LONGITUDE 096°43'W ELEVATION 0000273 METERS ABOVE SEA LEVEL
COOPERATORS R.FROHBERG.
DATE PLANTED 05/06/70 DATE HARVESTED 09/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0152.44
NITROGEN 067.0 KG/HA PHOSPHORUS 044.4 KG/HA POTASSIUM 000.0 KG/HA

WALDRON WAS THE LOCAL CHECK VARIETY. SEVERE LEAF RUST, SOME STEM RUST, TEMPERATURES AND ABOVE NORMAL RAINFALL IN MAY AND JUNE. LATE SEASON

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	LEAF RUST	STEM RUST	HEIGHT CM.	SHATRNG HEAD
44	PATO ARGENTINO	ARGENTIN	2957.8	79.1	54.3	10MR	0	63.4	0.0
38	36896-CJ 542 X YT 54A (H)	SUDAN	2933.1	73.7	55.0	30MR	0	72.3	0.0
35	GABOTO	ARGENTIN	2859.9	78.9	67.6	TR	0	86.3	0.0
40	SUN 64 X IZPP-NAI 60 (B)	ARGENTIN	2818.9	72.9	53.0	10S	0	67.3	0.0
13	NAINARI 60	MEXICO	2800.7	72.2	55.0	30S	10S	71.1	2.0
47	SONALIKA	INDIA	2798.4	76.3	59.3	30MS	10S	71.1	40.0
20	LERMA ROJO 64A	MEXICO	2777.9	77.0	53.0	20S	TR	71.9	70.0
25	CR X P4150-3 (E) T1	PAKISTAN	2775.6	76.5	54.6	60S	10S	60.9	0.0
1	SUN 54 X K1. RENDIDOR	ARGENTIN	2759.7	78.0	51.3	10MR	0	69.8	50.0
41	LONDI	RHODESIA	2750.6	75.2	54.0	30MR	TR	57.1	0.0
22	(IZPP-SUN64)(LR64A-IZPP-ANBE) (B)	MEXICO	2711.9	80.6	52.0	10MR	0	64.7	70.0
59	LOCAL CHECK		2705.0	76.3	55.3	TR	TR	81.2	10.0
6	CARAZINHO	BRAZIL	2700.5	78.7	50.0	5S	0	85.0	70.0
2	MANITOU	CANADA	2698.2	76.3	57.0	40MS	0	81.2	20.0
4	BOCA MANANTIAL	ARGENTIN	2694.5	78.2	55.3	TR	0	73.6	1.0
45	CIANO "S"	MEXICO	2651.8	75.0	53.0	10MR	20S	62.6	30.0
33	INIA 66	MEXICO	2645.8	79.3	50.6	50S	0	66.0	0.0
34	TOBARI 66	MEXICO	2636.7	77.6	53.6	TR	0	55.0	0.0
28	TK-235	AUSTRALI	2623.1	75.7	54.0	40MR	0	71.9	0.0
11	PATAL 62	MEXICO	2613.9	69.4	57.3	60S	30S	71.1	5.0
18	CRESPO 63	COLOMBIA	2525.1	75.9	55.3	70S	0	78.7	20.0
49	KELAJU	GUATEMAL	2518.3	76.1	55.6	60S	10S	78.7	5.0
27	TIMGALEN	AUSTRALI	2491.0	74.8	58.0	80S	0	68.5	0.0
29	PALMIRA 2	COLOMBIA	2477.3	70.9	51.6	80S	TMR	77.8	0.0
23	C-271YMT X SUN 54 (F)	PAKISTAN	2445.4	73.5	52.0	40S	80S	67.3	0.0
15	SIETE CERROS	MEXICO	2431.8	76.1	56.0	80S	0	69.8	60.0
3	CRIM	U.S.A.	2425.0	77.6	57.0	50S	0	82.5	80.0
31	PENJAMO 62	MEXICO	2358.9	74.8	54.0	60S	40S	69.8	0.0

43	TURPIN 7	SUDAN AF	2392.1	64.0	54.6	90S	20S	50.7	0.0
16	BONCA 55	COLOMBIA	2345.3	72.2	57.6	20S	0	83.8	5.0
17	HUELGJEN	CHILE	2333.9	76.1	57.3	5MR	0	74.9	20.0
5	SELKIRK	CANADA	2279.2	72.7	58.0	30S	0	74.9	30.0
39	4255 - HD.3 (MJ X K-Y) X (WIS - SUP) (F5)	KENIA	2245.1	75.9	59.3	40S	0	78.7	0.0
46	TRIPLE DIRK	AUSTRALI	2221.4	76.5	55.3	20S	10S	81.2	10.0
36	NAPO 63	COLOMBIA	2215.5	76.3	50.6	70S	TR	76.1	0.0
26	ZIPA 68	COLOMBIA	2138.1	74.8	55.3	40S	0	72.3	0.0
42	ZAMBEZI	RHODESIA	2185.9	73.3	55.3	50S	40S	66.9	0.0
32	CHRIS	U.S.A.	2153.1	76.3	57.6	10MR	TR	80.0	0.0
8	PIAMONTES	ARGENTIN	2156.3	77.2	57.3	5MR	20S	81.2	1.0
14	GIZA 155	EGYPT	2144.9	77.8	54.0	60S	0	73.6	1.0
21	KENYA LEOPARD	KENYA	1999.2	74.6	62.0	70S	0	72.3	10.0
9	THATCHER	U.S.A.	1990.0	74.4	56.6	80S	5S	82.5	5.0
30	(LERN 1.8)X AN3 E	AUSTRALI	1732.8	72.9	57.6	100S	20S	60.9	0.0
7	VICTOR I	ITALY	1730.5	69.9	61.0	100S	30S	55.8	1.0
19	SONORA 64	MEXICO	1705.4	72.5	50.3	30S	70S	64.7	30.0
48	KLOSA MM 1353	GERMANY	1546.0	67.5	57.0	50S	90S	74.5	70.0
37	C-366	INDIA	1343.4	76.1	56.0	100S	70S	81.2	0.0
12	GABO	AUSTRALI	1270.5	66.9	55.6	90S	80S	70.2	5.0
24	SON 64 X C-271	PAKISTAN	1250.0	64.1	54.3	100S	90S	57.1	0.0
10	KLEIN KENDIDOR	ARGENTIN	0.0	0.0	0.0	5R	0	0.0	0.0
		GRAND MEAN	2320.1	73.3	54.2	38.8	15.6	71.8	27.5
		STANDARD ERROR OF GRAND MEAN	28.1	0.0	0.0	1.4	0.5	0.3	
		COEFFICIENT OF VARIATION	14.8	1.2	1.1	36.2	32.6	4.5	
		LSD VARIETY MEANS 5 PC	562.3	1.5	0.9	23.0	8.3	5.2	

CORRELATIONS

YIELD	KG/HA						
TEST	WEIGHT	0.72**					
DAYS TO	FLOWER	0.52**	0.88**				
LEAF	RUST	-0.35*	-0.00	0.22			
STEM	RUST	-0.49**	-0.11	0.04	0.38**		
HEIGHT	CM.	0.51**	0.80**	0.80**	-0.01	-0.07	
SHATRNG	HEAD	0.08	0.13	0.03	-0.15	0.03	0.13

* SIGNIFICANT AT THE 5 % LEVEL ** SIGNIFICANT AT THE 1 % LEVEL

TABLE LOCATION 57

NORTH AMERICA U.S.A. MINNESOTA
ST.PAUL, AGRICULTURAL EXPERIMENTAL STATION.
LATITUDE 045°00'N LONGITUDE 093°13'W ELEVATION 002943 METERS BELOW SEA LEVEL
COOPERATORS R.H.HEINER,F.A.ELSAYED.
DATE PLANTED 51/07/0 DATE HARVESTED 08/10/73
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE MM
NITROGEN 028.0 KG/HA PHOSPHORUS 000.0 KG/HA POTASSIUM 000.0 KG/HA

LOCAL CHECK VARIETY WAS NOT SPECIFIED. STEM AND LEAF RUST INFECTION WAS ABOVE NORMAL. RAINFALL WAS BELOW NORMAL. STEM MAGGOT AND BILLBUGS CAUSED SOME DAMAGE. SEASON TEMPERATURES ABOVE NORMAL AND RAINFALL WAS BELOW NORMAL.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	LEAF RUST	HEIGHT CM.	LODGING
50	LOCAL CHECK		1932.1	74.5	57.0	0	78.7	22.1
47	SONALIKA	INDIA	1851.7	71.3	42.0	20S	83.8	44.3
44	PATO ARGENTINO	ARGENTIN	1751.7	72.6	42.0	5S	73.6	33.2
34	TUBARI 66	MEXICO	1744.6	72.3	46.0	0	83.9	33.2
1	SON 64 X CL. RENDIDOR	ARGENTIN	1742.8	70.7	42.0	10MS	78.7	44.3
40	SON 64 X TZPP-NAI 60(B)	ARGENTIN	1726.7	68.1	44.0	0	71.1	55.5
33	INIA 66	MEXICO	1708.9	74.0	42.0	40S	76.1	11.0
38	36896-CJ 54 ^{2}X YT 54A (H)	SUDAN	1701.7	71.3	44.0	20S	86.3	22.1
26	ZIPA 68	COLOMBIA	1630.3	70.7	46.0	5S	91.4	22.1
19	SONORA 64	MEXICO	1628.5	70.0	41.0	5S	68.5	66.5
46	TRIPLE DIRK	AUSTRALI	1624.9	72.6	47.0	TS	114.1	44.3
13	NAINARI 60	MEXICO	1612.4	66.8	51.0	20S	78.7	0.0
45	CIANO "S"	MEXICO	1574.9	71.3	42.0	5MS	76.1	88.7
25	LR X P41603 (S) T1	PAKISTAN	1552.4	72.0	46.0	20S	71.1	11.0
27	TINGALEN	AUSTRALI	1558.9	70.0	51.0	5S	76.1	55.5
20	LERMA ROJO 64A	MEXICO	1557.0	72.6	43.0	5S	86.3	66.5
4	BUCK MANANTIAL	ARGENTIN	1549.9	74.5	45.0	0	83.8	33.2
22	(TZPP-SON64YLR64A-TZPP-AN3E) (B)	MEXICO	1543.1	77.1	42.0	5S	71.1	66.5
36	NAPO 63	COLOMBIA	1544.6	70.7	41.0	40S	86.3	55.5
23	C-271XWT X SON 64 (E)	PAKISTAN	1538.9	66.2	44.0	10S	73.6	55.5
29	PALMIRA 1	COLOMBIA	1430.3	64.3	42.0	40S	91.4	77.6
14	GIZA 155	EGYPT	1473.2	72.0	45.0	20S	91.4	33.2
32	CHRIS	U.S.A.	1471.4	74.0	57.0	0	99.0	66.5
31	PENJAMO 62	MEXICO	1451.7	70.7	45.0	5S	86.3	55.5
49	KELAJO	GUATEMAL	1426.7	74.5	49.0	20S	91.4	22.1
15	SIETE CERROS	MEXICO	1371.4	66.8	46.0	60S	73.6	22.1
42	ZAMBEZI	RHODESIA	1352.4	66.2	44.0	80S	73.6	22.1
11	PITIC 62	MEXICO	1344.6	64.3	47.0	20S	81.2	33.2

30	CLRKN 10BJX AN3 E	AUSTRALI	1333.9	68.1	50.0	80S	71.1	22.1
5	SELKIRK	CANADA	1338.9	65.5	50.0	10S	99.0	22.1
18	CRESPO 63	COLOMBIA	1239.9	71.3	47.0	5S	96.5	55.5
28	TR-236	AUSTRALI	1238.1	68.1	45.0	5S	81.2	55.5
9	THATCHER	U.S.A.	1294.6	68.8	48.0	20S	101.5	33.2
21	KENYA LEOPARD	KENYA	1253.5	73.3	28.0	5S	88.8	88.7
3	CRIM	U.S.A.	1249.9	71.3	48.0	10S	101.5	55.5
2	MANITOU	CANADA	1239.2	69.5	50.0	TS	96.5	33.2
8	PLAMONTES	ARGENTIN	1230.3	75.8	52.0	0	88.8	33.2
41	LONDI	RHODESIA	1231.7	65.0	45.0	20S	56.0	11.0
17	HUELQUEN	CHILE	1158.9	71.3	45.0	TS	88.8	66.5
43	TURPIN 7	SOUTH AF	1137.4	61.7	50.0	40S	58.4	0.0
24	SON 64 X C-271	PAKISTAN	1064.2	63.6	43.0	60S	68.5	11.0
16	BONZA 55	COLOMBIA	1055.3	67.5	52.0	TS	88.8	66.5
39	4265 - HD.3(M 0 X K-Y) X (WIS - SUP) (F6)	KENIA	1055.3	72.6	57.0	5S	93.9	44.3
6	CARAZINHO	BRAZIL	1053.5	75.2	28.0	0	96.5	99.8
48	KLOKA WM 1353	GERMANY	1053.5	66.8	48.0	40S	88.8	22.1
12	GABO	AUSTRALI	1019.6	63.6	47.0	60S	78.7	22.1
37	C-366	INDIA	951.7	74.0	52.0	40S	99.0	22.1
35	GABOTO	ARGENTIN	846.4	78.5	28.0	0	91.4	11.0
7	VICTOR I	ITALY	810.6	65.5	28.0	10S	66.0	0.0
10	KLEIN RENDIDOR	ARGENTIN	0.0	0.0	0.0	5S	50.9	0.0
		GRAND MEAN	1357.2	68.8	44.2	17.4	83.2	38.8
	STANDARD ERROR OF GRAND MEAN		19.6					
	COEFFICIENT OF VARIATION		17.5					
	LSD VARIETY MEANS 5 PC		392.9					

CORRELATIONS

YIELD	KG/HA					
TEST	WEIGHT	0.62**				
DAYS TO	FLOWER	0.51**	0.62**			
LEAF	RUST	-0.10	-0.10	0.10		
HEIGHT	CM.	0.05	0.40**	0.30*	-0.28*	
LODGING		0.23	0.30*	0.00	-0.38**	0.34*

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVE.

