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SUMMARY

Seed for the Seventh International Winter Wheat Performance Nursery (IWWPN) was sent to cooperators at 59 locations in 30 countries in 1975. Performance data were reported from 47 locations. Fourty-two nursery sites were in the Northern Hemisphere. The Southern Hemisphere sites were at Balcarce and Bordenave, Argentina; Chillan and Temuco, Chile, and in the Republic of South Africa. The nursery consisted of 28 winter wheat varieties and two spring wheats, Lerma Rojo 64 and Rashid. Fourteen new cultivars were added for their first year of testing in the 1975 IWWPN while 16 were repeated from 1974.

Data are reported on grain yield, grain protein, test weight, 1000-kernel weight, plant height, lodging, winter survival, frost damage, maturity, shattering, plant diseases, and all other traits reported by cooperators. Supplemental nursery management information is reported for each nursery site adjacent to the table of agronomic, grain quality and disease data for that site. Summary tables are presented by trait over locations for each variety and across varieties for 1975. In addition, means and other statistics based on regionalization of the data into six rather broad geographic areas of the world with appropriate statistical analyses are reported. Two-year means and statistics for 16 cultivars that were grown in the IWWPN's in 1974 and 1975 also are reported.

The nursery grand mean for yield based on 44 locations, which excludes Odessa, U.S.S.R., was 39.4 q/ha. This is 2.7 q/ha more than the 36.3 q/ha grand mean reported over 46 locations in the 1974 IWWPN. A grand yield mean of 39.0 q/ha was obtained when the data from Cambridge, England and Beirut, Lebanon were dropped from the combined analysis due to their incompleteness. Individual nursery site yield means ranged from 11.2 q/ha at Ankara, Turkey to 80.6 q/ha at Male Ripnany, Czechoslovakia. Eighteen nursery sites yielded between 21-40 q/ha and 21 sites produced yields between 41-60 q/ha. Three nursery sites yielded less than 20 q/ha or more than 60 q/ha. Talent, a variety from France, was the most productive on the average over 44 locations. Its grain yield was 45.1 q/ha, 4.6% higher than the long term check variety Bezostaya 1. Other cultivars yielding slightly more than Bezostaya 1 included Aurora (U.S.S.R.) and Blueboy (U.S.A.). The varieties Talent, Aurora, Blueboy, and Bezostaya 1 ranked among the 10 highest yielding varieties at 27, 26, 22 and 20 sites, respectively.

Based on regional analyses for yield from six different geographic regions of the world, none of the varieties was superior in more than one region. Talent, the highest yielding variety on a worldwide basis, was not the highest yielding in any region. In Northern Europe, the later maturing varieties including Maris Huntsman (England) and

Maris Templar (England) yielded 19 and 16% more than Bezostaya 1. In Southern Europe, Sanja (Yugoslavia) and Biserka (Yugoslavia) out-yielded Bezostaya 1 by 30 and 29%, respectively. The yield of both Aurora and Talent was 7% higher than Bezostaya 1 in North America. In the Southern Hemisphere Burgas 2 (Bulgaria) and Aurora produced yields 17 and 11% higher than Bezostaya. The yields of Bolal (Turkey) and Kitakomi-Komugi (Japan) were superior in the Near and Middle Eastern region. The varieties Kitakomi-Komugi and Aurora yielded 22 and 13% more than Bezostaya 1 in the Far East.

Two-year yield means of 16 cultivars for 1974-1975 over 36 locations showed a wide range. Grain yields of Aurora, Blueboy, Kavkaz, (U.S.S.R.) and Bezostaya 1 were 41.8, 41.1, 40.9, and 40.8 q/ha, respectively. The lowest yielding winter cultivar over the two-year period was Atlas 66 with 31.1 q/ha.

Varieties exhibiting protein percentages higher than 15% include Rashid (Iran), Sieve (Italy), Atlas 66 (U.S.A.), Favorit (Romania), and Sentinel (U.S.A.). Blueboy had the lowest protein content of all cultivars with 12.9%. A correlation coefficient of $-.20^{**}$ was computed between grain yield and grain protein. However, the relationship between yield level and protein content varied widely among varieties. An inverse relationship exists between these two traits, but some varieties yielded well while maintaining significantly above-average protein levels. The grain protein advantage of Atlas 66 is evident from the two-year analysis. Other cultivars possessing elevated levels of grain protein include Aurora, Kavkaz, Burgas 2, Lerma Rojo 64 (Mexico) and Favorit.

Cultivar means for test weight show the superiority of Bezostaya 1. The varieties Favorit, Dunav-1, Martonvasar 2, and Demar 4 also had good test weight values. Regional test weight means were considerably higher in Northern Europe, North America, and the Far East. Two-year test weight means showed the superiority of Bezostaya 1, Favorit, and Demar 4 (Italy). The lowest two-year test weight means were computed for Blueboy and Jubilar (West Germany).

The grand mean for 1000-kernel weight over eight sites was 37.7 grams. Cultivar means ranged from a high of 43.1 grams for Maris Templar to a low of 32.2 grams for Likafen. Two varieties, Bezostaya 1 and Martonvasar 2, were high in both 1000-kernel weight and test weight. Aurora and Kavkaz had the highest 2-year 1000-kernel weight means. The grand mean over five locations was 39.7 grams.

The grand means for plant height and lodging were 93.3 cm and 26.6%, respectively. The height of Talent, the highest yielding variety in the 1975 IWWPN, was 80.2 cm. The highest yielding varieties generally were between 92-100 cm tall. Varieties grew taller in the regions of North America and the Far East than they did elsewhere.

The relative height differences among cultivars across regions remained fairly consistent. Three of the five tallest varieties in the 1974-1975 IWWPN's; namely, Bolal, Atlas 66, and Blueboy II, also had the highest lodging scores.

The grand mean for winter survival averaged over 12 sites reporting differential readings among varieties was 83.1%. Cultivar winter survival means ranged from 93.3% for Bezostaya to 52.3% for Lerma Rojo 64. Other cultivars with high winter survival percentages included Martonvasar 2, Kavkaz, Sentinel, Lely (Netherlands), Blueboy II (U.S.A.), and Dunav-1 (Yugoslavia). In the comparison of two-year means for winter survival Kavkaz, Bezostaya 1, and Burgas 2 had percentages of 91.8, 91.4, and 80.6 respectively.

Varieties comprising the 1975 IWWPN differed considerably in maturity. Early flowering winter varieties included Rashid (Iran), Kitakomi-Komugi, and GFK-2 (Hungary). The latest flowering varieties were Lely, Jubilar, Maris Templar, Maris Huntsman, and Kormoran (West Germany). In general, the varieties that flowered the earliest also ripened the earliest. Two-year means for flowering showed that Sanja required 164.7 days while Jubilar needed 180.3 days. The variety Bolal reached ripening slightly earlier than Sanja, but Jubilar was the latest.

Cultivar differences in frost damage, shattering disease response, and other agronomic traits are reported and discussed.

Results of the Seventh International Winter Wheat Performance Nursery Grown in 1975

K. D. Wilhelmi, S. L. Kuhr, V. A. Johnson, P. J. Mattern, and J. W. Schmidt[1]

This is the seventh report of results from an International Winter Wheat Performance Nursery (IWWPN) organized in 1968 by the Nebraska Agricultural Experiment Station and the Agricultural Re-

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search Service, U.S. Department of Agriculture, under a contract with the Agency for International Development, U.S. Department of State. The Nursery was designed to (1) test the adaptation of winter wheat cultivars in a range of latitudes, daylengths, fertility conditions, water management regimes, and disease complexes; (2) identify superior winter cultivars to serve as recipient genotypes for high protein and high lysine genes, and (3) test the degree of expression and stability of the high protein and high lysine traits in an array of environments.

EXPERIMENTAL PROCEDURE

Wheat seed for nursery planting was provided to each cooperator in the approximate quantity requested. Seed for planting in the Northern Hemisphere was shipped via air mail in June from Nebraska for the fall planting in September to November. For the Southern Hemisphere, seed was shipped in December for planting in May or June. Each cooperator has been encouraged to adjust row length and spacing to achieve a seeding rate most compatible with local variety evaluation practices. Nursery size is restricted to 30 entries grown in 4 replications. However, cooperators are encouraged to add a limited number of local check varieties to the nursery to increase its utility at their locations.

Data field books in duplicate accompanied the seed shipment to each nursery site. Following harvest one completed book was returned to Lincoln, Nebraska for data compilation and analysis. A 10-gram seed sample from each harvested plot also was returned to Lincoln for protein analysis in the University of Nebraska Wheat Quality Laboratory.

CULTIVARS

Of the 30 cultivars grown in the 1975 IWWPN, 16 were repeated from the 1974 nursery with 14 new cultivars added for their first year of testing. Cultivars are grown in the nursery for two successive years. Four check cultivars, Bezostaya 1 (U.S.S.R.), Blueboy (U.S.A.), Atlas 66 (U.S.A.), and Lerma Rojo 64 (Mexico), have been in the nursery from its beginning. Bezostaya 1 is known worldwide for its yielding ability, grain quality, and other desirable agronomic traits. The variety Blueboy also has high yield potential in addition to serving as a low protein check. Atlas 66 is included for its high grain protein trait along with resistance to several races of leaf rust. The spring variety, Lerma Rojo 64, has high yield potential but is included in the nursery primarily to serve as a measure of winter severity.

Names, pedigrees and origins of cultivars in the nursery are given in Table 1. All cultivars possess the winter habit of growth except the spring types, Rashid and Lerma Rojo 64, which were included to

Table 1. Cultivars grown in the Seventh International Winter Wheat Performance Nursery, 1975.

Name	Origin	Pedigree
Atlas 66	North Carolina, U.S.A.	Frondoso/2/Redhart 3/Noll 28
Aurora	U.S.S.R.	Neytsyukht/Bezostaya 4//Bezostaya 1
Bezostaya 1	U.S.S.R.	Lyutestsens #17/Skorospelka 2
Biserka	Yugoslavia	Fortunato^{2}/C.I. 13170, (Redcoat)
Blueboy	North Carolina, U.S.A.	Norin 10/Brevor//Anderson/Coker 55-9
Blueboy II	North Carolina, U.S.A.	Agent/Tascosa//4* Blueboy
Bolal	Turkey	Cheyenne//Kenya/Mentana
Burgas 2	Bulgaria	Selection made in Bulgaria from Krasnodar, U.S.S.R. material
Demar 4	Italy	Not available
Dunav-1	Yugoslavia	Heine VII/129 Genus
Dwarf Bezostaya (Karlik 1)	U.S.S.R.	Irradiation of Bezostaya 1
Favorit	Romania	Odvos 241/Bezostaya 4
GKF-2	Hungary	Ko 32/Produttore//Bezostaya 1
Jubilar	West Germany	Schernauer//Taca/Derenburger Silber
Kavkaz	U.S.S.R.	Neytsyukht/Bezostaya 4//Bezostaya 1
Kitakomi-Komugi	Japan	Tohoku 101/Tohoku
Kormoran	West Germany	F_1 Cappelle/Heine 2806.55//Heine 646.57
Lely	The Netherlands	Mado/Heine VII//Flevina
Lerma Rojo 64	Mexico	Lerma Rojo/4/Lerma 52/3/Norin 10/Brevor/ 2/Yaqui 50
Likafen	Chile	Vogel 8316/Lee-Kanya Farmer
Manella	The Netherlands	Alba/Heine VII
Maris Huntsman	England	[(C.I. 12633 x Cappelle-Desprez^{5})] x [(Cappelle-Desprez x Hybrid 46)] x Professeur Marchal^{2}
Maris Templar	England	[{(C.I. 12633 x Cappelle-Desprez^{4}) x (Heine 110 x Cappelle-Desprez)} x Nord Desprez] x Viking
Martonvasar 2	Hungary	Bezostaya 1/Fertoidi 293//Bezostaya 1
Rashid	Iran	N.P. 788/Azar
Sanja (Zg 5996/66)	Yugoslavia	Zg 414-57/Leonardo
Sentinel	Nebraska, U.S.A.	K58/Newthatch//(C/TM/MI/H)/3/Pawnee/Cheyenne /4/Scout
Sieve	Italy	Est Mottin 72/Bellevue (II line)
Talent	France	Champlin/3/Thatcher/Vilmorin/2/Fortunato
TRS 237	Australia	Gabo/Arg. Fedwef. KFNG/(Winglen^{3} x Thatcher)/Gabo

Table 2. Nursery sites and cooperators of the Seventh International Winter Wheat Performance Nursery, 1975.