TABLE LOCATION 58

NORTH AMERICA U.S.A. COLORADO
FORT COLLINS, CARGILL RESEARCH FARM.
LATITUDE 04-35'N LONGITUDE 105°35'W ELEVATION +01524 METERS ABOVE SEA LEVEL
COOPERATORS B.C.CURTIS,D.R.JOHNSTON,B.J.ROBERTS.
DATE PLANTED 04/13/70 DATE HARVESTED 07/ /70
NUMBER OF IRRIGATIONS 002 RAIN TIMES AMOUNT OF MOISTURE 0407 MM
NITROGEN 112.0 KG/HA PHOSPHORUS 000.0 KG/HA POTASSIUM 000.0 KG/HA

LOCAL VARIETY NOT SPECIFIED. NO WEED OR PEST PROBLEMS. STEM AND LEAF RUSTS WERE INOCULATED BUT DEVELOPED SLOWLY. SEASON COOL IN EARLY STAGES BUT LATER TURNED HOT UNTIL HARVEST.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	STEM RUST
17	HUELWUEN	CHILE	5734.0	78.5	TR
13	NAINARI 6.	MEXICO	5302.1	75.2	5MR
38	36896-UJ 54 2X YT 54A (H)	SUDAN	5233.3	74.0	4S-S
11	PITIC 62	MEXICO	5061.1	72.0	2-MS
23	C-271XMT X SON 64 (E)	PAKISTAN	4871.6	70.1	4S-S
14	GIZA 155	EGYPT	4852.7	77.2	TR
25	LR X P4160B (E) T1	PAKISTAN	4827.6	78.5	TR
34	TUBARI 66	MEXICO	4816.8	78.5	TR
31	PENJAMO 62	MEXICO	4743.6	77.8	10MS
21	KENYA LEOPARD	KENYA	4728.9	78.5	TR
47	SONALIKA	INDIA	4533.6	77.8	10MR
20	LERMA ROJO 64A	MEXICO	4512.8	70.7	TMR
18	CRESPO 63	COLOMBIA	4435.7	78.5	TR
42	ZAMBEZI	RHODESIA	4434.8	77.2	40MS
39	4265 - HD.3 (MO X K-Y) X (WIS - SUP) (F6)	KENIA	4355.6	77.2	5MS
16	BONZA 55	COLOMBIA	4335.7	76.5	TR
15	SIETE CERROS	MEXICO	4350.4	77.2	TR
33	INIA 66	MEXICO	4327.1	70.7	TR
6	CARACINHO	BRAZIL	4324.4	70.1	4S-S
22	(TZPP-SUN54)(LK64A-TZPP-AN3E) (B)	MEXICO	4314.5	81.0	TR
4	BUCK MANANTIAL	ARGENTIN	4258.0	70.1	4S-S
10	KLEIN RENDIDOR	ARGENTIN	4235.6	76.5	40MR-MS
12	GABO	AUSTRALI	4221.2	68.2	40MS
27	TIMGALEN	AUSTRALI	4136.9	75.2	TMS
45	CIANO "S"	MEXICO	4110.0	70.7	30MS
19	SONORA 64	MEXICO	4103.7	77.8	40MS
29	PALMIRA 1	COLOMBIA	3994.3	74.6	TR
40	KELAJI	GUATEMAL	3985.3	70.7	30MS-S

1	SON 64 X 41. REDIDOR	ARGENTIN	3929.7	77.2	TMS
2	MANITOU	CANADA	3851.5	76.5	TMS
24	SON 64 X C-271	PAKISTAN	3857.9	72.0	30MS
46	TRIPLE DIRK	AUSTRALI	3765.6	77.8	5MS
36	NAPO 63	COLOMBIA	3760.2	76.5	TR
3	CRIM	U.S.A.	3758.4	77.8	TR
37	C-366	INDIA	3739.5	70.7	TS
48	KLOKA WM 1353	GERMANY	3683.9	74.6	MS-S
32	CHRIS	U.S.A.	3674.1	77.2	TMS
26	ZIPA 68	COLOMBIA	3659.6	74.6	20MS
40	SON 64 X TZPP-NAI 60 (B)	ARGENTIN	3656.0	76.5	20MR
35	GABUTO	ARGENTIN	3657.0	70.1	TR
7	VICTOR I	ITALY	3552.1	74.6	MS-S
5	SELKIRK	CANADA	3543.1	75.9	5MR-MS
28	TR-236	AUSTRALI	3471.3	75.9	TR
44	PATO ARGENTINO	ARGENTIN	3395.1	80.4	R-MS
30	(LRKN 16B)X ANB E	AUSTRALI	3371.8	77.2	10MS
8	DIAMONTES	ARGENTIN	3352.9	70.1	5MR
9	THATCHER	U.S.A.	3276.7	78.5	20MS
50	LOCAL CHECK		3218.4	70.1	20MS
43	TURPIN 7	SOUTH AF	3125.1	73.6	-5MS
41	LONDI	RHODESIA	2896.4	75.2	TR
		GRAND MEAN	4111.3	77.1	9.1
	STANDARD ERROR OF GRAND MEAN		53.3		
	COEFFICIENT OF VARIATION		15.8		
	LSD VARIETY MEANS 5 PC		1066.1		

CORRELATIONS

YIELD	KG/HA		
TEST	WEIGHT	0.03	
STEM	RUST	-0.09	-0.14

* SIGNIFICANT AT THE 5 %LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 60

NORTH AMERICA U.S.A. MINNESOTA
STANTON.
LATITUDE 044°29'N LONGITUDE 093°01'W ELEVATION +00278 METERS ABOVE SEA LEVEL
COOPERATORS R.W.ROMIG, W.ATHAUS.
DATE PLANTED 05/07/70 DATE HARVESTED 08/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0335 MM
NITROGEN 152.5 KG/HA PHOSPHORUS 034.5 KG/HA POTASSIUM 065.2 KG/HA

LOCAL VARIETY NOT IDENTIFIED. SEVERE INFESTATION OF WEEDS REPORTED. RUST DEVELOPMENT WAS NOT UNIFORM. VERY WET SPRING WAS FOLLOWED BY WARM AND DRY SUMMER AND SOME DROUGHT STRESS MAY HAVE REDUCED YIELDS.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	LEAF RUST	STEM RUST	HEIGHT CM.	LODGING	SHATRNG HEAD
6	CARAZINHO	BRAZIL	2123.1	80MS	0	93.9	50.0	30.0
34	TOBARI 66	MEXICO	1836.4	30S	5MR	66.0	70.0	10.0
17	HUELGUEN	CHILE	1715.3	20MS	0	78.7	30.0	10.0
4	BUCK MANANTIAL	ARGENTIN	1738.7	60MS	40S	81.2	50.0	20.0
40	SUN 54 X TZPP-NAI 60 (D)	ARGENTIN	1692.0	20S	0	71.1	30.0	20.0
26	ZIPA 68	COLOMBIA	1610.9	40S	0	88.8	30.0	30.0
13	NAINARI 60	MEXICO	1579.8	80S	20MS	73.6	30.0	10.0
45	CIANO "S"	MEXICO	1516.5	60S	20MR	71.1	20.0	30.0
46	TRIPLE DIRK	AUSTRALI	1505.4	10MR	5R	91.4	40.0	10.0
44	PATO ARGENTINO	ARGENTIN	1505.4	10MS	5R	66.0	20.0	20.0
3	CRIM	U.S.A.	1504.2	60MS	0	91.4	60.0	30.0
22	(TZPP-SUN64XLR64A-TZPP-AN3E (B)	MEXICO	1434.2	30S	0	66.0	40.0	10.0
33	INIA 66	MEXICO	1466.5	TR	10R	76.1	70.0	20.0
30	(LRKN 108)X AN3 E	AUSTRALI	1450.9	20R	50MS	68.5	50.0	20.0
32	CHRIS	U.S.A.	1454.2	5R	10S	83.8	60.0	10.0
1	SUN 64 X KL. RENDIDOR	ARGENTIN	1436.5	80S	0	68.5	60.0	20.0
29	PALMIRA 1	COLOMBIA	1426.5	70S	20R	76.1	40.0	10.0
18	CRESPO 63	COLOMBIA	1423.1	20MS	0	86.3	20.0	10.0
41	LONDI	RHODESIA	1389.8	10MR	20R	58.4	60.0	20.0
36	NAPU 63	COLOMBIA	1342.0	50S	0	83.8	70.0	30.0
38	36896-CJ 54 ^{2}X YT 54A (H)	SUDAN	1332.0	0	20MR	76.1	60.0	10.0
5	SE-KIRK	CANADA	1293.2	TR	0	86.3	50.0	10.0
19	SONORA 64	MEXICO	1255.4	30MS	30MR	63.5	20.0	10.0
39	4255 - HD.3(M) X K-Y) X (WIS - SUP) (F6)	KENIA	1236.5	40S	0	78.7	30.0	10.0
25	LR X P41603 (E) T1	PAKISTAN	1222.0	80S	20MR	63.5	20.0	30.0
35	GABOTO	ARGENTIN	1217.6	0	TR	78.7	70.0	10.0
28	TR-236	AUSTRALI	1210.9	60MS	0	81.2	50.0	10.0
49	KELAJU	GUATEMAL	1198.7	10S	60S	83.8	20.0	10.0

27	TIMGALEN	AUSTRALI	1170.9	60S	0	71.1	50.0	20.0
14	GIZA 155	EGYPT	1153.2	30MS	0	81.2	40.0	10.0
21	KENYA LEOPARD	KENYA	1153.2	20S	0	78.7	40.0	10.0
47	SONALIKA	INDIA	1150.9	10R	5R	78.7	20.0	20.0
8	DIAMONTES	ARGENTIN	1143.2	40S	30S	88.8	20.0	10.0
20	LERMA ROJO 64A	MEXICO	1119.8	40S	0	76.1	30.0	20.0
15	SIETE CERROS	MEXICO	1095.4	40S	0	66.0	30.0	20.0
11	PITIC 62	MEXICO	1093.2	20MR	30S	81.2	30.0	20.0
23	C-271XWT X SON 64 (E)	PAKISTAN	1039.8	5R	50S	76.1	20.0	30.0
16	BONZA 55	COLOMBIA	1036.5	60S	0	86.3	20.0	10.0
31	PENJAMO 62	MEXICO	1008.7	20R	10MS	76.1	40.0	20.0
2	MANITOU	CANADA	993.2	30MR	0	86.3	60.0	10.0
43	TURPIN 7	SOUTH AF	939.9	10R	30MS	55.8	20.0	30.0
7	VICTOR I	ITALY	905.4	TR	70S	66.0	10.0	10.0
50	LOCAL CHECK		899.9	10R	10MR	60.9	10.0	10.0
9	THATCHER	U.S.A.	883.2	0	30MS	86.3	40.0	10.0
42	ZAMBEZI	RHODESIA	876.5	20MS	10MR	68.5	50.0	20.0
37	C-306	INDIA	794.3	40MS	50S	88.8	80.0	10.0
24	SON 64 X C-271	PAKISTAN	707.7	10MR	50MS	58.4	20.0	20.0
12	GABO	AUSTRALI	557.7	70S	50S	81.2	30.0	10.0
48	KLOKA WM 1353	GERMANY	554.3	10R	80S	78.7	30.0	20.0
10	KLEIN REYDIDOR	ARGENTIN	0.0	80MS	0	76.1	10.0	0.0
		GRAND MEAN	1231.5	27.7	13.6	76.4	38.3	16.1
		STANDARD ERROR OF GRAND MEAN	24.6					
		COEFFICIENT OF VARIATION	24.4					
		LSD VARIETY MEANS 5 PC	492.3					

CORRELATIONS

YIELD	KG/HA					
LEAF	RUST	0.12				
STEM	RUST	-0.39**	-0.21			
HEIGHT	CM.	0.12	0.09	-0.02		
LODGING		0.31*	-0.32	-0.21	0.25	
SHATTING	HEAD	0.29*	0.10	0.00	-0.13	0.02

* SIGNIFICANT AT THE 5 %LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 61

NORTH AMERICA U.S.A. CALIFORNIA
DAVIS, UNIVERSITY OF CALIFORNIA.
LATITUDE 038 32'N LONGITUDE 121 45'W ELEVATION +00016 METERS ABOVE SEA LEVEL
COOPERATORS C.O.QUALSET,J.A.RUPERT,M.E.VOGT.
DATE PLANTED 12/01/69 DATE HARVESTED 07/ /70
NUMBER OF IRRIGATIONS 002 RAIN TIMES AMOUNT OF MOISTURE 44
NITROGEN 089.6 KG/HA PHOSPHORUS 000.0 KG/HA POTASSIUM 000.0 KG/HA

RAMONA 50 WAS THE LOCAL VARIETY. NO WEED OR PEST PROBLEMS REPORTED.
SEASON WAS HOT AND DRY. TWO IRRIGATIONS OF UNSPECIFIED QUANTITIES
SUPPLEMENTED 254 MM OF RAINFALL.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.	LODGING	1000 GRN WGT GRMS
42	ZAMBEZI	RHODESIA	7117.8	78.1	128.3	182.0	132.0	0.0	32.4
47	SUNALIKA	INDIA	7031.0	78.6	117.6	172.6	130.0	1.5	50.1
33	INIA 66	MEXICO	7036.3	80.0	119.6	171.6	100.3	0.0	42.7
30	(LRKN LUB)X ANB E	AUSTRALI	5995.0	79.1	136.3	181.3	92.3	0.0	31.2
25	LR A P4163 3(E) T1	PAKISTAN	5941.5	77.7	121.0	172.0	90.3	0.0	39.7
38	36395-LJ 54 2 X YT 54A (H)	SUDAN	5374.5	76.1	122.3	176.6	107.0	5.0	38.0
45	CLAND "S"	MEXICO	5238.4	79.7	124.6	172.6	95.0	1.5	38.2
19	SONORA 64	MEXICO	5216.1	78.3	120.0	174.0	92.0	0.0	43.7
15	SIETE CERROS	MEXICO	5193.7	76.0	135.0	181.6	111.3	1.5	30.9
11	PITIC 62	MEXICO	5119.0	72.9	129.3	177.3	110.3	13.3	35.5
23	C-271 ANT X SON 54 (E)	PAKISTAN	5955.0	76.7	128.3	178.3	139.0	0.0	34.9
40	SON 64 X TZPP-NAI 50 (B)	ARGENTIN	5959.4	77.3	129.6	178.3	136.6	0.0	41.9
24	SON 64 X C-271	PAKISTAN	5952.7	76.8	127.0	174.6	91.3	0.0	40.5
41	LONDI	RHODESIA	5915.5	74.7	124.6	174.0	88.6	0.0	32.3
1	SON 64 X K1. RENDIDOR	ARGENTIN	5773.0	78.5	126.6	175.6	133.0	0.0	39.8
49	KELADJ	GUATEMAL	5651.4	78.2	124.6	172.3	114.3	5.0	40.7
20	LERMA ROJO 64A	MEXICO	5655.8	77.6	124.3	172.3	113.6	18.3	38.8
18	CRESPO 63	COLOMBIA	5627.9	77.8	128.0	177.6	110.0	13.3	33.6
44	PATO ARGENTINO	ARGENTIN	5558.7	77.6	129.6	177.3	134.6	1.5	31.6
34	TOBARI 66	MEXICO	5438.4	79.1	123.0	174.6	98.6	0.0	35.0
31	PENJAMO 62	MEXICO	5471.7	77.7	128.0	176.3	110.0	5.0	37.3
22	(TZPP-SON64)X(LR64A-TZPP-ANBE (B)	MEXICO	5312.1	79.4	124.0	174.0	99.0	0.0	37.3
43	TURPIN 7	SOUTH AF	5151.4	71.9	132.6	174.0	70.0	0.0	37.2
48	KLOKA NM 1353	GERMANY	4743.5	74.1	138.6	180.6	115.6	0.0	30.8
50	LOCAL CHECK		4736.1	76.5	117.3	167.3	110.0	15.0	43.1
21	KENYA LEOPARD	KENYA	4657.0	75.9	143.3	177.6	118.6	93.3	31.1
37	C-306	INDIA	4611.3	78.6	125.0	178.0	114.0	83.3	41.3
36	NAPO 63	COLOMBIA	4597.9	76.4	122.0	173.6	113.3	5.0	36.6

13	NAINARI 60	MEXICO	4598.6	75.0	132.0	175.0	113.3	46.6	39.2
17	HUELQUEN	CHILE	4475.1	76.7	132.3	177.0	117.3	13.3	32.2
46	TRIPLE DIRK	AUSTRALI	4470.6	74.7	134.6	176.6	133.3	10.0	35.1
12	GABO	AUSTRALI	4424.9	73.6	131.3	176.3	120.3	15.0	35.1
16	BONZA 55	COLOMBIA	4291.0	75.1	126.0	175.6	113.0	13.3	37.2
7	VICTOR I	ITALY	4237.5	72.5	139.3	182.3	95.3	0.0	31.5
29	PALMIRA 1	COLOMBIA	4238.5	71.9	129.3	172.6	119.3	41.5	37.2
27	FIMGALEN	AUSTRALI	4142.5	76.3	134.3	177.3	110.3	5.0	35.5
26	ZIPA 68	COLOMBIA	3894.8	74.5	133.6	180.3	112.3	5.0	33.1
10	KLEIN KENDIDOR	ARGENTIN	3893.7	75.2	127.6	174.0	114.3	30.0	35.6
14	GIZA 155	EGYPT	3875.8	74.2	132.0	176.3	116.3	36.6	33.5
28	TR-255	AUSTRALI	3799.9	76.3	126.3	173.6	117.3	15.0	38.4
6	CARALINHO	BRAZIL	3777.6	75.2	131.6	176.6	119.0	36.6	31.4
8	DIAMONTES	ARGENTIN	3532.3	77.3	135.6	175.3	120.3	40.0	31.4
3	CRIM	U.S.A.	3574.5	75.9	137.0	177.0	125.0	80.0	33.5
32	CHRIS	U.S.A.	3477.4	76.7	132.0	176.3	121.3	76.6	29.1
4	BUCK MANANTIAL	ARGENTIN	3055.6	70.2	153.0	185.3	120.3	66.6	21.5
35	GABOTO	ARGENTIN	3352.2	73.3	137.3	178.3	128.6	70.0	25.1
39	4255 - HO.3 (MO X K-Y) X (WIS - SUP) (FF)	KENIA	2879.2	72.2	140.6	177.0	121.3	56.6	29.8
9	THATCHER	U.S.A.	2035.8	69.8	155.3	184.6	126.3	76.5	23.4
2	MANITOU	CANADA	1738.5	69.4	156.6	185.3	127.0	90.0	20.6
5	SELKIRK	CANADA	1611.5	68.5	155.6	183.3	127.0	53.3	22.8
		GRAND MEAN	4843.1	75.7	131.2	176.7	110.2	22.8	36.6
		STANDARD ERROR OF GRAND MEAN	41.4		3.0	0.1	0.3	0.8	
		COEFFICIENT OF VARIATION	10.4		0.6	0.8	3.3	47.5	
		LSD VARIETY MEANS 5 PC	828.0		1.4	2.3	6.0	17.7	

CORRELATIONS

YIELD	KG/HA						
TEST	WEIGHT	0.74**					
DAYS TO	FLOWER	-0.73**	-0.78**				
DAYS TO	MATURITY	-0.41**	-0.54**	0.82**			
HEIGHT	CM.	-0.70**	-0.42**	0.50**	0.33*		
LODGING		-0.72**	-0.48**	0.61**	0.35**	0.65**	
1000 GRN	WGT GRMS	0.69**	0.67**	-0.87**	-0.79**	-0.48**	-0.55**

* SIGNIFICANT AT THE 5 % LEVEL ** SIGNIFICANT AT THE 1 % LEVEL

[illegible] METERS ABOVE SEA LEVEL

[illegible] AMOUNT OF MOISTURE [illegible]

[illegible] MAIZE WORMS CAUSED REDUCED PLANT STANDS.
[illegible] SEASON CONSIDERED IDEAL.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	HEIGHT CM.	PLANT STAND
11	PATIO 62	MEXICO	5318.4	77.3	77.6	81.2	85.0
44	PATO ARGENTINO	ARGENTIN	5255.4	81.7	76.[illegible]	71.1	98.3
50	LOCAL CHECK		5058.5	80.0	77.3	77.4	95.0
30	(LRKN 1JB)X AN3 E	AUSTRALI	5791.2	81.7	75.3	67.3	93.3
38	36996-LJ 54[illegible] X YT 54A (H)	SUDAN	5750.4	78.5	74.6	81.2	93.3
42	ZAMBEZI	RHODESIA	5550.7	79.7	76.3	72.3	86.0
17	HUELGUEN	CHILE	5518.9	79.7	78.3	96.5	96.0
14	GIZA 155	EGYPT	5439.1	79.4	75.6	82.5	98.3
49	SUN 54 X T2P2-NAI 5C (B)	ARGENTIN	5431.4	78.7	73.3	68.5	97.6
13	NAINARI 6[illegible]	MEXICO	5335.2	77.3	74.6	78.7	91.6
45	GRANJ "S"	MEXICO	5311.1	81.0	74.0	69.8	96.6
25	LR X P416[illegible] (E[illegible])	PAKISTAN	5239.2	80.4	74.3	66.0	96.0
31	PENJAMO 62	MEXICO	5236.1	80.5	75.3	74.9	91.6
36	NAPO 63	COLOMBIA	5195.7	79.9	74.3	90.1	95.0
19	SONORA 64	MEXICO	5151.4	80.4	74.0	58.5	97.6
34	TUBARI 65	MEXICO	5138.9	8[illegible]	75.6	73.6	96.6
8	PIAMONTES	ARGENTIN	4999.5	80.[illegible]	77.3	91.4	96.0
15	SIETE CERROS	MEXICO	4982.2	80.[illegible]	78.0	73.6	76.3
7	VICTOR I	ITALY	4948.5	77.3	79.0	61.9	91.6
12	GABO	AUSTRALI	4937.9	75.4	73.3	78.7	84.3
23	C-271 WT X SUN 54 (F)	PAKISTAN	4937.9	81.0	73.3	69.6	96.0
47	SUNALIKA	INDIA	4933.1	78.6	73.0	77.4	97.6
27	TIMGALEN	AUSTRALI	4939.1	78.5	76.6	69.8	96.6
10	KLEIN PENCIDOR	ARGENTIN	4939.2	80.4	77.3	91.4	96.6
26	ZIPA 66	COLOMBIA	4759.5	77.2	76.3	83.8	96.6
33	INIA 66	MEXICO	4759.9	81.8	73.0	68.5	96.6
29	PALMIRA 1	COLOMBIA	4732.0	76.1	74.0	86.3	76.6
4	BUCK MANANTIAL	ARGENTIN	4623.3	82.3	78.0	85.0	83.3

49	KELAJU	GUATEMAL	4491.5	80.5	75.0	78.7	76.6
16	BONGA 55	COLOMBIA	4455.9	77.8	75.0	90.1	96.0
24	SUN 64 X C-271	PAKISTAN	4284.7	78.8	74.3	62.2	90.0
18	CRESPO 63	COLOMBIA	4216.4	78.7	75.0	87.6	93.3
2	MANITOU	CANADA	4150.6	77.9	77.6	90.1	95.0
29	LERMA ROJO 64A	MEXICO	4136.5	80.6	76.0	74.9	78.3
41	LUNDI	RHODESIA	4134.6	76.7	76.0	59.5	85.0
6	CARAZINHO	BRAZIL	4091.3	80.0	75.6	97.7	100.0
9	THATCHER	U.S.A.	3993.2	78.3	77.6	96.5	95.0
48	KLOSA AM 1353	GERMANY	3978.8	78.6	79.3	86.3	90.0
1	SUN 64 X CL. RENDIDOR	ARGENTIN	3934.5	80.0	73.5	76.1	80.0
37	C-300	INDIA	3885.5	79.2	73.3	85.0	88.3
21	KENYA LEOPARD	KENYA	3855.3	79.1	80.3	88.8	86.6
46	TRIPLE DIRK	AUSTRALI	3857.6	78.8	77.6	96.5	83.3
3	CRIM	U.S.A.	3739.4	78.7	75.3	95.2	87.5
39	4255 - HO.3 (MO X K-Y) X (WIS - SUP) (FO)	KENIA	3695.0	78.1	79.3	92.7	87.5
22	(TZPP-SUN64)(LR64A-TZPP-AN3E) (B)	MEXICO	3581.5	81.4	74.6	66.0	85.0
35	GABOTO	ARGENTIN	3556.5	79.2	78.3	97.7	92.0
32	CHRIS	U.S.A.	3442.9	78.8	78.3	97.7	90.0
43	TURPIN 7	SOUTH AF	3432.4	75.9	74.3	52.0	78.3
28	TK-235	AUSTRALI	3357.3	76.7	74.3	71.1	79.0
5	SELKIRK	CANADA	3348.7	76.8	78.3	95.2	91.6
		GRAND MEAN	4650.2	79.1	75.9	79.9	89.9
		STANDARD ERROR OF GRAND MEAN	75.3		0.0	0.3	0.9
		COEFFICIENT OF VARIATION	19.8		1.5	4.5	13.4
		LSD VARIETY MEANS 5 PC	1507.3		1.9	5.9	19.7

CORRELATIONS

YIELD	KG/HA				
TEST	WEIGHT	0.28*			
DAYS TO	FLOWER	-0.17	-0.04		
HEIGHT	CM.	-0.25	-0.07	0.47**	
PLANT	STAND	0.37**	0.24	0.02	0.15

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 54

NORTH AMERICA CANADA SASKATCHEWAN
SASKATOON, UNIVERSITY OF SASKATCHEWAN.
LATITUDE 052°00'N LONGITUDE 107°00'W ELEVATION +00503 METERS ABOVE SEA LEVEL
COOPERATORS D.R.KNOTT.
DATE PLANTED 05/26/70 DATE HARVESTED / /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE MM
NITROGEN 006.7 KG/HA PHOSPHORUS 011.0 KG/HA POTASSIUM 000.0 KG/HA

NEEPAWA WAS THE LOCAL VARIETY. NO WEED OR PEST PROBLEMS REPORTED. LEAF RUST DEVELOPMENT WAS MODERATE. SEASON WAS VERY WET UNTIL HEADING AND THEN TURNED VERY DRY.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	DAYS TO MATURITY	HEIGHT CM.	LODGING	1000 GRN WGT GRMS
25	LR X P41603 (E) T1	PAKISTAN	3938.5	51.6	92.6	66.0	10.0	38.0
23	C-271XWT X SUN 54(E)	PAKISTAN	3936.6	62.3	90.3	74.5	13.3	34.0
20	LERMA ROJO 64A	MEXICO	3857.8	48.6	89.3	77.8	23.3	39.1
17	HUELQUEN	CHILE	3719.9	50.0	89.0	90.5	20.0	33.5
11	PITIC 62	MEXICO	3639.3	52.3	90.6	80.4	16.6	27.0
28	TK-236	AUSTRALI	3637.5	50.0	89.6	82.1	16.6	35.7
45	CIANO "S"	MEXICO	3630.3	60.3	86.6	64.3	10.0	35.0
4	BUCK MANANTIAL	ARGENTIN	3617.8	48.3	89.3	80.4	16.6	31.1
15	SIETE CERROS	MEXICO	3610.6	51.3	89.3	75.3	10.0	32.5
30	(LRKN 1JB)X AN3 E	AUSTRALI	3546.1	64.3	90.6	68.5	10.0	27.0
47	SONALIKA	INDIA	3530.0	60.0	87.3	74.5	16.6	41.5
27	TIMGALEN	AUSTRALI	3524.6	54.6	92.3	82.1	13.3	28.7
49	KELAJU	GUATEMAL	3435.2	51.3	92.6	93.9	16.6	34.0
1	SUN 54 X K1. RENDIDOR	ARGENTIN	3472.7	47.3	86.6	71.9	10.0	34.1
18	CRESPO 63	COLOMBIA	3411.8	50.0	89.6	95.5	13.3	31.1
31	PENJAMO 62	MEXICO	3336.7	50.0	88.0	76.1	16.6	32.5
13	NAINARI 60	MEXICO	3343.7	53.0	91.6	89.7	13.3	32.0
34	TUBAKI 66	MEXICO	3342.0	49.3	88.0	71.9	10.0	35.1
38	36896-LJ 54^2 X YT 54A (H)	SUDAN	3340.2	49.3	89.0	77.0	13.3	38.1
26	ZIPA 68	COLOMBIA	3331.2	62.6	88.3	88.8	13.3	35.5
43	TURPIN 7	SOUTH AF	3231.1	51.6	94.3	51.5	10.0	41.0
22	(TZPP-SUN64)(LR64A-TZPP-AN3E) (B)	MEXICO	3275.7	46.6	91.3	64.3	10.0	38.3
46	TRIPLE DIRK	AUSTRALI	3266.7	50.0	90.3	92.2	20.0	39.7
40	SUN 54 X TZPP-NAI 60(P)	ARGENTIN	3250.6	61.6	89.0	68.5	10.0	37.0
19	SONORA 64	MEXICO	3241.7	60.0	87.3	62.5	10.0	31.0
50	LOCAL CHECK		3230.9	50.0	88.6	99.9	16.6	30.5
41	LONDI	RHODESIA	3153.9	49.6	89.0	60.9	10.0	33.1
24	SUN 54 X C-271	PAKISTAN	3133.8	49.3	90.0	62.5	10.0	31.5

48	KLOKA WM 1353	GERMANY	3096.6	63.0	89.3	82.1	13.3	26.0
42	ZAMBEZI	RHODESIA	3078.7	49.6	89.6	69.4	10.0	30.1
21	KENYA LEOPARD	KENYA	3050.0	61.3	97.3	100.7	23.3	31.0
29	PALMIRA 1	COLOMBIA	3048.2	46.0	86.3	79.5	16.6	39.0
33	INIA 66	MEXICO	3042.9	59.6	87.6	66.0	10.0	37.5
14	GIZA 155	EGYPT	3026.7	50.0	99.6	86.3	10.0	31.1
44	PATO ARGENTINO	ARGENTIN	2955.8	61.6	89.0	63.4	10.0	27.8
2	MANITOU	CANADA	2913.9	63.0	88.6	93.9	16.6	26.1
7	VICTOR I	ITALY	2820.8	59.0	96.3	63.4	10.0	30.0
9	THATCHER	U.S.A.	2786.7	62.6	89.6	92.2	13.3	25.1
8	PIAMONTES	ARGENTIN	2759.9	54.6	93.0	97.3	13.3	31.7
16	BONGA 55	COLOMBIA	2729.4	69.3	95.3	104.9	20.0	26.5
36	NAPO 63	COLOMBIA	2686.4	46.0	85.6	77.0	13.3	30.1
37	C-306	INDIA	2655.0	71.3	98.6	92.2	23.3	37.5
12	GABO	AUSTRALI	2654.2	63.6	90.3	86.3	10.0	27.5
6	CARAZINHO	BRAZIL	2650.6	57.3	96.3	103.2	20.0	32.5
32	CHRIS	U.S.A.	2555.7	52.6	90.3	94.8	20.0	24.7
3	CRIM	U.S.A.	2532.4	50.3	87.0	94.8	16.6	28.3
5	SELKIRK	CANADA	2378.4	63.6	89.0	84.6	10.0	32.7
35	GABOTO	ARGENTIN	2270.9	62.0	101.3	97.3	20.0	25.1
39	4255 - HO.3 (MO X K-Y) X (WIS - SUP)(F6)	KENIA	2247.7	54.3	91.3	91.4	10.0	26.3
10	KLEIN RENDIDOR	ARGENTIN	0.0	0.0	0.0	0.0	0.0	0.0
		GRAND MEAN	3102.3	54.1	88.8	80.9	13.7	31.7
		STANDARD ERROR OF GRAND MEAN	40.4	1.0	0.1	0.3	0.3	
		COEFFICIENT OF VARIATION	15.9	23.5	1.7	5.8	30.1	
		LSD VARIETY MEANS 5 PC	899.7	20.8	2.6	7.7	6.7	

CORRELATIONS

YIELD	KG/HA				
DAYS TO	FLOWER	0.41**			
DAYS TO	MATURITY	0.65**	0.79**		
HEIGHT	CM.	0.27	0.59**	0.69**	
LODGING		0.25	0.37**	0.49**	0.73**	
1000 GRN	WGT GRMS	0.74**	0.42**	0.67**	0.27	0.30*

* SIGNIFICANT AT THE 5 %LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 67