Country	Station	Cooperator receiving seed
Afghanistan	Kabul	Dr. H. C. Wiggin
"	Kunduz	" "
Algeria	Algiers	Dr. W. L. McCuistion
		Mr. T. Nezzal
Argentina	Balcarce	Ing. Agr. Ernesto F. Godoy
"	Bordenave	" "
Austria	Vienna	Dr. R. Hron
Brazil	Pelotas	Mr. Milton A. B. Rocha
Bulgaria	Tolbukhin	Dr. Boris Simeonov
Chile	Chillan	Dr. Ignacio Ramirez
"	Temuco	" "
Czechoslovakia	Male Ripnany	Ing. Dezider Michalik
"	Sedlec	Ing. Jaroslav Maly
England	Cambridge	Dr. F. G. H. Lupton
Finland	Jokioinen	Prof. Dr. Rolf Manner
France	Orgerus	Mr. Pierre Benoist
Hungary	Martonvasar	Dr. S. Rajki
"	Szeged	Dr. I. Szaniel
India	Shalimar	Dr. M. V. Rao
"	Simla	Dr. M. K. Upadhyay
Iran	Hamadan	Dr. H. Kaveh
"	Karaj	" "
Iraq	Sulaimaniya	Dr. Mohammad Abdul Aziz
Italy	Florence	Prof. Marino Gasparini
"	Milano	Dr. M. Carla Scalfati
"	Rieti	Dr. G. Zitelli
Japan	Morioka	Dr. T. Gotoh
Jordan	Amman	Dr. S. P. Kohli
Korea	Suwon	Dr. Hyun Ok Choi
Lebanon	Tel-Amara	Dr. Gerbrand Kingma
Mexico	Toluca	Dr. N. E. Borlaug
Nepal	Kathmandu	Mr. Staley Pitts
Netherlands	Wageningen	Dr. Ir. A. C. Zeven
Pakistan	Islamabad	Dr. G. W. MacLean
Peru	Lima	Dr. Marino Romero
Poland	Warsaw	Prof. Stanislaw Starzycki
Republic of South Africa	Bethlehem	Dr. B. Lombard
		Mr. I. B. J. Smit
Romania	Fundulea	Prof. T. E. Muresan
Spain	Logrono	Dr. P. de la Hera
Sweden	Svalof	Dr. Gosta Olsson
Switzerland	Zurich	Dr. G. Popow
Turkey	Ankara	Dr. A. Demirlicakmak
"	Erzurum	Dr. Edward J. Rice
"	Eskisehir	Dr. Turhan Atay
United States	California	Dr. C. O. Qualset
"	Colorado, Akron	Dr. J. R. Welsh
"	Colorado, Fort Collins	Dr. J. R. Welsh
"	Nebraska	Dr. V. A. Johnson
"	New York	Dr. N. F. Jensen
"	North Carolina	Dr. C. F. Murphy
"	Oklahoma	Dr. E. L. Smith
"	Oregon	Dr. W. E. Kronstad
"	Washington	Dr. R. E. Allan
USSR	Krasnodar	Dr. P. P. Lukyanenko
"	Mironovski	Dr. V. N. Remeslo
"	Odessa	Dr. A. Sosinov
West Germany	Monsheim	Dr. A. Lein
"	Weihenstephan	Prof. Dr. G. Fischbeck
Yugoslavia	Novi Sad	Prof. Slavko Borojevic
"	Zagreb	Dr. Josip Potocanec

provide comparative performance data on spring versus winter cultivars from plantings at locations with mild winters.

Some cooperators included local winter cultivars in the IWWPN as additional entries at the end of the replications. The mean performance of these cultivars has been included herein from all sites reporting such data, but they were not included in any of the statistical analyses.

NURSERY SITES

The Seventh IWWPN was grown at 47 locations in 30 different countries. A total of 42 locations were in the Northern Hemisphere and the other five sites were in Balcarce and Bordenave, Argentina; Chillan and Temuco, Chile, and the Republic of South Africa. Cooperators receiving seed of the nursery are listed in Table 2. The location of nursery sites with respect to latitude, longitude and elevation is given in Table 3. Figure 1 shows the distribution of nursery sites on a worldwide basis. The length of growing season for each location is given in Figure 2. A summary over years and locations of cooperator participation in the IWWPN appears in Table 4.

Data field books were received at Lincoln, Nebraska from 47 locations. Seed for planting the nurseries at Kunduz, Afghanistan; Algiers, Algeria; Pelotas, Brazil; Orgerus, France; Shalimar, India; Florence and Rieti, Italy; Logrono, Spain; Islamabad, Pakistan; Lima, Peru; Akron, Colorado, U.S.A.; and Mironovski, U.S.S.R. either arrived too late for normal planting, or the nursery was abandoned for other reasons.

Ten-gram samples for quality analyses from harvested plots of the IWWPN were received from all locations that reported data. The seed samples from Suwon, Korea could not be analyzed since they were chemically treated. Seed samples were received from Rieti, Italy but the field book never arrived in Nebraska.

NURSERY MANAGEMENT

Details of nursery management at each IWWPN location are summarized and reported on the page preceding the table of nursery agronomic and disease data. This information is general and includes dates of seeding and harvest, precipitation, irrigation, fertilization, disease development, pest problems, plot size harvested for yield purposes, and a general description of production conditions.

Precipitation data for the growing cycle were reported from 40 locations. Rainfall ranged from a low of 80 mm at Amman, Jordan to a high of 1077 mm at Morioka, Japan. Twenty-one locations were in the 0 and 500 mm range and 17 had rainfall between 501 and 1000 mm. Two locations had rainfall in excess of 1000 mm. Average rain-

Table 3. Latitude, longitude and elevation of nursery sites of the Seventh International Winter Wheat Performance Nursery, 1975.

Country	Station	Latitude	Longitude	Elevation m
Afghanistan	Kabul	N34° 33'	E69° 12'	1803
Argentina	Balcarce	S37° 45'	W58° 14'	135
"	Bordenave	S37° 50'	W63° 01'	212
Austria	Vienna	N48° 12'	E16° 45'	147
Bulgaria	Tolbukhin	N43° 40'	E28° 10'	236
Chile	Chillan	S36° 34'	W72° 15'	144
"	Temuco	S38° 40'	W72° 25'	332
Czechoslovakia	Male Ripnany	N40° 29'	E17° 39'	172
"	Sedlec	N50° 14'	E14° 30'	300
England	Cambridge	N52° 10'	E00° 08'	20
Finland	Jokioinen	N60° 49'	E23° 29'	92
Hungary	Martonvasar	N47° 21'	E18° 49'	150
"	Szeged	N46° 10'	E20° 00'	80
India	Simla	N32° 00'	E77° 18'	1900
Iran	Hamadan	N35° 12'	E48° 43'	1644
"	Karaj	N35° 48'	E50° 58'	1300
Iraq	Sulaimaniya	N35° 05'	E46° 05'	700
Italy	Milano	N45° 30'	E09° 30'	68
Japan	Morioka	N39° 45'	E141° 08'	167
Jordan	Amman	N36° 02'	E31° 15'	770
Korea	Suwon	N37° 16'	E126° 59'	37
Lebanon	Tel-Amara	N33° 51'	E35° 59'	905
Mexico	Toluca	N19° 16'	W99° 51'	2640
Nepal	Kathmandu	N27° 40'	E85° 20'	1369
Netherlands	Wageningen	N51° 28'	E05° 38'	7
Poland	Warsaw	N52° 12'	E20° 39'	90
Republic of South Africa	Bethlehem	S28° 10'	E28° 18'	1631
Romania	Fundulea	N44° 03'	E24° 10'	66
Sweden	Svalof	N55° 35'	E13° 06'	50
Switzerland	Zurich	N47° 39'	E08° 32'	445
Turkey	Ankara	N39° 40'	E32° 40'	850
"	Erzurum	N39° 58'	E41° 20'	1950
"	Eskisehir	N36° 45'	E30° 95'	789
United States	California	N38° 32'	W121° 46'	18
"	Colorado,Fort Collins	N40° 35'	W105° 10'	1475
"	Nebraska	N41° 10'	W96° 25'	360
"	New York	N42° 05'	W76° 05'	366
"	North Carolina	N35° 42'	W80° 37'	825
"	Oklahoma	N36° 06'	W97° 04'	270
"	Oregon	N44° 32'	W123° 15'	70
"	Washington	N46° 42'	W117° 08'	777
USSR	Krasnodar	N45° 00'	E38° 55'	38
"	Odessa	N46° 40'	E31° 20'	42
West Germany	Monsheim	N49° 35'	E08° 20'	160
"	Weihenstephan	N48° 24'	E11° 44'	467
Yugoslavia	Novi Sad	N45° 05'	E19° 08'	84
"	Zagreb	N45° 49'	E15° 59'	177

FIGURE 1

7TH INTERNATIONAL WINTER WHEAT PERFORMANCE NURSERY

59 SITES; 36 COUNTRIES

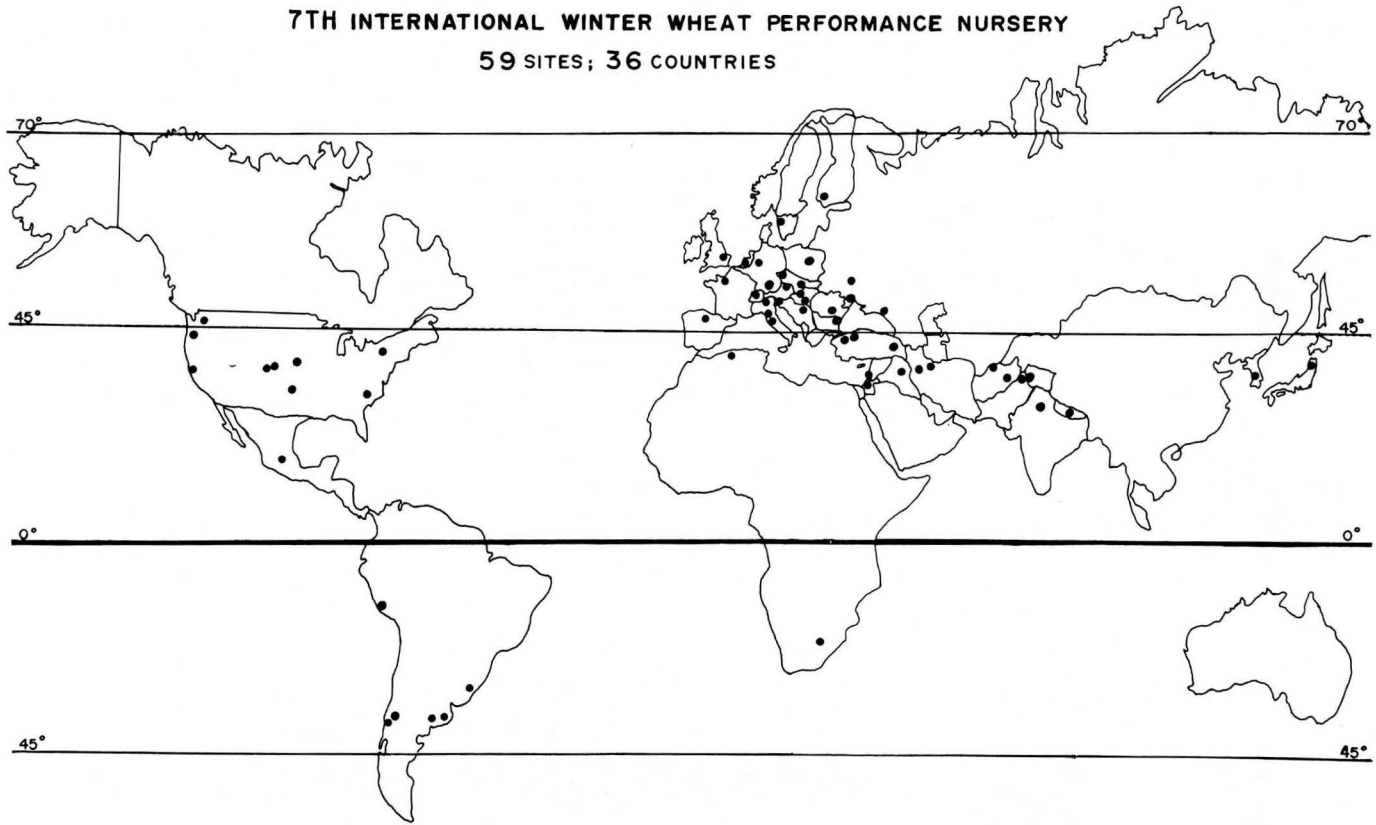

Figure 2. Length of growing season for the Seventh International Winter Wheat Performance Nursery, 1975.

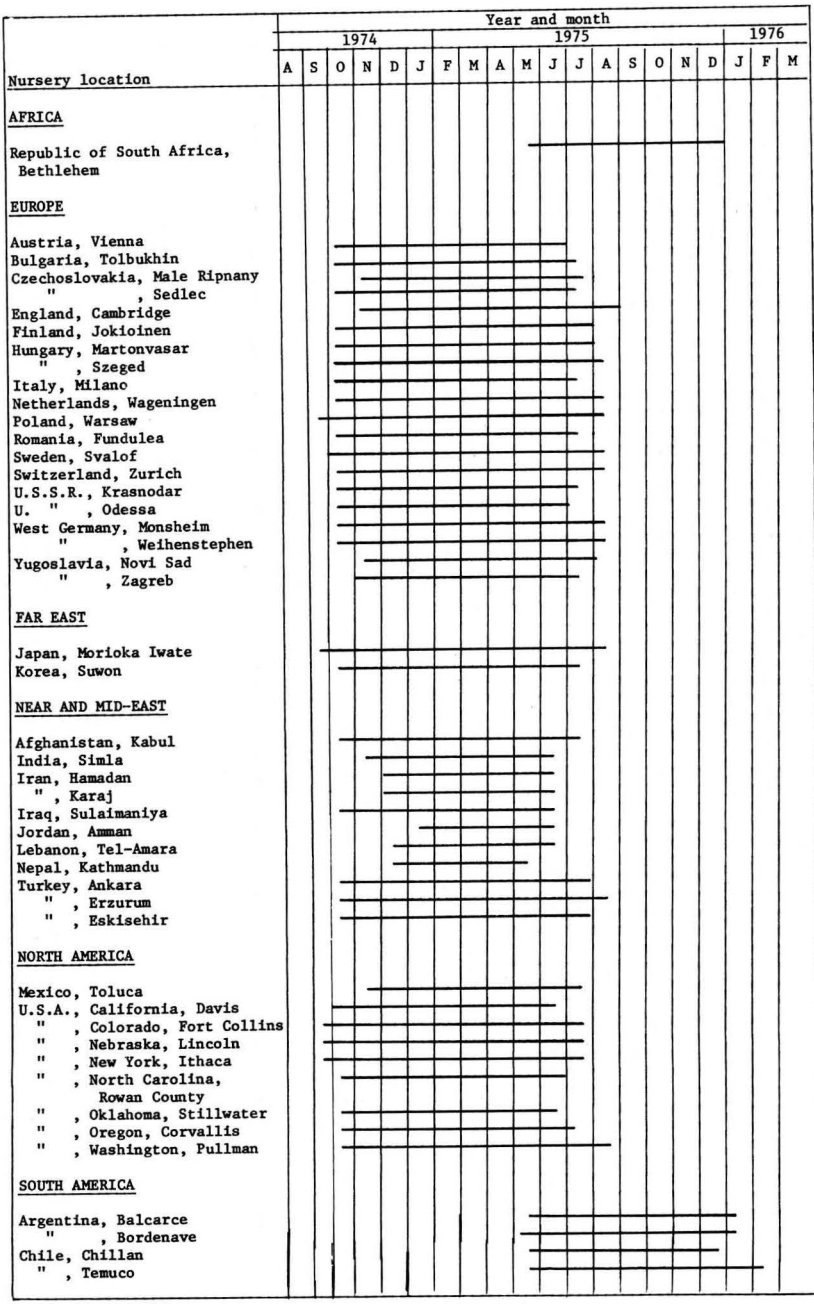

Table 4. Summary over years and locations of cooperators who have grown and reported data from International Winter Wheat Performance Nurseries.

Country	Station	Nursery number and year						
		1	2	3	4	5	6	7
		1969	1970	1971	1972	1973	1974	1975
Afghanistan	Kabul	X	X	X	X	X	X	X
"	Kunduz				X	X	X	
"	Mazar-i-sharif		X	X				
Algeria	El-Harrach	X	X	X	X			
Argentina	Balcarce			X	X	X	X	X
"	Bordenave	X	XX[a]	X	X	X	X	X
"	Peragamino	X						
Austria	Vienna		X	X	X	X	X	X
Brazil	Pelotas		X	X	X	X		
Bulgaria	Tolbukhin		X	X	X	X	X	X
Chile	Chillan					X		X
"	Temuco	X	X	X	X	X	X	X
Czechoslovakia	Male Ripnany				X	X		X
"	Sedlec				X	X		X
England	Cambridge		X	X	X	X	X	X
Finland	Jokioinen		X	X	X	X	X	X
France	Orgerus					X	X	
"	Versailles	X						
Hungary	Martonvasar		X	X	X	X	X	X
"	Szeged				X	X	X	X
India	Shalimar		X	X	X	X		
"	Simla			X	X	X	X	X
"	Damodar		X					
Iran	Hamadan				X	X	X	X
"	Karaj	X	X	X	X	X	X	X
"	Kermanshah	X						
"	Mashad		X	X				
Iraq	Sulaimaniya	X	X	X	X	X	X	X
Italy	Florence					X		
"	Milano	X	X	X	X	X	X	X
"	Rieti	X	X	X	X	X	X	
Japan	Morioka			X	X	X	X	X
"	Sapporo	X	X					
Jordan	Amman	X				X		X
Korea	Suwon		X	X	X	X	X	X
Lebanon	Tel-Amara					X	X	X
Mexico	Toluca				XX[a]	X	XX[a]	X
Nepal	Kathmandu						X	X
Netherlands	Wageningen	X	X	X	X	X	X	X
Pakistan	Islamabad					X		
Peru	Lima							
Poland	Warsaw					X	X	X
Republic of South Africa	Bethlehem						X	X
Romania	Fundulea	X	X	X	X	X	X	X
Spain	Logrono						X	
Sweden	Svalof	X	X	X	X	X	X	X
Switzerland	Zurich		X	X	X	X	X	X
Turkey	Ankara	X	X	X	X	X	X	X
"	Erzurum					X	X	X
"	Eskisehir	X	X	X	X	X	X	X
United States	California	X	X	X			X	X
"	Colorado, Akron						X	
"	" , Fort Collins		X	X	X	X	X	X
"	Nebraska	X	X	X	X	X	X	X
"	New York		X	X	X	X	X	X
"	North Carolina	X	X	X	X	X	X	X
"	Oklahoma	X	X	X	X	X	X	X
"	Oregon				X	X	X	X
"	Washington		X	X	X	X	X	X
USSR	Krasnodar				X	X	X	X
"	Odessa							X
West Germany	Monsheim		X	X	X	X	X	X
"	Weihenstephan		X	X	X	X	X	X
Yugoslavia	Novi Sad	X	X	X	X	X	X	X
"	Zagreb		X	X	X	X	X	X
	Total	23	38	38	44	50	48	47

a) Two nurseries were completed in one growing season.

fall over 40 locations was 522 mm. Supplemental irrigation was applied at 9 locations or 19% of the nursery sites.

Fertilizer was applied to most of the nurseries. Nitrogen, phosphorous and potassium were applied at 45 locations or 96% of the total number of sites. Fertilizer rates applied were 84.2, 98.2 and 51.5 kg/ha of N, P_2O_5 and K_2O respectively.

Diseases reported included (stem rust) *Puccinia graminis tritici,* (leaf rust) *Puccinia recondita,* (yellow rust) *Puccinia striiformis,* (powdery mildew) *Erysipe* sp., and *Septori* sp. Other hazards or problems identified by cooperators included weeds, bird damage, and insect damage (armyworms, aphids, etc.), which are reported with individual nursery site information.

DATA SUMMARIZATION AND STATISTICAL TREATMENT

Data were reported by cooperators as follows:

Grain yield: Weight of clean grain produced by the central harvested rows of each plot. Unit of measurement = grams, which were converted to quintals per hectare.

Test weight: Volume-weight of clean grain. Unit of measurement = kilograms per hectoliter.

Maturity: Date of flowering = date of anther extrusion from ⅓ of the spikes in a plot. Date of ripening = date of physiological maturity. Unit of measurement = days from January 1.

Plant height: Average height of plants excluding awns. Unit of measurement = centimeters.

Lodging: Estimated portion of a plot with lodged or down straw at maturity. Unit of measurement = percent.

Shattering: Estimated portion of grain lost from spikes in the standing border rows of a plot two weeks after harvest of the yield rows. Unit of measurement = percent.

Winter survival: Estimated portion of live plants in each plot in the spring. Unit of measurement = percent.

Frost damage: Estimated amount of flower sterility in a plot resulting from spring frosts. Unit of measurement = percent.

1000-kernel weight: Weight of one-thousand kernels selected at random from clean grain. Unit of measurement = grams.

Diseases: Severity of the infection and response of cultivars according to the modified Cobb scale for stripe rust *(Puccinia striiformis)* west., leaf rust *(Puccinia recondita)* Rob. ex Desm., and stem rust *(Puccinia graminis tritici),* Eriks. and Henn. For most other diseases only severity of infection was reported.

Grain protein: Seed samples received from cooperators were analyzed for protein by the Kjeldahl Method. Unit of measurement = percent on a dry weight moisture basis.

Analyses of variance were completed on traits for which data were reported from two or more replications at a nursery site. Means, coefficients of variation, and least significant differences (L.S.D.) for independent mean comparisons were reported for analyzable traits as a part of the individual nursery site data. Correlation coefficients between all traits at a site are reported on the nursery information sheets adjacent to the individual location nursery data results.