SOUTH AMERICA ARGENTINA
PERGAMINO.
LATITUDE 033 56' S LONGITUDE 060 33' W ELEVATION 00065 METERS ABOVE SEA LEVEL
COOPERATORS R.J.FOGANTE, M.C.CONTA.
DATE PLANTED 08/07/70 DATE HARVESTED 12/ /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 1357.44
NITROGEN 100.0 KG/HA PHOSPHORUS 000.0 KG/HA POTASSIUM 000.0 KG/HA

FONTEZUELA INTA WAS THE LOCAL CHECK VARIETY. NO INSECT, WEED OR PEST PROBLEMS WERE ENCOUNTERED. LEAF RUST INFECTION WAS GOOD.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	LEAF RUST	1000 GRN WGT GRMS	SEPTORIA TRITICI
35	GABOTO	ARGENTIN	2938.5	80.3	55.0	0	29.0	1.0
46	TRIPLE DIRK	AUSTRALI	2921.9	70.0	63.0	10MS	34.0	1.0
44	PATO ARGENTINO	ARGENTIN	2910.8	80.7	60.0	0	23.0	1.0
1	SUN 64 X (1. RENDIDOR	ARGENTIN	2838.5	73.6	52.0	0	29.0	30.0
6	CARAZINHO	BRAZIL	2855.2	80.0	54.0	20MS	35.0	1.0
43	SUN 64 X TZPP-NAI 60 (B)	ARGENTIN	2844.1	78.5	57.0	0	28.5	20.0
3	CRIM	U.S.A.	2799.7	75.5	54.0	0	30.5	5.0
8	PIAMONTES	ARGENTIN	2756.3	76.7	58.0	T	28.5	5.0
31	BENJAMIN 62	MEXICO	2733.0	74.5	56.0	0	31.0	30.0
4	BUCK MANANTIAL	ARGENTIN	2656.3	74.5	72.0	0	26.0	1.0
45	GIANT "S"	MEXICO	2644.1	79.5	53.0	0	30.0	20.0
10	KLEIN RENDIDOR	ARGENTIN	2644.1	75.5	64.0	TMR	27.5	1.0
42	ZAMBEZI	RHODESIA	2599.7	77.2	55.0	10MS	28.0	20.0
32	CRIS	U.S.A.	2555.2	77.2	54.0	0	25.0	10.0
26	ZIPA 52	COLOMBIA	2544.1	72.7	64.0	10MR	27.5	30.0
13	NAINARI 60	MEXICO	2533.0	76.0	57.0	TMR	30.5	5.0
11	PITIC 62	MEXICO	2510.8	66.6	55.0	40MS	29.5	10.0
27	TIMGAREN	AUSTRALI	2510.8	76.7	57.0	0	28.0	1.0
48	KEDRA RM 1353	GERMANY	2456.4	75.8	71.0	20MS	21.0	10.0
34	TOBARI 66	MEXICO	2455.3	75.8	53.0	5R	30.0	5.0
15	SIETE CERROS	MEXICO	2410.8	78.1	65.0	40S	27.0	30.0
39	4255 - HD.3 (SU X K-Y) X (WIS - SUP) (FC)	KENIA	2356.4	70.5	71.0	5MR	29.0	5.0
22	(TZPP-SUN64X LR64A-TZPP-ANBE) (B)	MEXICO	2299.7	78.1	53.0	50S	30.0	1.0
21	KENYA LEOPARD	KENYA	2288.6	73.0	72.0	10MS	28.5	20.0
30	(LRXN 1.B)X ANB E	AUSTRALI	2233.1	75.5	62.0	60MS	23.0	30.0
7	VICTOR I	ITALY	2233.1	69.5	72.0	30MR	25.0	10.0
49	XELAJU	GUATEMAL	2177.5	79.8	56.0	70S	27.5	30.0
28	TR-235	AUSTRALI	2155.3	0.0	56.0	20MS	34.0	20.0

17	MUELLJEN	CHILE	2144.2	70.5	64.0	10MS	25.5	20.0
38	36896-CJ 54 ^{2}X YT 54A (H)	SUDAN	2133.1	74.5	52.0	80S	34.0	30.0
2	MANITOU	CANADA	2088.6	72.7	55.0	TR	23.0	10.0
43	TURPIN 7	SOUTH AF	2038.6	65.0	56.0	0	29.5	30.0
29	PALMIRA 1	COLOMBIA	2033.1	73.1	56.0	80MS	32.0	30.0
41	LUNDI	RHODESIA	1955.3	73.6	57.0	0	25.5	40.0
18	CRESPO 63	COLOMBIA	1933.1	75.8	58.0	20MS	22.0	10.0
50	LOCAL CHECK		1922.0	81.6	45.0	0	30.0	10.0
12	GABO	AUSTRALI	1922.0	69.5	57.0	10MS	23.0	30.0
36	NAPO 63	COLOMBIA	1877.5	73.6	52.0	40S	28.5	40.0
16	BONZA 55	COLOMBIA	1822.0	73.1	57.0	20MS	24.5	30.0
14	GIZA 155	EGYPT	1810.9	70.5	57.0	10MR	33.0	20.0
19	SONORA 64	MEXICO	1799.8	75.6	52.0	T	24.0	60.0
47	SONALIKA	INDIA	1777.5	77.2	50.0	90S	37.0	40.0
20	LERMA ROJO 64A	MEXICO	1722.0	63.7	0.0	60MS	31.0	40.0
5	SELKIRK	CANADA	1656.5	75.0	55.0	TR	30.5	5.0
24	SON 64 X C-271	PAKISTAN	1633.1	71.0	0.0	80S	25.0	30.0
23	C-271DWT X SON 64 (E)	PAKISTAN	1577.6	77.2	55.0	80S	30.0	30.0
25	LR X P41603 (E) T1	PAKISTAN	1499.8	77.2	51.0	40S	34.0	30.0
33	INIA 66	MEXICO	1266.5	73.6	50.0	80S	33.0	40.0
37	C-306	INDIA	1244.3	75.0	55.0	40S	26.0	30.0
9	THATCHER	U.S.A.	1077.6	68.0	55.0	80MS	20.5	10.0
	GRAND MEAN		2219.9	75.0	58.5	23.8	28.3	19.3
	STANDARD ERROR OF GRAND MEAN		34.7			0.4		
	COEFFICIENT OF VARIATION		19.1			22.4		
	LSD VARIETY MEANS 5 PC		694.1			8.7		

CORRELATIONS

YIELD	KG/HA					
TEST	WEIGHT	0.14				
DAYS TO	FLOWER	0.42**	0.12			
LEAF	RUST	-0.61**	-0.05	-0.44**		
1000 GRN	WGT GRMS	0.07	-0.12	-0.12	0.17	
SEPTORIA	TRITICI	-0.52**	-0.10	-0.40**	0.44**	0.04

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 70

SOUTH AMERICA BRAZIL
JULIO DE CASTILHOS.
LATITUDE 029 13'S LONGITUDE 053 04' W ELEVATION 00516 METERS ABOVE SEA LEVEL
COOPERATORS P.A.T.
DATE PLANTED 06/27/70 DATE HARVESTED / /70
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE MM
NITROGEN 072.5 KG/HA PHOSPHORUS 134.6 KG/HA POTASSIUM 012.5 KG/HA

IAS-54 WAS THE LOCAL CHECK VARIETY. NO INSECT, WEED OR PEST PROBLEMS WERE ENCOUNTERED. SEASON WAS CONSIDERED NORMAL.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	LEAF RUST	STEM RUST	MILDEW
50	LOCAL CHECK		3024.1	40S	10MR	10.0
21	KENYA LEOPARD	KENYA	2826.6	5MS	TR	20.3
27	TIMGALEN	AUSTRALI	2754.9	5MR	0	43.3
3	CRIM	U.S.A.	2375.0	-10S	0	27.6
49	XELAJJ	GUATEMAL	2326.7	10MS	10S	70.0
13	NAINARI 60	MEXICO	2299.6	5MR	20S	40.0
12	GABO	AUSTRALI	2203.2	20S	0	55.0
45	CIANO "S"	MEXICO	2190.9	TR	0	60.0
46	TRIPLE DIRK	AUSTRALI	2134.7	60S	10S	3.3
41	LONDI	RHODESIA	2178.5	10MS	5MR	36.6
15	SIETE CERROS	MEXICO	2116.8	30S	TS	25.0
34	TOBARI 66	MEXICO	2055.1	10S	0	56.6
47	SONALIKA	INDIA	2048.9	TR-20MS	0	43.3
19	SONORA 64	MEXICO	1962.5	TR	0	40.0
26	ZIPA 68	COLOMBIA	1937.9	TMR	0	6.6
11	PITIC 62	MEXICO	1876.1	50S	TS	56.6
31	PENJAMO 62	MEXICO	1746.5	TMR	0	73.3
6	CARAZINHO	BRAZIL	1740.4	50S	30S	85.0
14	GIZA 155	EGYPT	1734.2	40S	TS	13.3
17	HUELEJEN	CHILE	1697.2	15MS	0	85.0
1	SON 54 X KL. RENDIDOR	ARGENTIN	1650.1	TR	0	75.0
40	SON 64 X TZPP-NAI 60 (B)	ARGENTIN	1641.6	TRR	0	56.6
28	TR-236	AUSTRALI	1635.4	TMR	0	70.0
22	(TZPP-SON64)(LK64A-TZPP-AN3E (B)	MEXICO	1629.3	5MR	TS	16.6
42	ZAMBEZI	RHODESIA	1629.3	10MS	0	60.0
23	C-271XMT X SON 54 (E)	PAKISTAN	1520.6	40S	0	60.0
38	36896-CJ 54 X YT 54A (H)	SUDAN	1516.9	40S	20MR	60.0
43	TURPIN 7	SOUTH AF	1505.8	5MS	10S	76.6

33	INIA 66	MEXICO	1505.8	20S	TR	70.0
48	KLOKA WM 1353	GERMANY	1487.3	40S	60S	60.0
16	BONZA 55	COLOMBIA	1481.1	15MS	0	45.0
44	PATO ARGENTINO	ARGENTIN	1444.1	TPMS	TS	86.6
29	PALMIRA 1	COLOMBIA	1444.1	40S	0	86.6
39	4265 - HD.3(MO X K-Y)X (WIS - SUP) (F6)	KENIA	1379.9	-30S	0	0.3
25	LR X P41603 (E) T1	PAKISTAN	1372.5	5MR	0	73.3
18	CRESPO 63	COLOMBIA	1347.8	50S	0	22.6
20	LERMA ROJO 64A	MEXICO	1339.2	40S	0	75.0
24	SON 64 X C-271	PAKISTAN	1240.5	50S	0	80.0
35	GABOTO	ARGENTIN	1150.2	TRS	60S	66.6
10	KLEIN RENDIDOR	ARGENTIN	1092.3	5MR	50S	0.0
37	C-306	INDIA	1012.1	50S	30S	50.0
32	CHRIS	U.S.A.	1012.1	TMR	0	66.6
36	NAPO 63	COLOMBIA	975.1	80MS	0	66.6
5	SELKIRK	CANADA	940.5	TS	0	22.6
8	DIAMONTES	ARGENTIN	925.7	30S	20S	90.0
30	(LRKN 10B)X AN3 E	AUSTRALI	833.1	60S	10MS	35.0
7	VICTOR I	ITALY	833.1	50S	20S	83.3
2	MANITOU	CANADA	789.9	5MS	0	46.6
4	BUCK MANANTIAL	ARGENTIN	771.4	0	0	73.3
9	THATCHER	U.S.A.	437.3	100S	0	70.0
		GRAND MEAN	1616.3	21.5	6.8	51.9
		STANDARD ERROR OF GRAND MEAN	32.2			1.[illegible]
		COEFFICIENT OF VARIATION	24.4			27.[illegible]
		LSD VARIETY MEANS 5 PC	644.6			23.5

CORRELATIONS

YIELD	KG/HA			
LEAF	RUST	-0.3**		
STEM	RUST	-0.1[illegible]	0.08	
MILDEW		-0.34*	0.06	0.02

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 71

SOUTH AMERICA COLOMBIA
TIBAITATA.
LATITUDE 004 35' N LONGITUDE 074 24' W ELEVATION 02640 METERS ABOVE SEA LEVEL
COOPERATORS M.ZAPATA,R.LOPEZ,L.A.ROJAS,O.VARELA.
DATE PLANTED 03/11/70 DATE HARVESTED 00/ /70
NUMBER OF IRRIGATIONS RAIN TIMES AMOUNT OF MOISTURE MM
NITROGEN 025.0 KG/HA PHOSPHORUS 033.0 KG/HA POTASSIUM 020.0 KG/HA

ZIPA 58 WAS THE LOCAL CHECK VARIETY. THERE WAS SOME BIRD DAMAGE. STRIPE RUST AND STRIPE RUST IN THE HEAD WERE OBSERVED. AS WELL AS LEAF RUST.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	DAYS TO MATURITY	STRIPE RUST	STRIPE HEAD	HEIGHT CM.	1000 GRN WGT GRMS	SEPTORIA SPP	ROOT POT
45	CIANJ "S"	MEXICO	4777.2	65.6	163.3	5MR	0	0.0	0.0	0.0	0.0
47	SONALIKA	INDIA	4638.4	64.6	156.6	10R	0	0.0	0.0	0.0	0.0
49	KELAJJ	GUATEMAL	4416.2	75.0	155.0	10MR	0	0.0	0.0	0.0	0.0
30	(LRKN 108)X AN3 E	AUSTRALI	4210.6	82.0	175.0	5MR	0	0.0	0.0	0.0	0.0
11	PITIC 62	MEXICO	3966.2	70.3	166.6	30MR	10MS	0.0	0.0	0.0	0.0
25	LR X P416D3 (E) T1	PAKISTAN	3938.4	74.3	150.0	10MR	0	0.0	0.0	0.0	0.0
34	TUBARI 66	MEXICO	3855.1	68.3	165.0	10MR	10MR	0.0	0.0	0.0	0.0
33	INIA 66	MEXICO	3777.3	65.3	150.0	10MR	0	0.0	0.0	0.0	0.0
50	LOCAL CHECK		3652.9	76.3	168.3	R-MR	0	0.0	0.0	0.0	0.0
20	LERMA ROJO 64A	MEXICO	3582.9	69.0	150.0	10MR	0	0.0	0.0	0.0	0.0
44	PATO ARGENTINO	ARGENTIN	3571.8	72.3	176.6	5MR	0	0.0	0.0	0.0	0.0
17	HUELQUEN	CHILE	3549.6	76.3	163.3	5MR	0	0.0	0.0	0.0	0.0
26	ZIPA 58	COLOMBIA	3455.3	72.6	168.3	TMR	10MS	0.0	0.0	0.0	0.0
38	36896-CJ 54 ^{2}X YT 54A (H)	SUDAN	3410.7	66.0	176.6	10MR	0	0.0	0.0	0.0	0.0
36	NAPO 63	COLOMBIA	3399.6	64.3	165.0	5R	20MS	0.0	0.0	0.0	0.0
42	ZAMBEZI	RHODESIA	3338.5	59.0	165.0	20MS	20MS	0.0	0.0	0.0	0.0
13	NAINARI 6L	MEXICO	3332.9	82.6	165.0	20MR	90S	0.0	0.0	0.0	0.0
31	PENJAMO 62	MEXICO	3216.3	68.6	161.6	10MR	0	0.0	0.0	0.0	0.0
48	KLOKA WM 1353	GERMANY	3110.7	86.6	130.0	TR	0	0.0	0.0	0.0	0.0
8	PIAMONTES	ARGENTIN	3105.2	88.3	177.6	10MR	0	0.0	0.0	0.0	0.0
24	SON 64 X L-271	PAKISTAN	2621.9	68.3	161.6	R-MS	60S	0.0	0.0	0.0	0.0
16	BONGA 55	COLOMBIA	2615.4	80.6	175.0	5MR	0	0.0	0.0	0.0	0.0
40	SON 64 X TZPP-MAI 60 (B)	ARGENTIN	2584.4	76.6	170.0	30MS	40S	0.0	0.0	0.0	0.0
29	PALMIRA 1	COLOMBIA	2517.2	67.0	170.0	30MR	0	0.0	0.0	0.0	0.0
7	VICTOR I	ITALY	2499.7	88.6	175.0	10MR	0	0.0	0.0	0.0	0.0
28	TR-236	AUSTRALI	2433.3	69.0	165.0	R-MS	70S	0.0	0.0	0.0	0.0
39	4265 - HD.3 (M) X K-Y) X (WIS - SUP) (FF)	KENIA	2355.3	83.6	0.0	R-MS	20MS	0.0	0.0	0.0	0.0
6	CARAZINHO	BRAZIL	2338.6	89.0	0.0	20MR	90S	0.0	0.0	0.0	0.0
41	LUNDI	RHODESIA	2327.5	68.0	148.3	30MS	0	0.0	0.0	0.0	0.0
4	BUCK MANANTIAL	ARGENTIN	2238.6	95.0	0.0	40MS	30S	0.0	0.0	0.0	0.0
23	C-271XWT X SON 64 (E)	PAKISTAN	2210.8	67.6	153.3	40MS	100S	0.0	0.0	0.0	0.0
32	CHRIS	U.S.A.	2093.1	80.3	0.0	20MR	0	0.0	0.0	0.0	0.0
19	SONORA 64	MEXICO	2049.7	65.0	153.3	70S	80S	0.0	0.0	0.0	0.0
18	CRESPO 63	COLOMBIA	1939.7	69.3	178.3	R-MR	0	80.0	0.0	0.0	0.0
37	C-306	INDIA	1855.3	75.0	156.6	20MR	0	0.0	0.0	0.0	0.0
43	TURPIN 7	SOUTH AF	1834.2	80.0	148.3	20MS	20S	0.0	0.0	0.0	0.0
22	(TZPP-SON64XLR864A-TZPP-ANBE) (B)	MEXICO	1855.3	65.3	160.0	0	0	0.0	0.0	0.0	0.0