A combined analysis for each trait over all locations in the Seventh IWWPN having full complements of data were performed on yield, test weight, days to flowering and ripening, plant height, lodging, shattering, winter survival, frost damage, 1000-kernel weight, and grain protein. The number of locations included in each analysis varied depending on the trait involved, but ranged from a low of four locations for frost damage to a high of 42 for yield. Statistics reported include means, coefficients of variation and least significant differences for cultivar mean comparisons. Correlation coefficients for yield, grain protein, and other agronomic traits over 44 nursery locations also were computed.

In this report an attempt has been made to regionalize the data from the Seventh IWWPN testing network into various geographical areas that exhibit similar rainfall patterns, soil types and/or ecological regions. For purposes of this report we have divided the winter wheat production areas of the world into six different regions as follows:

1. **Northern Europe**—includes 9 countries and 11 sites as follows: Vienna, Austria; Male Ripnany and Sedlec, Czechoslovakia; Cambridge, England; Jokioinen, Finland; Wageningen, Netherlands; Warsaw, Poland; Svalof, Sweden; Zurich, Switzerland; Monsheim and Weihenstephan, West Germany.

2. **Southern Europe**—includes six countries and nine sites as follows: Tolbukhin, Bulgaria; Martonvasar and Szeged, Hungary; Milano, Italy; Fundulea, Romania; Krasnodar and Odessa, U.S.S.R.: Novi Sad and Zagreb, Yugoslavia.

3. **North America**—includes eight sites in the United States and one site in Mexico. The U.S. locations include Davis, California; Fort Collins, Colorado; Lincoln, Nebraska; Ithaca, New York; Rowan Co., North Carolina; Stillwater, Oklahoma; Corvallis, Oregon, and Pullman, Washington. One nursery was completed at Toluca, Mexico.

4. **Near East**—includes 10 locations in 7 countries as follows: Kabul, Afghanistan; Simla, India; Hamadan and Karaj, Iran; Sulaimaniya, Iraq! Amman, Jordan; Kathmandu, Nepal; Ankara, Arzurum, and Eskisehir, Turkey.

5. **Far East**—includes one location each at Morioka, Japan and Suwon, Korea.

6. **Southern Hemisphere**–includes nurseries at Balcarce and Bordenave, Argentina; Chillan and Temuco, Chile, and the Republic of South Africa.

Regional analyses were made on data for traits from all 30 cultivars grown in the Seventh IWWPN in 1975. Variety means over all locations for each trait within a region have been computed as well as the grand mean for each trait. Least significant differences (L.S.D.) for cultivar mean comparisons and coefficients of variation over all varieties and locations within a region are listed below the tables. Yield as a percentage of Bezostaya 1 for each cultivar within a region also is presented.

Two-year means for each trait have been computed and ranked at each location for each of 16 varieties for those locations reporting complete data in both years, 1974-75. Means by trait for the 16 varieties within each location also are presented. Individual cultivar means also have been calculated by trait for each variety over all locations. Least significant differences (L.S.D.) and coefficients of variation are reported for the various traits analyzed.

Two-year variety yield means with rankings and accompanying statistics comparing the six geographic regions are presented. Variety yield means over 36 locations from the six regions, excluding Corvallis, Oregon also are listed.

RESULTS AND DISCUSSION

Yield and other agronomic, grain quality, and disease data are reported for individual Seventh International Winter Wheat Performance Nursery sites in Tables 5-51. Supplemental nursery management information also is given for each site adjacent to the nursery data table. Summary tables of average yields and yield rankings from all nursery sites are reported in Tables 52-53. Cultivar grand means expressed as a percent of Bezostaya 1 also are shown in Table 52. Summaries of yield, agronomic traits, and grain quality measurements for each cultivar combined over nursery sites reporting complete replications of data are presented in Table 54. Correlation coefficients for yield, protein, and other agronomic traits combined over 48 nursery sites are presented in Table 55.

Grain Yield

Forty-five nursery sites reported yield data in 1975 (Table 52). This is two less than in 1974. The data from Odessa, U.S.S.R. are not included in the overall cultivar yield means due to missing data for some varieties. Individual nursery yield means ranged from a low of 11.2 q/ha at Ankara, Turkey to a high of 80.6 q/ha at Male Ripnany, Czechoslovakia. Eighteen nursery sites had mean yields between

21-40 q/ha and 21 sites were between 41-60 q/ha. Three nursery sites yielded less than 20 q/ha and three sites had mean yields greater than 60 q/ha. The grand yield mean over 44 locations not including Odessa, U.S.S.R. was 39.3 q/ha. This is 2.7 q/ha higher than the 36.6 q/ha grand mean reported for 46 locations in the Sixth IWWPN. From the combined analysis over 42 locations, which also does not include Cambridge, England and Beirut, Lebanon due to incomplete data, the grand yield mean was 39.0 q/ha (Table 54).

Based on yield performance over 44 locations, the varieties Talent, Aurora, and Blueboy all yielded slightly more than Bezostaya 1 (Table 52). Similar results were obtained from the statistical analysis based on 42 sites. Grain yields of the above mentioned varieties were 45.1, 43.9, 43.6, and 43.1 q/ha, respectively. Rashid was the lowest yielding variety with 24.7 q/ha.

Kavkaz was the highest yielding in the 1974 IWWPN, but dropped to the seventh position in 1975. Another variety from Russia, Aurora, was the second highest yielding variety in both years. The check varieties, Blueboy from the United States and Bezostaya 1 from Russia, have maintained high yield levels since the nursery was started in 1969.

The summary of yield rankings given in Table 53 provides an indication of the range of adaptation for each cultivar. The varieties Talent, Aurora, Blueboy, and Bezostaya 1 ranked among the ten highest yielding at 27, 26, 22, and 20 sites, respectively. This is based on 45 locations.

On a regional basis none of the varieties had the highest mean yield at more than one region of the world (Tables 56-61). The variety Talent, which was the highest yielding on a worldwide basis, was not the top yielder in any one region. In Northern Europe, the later maturing varieties such as Maris Huntsman and Maris Templar yielded 19 and 16% more than Bezostaya 1. In Southern Europe, Sanja and Biserka out-yielded Bezostaya 1 by 30 and 29%, respectively. The yield of Bezostaya 1 at North American sites was surpassed by Aurora and Talent, both at 7%. Burgas 2 and Aurora yielded 17 and 11% more than Bezostaya 1 in the Southern Hemisphere. The varieties Bolal and Kitakomi-Komugi maintained a yield advantage of 15 and 10% greater than Bezostaya 1 in the Near and Middle Eastern region. In the Far East, Kitakomi-Komugi and Aurora yielded 22 and 13% more than Bezostaya 1.

Table 74 contains regional two-year yield means and rankings for 16 cultivars grown in the 1974 and 1975 nurseries. Aurora was the highest yielding variety in both the Far Eastern and North American regions. Highest yielding varieties in the other regions include Manella in Northern Europe, Sanja in Southern Europe, Bolal in the Near and Middle East, and Blueboy in the Southern Hemisphere. Varieties yielding more than Bezostaya 1 averaged over all six regions

include Aurora, Blueboy, and Kavkaz. Two-year yield means and rankings by individual location with appropriate statistics are given in Table 75.

Grain Protein

Protein data from individual locations from which 10-gram seed samples were returned to Nebraska are reported in Tables 5-51. Complete sets of seed samples were returned from 35 locations over which a combined statistical analysis was performed. Results of the protein analysis over locations are presented in Table 54.

Varieties exhibiting protein percentages higher than 15% include Rashid, Sieve, Atlas 66, Favorit, and Sentinel. Blueboy had the lowest grain protein content of all cultivars with 12.9%. The grand protein mean was 14.5%.

Tables 56-61 contain grain protein means from the regional analyses. The varieties Atlas 66 and Sieve had superior grain protein levels in all five geographical regions where data were available. Sieve was higher in grain protein than Atlas 66 in Northern Europe, Southern Europe, Southern Hemisphere, and the Near and Middle East. Atlas 66 was the highest in grain protein in North America.

A correlation coefficient of $-.20^{**}$ between grain yield and grain protein was computed (Table 55). However, relationships between yield level and protein content varied widely among varieties. The following tabulation of cultivar means over nursery sites from Table 54 illustrates the various combinations of yield versus protein percentage obtained. An inverse relationship between yield and protein content existed for some varieties, but others yielded well while maintaining significantly above-average protein levels.

Table 76 presents two-year cultivar means and rankings for grain

Yield and Protein of Selected Varieties Grown in the Seventh International Winter Wheat Performance Nursery in 1975.

Cultivar	Yield		Protein	
	q/ha	rank	%	rank
Talent	44.8	(1)	14.0	(14)
Aurora	43.6	(2)	14.6	(10)
Blueboy	43.5	(3)	12.5	(30)
Maris Huntsman	42.6	(6)	13.7	(21)
Kavkaz	42.3	(7)	14.7	(8)
Martonvasar 2	42.2	(8)	14.5	(12)
Burgas 2	41.8	(9)	14.6	(11)
Sentinel	38.8	(29)	15.6	(3)
Likafen	38.4	(23)	13.6	(24)
Bolal	38.2	(24)	13.6	(23)
Atlas 66	32.6	(27)	16.6	(2)
Sieve	29.9	(28)	17.0	(1)

protein content for 1974-1975 on an individual location basis. The grain protein advantage of Atlas 66 is evident. Other cultivars exhibiting elevated levels of grain protein include Aurora, Kavkaz, Burgas 2, Lerma Rojo 64, and Favorit. Blueboy at 12.7% was the lowest in grain protein. The grand mean for grain protein based on 16 varieties was 14.2%.

Supplementary data concerning grain protein, milling and baking, and other grain quality characteristics are presented in Tables 68, 69, 70, 71, 73, and 86.

Test Weight

Individual location test weight data are presented in Tables 5-51. Test weight cultivar means averaged over 19 locations are listed in Table 54. The grand mean for test weight was 75.8 kg/hl.

Cultivars having superior test weights include Bezostaya 1, Favorit, Dunav-1, Martonvasar 2, and Demar 4. The varieties Maris Huntsman and Kormoran had the lowest test weight means.

Tables 56-61 contain variety test weight means from the regional analyses. Bezostaya 1 had the highest test weight in Southern Europe, Southern Hemisphere, and the Near and Middle East. In the Far East, Bolal was superior. Kavkaz had the highest test weight mean in North America while Demar 4 was the best in Northern Europe. Regional test weight means for Northern Europe, Southern Europe, North America, Southern Hemisphere, Near and Middle East, and the Far East were 78.3, 71.2, 74.5, 76.5, 77.5, and 71.5 kg/hl, respectively.

Two-year test weight means and rankings for varieties grown in 1974-1975 are compared in Table 77. The grand mean for 16 varieties was 75.8 kg/hl. The cultivars Bezostaya 1, Favorit, and Demar 4 had the highest overall test weight means of 78.7, 77.6 and 77.4 kg/hl, respectively. Blueboy and Jubilar each with 73.3 kg/hl had the lowest test weight means of the varieties compared.

1000-kernel Weight

Eight sites reported data for 1000-kernel weight (Table 54). The grand mean was 37.7 grams. Cultivar means ranged from a high of 43.1 grams for Maris Templar to a low of 32.2 grams for Likafen. Varieties in addition to Maris Templar which were high in 1000-kernel weight include Aurora, Kavkaz, Bezostaya 1, and Martonvasar 2. The latter two cultivars also were high in test weight.

A correlation coefficient of .69** was calculated for the relationship between 1000-kernel weight and test weight (Table 55). However, even though there was a positive association between these traits there were some varieties having high 1000-kernel weights that did not have high test weights and vice versa. For example, Maris Huntsman and Maris Templar, varieties from England, were high in 1000-kernel

weight but low in test weight. In contrast, Sentinel and Demar -4 were low in 1000-kernel weight but high in test weight.

Only two regions had data for 1000-kernel weight. The grand means for Northern Europe and the Near and Middle East were 41.3 and 34.9 grams, respectively (Tables 56, 60). In Northern Europe Maris Templar had the highest 1000-kernel weight and Likafen the lowest. Martonvasar 2 was the highest in 1000-kernel weight and Atlas 66 the lowest in the Near and Middle Eastern Region.

Table 78 gives two-year 1000-kernel weight means averaged over five locations. Of the 16 varieties compared, Aurora and Kavkaz had the heaviest 1000-kernel weights and Blueboy II and the Likafen the lightest. The grand mean for weight of 1000-kernels was 39.7 grams.

Plant Height and Lodging

Individual location data from those cooperators returning information for these two traits are reported in Tables 5-51. The grand means for plant height and lodging were 93.3 cm and 26.6%, respectively (Table 54).

A positive association between plant height and lodging was obtained in the 1975 IWWPN as was the case in previous years. A correlation coefficient of .33** (Table 55) between these two traits was computed. Four each of the tallest and shortest cultivars with their associative lodging ranks are given below:

	Height		Lodging	
Cultivar	cm	rank	%	rank
Sieve	115.5	(30)	63.2	(28)
Atlas 66	111.1	(29)	60.7	(27)
TRS 237	107.7	(28)	25.3	(21)
Bolal	104.5	(27)	64.8	(29)
Dunav-1	79.9	(4)	9.3	(6)
Biserka	79.9	(3)	6.2	(3)
Sanja	73.8	(2)	9.7	(7)
Dwarf Bezostaya	66.2	(1)	1.5	(1)

Talent, the highest yielding variety in the Seventh IWWPN, had a mean height of 80.2 cm. Other high yielding varieties including Aurora, Blueboy, Bezostaya 1, Maris Huntsman, Kavkaz, and Martonvasar 2 were generally between 92-100 cm tall. GKF-2 with a mean plant height of only 84.8 cm also yielded well.

Varieties tended to be taller in North America and the Far East than in the other regions (Tables 56-61). Plant height means were the lowest in the Near and Middle East. The relative heights of cultivars across regions remained fairly consistent.

Regional plant lodging means ranged from 3% in the Near and Middle East (Table 60) to 43.6% in Southern Europe (Table 57).

Lodging means in the other regions were 11.5, 20.6, 22.7, and 33.8% for the Southern Hemisphere, Far East, Northern Europe, and North America, respectively (Tables 59, 61, 56, 58).

Two-year means for plant height and lodging for 1974-1975 are presented in Tables 79 and 80. Of the 16 varieties compared, the five tallest were Blueboy II, Kavkaz, Jubilar, Bolal, and Atlas 66. Dwarf Bezostaya and Sanja were the shortest. Three of the varieties including Bolal, Atlas 66 and Blueboy II also had the highest lodging scores.

Winter Survival

Differential readings for winter survival were reported from 12 sites with a grand mean of 83.1% (Table 54). Locations at which there was 100% survival of all entries were not included in this analysis. Cultivar winter survival means averaged over 12 sites ranged from a high of 93.3% for Bezostaya 1 to a low of 52.3% for Lerma Rojo 64, which is a spring type. Another spring variety, Rashid, averaged 58.2% winter survival. Other cultivars exhibiting high winter survival percentages include Martonvasar 2, Kavkaz, Sentinel, Lely, Blueboy II, Burgas 2, and Dunav-1.

Regional grand means for winter survival for Northern Europe, Southern Europe, North America, Near and Middle East, and the Far East were 86.7, 95.0, 82.0, 75.8, and 72.5%, respectively (Tables 56-58, 60-61). In Northern Europe, Manella had the highest survival percentage of 98.0. Maris Huntsman with 99.6% survived the best in Southern Europe. In North America, Lely had the best survival of 92.5%. In the Near and Middle East and the Far East, Dunav-1 and Kavkaz had the highest survival percentages.

Winter survival means of 16 cultivars analyzed over seven locations for the two-year period 1974-1975 are compared in Table 81. The cultivars Kavkaz, Bezostaya 1, and Burgas 2 had winter survival means of 91.8, 91.4, and 89.6%, respectively. Lerma Rojo 64, a spring type, had a mean survival of 49.6%. The grand mean for winter survival was 81.6%.

Frost Damage

Frost damage data were reported and analyzed in Table 54 from four locations. Reported on a scale of 0-9, the grand mean of cultivars was 2.0. The incidence of frost damage was the highest on the varieties Lerma Rojo 64, Rashid, Sanja, Biserka, Manella, and Atlas 66. Frost damage was lowest on the varieties Lely, Kavkaz, Aurora, Kormoran, and GKF-2. With the exception of Manella and Atlas 66 which ranked 25 and 17 in days to flowering, the amount of frost damage could be related to cultivar earliness. However, the variety GKF-2 ranked 5th in days to flowering but suffered little frost damage.

Individual location means for frost damage ranged from 1.7 at

Toluca, Mexico (Table 27) to 3.9 at Eskisehir, Turkey (Table 37). Fundulea, Romania and Svalof, Sweden had frost damage location means of 2.3 and 0.4 (Tables 31, 33).

Toluca, Mexico and Eskisehir, Turkey were the only locations reporting frost damage in both 1974 and 1975 (Table 85). The two-year nursery frost damage mean over 16 cultivars was 2.3. The cultivar Burgas 2 showed the least amount of frost damage. The varieties Likafen, Lerma Rojo 64, Manella, and Sanja had the highest frost damage scores.

Maturity

Individual location data both for days to flowering and days to ripening are given in Tables 5-51. Flowering data for cultivars analyzed over 34 sites are summarized in Table 54. Lerma Rojo 64, a spring cultivar, was the earliest in days to flowering at 146.9 days after January 1. Other early flowering varieties include Rashid, Biserka, Kitakomi-Komugi, and GKF-2. The latest variety to reach flowering was Lely which required 169.1 days. Other late flowering varieties include Jubilar, Maris Templar, Maris Huntsman, and Kormoran. The grand mean for days to flowering, which is 7.6 days earlier than the 1974 IWWPN, was 159.0 days.

Table 54 contains ripening data averaged over 26 locations. In general, the varieties that flowered earliest also ripened the earliest. The earliest maturing variety, Lerma Rojo 64, had a grain filling period of 50 days. Lely, the latest maturing variety, had only 43.2 days to fill its grain. The grand mean for days to ripening was 204.3 days.

The maturity data tabulated below for days to flowering and days to ripening was extracted from the regional Tables 56-61. The varieties Biserka, Bolal, Kitakomi-Komugi, Dunav-1, and GKF-2 were the earliest in days to flowering and days to ripening in one or more of the regions. Either Lely, Maris Templar, or Jubilar was the latest maturing in all regions. Grand means for days to flowering by region were 156.6, 142.5, 146.6, 294.6, 139.4, and 153.1 for Northern Europe, Southern Europe, North America, Southern Hemisphere, Near and Middle East, and the Far East. The grand mean of 294.6 days to ripening for the Southern Hemisphere results from their wheat being planted several months later than at sites in the Northern Hemisphere.

Two-year means for flowering and ripening of 16 cultivars from 1974-1975 are reported in Tables 82-83. Based on 23 locations, Sanja needed 164.7 days to reach flowering while Jubilar required 180.3 days. The grand mean for days to flowering over 20 locations was 169.1 days. The variety Bolal ripened slightly earlier than Sanja even though the latter was earlier in days to flowering. Jubilar was the

Maturity Characterization of Early and Late Winter Varieties Grown in the Seventh International Winter Wheat Performance Nursery in 1975.

Region	Days from January 1	
	Earliest variety	Latest variety
Northern Europe		
Flowering	Biserka (149.9)	Lely (164.4)
Ripening	Bolal (198.3)	Maris Templar (211.9)
Southern Europe		
Flowering	Biserka (137.3)	Lely (151.0)
Ripening	Bolal (178.9)	Lely (187.0)
North America		
Flowering	Biserka (139.2)	Lely (161.0)
Ripening	— —	— —
Southern Hemisphere[a]		
Flowering	Biserka (285.6)	Jubilar (310.6)
Ripening	Biserka (331.0)	Lely (356.1)
Near and Middle East		
Flowering	Kitakomi-Komugi (132.9)	Jubilar (150.9)
Ripening	GKF-2 (169.7)	Lely (181.8)
Far East		
Flowering	Kitakomi-Komugi (146.0)	Maris Templar (163.5)
Ripening	Dunav-1 (184.3)	Maris Templar (199.6)

[a] Values for the Southern Hemisphere are approximately 150 days more than the Northern Hemisphere since the wheat crop is planted in May, but dates of flowering and ripening are recorded from January 1 (see Figure 2 for the approximate lengths of growing season for sites in the Southern Hemisphere).

latest variety to ripen. The grand mean for days to ripening was 209.5 days.

Shattering

Eleven sites reported shattering data in 1975. The grand mean for shattering reported in Table 54 was 7.0%. Shattering means of individual varieties ranged from 2.3% for Lely to 21.9% for Kitakomi-Komugi. Nursery site shattering means ranged from 0.2% at Erzurum, Turkey (Table 36) to 16.4% at Stillwater Oklahoma, U.S.A. (Table 43).

Two-year shattering means and rankings for 16 cultivars are presented in Table 84. Nursery means ranged from a low of 2.7% at Warsaw, Poland to a high of 7.7% at Kabul, Afghanistan. The grand mean was 6.9%. The cultivars having the highest and lowest shattering percentages were Demar 4 at 14.9 and Bezostaya at 2.9.

Diseases

Data reported for the three rusts yellow or stripe *(Puccinia striiformis),* stem *(Puccinia graminis* f. sp. *tritici)* and leaf *(Puccinia recondita)* from all locations are summarized in Tables 62-64. Individual location

Disease severity means for yellow rust ranged from 2% for Kavkaz and Manella to 37% for TRS 237. The highest yellow rust severity reading of 99% was recorded for the varieties Blueboy, Kitakomi-Komugi, and Sentinel at Corvallis, Oregon, U.S.A. Stem rust means ranged from 2% for Lerma Rojo 64 to 35% for Kitakomi-Komugi. The highest stem rust reading of 99% was reported at Bethlehem, South Africa for the varieties Atlas 66, Kitakomi-Komugi, GKF-2, and Biserka. Biserka had the lowest leaf rust severity mean and Rashid the highest. Of the 14 locations reporting data for leaf rust, the most severe readings were obtained at Fundulea, Romania.

Results of disease reaction of Seventh IWWPN cultivars to the three rusts over reporting locations from the RDISN are presented in Table 67. The Regional Disease and Insect Screening Nursery (RDISN) is coordinated by Dr. E. E. Saari and Dr. J. P. Srivastava from Cairo, Egypt. It provides an excellent vehicle for evaluation of cultivars in known disease "hot spots" in several countries in a short time period.

Supplemental rust data from Pratt, Kansas; York, Nebraska; and Orthello, Washington are presented in Table 72.

Disease data for powdery mildew *(Erysiphe graminis)* from 14 locations are reported in Table 65. Cultivar mean readings for mildew over locations were lowest for Maris Templar and the highest for Likafen.