14	GIZA 155	EGYPT	1833.1	67.6	165.0	100-HR	0	0.0	0.0	0.0	0.0
40	TRIPLE DIRK	AUSTRALI	1710.9	79.6	162.6	90S	100S	0.0	0.0	0.0	0.0
27	TINGALEN	AUSTRALI	1639.7	81.3	165.0	80S-4S	80S	0.0	0.0	0.0	0.0
35	GABOTO	ARGENTIN	1577.6	90.6	0.0	60MS	100S	0.0	0.0	0.0	0.0
1	SUN 64 X CL. RENDIDOR	ARGENTIN	1559.8	66.6	148.3	15MR	80S	0.0	0.0	0.0	0.0
2	MANITOU	CANADA	1433.1	96.3	0.0	2-4S	0	0.0	0.0	0.0	0.0
9	THATCHER	U.S.A.	1344.3	96.3	0.0	2-4S	10MS	0.0	0.0	0.0	0.0
5	SELKIRK	CANADA	1133.2	98.6	157.6	90S	90S	0.0	0.0	0.0	0.0
21	KENYA LEOPARD	KENYA	1177.6	95.0	0.0	20MR	20S	0.0	0.0	0.0	0.0
15	SIETE CERROS	MEXICO	1032.6	75.0	153.3	20MS	80S	0.0	0.0	0.0	0.0
12	GABO	AUSTRALI	794.3	76.6	160.0	70S	100S	0.0	0.0	0.0	0.0
3	CHIM	U.S.A.	716.5	83.6	170.0	5-MS	100S	0.0	0.0	0.0	0.0
10	KLEIN RENDIDOR	ARGENTIN	549.9	101.0	0.0	30MS	80S	0.0	0.0	0.0	0.0
	GRAND MEAN		2589.6	77.3	134.9	19.1	31.6	79.9			
	STANDARD ERROR OF GRAND MEAN		74.4	0.2	0.3	0.8	0.9				
	COEFFICIENT OF VARIATION		35.0	2.6	2.9	54.3	35.9				
	LSD VARIETY MEANS 5 PC		1433.7	4.3	6.5	16.9	18.6				

CORRELATIONS

YIELD	KG/HA									
DAYS TO	FLOWER	-0.45**								
DAYS TO	MATURITY	0.41**	-0.62**							
STRIPE	RUST	-0.63**	0.36**	-0.15						
P.STRIPE	HEAD	-0.62**	0.26	-0.16	0.78**					
HEIGHT	CM.	-0.07	-0.11	0.09	-0.11	-0.11				
1000 GRN WGT	GRMS	0.00	0.00	0.00	0.00	0.00	0.00			
SEPTORIA	SPP.	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
ROOT	ROT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 72

SOUTH AMERICA CHILE
SANTIAGO, LA PLATINA.
LATITUDE 033°34'S LONGITUDE 070°38'W ELEVATION 000629 METERS ABOVE SEA LEVEL
COOPERATORS I.RAMIREZ,P.PARODI,R.GONZALEZ,E.HACKE.
DATE PLANTED 06/25/70 DATE HARVESTED 10/ /70
NUMBER OF IRRIGATIONS 006 RAIN TIMES AMOUNT OF MOISTURE MM
NITROGEN 150.0 KG/HA PHOSPHORUS 050.0 KG/HA POTASSIUM 000.0 KG/HA

TOQUIFEN WAS THE LOCAL CHECK VARIETY. GREAT DAMAGE WAS DONE BY BIRDS. WEEDS WERE CONTROLLED BY HERBICIDES. RUST INFECTION WAS HEAVY, WITH THE EXCEPTION OF LEAF RUST, WHICH WAS ALMOST ABSENT. IT WAS A NORMAL YEAR. RAIN DISTRIBUTION WAS GOOD.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	STRIPE RUST	STEM RUST	HEIGHT CM.	LODGING
14	GIZA 155	EGYPT	5982.6	112.0	0	5MS	112.5	25.0
30	(LRKN 1JB)X ANB E	AUSTRALI	5710.4	120.0	0	80S	85.0	0.0
42	ZAMBIZI	RHODESIA	5449.3	112.0	0	40S	95.0	0.0
15	SIETE CERROS	MEXICO	5216.0	120.0	5MS	80S	105.0	25.0
11	PITIC 62	MEXICO	5215.0	117.0	0	90S	102.5	75.0
44	PATO ARGENTINO	ARGENTIN	5777.1	117.0	0	TMR	95.0	0.0
34	TUBARI 66	MEXICO	5634.9	111.0	0	10MS	97.5	25.0
50	LOCAL CHECK		5543.8	123.0	0	TMR	97.5	0.0
10	KLEIN RENDIDOR	ARGENTIN	5527.2	118.0	0	70S	117.5	50.0
31	PENJAMO 62	MEXICO	5488.3	111.0	0	5S	102.5	50.0
20	LERMA ROJO 64A	MEXICO	5227.2	117.0	0	50S	110.0	75.0
26	ZIPA 68	COLOMBIA	5177.2	124.0	0	30S	115.0	0.0
38	36395-0J 54^2 X YT 54A (H)	SUDAN	5127.2	111.0	TMS	40S	102.5	25.0
1	SON 64 X KL. RENDIDOR	ARGENTIN	5121.6	112.0	TR	5S	95.0	0.0
18	CRESPO 63	COLOMBIA	5105.0	117.0	0	30S	115.0	25.0
49	XELAJU	GUATEMAL	5055.1	117.0	0	90S	107.5	25.0
27	TIMGALEN	AUSTRALI	4977.2	110.0	30S	10S	102.5	0.0
8	PIAMONTES	ARGENTIN	4877.2	124.0	0	60S	125.0	25.0
13	NAINARI 60	MEXICO	4850.6	111.0	20S	50S	102.5	0.0
23	C-271)WT X SON 54 (E)	PAKISTAN	4777.2	110.0	10S	30S	97.5	0.0
39	4265 - HD.3(MJ X K-Y) X (WIS - SUP) (F6)	KENIA	4760.6	125.0	5MS	10S	127.5	50.0
37	C-306	INDIA	4738.4	100.0	5MR	90S	117.5	50.0
35	GABOTO	ARGENTIN	4432.8	123.0	0	30MS	137.5	50.0
29	PALMIRA 1	COLOMBIA	4432.8	116.0	50S	40S	120.0	25.0
25	LR X 241603 (E) T1	PAKISTAN	4450.6	108.0	5S	70S	82.5	0.0
24	SON 64 X C-271	PAKISTAN	4427.3	100.0	5MS	90S	77.5	0.0
40	SON 64 X TZPP-NAI 60 (B)	ARGENTIN	4410.6	112.0	10S	TMR	87.5	0.0
36	NAPO 63	COLOMBIA	4344.0	110.0	0	40S	110.0	0.0

7	VICTOR I	ITALY	4277.3	126.0	90S	80S	82.5	0.0
3	CKIM	U.S.A.	4221.7	116.0	30R	15S	125.0	25.0
47	SONALIKA	INDIA	4177.3	106.0	0	70S	97.5	0.0
45	CIANO "S"	MEXICO	4171.8	110.0	0	50S	75.0	0.0
28	TR-236	AUSTRALI	4094.0	118.0	10MR	40S	115.0	0.0
6	CARAZINHO	BRAZIL	4035.1	119.0	5MS	60S	125.0	25.0
46	TRIPLE DIRK	AUSTRALI	3949.5	120.0	80S	80S	125.0	25.0
32	CHRIS	U.S.A.	3944.0	120.0	0	TMR	137.5	75.0
4	BUCK MANANTIAL	ARGENTIN	3938.4	133.0	5R	70S	122.5	25.0
22	(TZPP-SON64*LR5449-TZPP-AN3E) (B)	MEXICO	3859.7	113.0	0	TS	92.5	0.0
17	HUELQUEN	CHILE	3849.5	118.0	0	50S	122.5	25.0
41	LONDI	RHODESIA	3838.5	112.0	10S	50S	80.0	0.0
43	TURPIN 7	SOUTH AF	3627.4	111.0	50S	30S	67.5	0.0
19	SONORA 64	MEXICO	3521.8	109.0	80S	20MS	87.5	0.0
5	SELKIRK	CANADA	3410.7	132.0	0	40S	142.5	25.0
9	THATCHER	U.S.A.	3355.2	135.0	15S	70S	150.0	50.0
21	KENYA LEOPARD	KENYA	3344.1	125.0	0	TMS	130.0	99.0
2	MANITOU	CANADA	3133.0	136.0	5R	TS	150.0	25.0
33	INIA 56	MEXICO	2949.7	107.0	0	40S	95.0	0.0
48	KLOKA WM 1353	GERMANY	2910.8	125.0	90S	90S	110.0	0.0
12	GABO	AUSTRALI	2756.3	110.0	80S	60S	97.5	0.0
16	BONZA 55	COLOMBIA	2271.9	113.0	5MS	50S	107.5	25.0
		GRAND MEAN	4528.1	116.9	13.0	41.9	107.5	20.4
	STANDARD ERROR OF GRAND MEAN		99.2				0.7	
	COEFFICIENT OF VARIATION		26.8				6.7	
	LSD VARIETY MEANS 5 PC		1984.4				11.7	

CORRELATIONS

YIELD	KG/HA					
DAYS TO	FLOWER	-0.15				
STRIPE	RUST	-0.37**	0.02			
STEM	RUST	-0.04	-0.01	0.23		
HEIGHT	CM.	-0.19	0.68**	-0.18	-0.09	
LODGING		0.04	0.33*	-0.26	-0.02	0.60**

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

SOUTH AMERICA ECUADOR
QUITO, SANTA CATALINA.
LATITUDE 00. 22'S LONGITUDE 078 33'W ELEVATION 4033.58 METERS ABOVE SEA LEVEL
COOPERATORS : CEREAL DEPARTMENT, WHEAT SECTION.
DATE PLANTED 02/19/73 DATE HARVESTED 07/ /73
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 1749 MM
NITROGEN 130.0 KG/HA PHOSPHORUS 252.8 KG/HA POTASSIUM 024.9 KG/HA

LOCAL VARIETY WAS NOT IDENTIFIED. WEEDS WERE A PROBLEM. HIGH INFECTION OF STRIPE RUST. SEASON WAS CONSIDERED NORMAL.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	STRIPE RUST	STRIPE HEAD	LEAF RUST	HEIGHT CM.	1000 GRN WGT GRMS	SEPTORIA SPP.
50	LOCAL CHECK		2444.1	72.6	80.0	0	.1	80S	110.0	33.0	6.6
49	KELAJJ	GUATEMAL	2713.9	73.0	89.0	20MR	10	20MS	106.6	31.0	11.6
18	CRESPO 63	COLOMBIA	1977.5	69.0	84.0	50MS	30	5MS	115.6	28.3	21.6
45	CIANO "S"	MEXICO	1872.0	74.3	93.6	60MS	20	0	93.0	33.6	16.6
34	TUBARI 65	MEXICO	1853.9	72.6	82.0	60MS	20	TMR	101.6	33.3	11.6
36	NAPO 63	COLOMBIA	1815.4	71.0	80.3	TMS	5	70S	138.3	34.0	15.0
48	KLOKA WM 1353	GERMANY	1638.7	65.3	90.0	TMS	15	90S	133.3	24.3	6.6
22	(TZPP-SUN64)(LR64A-TZPP-ANBL) (B)	MEXICO	1333.1	71.6	91.3	60MS	50	0	85.0	33.6	8.3
44	PAPU ARGENTINO	ARGENTIN	1316.5	70.6	84.3	40MS	20	0	95.6	26.0	3.3
21	KENYA LEOPARD	KENYA	1255.9	74.6	117.3	50MS	30	10MS	95.0	39.0	20.0
11	PITIC 62	MEXICO	1213.9	54.6	91.3	70MS	70	0	110.0	24.6	13.3
16	BONZA 55	COLOMBIA	1194.3	67.6	93.0	60MS	30	0	128.3	28.6	16.6
17	HUELQUEN	CHILE	1172.1	69.3	94.3	60MS	40	0	105.0	26.0	25.0
24	SUN 64 X C-271	PAKISTAN	1155.4	66.3	85.0	60MS	60	15S	78.3	25.3	13.3
33	INIA 66	MEXICO	1138.7	68.3	78.3	100S	80	0	90.0	29.6	0.3
38	36896-LD 54 X YT 54A(H)	SUDAN	1138.7	65.6	82.6	50MS	20	5MS	98.3	31.3	16.6
29	PALMIRA 1	COLOMBIA	933.2	65.6	82.0	50MS	60	10S	111.6	32.3	11.6
41	LONDI	RHODESIA	933.2	64.3	91.0	50S	15	0	75.6	29.3	30.0
14	GIZA 155	EGYPT	916.5	71.0	83.3	50MS	15	TMS	110.0	34.3	16.6
26	ZIPA 68	COLOMBIA	872.1	60.6	93.3	50MS	40	10MS	131.6	23.3	13.3
40	SUN 64 X TZPP-WAI 60 (B)	ARGENTIN	838.8	66.3	82.3	80MS	70	TMS	93.3	32.3	8.3
47	SONALIKA	INDIA	811.0	61.6	77.3	100S	80	0	95.0	28.6	1.6
32	CHRIS	U.S.A.	777.6	76.3	91.0	70S	20	TMR	133.3	26.0	7.5
5	SELKIRK	CANADA	777.6	73.3	113.3	10MS	20	70S	131.6	31.6	6.6
39	4655 - HD.3(M D X K-V) X (WIS - SUP) (F2)	KENIA	722.1	72.0	99.3	50MS	50	TMS	126.6	36.6	10.3
30	(LR64 TUB)X ANB E	AUSTRALI	699.9	63.0	90.3	60MS	70	0	78.3	19.3	20.0
25	LR A P4163 (E) T1	PAKISTAN	651.0	63.6	85.6	80S	80	0	31.6	24.6	10.3
7	VICTOR I	ITALY	655.4	62.3	134.6	50MS	10	0	76.6	22.6	13.3
35	GABOTO	ARGENTIN	644.3	67.3	134.3	70MS	80	0	125.0	22.0	15.0
13	NAINARI 60	MEXICO	533.2	42.0	92.6	70MS	70	0	130.0	25.6	21.6
37	C-306	INDIA	555.6	71.6	37.6	60S	10	0	116.6	29.3	33.3
31	PENJAMO 62	MEXICO	549.9	61.3	83.3	100S	80	0	93.3	26.3	5.3
8	PIAMONTES	ARGENTIN	533.2	67.3	132.0	50MS	30	5MS	126.6	26.6	11.6
10	KLEIN KENDIDOR	ARGENTIN	483.2	69.6	117.6	50MS	40	0	113.0	32.6	13.3
2	MANITOU	CANADA	461.0	67.6	113.0	60MS	30	0	136.6	24.0	16.6
27	TIMGALEN	AUSTRALI	427.7	57.0	91.6	80S	100	0	95.0	26.3	20.0