Powdery mildew incidence was high at the Vienna, Austria; Martonvasar, Hungary; and Fundulea, Romania locations. Mildew readings from an observation planting at Orthello, Washington, U.S.A. are presented in Table 72.

Septoria data were reported from seven locations (Table 66). Kormoran had the lowest readings and Rashid the highest. The severity of *Septoria* appeared to be related to cultivar maturity. The earliest maturing cultivars such as Rashid and Lerma Rojo 64 had the heaviest *Septoria* while the lowest readings were recorded on the latest varieties including Kormoran and Manella. *Septoria* readings from an observation nursery planted at York, Nebraska, U.S.A. are reported in Table 72.

Quality Evaluation of 1975 Harvested IWWPN

Wheat entries in the International Winter Wheat Performance Nursery (IWWPN) represent the most productive winter wheats of the world. To determine relative processing quality, replicated samples grown at the Lincoln, Nebraska site in 1975 were composited and evaluated for their milling and baking properties in the Nebraska

Wheat Quality Laboratory. Two of the 30 entries were lost due to winterkill.

Usual routine evaluating procedures were employed. Milling temper (%) was varied according to preliminary kernel hardness evaluations and our milling experience. Certain samples were too small for accurate milling yield data with the Buhler Laboratory Mill Model MLU-202. However, an adequate amount of flour was still recovered for analytical and baking evaluations.

Milling, baking and analytical data are listed in Table 86, along with nursery entry numbers and variety identification. The Agtron color reading in Table 86 was made with Agtron Model M400A on the green mode and is inversely related to ash content.

Doughs were prepared with a straight dough baking procedure, from 200 g of flour (14% moisture basis), and were divided in two equal weights for fermentation and processing.

Mixing properties were determined from the optimum baking mixing time and from mixing curves from the Mixograph (Table 86). Mixogram mixing times are given in minutes and the tolerance is a relative value which ranges from a low of 1 to a high value of 5. A tolerance of 3 would be considered average. Mixogram mixing times of 3-4½ minutes would be considered normal quality types for U.S. bread production. Usually, shorter mixing times are associated with less mixing tolerance. Longer mixing times can cause problems by incorporating too much oxygen during the mixing period, and higher energy requirements for the baker.

Mixograms in Figure 3 are identified by nursery entry number only, but can be cross referenced to Table 86 for variety identification. External and internal bread pictures of the 100 gram (flour weight) doughs are shown in Figure 4.

This group of samples exhibits a wide range in milling and baking properties. The flour protein values are generally high. This can give improved baking results. Nevertheless, these data show a number of interesting quality combinations, and point out the need for adequate testing in order to identify wheats for specific processing potential.

AFGHANISTAN

Kabul

COOPERATOR(S): A. Mohmmad; M. Taher.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 6, 1974.

PRECIPITATION DURING CYCLE OF TEST: Not reported.

AMOUNT OF IRRIGATION APPLIED: 7 Applications, amounts not reported.

FERTILIZER USED: N = 120 kg/ha; P_2O_5 = 100 kg/ha; K_2O = 60 kg/ha. Urea, diammonium phosphate, and potassium chloride were used.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Early cold weather caused a poor stand in the fall.

DISEASE DEVELOPMENT: The crop matured before rust could infect it.

INSECT, WEED OR PEST PROBLEMS: Birds caused problems on border rows.

DATE OF HARVEST: July 29, 1975.

AREA HARVESTED FOR YIELD: 2.8 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Winter survival - early spring
Shattering - August 11, 1975

Correlation Coefficients

	Yield	Protein	Flowering	Ripening	Plant height	Shattering
Protein	-.21*					
Flowering	-.18*	.02				
Ripening	-.26**	-.07	.65**			
Plant height	.36**	.29**	.21*	.12		
Shattering	-.04	-.05	-.18*	-.06	-.07	
Winter survival	.72**	-.22*	-.21*	-.35**	.26**	-.04

**Significant at the 1% level. *Significant at the 5% level.

Table 5. Agronomic and grain quality data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Kabul, Afghanistan, 1975.

Cultivar	Yield q/ha	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Shattering %	Winter survival %	Total plot[a] yield kg
Blueboy	54.2	13.9	155	196	84	3	78	3.5
Kavkaz	53.0	16.0	157	194	88	13	74	3.7
Blueboy II	52.4	14.0	156	194	84	13	81	3.5
Lely	51.4	13.6	165	203	88	10	83	4.0
Manella	50.5	14.5	162	199	85	10	68	3.4
Martonvasar 2	50.3	16.0	153	191	83	10	77	3.3
Kormoran	50.2	14.9	162	199	86	20	72	3.5
GKF-2	48.3	15.5	152	193	74	15	54	2.6
Bolal	46.7	14.1	152	193	86	33	71	3.0
Bezostaya 1	45.5	16.4	153	194	84	8	75	3.4
Dunav-1	44.6	13.5	148	192	74	5	84	2.8
Sentinel	44.2	16.7	155	195	85	10	59	3.3
Maris Huntsman	43.1	14.1	166	198	89	10	55	3.2
Favorit	42.6	16.0	153	192	84	20	63	2.8
Kitakomi-Komugi	42.3	14.8	141	194	68	55	57	2.6
Maris Templar	41.6	14.0	165	198	83	8	64	3.3
Demar 4	41.2	13.9	152	194	77	18	64	3.0
Talent	40.9	14.8	154	195	68	8	52	2.5
Burgas 2	40.1	15.1	161	198	67	15	60	2.8
Rashid	38.6	16.2	150	195	88	18	38	2.5
Dwarf Bezostaya	38.4	13.3	156	194	57	13	45	2.3
TRS 237	36.4	16.3	153	194	88	3	57	2.9
Aurora	35.8	17.3	157	196	75	13	41	2.6
Likafen	35.2	15.3	162	201	78	18	16	2.4
Biserka	35.1	15.0	151	195	64	13	40	2.0
Sieve	33.6	18.5	163	196	96	15	43	3.0
Lerma Rojo 64	32.0	14.3	149	193	77	15	33	2.0
Jubilar	29.8	14.3	167	201	89	15	41	2.8
Atlas 66	29.2	19.8	158	198	92	8	39	2.6
Sanja	27.4	15.1	154	193	53	23	31	2.0
Mean	41.8	15.2	155.8	195.4	79.6	14.3	57.1	2.9
L.S.D. of cultivar means (.05)	14.3	0.3	5.1	3.9	10.5	19.3	31.9	0.8
Coefficient of variation (%)	24.3	1.5	2.3	1.4	9.4	96.0	39.8	19.7

a) Straw and grain.

ARGENTINA

Balcarce

COOPERATOR(S): R. Bedogni; H. Delmagro; P. Franzone.

DATE OF PLANTING (EFFECTIVE GERMINATION): May 30, 1975.

PRECIPITATION DURING CYCLE OF TEST: 435 mm.

AMOUNT OF IRRIGATION APPLIED: None

FERTILIZER USED: N = 21 kg/ha; P_2O_5 = 55 kg/ha (Di-ammonium phosphate).

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Not reported.

DISEASE DEVELOPMENT: Not reported.

INSECT, WEED OR PEST PROBLEMS: Not reported.

DATE OF HARVEST: January 2, 1976.

AREA HARVESTED FOR YIELD: 3.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Puccinia striiformis - September 9, October 11, November 21, 1975
Puccinia recondita - September 11, October 11, December 3, 1975
Puccinia graminis tritici - November 20, December 20, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening
Test weight	.37**				
No. of observations	114				
Protein	-.39**	.20*			
No. of observations	120	114			
Flowering	-.35*	-.56**	-.00		
No. of observations	120	114	120		
Ripening	-.43**	-.72**	-.12	.89**	
No. of observations	120	114	120	120	
Plant height	-.22*	-.02	.51**	.15	-.05
No. of observations	120	114	120	120	120

**Significant at the 1% level. *Significant at the 5% level.

Table 6. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Balcarce, Argentina, 1975.

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Rust: Stripe Sev. %	Stripe Resp.	Leaf Sev. %	Leaf Resp.	Stem Sev. %	Stem Resp.
Biserka	61.7	77.4	12.3	290	337	95	67	MS	10	MS	0	-
Sanja	40.0	78.4	12.4	292	338	91	60	S	0	-	20	S
Burgas 2	39.2	76.3	15.0	296	346	105	0	-	60	MS	0	-
Favorit	37.1	80.7	14.3	295	336	115	40	S	70	S	50	S
Bezostaya 1	36.8	79.3	13.1	303	346	110	1	MR	30	S	50	S
Talent	35.5	72.4	12.8	296	350	100	40	S	40	S	20	MS
Dwarf Bezostaya	35.4	79.2	11.2	305	350	75	0	-	10	MR-MS	80	S
Likafen	34.6	76.6	11.3	304	350	95	0	-	87	S	40	S
GKF-2	33.8	75.4	12.3	291	339	105	30	MS	60	S	0	-
Sentinel	33.4	78.4	13.9	304	343	115	32	S	60	S	0	-
Martonvasar 2	32.2	76.8	13.5	301	346	115	0	-	40	S	40	S
Blueboy	31.2	68.8	10.3	295	346	111	30	S	32	S	57	S
Kavkaz	29.6	78.9	13.5	308	350	119	0	-	10	R	0	-
Blueboy II	29.4	75.8	12.4	296	342	100	0	-	40	MS	2	0-MS
Aurora	29.0	80.5	14.8	304	350	114	0	-	60	MS	10	MS
Bolal	27.2	80.2	12.8	293	337	90	0	-	87	S	0	-
TRS 237	26.2	78.6	13.7	292	338	129	37	S	20	S	0	-
Lerma Rojo 64	23.3	81.2	14.3	269	330	95	0	-	90	S	0	-
Demar 4	22.8	75.9	13.9	304	346	108	10	S	90	S	7	0-MS
Dunav-1	22.2	77.4	14.9	301	350	99	10	S	10	R	2	0-R
Atlas 66	19.6	78.6	15.4	301	339	130	60	S	40	S	40	S
Lely	19.4	70.2	12.5	317	364	105	0	-	80	S	40	S
Manella	19.0	74.2	12.6	314	361	110	0	-	80	S	40	S
Kitakomi-Komugi	18.5	74.2	12.9	297	350	100	10	MS	60	S	40	S
Maris Templar	14.6	66.0[a]	13.6	315	362	94	0	-	47	MR-MS	0	-
Kormoran	13.9	69.3	13.3	314	361	100	0	-	90	MS-S	40	S
Maris Huntsman	12.0	66.0[a]	14.5	314	360	110	0	-	80	S	0	-
Rashid	11.5	79.8	15.0	277	332	105	0	-	87	S	0	-
Jubilar	10.4	68.2	12.7	317	364	105	1	MR	85	S	70	S
Sieve	9.0	71.4	17.6	312	350	124	0	-	77	S	0	-
Mean	26.9	76.2	13.4	300.5	347.0	105.6	14.3		54.4		21.6	
L.S.D. of cultivar means (.05)	5.8	0.2	0.3	1.9	0.5	1.9	--		--		--	
Coefficient of variation (%)	15.4	0.2	1.5	0.5	0.1	1.3	--		--		--	

a) One replication only; not included in overall location mean.

ARGENTINA

Bordenave

COOPERATOR(S): S. E. Garbini.

DATE OF PLANTING (EFFECTIVE GERMINATION): May 28, 1975.

PRECIPITATION DURING CYCLE OF TEST: 145 mm.

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: None.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Favorable humidity through July. There was a frost at the end of August, then dry until harvest.

DISEASE DEVELOPMENT: None.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: October 25 to December 21, 1975.

AREA HARVESTED FOR YIELD: 3.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Frost damage - September 2, 1975
Height - October 17 - November 18, 1975.
Shattering - November 23 - December 18, 1975
Lodging - November 25 - December 21, 1975
Drought - December 1, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height
Test weight	.46**					
Protein	-.62**	-.43**				
Flowering	-.42**	-.51**	.32**			
Ripening	-.59**	-.61**	.55**	.48**		
Plant height	.12	.06	.04	-.10	-.03	
Shattering	.05	-.03	.06	.03	.03	.46**

**Significant at the 1% level. *Significant at the 5% level.

Table 7. Agronomic and grain quality data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Bordenave, Argentina, 1975.

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Shattering %
Blueboy	30.2	78.0	14.0	293	333	78	10
Biserka	25.7	80.4	13.8	289	330	72	0
Bolal	25.3	82.3	12.9	291	332	81	26
Burgas 2	25.2	80.6	13.8	294	336	72	0
Kitakomi-Komugi	24.2	74.0	14.6	288	332	77	35
TRS 237	23.8	80.0	15.0	289	334	92	47
GKF-2	23.2	78.5	14.1	290	331	68	0
Sanja	23.1	80.4	14.9	290	331	64	0
Sentinel	22.7	79.5	16.2	297	336	76	0
Demar 4	22.3	80.9	14.2	294	335	76	38
Favorit	21.3	80.6	14.8	295	333	78	28
Martonvasar 2	21.1	81.1	15.0	298	335	76	3
Blueboy II	21.0	78.5	13.5	292	337	79	29
Talent	20.4	79.4	14.7	294	336	74	19
Aurora	19.7	81.7	15.6	275	339	76	0
Dunav-1	19.4	81.1	14.5	296	337	68	3
Bezostaya 1	18.4	81.3	14.8	298	335	72	0
Lerma Rojo 64	17.3	81.4	13.8	279	327	81	0
Kavkaz	17.2	80.5	15.8	302	340	82	19
Rashid	17.0	82.2	15.9	279	329	84	0
Atlas 66	16.4	79.9	17.2	295	337	97	22
Dwarf Bezostaya	16.2	80.3	13.8	300	337	55	0
Kormoran	15.4	72.0	16.0	308	347	74	0
Maris Templar	14.1	73.4	16.3	309	343	72	0
Likafen	13.8	80.8	16.5	297	340	74	16
Lely	13.1	73.0	17.8	302	352	70	0
Manella	13.0	74.5	17.6	308	347	75	0
Sieve	10.5	74.4	17.7	306	347	87	75
Jubilar	9.6	74.3	17.1	310	343	71	3
Maris Huntsman	9.6	73.1	15.3	309	348	79	0
Mean	19.0	78.6	15.2	295.5	337.1	75.9	12.4
L.S.D. of cultivar means (.05)	4.6	1.3	1.6	13.4	5.7	8.8	12.1
Coefficient of variation (%)	17.2	1.1	7.5	3.2	1.2	8.3	69.7

AUSTRIA

Vienna

COOPERATOR(S): R. Hron; H. Foessleitner.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 17, 1974.

PRECIPITATION DURING CYCLE OF TEST: 414 mm (January 1, 1975-July 31, 1975).

AMOUNT OF IRRIGATION APPLIED: None

FERTILIZER USED: Preplant: N = 30 kg/ha; P_2O_5 = 90 kg/ha; K_2O = 120 kg/ha. March 6, 1975: N = 56 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: A good stand developed in the fall. The winter was mild, with sporadic frost damage occuring. April and May were favorable, however, heavy rains fell from the end of May through July.

DISEASE DEVELOPMENT: No rusts were evident. However, mildew and glume blotch were strongly evident.

INSECT, WEED OR PEST PROBLEMS: None

DATE OF HARVEST: July 22 and 28, 1975.

AREA HARVESTED FOR YIELD: 3.3 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Winter survival - March 3, 1975
Erysiphe graminis - May 22 and June 11, 1975
Lodging - June 4 and July 9, 1975

Correlation Coefficients

	Yield	Protein	Flowering	Ripening	Plant height	Lodging	Winter survival
Protein	-.35**						
Flowering	-.17	.31**					
Ripening	-.14	.25**	.84**				
Plant height	-.44**	.53**	.35**	.39**			
Lodging	-.31**	.55**	-.23*	-.31**	.33**		
Winter survival	.31**	-.12	.20*	.05	-.32**	-.20*	
1000-kernel weight	.23**	.26**	.41**	.37**	.33**	-.03	.02

**Significant at the 1% level. *Significant at the 5% level.

Table 8. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Vienna, Austria, 1975.

Cultivar	Yield q/ha	Protein %	Date of Flowering days from Jan. 1	Date of Ripening days from Jan. 1	Plant height cm	Lodging June 4 %	Lodging July 9 %	Winter survival %	1000-kernel weight gm	Mildew % Sev. May 22	Mildew % Sev. June 11
Biserka	52.6	15.8	140	189	81	50	33	100	37.5	20	42
Sanja	47.7	13.6	142	190	74	35	35	100	34.2	20	52
Talent	47.7	14.7	146	195	79	40	30	98	26.4	20	40
Maris Huntsman	47.7	15.7	153	203	101	50	45	100	44.8	10	20
Demar 4	46.2	13.8	144	191	88	43	30	100	33.0	40	62
Kormoran	44.0	16.0	154	198	101	25	30	95	37.7	23	57
Martonvasar 2	43.9	14.9	146	189	88	55	48	98	41.7	40	70
Maris Templar	42.8	15.7	156	205	98	33	33	100	45.9	13	17
Aurora	42.6	14.6	149	195	96	38	30	93	43.9	50	72
Kavkaz	42.6	15.8	151	198	99	40	33	98	48.4	40	70
Kitakomi-Komugi	41.8	13.0	140	189	86	43	53	98	29.7	60	70
Bezostaya 1	41.2	14.4	147	193	93	45	33	98	39.8	40	75
Dunav-1	41.0	15.5	143	195	81	23	43	93	40.1	23	40
GKF-2	38.6	14.7	141	188	80	55	38	100	31.9	38	60
Dwarf Bezostaya	36.4	13.3	147	194	68	10	30	93	30.3	50	62
Manella	34.5	15.1	151	200	100	50	43	100	37.7	30	72
Lerma Rojo 64	34.4	14.8	138	189	93	40	53	89	33.5	68	80
TRS 237	34.2	16.0	143	199	111	43	38	63	38.7	38	55
Blueboy	33.9	13.4	147	196	104	18	15	98	35.6	65	80
Bolal	33.8	15.4	144	189	109	68	78	88	34.3	48	60
Favorit	33.3	17.6	143	189	96	70	65	100	37.0	40	60
Blueboy II	33.1	14.0	146	201	99	18	18	100	31.8	68	80
Sentinel	32.9	18.0	145	189	103	60	75	100	30.8	25	50
Jubilar	32.4	16.1	158	206	105	48	40	100	37.0	30	60
Likafen	31.7	14.6	150	199	94	20	15	93	28.1	70	80
Atlas 66	31.1	19.0	147	199	106	55	60	93	35.5	30	50
Sieve	27.3	19.9	155	201	111	60	65	91	42.5	25	52
Burgas 2	27.2	14.9	148	190	85	43	30	95	32.1	58	80
Lely	27.0	16.4	158	206	98	33	23	98	35.7	45	80
Rashid	24.3	16.1	141	188	108	70	83	79	32.5	60	90
Mean	37.6	15.4	147.1	195.0	94.4	42.7	41.3	94.8	36.3	39.4	61.3
L.S.D. of cultivar means (.05)	5.4	0.7	1.5	2.2	4.7	--	12.3	6.9	2.0	6.8	--
Coefficient of variation (%)	10.2	3.4	0.7	0.8	3.5	--	21.3	5.2	3.9	12.3	--
Local cultivar Probstdorfer Extrem	36.6	--	148	195	116	58	63	100	35.3	23	45

BULGARIA

Tolbukhin

COOPERATOR(S): I. Todorov.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 18, 1974.

PRECIPITATION DURING CYCLE OF TEST: 446 mm.

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: N = 100 kg/ha; P_2O_5 = 130 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: A mild winter was followed by a rainy summer. All varieties survived well.

DISEASE DEVELOPMENT: Leaf rust and powdery mildew were observed.

INSECT, WEED OR PEST PROBLEMS: None

DATE OF HARVEST: July 5, 1975.

AREA HARVESTED FOR YIELD: 1.5 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Puccinia recondita - June 15, 1975
Erysiphe graminis - June 30, 1975

Correlation Coefficients

	Yield	Protein	Flowering	Plant height	Lodging
Protein	-.56**				
Flowering	-.61**	.48**			
Plant height	-.28**	.21*	.19*		
Lodging	-.19*	.28**	-.06	.48**	
1000-kernel weight	.49**	-.06	-.65**	-.13	.10

**Significant at the 1% level. *Significant at the 5% level.

Table 9. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Tolbukhin, Bulgaria, 1975.

Cultivar	Yield q/ha	Protein %	Date of flowering days from Jan. 1	Plant height cm	Lodging %	1000-kernel weight gm	Leaf Rust Sev. %	Leaf Rust Resp.	Mildew Sev. %	Mildew Resp.
Talent	65.6	14.2	140	85	11	25.9	1	MR	5	VS
Sanja	64.3	13.4	137	84	1	31.8	1	MR	25	VS
Kitakomi-Komugi	59.3	13.3	136	99	43	34.6	25	VR	5	VR
GKF-2	56.3	14.6	136	90	6	33.3	60	VS	10	VS
Biserka	56.0	15.8	135	85	0	39.2	0	-	15	S
Blueboy II	51.6	13.2	143	100	4	24.2	1	R	80	VS
Favorit	51.3	15.4	137	96	18	31.4	60	VS	10	VS
Sentinel	50.0	16.1	143	105	53	28.0	1	R	25	VS
Demar 4	49.6	13.8	138	96	0	28.0	65	VS	10	S
Dunav-1	48.3	14.6	139	83	0	33.4	5	M	1	MS
Atlas 66	48.3	17.1	144	108	71	28.5	0	-	10	VS
TRS 237	47.3	13.8	138	106	16	31.1	10	S	10	S
Lerma Rojo 64	47.0	17.1	129	99	24	44.4	5	MS	25	VS
Bezostaya 1	46.3	14.6	143	95	3	33.0	15	VS	25	VS
Blueboy	44.3	13.0	143	105	19	26.0	1	M	80	VS
Bolal	43.6	13.3	139	112	60	28.8	99	VS	25	VS
Dwarf Bezostaya	41.6	14.6	143	69	0	27.5	10	S	15	VS
Aurora	40.0	15.3	145	97	1	26.6	99	VS	30	VS
Rashid	39.3	14.5	131	111	88	32.2	99	VS	50	VS
Likafen	39.0	15.6	150	93	0	31.7	1	R	65	VS
Kormoran	38.6	15.3	149	101	24	26.5	5	MR	30	S
Burgas 2	37.3	15.2	141	90	0	24.1	99	VS	45	VS
Martonvasar 2	37.3	15.8	141	99	19	27.9	10	S	25	VS
Kavkaz	37.0	15.9	147	106	5	26.7	60	VS	45	VS
Maris Huntsman	33.3	16.9	150	104	1	26.5	45	M	0	-
Maris Templar	33.0	16.6	151	102	19	27.5	5	MR	0	-
Manella	25.3	16.3	150	104	45	23.6	25	S	25	VS
Lely	21.3	17.1	155	100	3	20.1	0	-	30	VS
Sieve	20.7	19.5	151	108	88	33.3	5	M	5	MS
Jubilar	16.3	16.9	155	101	15	18.9	60	VS	15	S
Mean	43.0	15.3	142.6	97.6	21.1	29.1	29.1		24.7	
L.S.D. of cultivar means (.05)	12.4	0.7	--	5.4	22.3	3.0	--		--	
Coefficient of variation (%)	20.5	3.0	0.0	3.9	75.4	7.4	--		--	

CHILE

Chillan

COOPERATOR(S): L. E. Aguayo; I. Ramirez.