28	TR-236	AUSTRALI	427.7	61.3	80.0	100S	100	0	135.0	25.6	15.0
9	THATCHER	U.S.A.	355.5	60.0	112.0	50MS	30	5MS	125.0	23.0	6.6
23	C-271 WT X SON 64(F)	PAKISTAN	355.5	50.0	83.0	90S	100	0	93.3	22.3	16.6
4	BUCK MAMANTIAL	ARGENTIN	344.4	60.0	136.3	50MS	100	TMS	121.0	23.3	6.6
42	ZAMBEZI	RHODESIA	339.8	62.6	86.3	60MS	60	TMS	86.0	21.6	21.6
1	SON 64 X K1. REDIDOR	ARGENTIN	227.7	54.3	81.0	80S	100	0	93.3	23.6	18.3
6	CARAZINHO	BRAZIL	211.0	56.5	133.0	60MS	30	0	133.3	24.3	15.0
20	LERMA ROJO 64A	MEXICO	151.0	17.3	81.0	100S	100	0	93.3	18.3	1.6
12	GABO	AUSTRALI	115.5	0.0	88.3	100S	100	0	85.0	19.3	8.3
43	FURPIN 7	SOUTH AF	77.7	0.0	95.3	100S	100	0	55.0	16.3	2.0
19	SONORA 64	MEXICO	72.2	0.0	79.0	100S	100	0	35.0	18.6	3.3
15	SIETE CERROS	MEXICO	56.6	0.0	92.3	100S	100	0	85.6	15.3	10.0
46	TRIPLE DIRK	AUSTRALI	49.9	0.0	90.6	100S	100	0	125.0	23.6	3.3
3	CHIM	U.S.A.	33.3	0.0	91.0	100S	100	0	123.0	12.3	6.6
		GRAND MEAN	419.3	56.9	90.5	59.7	56.8	8.5	103.1	25.2	12.5
	STANDARD ERROR OF GRAND MEAN		19.3	0.5	0.1	1.0	1.1	0.4	0.6	0.2	0.4
	COEFFICIENT OF VARIATION		29.0	11.5	2.4	21.0	25.7	68.2	7.9	13.9	47.8
	LSD VARIETY MEANS 5 PC		337.6	10.7	3.6	20.5	23.9	9.5	13.4	4.6	0.8

CORRELATIONS

YIELD	KG/HA								
TEST	HEIGHT	0.61**							
DAYS TO	FLOWER	-0.23*	0.38						
STRIPE	RUST	-0.76**	-0.63**	-0.19					
P.STRIPE	HEAD	-0.71**	-0.61**	-0.11	0.88**				
LEAF	RUST	0.43**	0.23	0.01	-0.65**	-0.53**			
HEIGHT	CM.	0.33	0.26	0.46**	-0.33*	-0.25	0.17		
1000 GRN WGT	GRMS	0.62**	0.71**	-0.02	-0.59**	-0.56**	0.27*	0.22	
SEPTORIA	SPP.	0.11	0.36**	0.04	-0.20	-0.27*	-0.15	0.92	0.20

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL.

TABLE LOCATION 74

MESOAMERICA GUATEMALA
QUEZALTENANGO.
LATITUDE 014 52'N LONGITUDE 091 31'W ELEVATION 02407 METERS ABOVE SEA LEVEL
COOPERATORS A.FUMASALLI,S.CRUZ,V.AZANON.
DATE PLANTED 06/25/73 DATE HARVESTED 12/14/73
NUMBER OF IRRIGATIONS 0 RAIN TIMES AMOUNT OF MOISTURE 0783 MM
NITROGEN 120.0 KG/HA PHOSPHORUS 070.0 KG/HA POTASSIUM 000.0 KG/HA

NARINO 64 WAS THE LOCAL CHECK VARIETY. BROAD LEAF WEED WAS CONTROLLED.
STRIPE RUST WAS PRESENT. THERE WAS A HEAVY ATTACK OF SEPTORIA TRITICI
AND NODULUM. RAINFALL WAS IRREGULAR. WINDS WERE STRONG,AND THERE WAS AN
EARLY FROST.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	DAYS TO FLOWER	DAYS TO MATURITY	STRIPE RUST	LEAF RUST	STEM RUST	HEIGHT CM.	1000 GRN WGT GRMS	SEPTORIA TRITICI
44	PATO ARGENTINO	ARGENTIN	3835.1	54.0	152.0	TRS	0E	0	93.0	32.5	0.0
34	TUBARI 66	MEXICO	3737.4	58.0	148.0	10MR	0	0	100.0	33.0	10.0
31	PENJAMO 62	MEXICO	3435.2	55.0	137.0	10R	10R	0	95.0	28.0	10.0
45	CIANO "S"	MEXICO	3435.3	57.0	142.0	20S	0	0	95.0	33.0	20.0
26	ZIPA 68	COLOMBIA	3327.4	59.0	144.0	10MS	20R	20MR	110.0	28.0	10.0
33	INIA 66	MEXICO	3318.5	50.0	146.0	20S	0	0	95.0	32.0	10.0
22	(TZPP-SUN64X LK64A-TZPP-ANGL (B)	MEXICO	3259.6	52.0	145.0	20MS	10R	30S	85.0	29.5	5.0
47	SONALIKA	INDIA	3148.5	50.0	144.0	TRR	0	0	133.0	32.0	10.0
25	LK X P416L3 (E) T1	PAKISTAN	3111.9	58.0	141.0	10S	10R	TRS	130.0	26.0	10.0
1	SUN 64 X S1. RENDIDOR	ARGENTIN	3038.5	49.0	144.0	10MS	0	0	95.0	27.0	20.0
40	SUN 64 X TZPP-VAI 60 (B)	ARGENTIN	2038.5	55.0	148.0	10S	10R	0	93.0	30.0	5.0
50	LOCAL CHECK		2710.8	50.0	140.0	20S	10R	50S	115.0	31.5	5.0
29	PALMIRA 1	COLOMBIA	2704.1	50.0	138.0	20MS	20R	0	110.0	35.0	10.0
18	CRESPO 63	COLOMBIA	2657.5	59.0	140.0	10MS	10R	0	115.0	18.0	20.0
20	LERMA ROJO 64A	MEXICO	2648.6	54.0	145.0	20MS	0	20MS	100.0	28.0	10.0
19	SONORA 64	MEXICO	2526.4	51.0	138.0	0	80S	20MS	95.0	22.0	10.0
41	LONDI	RHODESIA	2315.3	54.0	138.0	30S	TRR	0	80.0	24.0	25.0
21	KENYA LEOPARD	KENYA	2137.5	76.0	149.0	0	20MR	0	120.0	31.0	20.0
6	CARAZINHO	BRAZIL	2129.7	71.0	150.0	10MR	0	0	133.0	27.0	0.0
27	TIMGALEN	AUSTRALI	2055.3	64.0	143.0	20MS	TRR	0	90.0	25.0	25.0
42	ZAMBEZI	RHODESIA	2052.0	54.0	140.0	20S	0	0	93.0	18.0	20.0
30	(LRKN 10B)X AN3 E	AUSTRALI	2054.2	64.0	151.0	10R	30MR	0	85.0	18.0	10.0
36	NAPO 63	COLOMBIA	1998.6	50.0	137.0	10R	60S	0	105.0	26.0	10.0
38	38896-CJ 54 ^{2}X YT 54A (H)	SUDAN	1926.4	53.0	148.0	20S	25MS	10R	130.0	26.0	20.0
39	4255 - HD.3 (H) X K.Y) X (WIS - SUP) (FF)	KENIA	1905.3	67.0	149.0	20S	0	10R	110.0	33.0	0.0
4	BUCK MANANTIAL	ARGENTIN	1835.3	65.0	150.0	30MR	TRR	0	120.0	18.0	20.0
7	VICTOR I	ITALY	1836.4	77.0	153.0	10MR	TRR	TRS	95.0	31.0	20.0
14	GIZA 155	EGYPT	1796.4	58.0	138.0	10R	20MR	20MS	125.0	29.0	20.0
49	KELAJU	GUATEMAL	1772.0	57.0	134.0	20S	20MR	0	135.0	21.0	10.0
23	C-271XWT X SUN 64(E)	PAKISTAN	1745.3	58.0	135.0	60S	60S	30MS	90.0	20.0	20.0
43	TURPIN 7	SOUTH AF	1600.9	67.0	146.0	30MS	0	0	70.0	23.0	5.0
13	NAINARI 60	MEXICO	1592.0	63.0	141.0	40MS	20MR	0	110.0	27.0	10.0
8	PIAMONTES	ARGENTIN	1554.2	67.0	150.0	10R	20MR	0	130.0	24.5	10.0
15	SIETE CERROS	MEXICO	1518.7	60.0	145.0	60S	20MR	0	90.0	16.5	20.0
24	SUN 64 X C-271	PAKISTAN	1430.9	54.0	135.0	20S	100S	20S	90.0	23.0	10.0
32	CHRIS	U.S.A.	1412.0	64.0	142.0	TRR	0	0	125.0	22.0	20.0
48	KLOKA WR 1353	GERMANY	1414.3	65.0	146.0	TRS	60S	20MS	95.0	22.0	0.0

11	PITIC 62	MEXICO	1396.5	64.0	145.0	30MS	20MR	0	113.0	19.0	20.0
2	MANITOU	CANADA	1345.4	66.0	148.0	20MS	0	0	125.0	21.0	20.0
17	HUELHUEN	CHILE	1144.3	0.0	135.0	20MS	10R	0	120.0	24.0	20.0
16	BONZA 55	COLOMBIA	1054.3	68.0	148.0	20MR	10R	0	115.0	25.0	10.0
35	GABOTO	ARGENTIN	1025.4	67.0	150.0	50S	0	60S	120.0	19.0	0.0
3	CRIM	U.S.A.	1005.4	60.0	143.0	40S	0	0	123.0	19.0	20.0
28	TR-236	AUSTRALI	835.4	57.0	137.0	25MS	0	0	115.0	14.0	10.0
5	SELKIRK	CANADA	696.5	70.0	149.0	20MR	20MS	0	130.0	15.0	20.0
10	KLEIN RENDIDOR	ARGENTIN	661.0	88.0	0.0	10R	0	0	0.0	15.0	20.0
9	THATCHER	U.S.A.	594.3	67.0	144.0	100S	80S	0	125.0	14.0	20.0
12	GABO	AUSTRALI	554.3	60.0	145.0	100S	10R	0	105.0	19.0	20.0
46	TRIPLE DIRK	AUSTRALI	536.6	60.0	145.0	90S	TRR	TRS	113.0	22.0	0.0
37	C-306	INDIA	237.7	65.0	130.0	20MS	20MR	TRS	120.0	13.5	5.0
		GRAND MEAN	1080.9	60.3	140.4	19.9	11.8	5.2	135.5	24.0	12.8
		STANDARD ERROR OF GRAND MEAN	27.5								
		COEFFICIENT OF VARIATION	17.0								
		LSD VARIETY MEANS 5 PC	550.4								

CORRELATIONS

YIELD	KG/HA								
DAYS TO	FLOWER	-0.29*							
DAYS TO	MATURITY	0.23	-0.22						
STRIPE	RUST	-0.45**	0.00	0.08					
LEAF	RUST	-0.13	-0.04	-0.00	0.15				
STEM	RUST	0.03	-0.06	0.04	0.13	0.23			
HEIGHT	CM.	-0.12	-0.14	0.67**	0.08	-0.02	0.03		
1000 GRN	WGT GRMS	0.74**	-0.23	0.28*	-0.38**	-0.25	0.05	0.02	
SEPTORIA	TRITICI	-0.15	-0.03	-0.16	0.13	-0.02	-0.32*	-0.08	-0.27

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 76

MESOAMERICA MEXICO MEXICO
EL BATAN, TEXCOCO.
LATITUDE 19° 21' N LONGITUDE [illegible] ELEVATION [illegible] METERS BELOW SEA LEVEL
COOPERATORS CIMMYT.
DATE PLANTED 05/20/70 DATE HARVESTED / /70
NUMBER OF IRRIGATIONS RAIN TIMES AMOUNT OF MOISTURE 44
NITROGEN 120.0 KG/HA PHOSPHORUS 025.1 KG/HA POTASSIUM 000.0 KG/HA

LOCAL CHECK NOT INCLUDED IN EXPERIMENT. NO OTHER DESCRIPTIVE INFORMATION GIVEN.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	HEIGHT CM.	1000 GRN WGT GRMS
29	PALMIRA 1	COLOMBIA	5547.7	71.8	55.0	108.3	49.0
20	CERMA ROJO 64A	MEXICO	5311.6	74.2	56.3	101.6	44.7
45	CIANO "S"	MEXICO	5200.5	74.2	54.3	81.6	40.6
49	KELAJJ	GUATEMAL	5155.8	73.5	53.6	110.0	38.1
23	C-271 YWT X SUN 64 (E)	PAKISTAN	5096.3	70.5	61.6	90.0	38.8
25	CK X P41603 (E) T1	PAKISTAN	5082.5	72.6	65.0	88.3	39.8
44	PATO ARGENTINO	ARGENTIN	5047.7	75.5	56.3	81.6	40.2
17	HUELHUEN	CHILE	4935.3	72.0	51.0	106.6	35.3
42	ZAMBEZI	RHODESIA	4839.4	72.1	50.0	83.3	35.1
18	CRESPO 63	COLOMBIA	4832.5	72.0	62.0	115.0	35.8
36	NAPO 63	COLOMBIA	4834.7	73.6	53.6	103.3	38.6
14	GIZA 155	EGYPT	4777.0	74.0	50.6	115.0	45.3
28	TK-238	AUSTRALI	4636.7	73.3	60.0	110.0	41.6
31	PENJAMO 62	MEXICO	4672.3	0.0	59.6	91.6	38.0
22	(TZPP-SUN64)(CK64A-TZPP-ANDE) (B)	MEXICO	4547.8	75.3	52.3	78.3	40.7
47	SUNMLIKA	INDIA	4439.2	74.5	50.0	83.3	49.3
11	PITIC 62	MEXICO	4429.8	62.5	64.6	103.3	33.7
15	SIETE CERROS	MEXICO	4346.5	66.3	62.3	88.3	32.0
26	ZIPA 58	COLOMBIA	4332.6	70.1	64.0	83.3	37.8
24	SUN 64 X C-271	PAKISTAN	4249.3	72.5	57.6	78.3	33.6
33	INIA 66	MEXICO	4249.3	75.8	53.6	78.3	48.0
1	SUN 64 X CL. RENDIDOR	ARGENTIN	4221.5	0.0	56.6	90.0	0.0
34	TUBARI 65	MEXICO	3978.5	73.1	56.6	86.6	37.2
13	NAINARI 60	MEXICO	3936.8	66.7	58.3	110.0	35.1
40	SUN 64 X TZPP-NAI 60 (B)	ARGENTIN	3832.7	69.6	60.3	86.6	39.7
19	SONORA 64	MEXICO	3603.5	72.0	50.3	73.3	37.0
43	TURPIN 7	SOUTH AF	3554.9	61.0	57.3	63.3	30.1
30	(CREN 108)X ANDE	AUSTRALI	3535.3	66.6	64.6	78.3	31.3

38	36896-CJ 54- X YT 54A (H)	SUDAN	3457.7	66.3	57.3	100.0	37.1
3	CRIM	U.S.A.	3263.3	68.5	65.6	125.0	29.5
27	TIMGALEN	AUSTRALI	3053.9	55.5	67.0	93.3	28.3
48	KLOKA WM 1353	GERMANY	2923.1	65.6	65.6	100.0	33.5
41	LUNDI	RHODESIA	2916.1	66.0	60.3	73.3	30.3
2	MANITOU	CANADA	2749.5	67.0	70.0	121.6	24.5
32	CHRIS	U.S.A.	2747.1	0.0	62.3	126.6	34.6
46	TRIPLE DIRK	AUSTRALI	2666.2	70.0	62.3	120.0	37.1
12	GABO	AUSTRALI	2659.2	66.0	67.0	106.6	33.2
39	4265 - HD.3(W) X W-Y) X (WIS - SUP)(F2)	KENIA	2395.4	68.6	69.3	110.0	33.0
8	PLAMONTES	ARGENTIN	2398.5	71.1	72.6	121.6	36.0
4	BUCK MANANTIAL	ARGENTIN	2223.8	64.8	67.0	111.6	27.7
5	SELKIRK	CANADA	2152.4	65.3	71.0	131.6	35.0
16	BONZA 55	COLOMBIA	2124.6	61.0	70.0	126.6	27.0
21	KENYA LEOPARD	KENYA	2013.5	66.5	75.0	121.6	30.3
7	VICTOR I	ITALY	1958.0	64.6	76.6	83.3	34.0
9	THATCHER	U.S.A.	1770.5	63.6	71.0	126.6	22.0
6	CARAZINHO	BRAZIL	1738.0	64.6	75.0	126.6	23.0
37	C-306	INDIA	1478.9	69.1	57.3	121.6	38.0
35	GABOTO	ARGENTIN	1458.0	70.0	75.0	125.0	34.7
50	LOCAL CHECK		0.0	0.0	0.0	0.0	0.0
10	KLEIN RENDIDOR	ARGENTIN	0.0	0.0	0.0	0.0	0.0
	GRAND MEAN		3580.9	65.0	60.4	96.8	33.5
	STANDARD ERROR OF GRAND MEAN		76.2		0.1	0.6	
	COEFFICIENT OF VARIATION		25.8		2.6	7.5	
	LSD VARIETY MEANS 5 PC		1508.9		2.5	11.8	

CORRELATIONS

YIELD	KG/HA				
TEST	WEIGHT	0.33**			
DAYS TO	FLOWER	0.15	0.51**		
HEIGHT	CM.	0.10	0.40**	0.82**	
1000 GRN	WGT GRMS	0.63**	0.68**	0.43**	0.40**

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 78

MESOAMERICA MEXICO SONORA
CD. OBREGON, CIANO.
LATITUDE 27°20'N LONGITUDE 109°54'W ELEVATION 40.0 METERS BELOW SEA LEVEL
COOPERATORS CIMMYT, WHEAT SECTION.
DATE PLANTED 12/02/69 DATE HARVESTED / /73
NUMBER OF IRRIGATIONS 004 RAIN TIMES 03 AMOUNT OF MOISTURE 44
NITROGEN 150.0 KG/HA PHOSPHORUS 040.0 KG/HA POTASSIUM 000.0 KG/HA

LOCAL VARIETY WAS NOT INCLUDED. NO WEED OR PEST PROBLEMS. SEASON WAS CONSIDERED NORMAL. ENTRIES TRIPLE DIRK , PITIC AND NAINARI WERE GIVEN MECHANICAL PROTECTION AGAINST LODGING IN STUDIES BY DR JOHN BINGHAM.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	LEAF RUST	HEIGHT CM.	LODGING
23	C-271XWT X SJN 54 (E)	PAKISTAN	6643.7	81.2	95.6	122.0	80S	108.5	0.0
15	SIETE CERROS	MEXICO	6523.7	81.5	95.3	121.3	40S	101.0	0.0
11	PITIC 62	MEXICO	6337.1	78.2	78.6	124.3	60S	110.3	60.0
31	PENJAMO 62	MEXICO	6199.3	82.0	93.6	120.6	10MS-S	102.3	0.0
42	ZAMBEZI	RHODESIA	6038.2	81.0	92.6	120.6	40S	97.3	0.0
29	LERMA ROJO 64A	MEXICO	5971.6	82.6	78.6	120.3	80S	120.0	0.0
25	LR A P41603 (E) T1	PAKISTAN	5954.9	82.7	78.0	120.0	60S	100.3	0.0
47	SONA-IKA	INDIA	5954.9	81.6	86.3	116.0	50S	105.6	0.0
33	INIA 66	MEXICO	5921.6	84.0	75.0	116.0	50S	109.0	0.0
45	CIANO "S"	MEXICO	5910.5	82.3	73.3	114.6	20S	99.6	0.0
38	36896-CJ 54 2X YT 54A (H)	SUDAN	5894.9	80.2	74.3	117.3	40S	106.3	0.0
24	SJN 54 X C-271	PAKISTAN	5827.1	80.5	92.0	122.6	80S	96.3	0.0
43	TURPIN 7	SOUTH AF	5771.5	75.5	100.6	128.6	10S	73.3	0.0
30	(LRKN 1-B)X ANB E	AUSTRALI	5794.9	82.0	86.0	129.6	40S	90.6	0.0
1	SON 54 X K1. RENDIDOR	ARGENTIN	5650.5	79.6	75.6	114.6	40S	101.3	0.0
44	PATO ARGENTINO	ARGENTIN	5650.5	82.2	85.3	129.0	5MS	99.3	0.0
7	VICTOR I	ITALY	5610.5	80.5	104.0	128.6	TRMR	95.3	0.0
13	NAINARI 60	MEXICO	5548.3	80.5	98.3	127.0	30S	127.3	66.6
40	SON 54 X TZPP-NAI 60 (B)	ARGENTIN	5432.7	77.8	93.3	120.6	20S	100.0	0.0
36	NAPO 63	COLOMBIA	5416.1	81.0	74.6	114.0	50S	129.3	36.6
19	SONORA 64	MEXICO	5371.6	82.3	73.0	108.6	60S	95.0	0.0
46	TRIPLE DIRK	AUSTRALI	5258.3	80.6	82.0	127.0	40S	143.6	80.0
18	CRESPO 63	COLOMBIA	5171.6	81.6	91.6	120.0	20S	127.3	83.3
28	TR-236	AUSTRALI	5049.4	78.7	78.3	120.0	0	89.6	73.3
34	TUBARI 66	MEXICO	5015.1	81.5	90.0	119.6	0	101.6	0.0
12	GABO	AUSTRALI	5005.0	77.6	81.0	120.0	80S	121.0	36.6
37	C-306	INDIA	4843.9	82.2	81.3	120.3	30S	132.6	96.0
41	LONDI	RHODESIA	4738.4	79.5	73.6	109.3	5MR-MS	90.0	0.0

22	(TZPP-SON64)(LR64A-TZPP-AN3E) (B)	MEXICO	4777.2	83.0	77.0	118.6	104S-S	96.6	0.0
49	XE-AJJ	GUATEMAL	4721.7	83.0	80.3	117.6	30S	136.3	81.8
29	PALMIRA 1	COLOMBIA	4555.1	77.0	81.0	120.3	40S	132.6	51.8
17	HUELGUEN	CHILE	4550.6	80.5	83.6	120.6	40S	124.0	57.6
26	ZIPA 58	COLOMBIA	4443.9	80.5	97.3	122.0	40S	125.6	0.0
14	GIZA 155	EGYPT	4338.4	75.0	94.3	122.0	40S	126.6	79.3
16	BONZA 55	COLOMBIA	4038.4	78.5	98.3	125.0	40S	131.6	86.6
48	KLOKA WM 1353	GERMANY	3910.7	79.5	88.3	126.0	20S	123.3	0.0
8	PIAMONTES	ARGENTIN	3850.7	80.8	132.0	126.6	TRMS	130.0	93.3
27	TIMGALEN	AUSTRALI	3705.1	76.0	84.6	127.0	0	110.0	92.0
4	BUCK MANANTIAL	ARGENTIN	3610.7	80.0	135.0	123.0	TRR	128.0	92.5
3	CRIM	U.S.A.	3355.2	79.7	91.0	120.6	50S	129.3	97.0
32	CHRIS	U.S.A.	3050.8	79.6	98.3	129.0	TRR	136.6	89.0
21	KENYA LEOPARD	KENYA	2849.7	79.3	136.0	133.0	10S	125.0	91.3
10	KLEIN RENDIDOR	ARGENTIN	2821.9	80.0	139.3	123.0	TRMR	124.6	53.3
6	CARAZINHO	BRAZIL	2621.9	79.0	133.3	131.0	5S	137.3	92.5
39	4265 - HD.8(M 0 X K-Y 0 X (WIS - SUP) (F6)	KENIA	2444.1	79.8	101.0	123.6	20S	145.3	87.6
35	GARUTO	ARGENTIN	2172.0	81.0	91.0	126.0	0	134.0	98.0
2	MANITOU	CANADA	1238.7	75.7	119.0	129.0	60S	109.3	98.0
9	THATCHER	U.S.A.	1256.5	72.8	110.0	125.3	80S	124.3	95.3
5	SELKIRK	CANADA	1138.7	74.1	139.6	125.0	40S	130.3	81.3
		GRAND MEAN	4650.2	79.9	90.0	122.2	30.0	115.0	41.9
	STANDARD ERROR OF GRAND MEAN		42.3		1.2	0.0	0.6	0.7	1.0
	COEFFICIENT OF VARIATION		11.0		16.6	0.9	26.2	8.1	31.6
	LSD VARIETY MEANS 5 PC		838.0		24.5	1.8	12.8	15.2	21.6

CORRELATIONS

YIELD	KG/HA						
TEST	WEIGHT	0.55**					
DAYS TO	FLOWER	-0.62**	-0.48**				
DAYS TO	MATURITY	-0.41**	-0.34*	0.68**			
LEAF	RUST	0.18	-0.06	-0.14	-0.21		
HEIGHT	CM.	-0.55**	-0.10	0.26	0.25	0.01	
LODGING		-0.72**	-0.40**	0.42**	0.42**	-0.13	0.72**

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE LOCATION 82

MESOAMERICA MEXICO MEXICO
TOLUCA.
LATITUDE 19°N LONGITUDE 100°W ELEVATION +02600 METERS ABOVE SEA LEVEL
COOPERATORS CIMMYT.
DATE PLANTED 05/20/70 DATE HARVESTED / /70
NUMBER OF IRRIGATIONS RAIN TIMES AMOUNT OF MOISTURE MM
NITROGEN 100.0 KG/HA PHOSPHORUS 335.2 KG/HA POTASSIUM 000.0 KG/HA

LOCAL VARIETY WAS NOT INCLUDED. THERE WAS AN EXCELLENT EPIDEMIC OF STRIPE RUST, BUT VERY LITTLE LEAF RUST AND STEM RUST. SEPTORIA AND FUSARIUM WERE ALSO PRESENT. COLD AND RAINY CONDITIONS PREVAILED THROUGHOUT THE GROWING SEASON. NO INSECT PROBLEMS OBSERVED.

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	HEIGHT CM.	1000 GRN WGT GRMS
23	C-271XWT X SON 54(E)	PAKISTAN	7457.1	74.5	73.6	105.0	42.1
48	KLOKA WM 1353	GERMANY	7387.6	72.0	82.0	115.0	35.2
29	PALMIRA 1	COLOMBIA	7337.6	77.2	70.6	123.3	48.3
31	PENJAMO 62	MEXICO	5950.2	72.5	75.3	103.3	36.0
18	CRESPO 63	COLOMBIA	5873.8	75.1	75.0	118.3	32.0
14	GIZA 155	EGYPT	5735.0	75.3	71.3	116.6	48.5
26	ZAPA 58	COLOMBIA	5714.1	73.3	77.3	116.6	38.2
34	TUBARI 66	MEXICO	5635.4	74.8	75.0	103.3	37.8
36	NAPO 63	COLOMBIA	5558.3	74.2	65.6	115.0	44.0
25	LR X 241603 (E) T1	PAKISTAN	6276.7	76.0	73.6	90.0	40.3
11	PITIC 62	MEXICO	5276.7	65.3	77.3	113.3	33.8
20	LERMA ROJO 64A	MEXICO	5221.2	78.2	72.[illegible]	108.3	41.1
45	GIANO "S"	MEXICO	6221.2	77.5	67.0	93.3	45.1
8	PIAMONTES	ARGENTIN	5068.4	76.0	118.3	133.3	39.5
33	INIA 66	MEXICO	5936.5	77.5	57.0	98.3	49.3
22	(TZPP-SON64)(LR64A-TZPP-AN3E) (B)	MEXICO	5857.1	76.3	69.3	90.0	38.8
17	HUELQUEN	CHILE	5846.2	74.5	77.0	116.6	37.7
24	SON 64 X C-271	PAKISTAN	5797.5	72.3	72.3	86.6	37.3
9	THATCHER	U.S.A.	5637.9	72.0	86.6	141.6	33.2
32	CHRIS	U.S.A.	5596.3	75.5	77.6	135.0	38.8
1	SON 64 X (1. RENDIDOR	ARGENTIN	5589.3	0.0	69.6	98.3	0.0
4	BUCK MANANTIAL	ARGENTIN	5561.6	74.5	80.6	120.0	38.6
13	NAINARI 60	MEXICO	5525.8	72.0	81.3	123.3	40.0
27	TIMGALEN	AUSTRALI	5485.2	72.8	80.6	106.6	35.7
47	SONALIKA	INDIA	5464.3	73.1	55.3	100.0	39.8
30	(LRKN 10B)X AN3 E	AUSTRALI	5259.9	71.8	80.0	88.3	28.2
19	SONORA 64	MEXICO	5253.0	73.1	66.3	91.6	35.7
16	BONZA 55	COLOMBIA	5145.0	70.0	80.3	135.0	29.2

46	TRIPLE DIRK	AUSTRALI	4922.8	71.6	78.0	136.6	32.1
44	PATO ARGENTINO	ARGENTIN	4938.9	75.5	73.6	93.3	32.2
15	SIETE CERROS	MEXICO	4839.4	66.6	78.0	96.6	25.7
5	SELKIRK	CANADA	4714.5	68.6	85.0	140.0	39.3
2	MANITOU	CANADA	4655.9	71.3	85.6	140.0	24.0
28	TR-235	AUSTRALI	4346.5	74.0	73.3	116.6	33.0
37	C-300	INDIA	4325.6	75.6	76.6	128.3	39.3
42	ZAMBEZI	RHODESIA	4311.8	67.6	73.6	85.0	25.0
38	36896-CJ 54C X YT 54A (M)	SUDAN	4290.9	65.8	71.0	106.6	32.6
41	LONDI	RHODESIA	4284.0	68.5	73.3	81.6	27.8
39	4265 - HD.3 (MD X K-Y) X (WIS - SUP) (F6)	KENIA	4172.9	70.8	86.0	126.6	32.6
7	VICTOR I	ITALY	4172.9	69.0	90.6	91.6	37.8
43	TURPIN 7	SOUTH AF	3936.8	63.2	78.6	65.0	30.6
40	SON 64 X TZPP-WAI 50 (B)	ARGENTIN	3895.2	71.5	72.6	91.5	31.6
3	CRIM	U.S.A.	3831.3	75.2	76.3	133.3	37.0
35	GABOTO	ARGENTIN	3700.7	72.1	93.0	143.3	32.1
21	KENYA LEOPARD	KENYA	3624.4	69.6	95.0	138.3	32.7
12	GABO	AUSTRALI	3173.1	66.6	75.6	110.0	27.0
6	CARAZINHO	BRAZIL	2353.7	67.6	90.3	141.6	36.3
10	KLEIN RENDIDOR	ARGENTIN	729.0	0.0	118.6	136.6	0.0
		GRAND MEAN	5230.4	69.3	78.6	112.2	34.5
		STANDARD ERROR OF GRAND MEAN	63.6		0.6	0.3	
		COEFFICIENT OF VARIATION	14.5		10.6	4.1	
		LSD VARIETY MEANS 5 PC	1246.0		13.6	7.6	

CORRELATIONS

YIELD	KG/HA				
TEST	WEIGHT	0.43**			
DAYS TO	FLOWER	-0.47**	-0.33*		
HEIGHT	CM.	-0.18	-0.02	0.52**	
1000 GRN WGT	GRMS	0.54**	0.85**	-0.35*	-0.01

* SIGNIFICANT AT THE 5% LEVEL ** SIGNIFICANT AT THE 1% LEVEL

TABLE 83

MEANS FOR YIELD, AGRONOMIC AND DISEASE DATA FOR SIXTH INTERNATIONAL SPRING WHEAT YIELD NURSERY (1969-1970). MEANS PRESENTED INCLUDE ONLY THOSE LOCATIONS REPORTING. AVERAGE RUST VALUES ARE NUMERICALLY CONVERTED AND TRANSFORMED AND MEANS COMPUTED WHERE 1.0 INDICATES NO DISEASE AND 10.0 REPRESENT 99S, A COMPLETELY SUSCEPTIBLE REACTION. (SEE TEXT FOR FURTHER EXPLANATION).

VARIETY NUMBER	VARIETY OR CROSS	ORIGIN	YIELD KG/HA	TEST WEIGHT	DAYS TO FLOWER	DAYS TO MATURITY	STRIPE RUST	P.STRIPE HEAD	LEAF RUST
25	LR A PA1602 GER 11	PAKISTAN	3590.50	77.94	83.82	128.51	21.95	36.11	30.92
47	SONALIKA	INDIA	3342.54	77.40	77.70	125.8	24.14	35.00	18.17
33	INIA 66	MEXICO	3307.41	79.23	79.23	124.77	42.88	27.78	17.89
15	SIETE CERROS	MEXICO	3300.76	72.43	88.27	130.51	35.94	85.56	42.12
34	TORAKI 66	MEXICO	3295.54	70.71	82.36	133.78	12.42	15.44	2.98
11	PATIL 62	MEXICO	3288.65	71.39	86.61	129.54	25.58	28.22	37.61
23	L-27.WT A SUN 55 GER	PAKISTAN	3285.07	76.08	85.58	130.82	26.27	75.56	32.00
30	LRN 108 A AN3 C	AUSTRALI	3276.14	76.81	50.21	133.58	14.43	19.33	41.15
31	PENJAMO 62	MEXICO	3272.93	74.58	83.85	127.01	20.46	33.89	12.82
45	CIANO S	MEXICO	3232.30	76.11	79.42	126.31	18.11	23.00	10.95
1	SUN 64 X KI. REJUCK	ARGENTIN	3191.53	72.62	81.32	126.41	42.37	47.79	12.71
38	308 [illegible] 542 X FT 54A BRU	SUDAN	3135.87	74.58	81.71	131.75	34.51	9.57	23.84
42	CAMULZI	RHODESIA	3155.44	74.45	84.73	130.41	46.53	57.56	20.50
44	PATU ARGENTINO	ARGENTIN	3142.67	78.44	85.48	130.74	12.43	5.33	13.69
26	LERMA ROJO 64A	MEXICO	3139.31	76.40	81.35	126.61	24.42	50.11	21.24
40	SUN 64 X TZPP-NAI 60 BRU	ARGENTIN	3137.79	73.96	85.73	131.93	27.18	49.89	7.34
50	LOCAL GREEN		3052.08	74.63	87.57	134.31	14.84	6.68	20.10
18	CREPO 63	COLOMBIA	3051.05	77.62	84.52	129.70	17.69	12.78	19.36
13	NAINARI 60	MEXICO	3040.56	73.67	88.54	132.36	41.28	63.33	19.84
17	HUELQUEN	CHILE	3035.43	77.24	86.07	128.35	11.24	8.44	11.11
49	AZLAJU	GUATEMAL	2996.68	78.45	85.84	128.20	15.31	6.22	32.69
36	NAPO 63	COLOMBIA	2969.38	75.40	79.24	134.46	7.96	3.56	41.04
24	SUN 64 X L-271	PAKISTAN	2947.01	74.82	83.07	129.74	25.67	53.33	64.24
41	LONLI	RHODESIA	2932.22	74.49	82.20	130.08	32.87	19.23	23.32
29	PALMIRIA 1	COLOMBIA	2894.32	74.14	83.55	127.40	35.61	27.78	39.55
22	TZPP-SUN64/LR64A-TZPP-AN3E 3B0	MEXICO	2888.13	79.53	81.75	127.82	8.92	18.33	10.03
28	ZIPA 68	COLOMBIA	2850.37	75.53	85.05	132.01	14.37	20.67	30.91
14	GIZA 155	EGYPT	2829.28	76.36	85.46	132.18	21.26	32.11	32.74
19	SONORA 64	MEXICO	2764.04	73.12	78.48	123.08	55.12	85.56	22.41
27	TIMGLEN	AUSTRALI	2728.02	74.54	89.71	132.17	41.29	76.67	11.48
7	VICTOR 1	ITALY	2702.39	71.45	54.84	134.39	29.22	3.33	32.98
43	TORPIN 7	SOUTH AF	2641.04	66.91	50.06	133.07	39.68	39.78	16.87
48	IN-636	AUSTRALI	2666.87	71.93	84.14	128.53	35.33	86.67	12.36
46	TRIPLE DIKA	AUSTRALI	2639.21	73.26	89.48	132.82	55.85	87.78	25.43
21	KENYA LEOPARD	KENYA	2587.90	75.48	57.06	134.08	13.12	26.22	21.27
16	BONZA 55	COLOMBIA	2518.61	74.31	88.58	132.52	13.55	18.12	20.79
6	CARALINHO	BRAZIL	2500.74	76.44	52.55	136.72	29.53	49.78	13.46
4	BUCK MANANTIAL	ARGENTIN	2391.30	72.26	57.63	132.32	28.67	49.44	9.01
3	CAIM	U.S.A.	2348.68	72.02	51.94	134.68	49.06	80.00	15.69
12	GABO	AUSTRALI	2335.75	69.31	86.85	129.85	72.50	90.00	25.86
8	PIRAMONTES	ARGENTIN	2340.43	76.72	53.55	132.52	11.31	14.67	16.70
39	4.65 - 10.2 [illegible] 4 K-1 B A 8 [illegible] - SUP [illegible]	KENYA	2339.81	73.79	53.46	132.20	18.25	24.89	20.90
37	L-300	INDIA	2331.58	76.49	87.34	134.47	12.26	14.46	41.00
35	GABOTO	ARGENTIN	2310.50	76.53	54.32	131.50	26.12	68.33	4.05
48	KLUKA AN 1353	GERMANY	2306.51	73.67	51.37	134.39	16.37	4.36	47.53
32	LRN 13	U.S.A.	2290.54	75.63	89.85	130.03	27.39	18.34	1.27
10	ALEHI MENGELUR	ARGENTIN	1805.62	58.33	52.32	111.41	30.77	54.44	11.97
2	MANITOU	CANADA	1777.46	68.78	102.42	132.53	40.57	35.78	7.92
5	SELAIRA	CANADA	1737.38	69.70	101.63	136.51	35.27	47.22	23.25
9	THATCHER	U.S.A.	1607.16	66.26	100.72	135.30	52.78	48.67	60.06
	SUPMART MEANS OVER VARIETIES		2785.55	74.24	87.68	129.73	28.47	38.58	23.33

STEM RUST	HEIGHT CM.	LODGING	SHATRGN	SHATRGN HEAD	1000 GRN WGT GRMS	MILDEW	SEPTORIA TRITICI	SEPTORIA SPP.	FUSARIUM	FROST DAMAGE	NECK BREAK	PLANT STAND
20.01	76.40	17.25	40.67	39.43	35.77	63.05	31.11	12.26	46.67	33.33	41.67	96.00
33.48	87.19	24.50	25.00	27.10	42.89	39.09	43.33	6.85	40.00	80.00	33.33	97.67
9.73	84.26	19.31	73.33	19.10	36.32	55.76	43.33	7.52	53.33	46.67	25.00	96.67
31.30	84.20	21.40	10.00	26.55	31.40	12.63	36.67	13.14	23.33	53.33	31.33	78.33
6.85	84.48	24.66	9.17	11.88	34.69	25.58	27.22	5.46	40.00	60.00	50.00	96.67
35.44	90.05	45.45	2.50	19.66	30.85	30.51	27.78	10.85	33.33	53.33	41.67	85.00
40.80	86.57	25.48	58.33	31.11	33.58	44.45	38.89	10.13	20.00	86.67	66.67	96.00
40.45	75.73	16.68	30.00	17.43	29.15	35.73	24.44	8.64	53.33	53.33	58.33	91.33
23.76	88.36	37.81	50.00	24.66	34.31	42.87	37.78	7.75	23.33	66.67	33.33	91.67
31.41	78.43	22.36	31.67	34.65	36.23	48.87	37.78	13.51	53.33	46.67	41.67	86.67
34.25	83.05	23.85	17.00	34.99	35.66	32.99	32.22	5.83	23.33	60.00	33.33	80.00
15.63	96.74	28.52	17.50	20.10	37.45	38.80	41.11	7.01	40.00	66.67	58.33	93.33
29.31	80.42	34.52	4.17	14.65	30.86	36.65	31.11	10.79	53.33	73.33	25.00	86.00
21.07	81.64	22.15	50.00	21.66	28.09	58.68	30.33	5.56	23.33	73.33	75.00	98.33
32.21	92.37	24.15	10.00	35.10	34.89	49.43	38.89	8.53	20.00	53.33	41.67	78.33
34.13	82.21	19.36	27.50	30.32	35.95	39.71	24.33	3.23	60.00	60.00	58.33	97.67
23.89	94.02	29.55	2.50	14.32	34.97	10.98	27.22	9.24	33.33	70.00	66.67	95.00
15.66	103.88	46.60	45.00	21.99	37.09	35.33	25.56	4.53	33.33	26.67	33.33	93.33
38.69	96.46	38.25	30.00	17.72	36.43	40.36	22.78	17.56	60.00	33.33	83.33	91.67
10.36	100.18	43.00	45.00	18.77	33.05	46.47	40.00	14.50	20.00	40.00	66.67	96.00
32.16	98.53	46.93	14.00	20.59	35.22	34.88	35.56	12.36	26.67	40.00	33.33	76.67
7.87	97.22	37.30	46.67	25.55	34.02	43.08	41.33	14.59	40.00	53.33	41.67	95.00
38.73	75.22	16.81	10.83	20.66	34.41	63.76	35.56	9.06	46.67	80.00	58.33	90.00
27.65	72.55	18.19	18.67	21.31	33.57	18.88	49.33	15.74	53.33	66.00	53.33	85.00
19.16	102.45	49.70	45.00	23.43	35.72	49.09	31.11	5.09	20.00	73.33	75.00	76.67
18.71	78.60	19.91	37.50	51.33	32.74	30.21	22.00	5.52	26.67	66.67	33.33	85.00
23.99	98.06	30.60	10.00	21.99	32.24	14.88	37.78	17.53	40.00	26.67	51.67	96.67
22.52	100.06	41.57	2.50	16.52	37.27	20.95	31.11	15.86	46.67	60.00	66.67	88.33
29.60	75.74	18.45	60.00	42.66	31.99	36.43	50.00	8.51	40.00	80.00	25.00	97.67
7.27	85.31	34.73	46.67	20.21	32.11	26.88	26.44	10.23	20.00	66.67	58.33	96.67
42.74	74.88	12.71	96.67	33.75	28.88	50.40	32.22	7.07	20.00	40.00	50.00	91.67
34.87	58.66	10.26	45.00	24.32	33.35	60.75	33.89	12.47	60.00	46.67	33.33	74.33
7.35	94.63	41.19	3.83	18.65	35.08	54.89	32.22	13.87	26.67	73.33	41.67	70.00
36.52	110.63	44.55	11.67	18.32	37.97	35.76	9.22	6.36	26.67	33.33	58.33	83.33
4.22	102.41	23.85	42.50	36.59	34.60	9.69	33.33	6.79	20.00	46.67	58.33	86.67
15.91	107.59	51.62	30.00	18.32	32.07	28.77	35.56	9.99	20.00	40.00	50.00	96.00
39.74	110.14	54.84	45.00	33.10	34.60	61.96	18.11	7.19	20.00	46.67	66.67	100.00
27.30	95.60	43.23	2.50	18.52	26.28	46.21	22.56	8.33	40.00	20.00	83.33	83.33
6.95	108.26	54.04	27.00	39.32	30.12	20.09	23.89	7.47	33.33	46.67	66.67	87.50
42.91	94.34	30.55	42.00	35.10	31.63	40.61	34.44	5.69	53.33	73.33	41.67	84.33
32.58	104.89	42.06	2.50	16.52	32.08	45.47	18.33	6.65	20.00	33.33	58.33	96.00
6.72	103.58	47.50	40.00	37.99	33.84	5.77	15.00	4.62	33.33	46.67	35.00	87.67
40.26	104.52	61.35	2.17	16.19	37.54	35.17	29.44	18.08	40.00	53.33	58.33	88.33
24.97	110.00	52.35	16.67	14.30	27.54	41.32	15.89	9.40	20.00	33.33	41.67	92.00
58.33	95.18	23.77	50.00	36.43	27.64	24.95	30.00	6.53	20.00	46.67	50.00	90.00
10.52	110.25	57.51	3.33	16.32	28.76	40.06	21.11	9.65	36.67	40.00	66.67	90.00
36.52	86.32	47.55	20.50	33.32	25.07	20.81	15.89	4.44	20.00	33.33	33.33	96.67
8.55	106.61	54.77	14.50	39.52	22.71	40.78	18.89	8.02	20.00	33.33	51.67	95.00
15.09	107.89	43.33	16.50	35.32	28.51	33.33	23.89	8.26	23.33	53.33	91.67	91.67
25.94	106.61	49.88	34.50	37.32	23.05	58.03	16.67	4.57	20.00	40.00	66.67	95.00
23.61	**92.38**	**35.45**	**27.60**	**26.27**	**32.72**	**37.49**	**29.95**	**9.46**	**35.13**	**51.87**	**53.83**	**89.98**