DATE OF PLANTING (EFFECTIVE GERMINATION): May 7, 1975.

PRECIPITATION DURING CYCLE OF TEST: 836 mm (May 1, 1975-February 29, 1976).

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: N = 150 kg/ha (Sodium nitrate); P_2O_5 = 157 kg/ha (Triple phosphate).

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Rainfall and temperatures were normal.

DISEASE DEVELOPMENT: Stripe rust was severe, mild leaf rust, no stem rust.

INSECT, WEED OR PEST PROBLEMS: A moderate to severe aphid infestation was present.

DATE OF HARVEST: January 12, 1976.

AREA HARVESTED FOR YIELD: 3.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Puccinia striiformis - November 3 and 24, 1975
Lodging - January 11, 1976
Shattering - January 11, 1976

Correlation Coefficients

	Yield	Test weight	Protein	Plant height
Test weight	.30**			
Protein	-.67**	.01		
Plant height	.23*	.15	-.08	
Shattering	-.67**	-.16	.47**	.03

**Significant at the 1% level. *Signficiant at the 5% level.

Table 10. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Chillan, Chile, 1975.

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Plant height cm	Shattering %	Stripe Rust[a] Sev. %	Stripe Rust[a] Resp.	Date of heading days from Jan. 1
Burgas 2	37.7	79.8	10.9	94	0	40	S	169
Maris Huntsman	34.5	72.1	10.5	118	3	10	S	187
Aurora	34.4	79.5	11.8	119	1	0	-	180
GKF-2	33.2	77.7	10.1	96	3	40	MR	166
Kavkaz	32.8	77.6	11.5	124	1	0	-	181
Blueboy	31.6	75.1	9.6	111	3	50	MR	169
Bezostaya 1	31.6	80.5	10.8	111	1	40	S	175
Manella	30.7	75.7	10.3	111	0	0	-	189
Dwarf Bezostaya	29.9	78.2	10.6	74	3	40	MR	177
Maris Templar	29.9	72.2	10.3	108	5	0	-	188
Lely	29.4	74.4	9.6	101	0	0	-	188
Kormoran	29.3	71.6	10.8	105	1	0	-	189
Jubilar	28.4	75.5	11.2	123	13	0	-	192
Dunav-1	28.1	78.1	12.1	88	1	20	MR	175
Blueboy II	28.0	73.6	10.0	115	20	0	-	171
Martonvasar 2	27.4	79.9	10.9	113	8	80	S	173
Talent	26.9	75.8	10.9	89	14	60	S	168
Favorit	26.6	79.1	11.6	111	11	90	S	169
Sentinel	26.6	79.5	11.4	114	13	50	S	172
Sieve	18.8	74.8	11.8	138	50	10	MS	185
Bolal	18.1	78.2	11.3	121	21	80	S	166
Atlas 66	17.8	79.0	13.1	128	16	90	S	176
Biserka	17.4	78.7	12.3	90	44	80	S	164
Sanja	16.5	75.6	11.7	78	25	90	S	169
TRS 237	16.0	77.2	12.1	114	23	80	S	166
Kitakomi-Komugi	15.2	75.8	11.3	94	45	70	S	166
Demar 4	14.1	74.2	12.3	99	44	60	S	171
Lerma Rojo 64	11.7	74.8	14.3	91	28	90	S	140
Likafen	9.8	69.2	12.5	79	4	90	S	180
Rashid	7.9	71.9	13.1	101	60	90	S	150
Mean	24.7	76.2	11.3	105.1	15.3	45.0		173.7
L.S.D. of cultivar means (.05)	6.0	0.9	0.7	9.1	17.6	--		2.0
Coefficient of variation (%)	17.3	0.8	4.6	6.1	81.9	--		

a) One replication only.

CHILE

Temuco

COOPERATOR(S): J. Acevedo; I. Ramirez.

DATE OF PLANTING (EFFECTIVE GERMINATION): June 9, 1975.
(Actual germination - June 23, 1975)

PERCIPITATION DURING CYCLE OF TEST: Not reported.

AMOUNT OF IRRIGATION APPLIED: None

FERTILIZER USED: N = 105 kg/ha (Sodium nitrate); P_2O_5 = 180 kg/ha (Triple phosphate).

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Moisture and temperatures were above normal in the spring.

DISEASE DEVELOPMENT: Stripe rust developed well.

INSECT, WEED OR PEST PROBLEMS: A moderate to slight aphid infestation was present.

DATE OF HARVEST: February 24, 1976.

AREA HARVESTED FOR YIELD: 3.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Puccinia striiformis - December 2, 1975

Correlation Coefficients

	Yield	Protein	Plant height
Protein	-.64**		
Plant height	.30**	-.16	
Lodging	-.13	.20*	.61**

**Significant at the 1% level. *Significant at the 5% level.

Table 11. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Temuco, Chile, 1975.

Cultivars	Yield q/ha	Protein %	Plant height cm	Lodging %	Stripe rust Sev. %	Stripe rust Resp.	Date of heading days from Jan. 1
Aurora	67.6	14.5	108	20	0	-	178
Manella	64.5	12.4	111	13	0	-	189
Kormoran	62.6	12.8	110	23	0	-	183
Likafen	62.3	12.2	110	18	15	MS	180
Kavkaz	61.4	14.4	111	25	0	-	181
Blueboy II	61.4	12.5	111	28	6	MS	176
Blueboy	61.3	12.2	113	28	16	MS	175
Maris Huntsman	60.1	12.3	109	18	72	MS-S	190
Burgas 2	59.2	14.2	93	3	0	-	172
Lely	58.5	13.3	110	18	6	0-MS	191
Maris Templar	56.3	12.7	103	13	0	-	189
Bezostaya 1	49.9	13.6	100	30	42	MS	171
Sieve	47.8	15.3	134	78	20	MS	185
Jubilar	47.0	11.5	108	15	55	MS-S	190
Martonvasar 2	44.8	14.7	101	25	47	MS	169
Dunav-1	42.9	15.0	84	10	0	0-MS	173
Dwarf Bezostaya	39.3	13.5	71	3	25	MS	175
Sentinel	38.8	16.5	111	40	50	MS	175
Demar 4	38.1	13.5	92	5	50	MS-S	173
GKF-2	36.5	14.9	95	23	22	MS	169
Biserka	26.1	16.0	80	5	42	MS	167
Sanja	25.0	13.9	75	10	65	MS-S	169
Talent	24.6	14.8	79	25	77	MS-S	170
Atlas 66	20.2	14.4	119	48	85	MS-VS	179
Bolal	19.0	14.4	111	33	65	MS	170
Favorit	18.1	17.3	94	20	90	S	171
TRS 237	14.2	15.2	108	23	50	MS	170
Kitakomi-Komugi	11.6	15.8	91	20	52	MS-S	168
Lerma Rojo 64	11.4	19.2	98	20	1	MR	158
Rashid	7.3	15.5	113	45	90	S	167
Mean	41.3	14.3	101.7	22.6	34.8		175.7
L.S.D. of cultivar means (.05)	5.9	0.7	4.7	14.7	--		2.1
Coefficient of variation (%)	10.1	3.4	3.3	46.3	--		0.8

CZECHOSLOVAKIA

Male Ripnany

COOPERATOR(S): D. Michalik

DATE OF PLANTING (EFFECTIVE GERMINATION): November 4, 1974.

PRECIPITATION DURING CYCLE OF TEST: 406 mm.

AMOUNT OF IRRIGATION APPLIED: None

FERTILIZER USED: N = 50 kg/ha; P_2O_5 = 124 kg/ha; K_2O = 90 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Not reported.

DISEASE DEVELOPMENT: Not reported.

INSECT, WEED OR PEST PROBLEMS: Not reported.

DATE OF HARVEST: July 19, 1975.

AREA HARVESTED FOR YIELD: 8.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN: Not reported.

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height
Test weight	.11					
Protein	-.48**	-.07				
Flowering	.42**	-.17	-.39**			
Ripening	.54**	-.32**	-.51**	.83**		
Plant height	-.10	-.14	.14	.30**	.16	
Lodging	-.13	-.36**	.13	.08	.13	.72**

**Significant at the 1% level. *Significant at the 5% level.

Table 12. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Male Ripnany, Czechoslovakia, 1975.

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging %	Leaf Rust Resp.	Mildew 1st reading Sev. %	Mildew 2nd reading Sev. %
Maris Templar	100.9	71.8	14.7	151	198	93	68	R	0	0
Maris Huntsman	100.7	72.5	15.0	151	198	96	65	R	0	0
Kormoran	97.2	74.3	15.4	152	197	82	40	R	4	10
Talent	96.7	77.7	14.9	145	191	77	0	VR	0	10
Lely	96.6	74.2	15.3	152	198	95	28	R	15	20
GKF-2	88.6	74.5	17.3	143	190	74	10	VR	25	40
Blueboy	88.5	74.9	14.4	145	192	97	78	R	75	70
Demar 4	87.6	78.6	14.9	146	191	81	10	R	60	40
Manella	86.9	76.7	13.9	150	196	92	71	R-MR	75	15
Dwarf Bezostaya	86.5	74.9	14.6	144	191	66	0	VR-MR	10	30
Bezostaya 1	86.4	78.5	15.5	147	191	90	13	VR-R	20	50
Biserka	85.6	77.0	18.6	143	189	76	0	VR	14	15
Martonvasar 2	85.3	78.2	16.6	147	192	81	24	MR	5	20
Jubilar	84.5	75.3	15.3	153	198	89	75	M	25	15
Kavkaz	84.1	77.5	16.9	151	194	96	0	MR	45	70
Kitakomi-Komugi	83.9	77.4	18.2	142	189	86	41	MR	25	50
Sentinel	79.0	77.0	18.6	146	191	96	74	0	25	20
Aurora	78.5	77.1	16.8	150	194	91	15	R	50	50
Favorit	78.2	76.2	18.1	145	191	85	57	R	25	25
Bolal	77.3	77.7	16.2	143	189	109	85	R	18	50
Likafen	77.3	78.0	14.9	149	193	80	18	VR	55	70
Dunav-1	72.7	77.5	16.5	145	191	74	8	R	8	15
Burgas 2	72.1	76.3	16.6	148	191	80	0	MR	70	70
Atlas 66	71.3	75.9	19.6	144	192	108	87	R	25	20
Sieve	70.9	74.0	18.7	151	189	116	81	VR	6	20
Sanja	70.4	76.6	16.3	143	189	57	0	R	20	40
Lerma Rojo 64	69.3	73.2	18.5	143	189	75	71	VR	25	70
Blueboy II	68.4	75.2	15.4	146	191	95	41	VR	70	70
Rashid	51.9	75.0	16.6	143	189	106	98	R	80	80
TRS 237	41.7	71.2	18.7	144	191	85	23	MR	10	20
Mean	80.6	75.8	16.4	146.7	192.2	87.6	39.3		29.4	35.8
L.S.D. of cultivar means (.05)	4.9	--	0.7	0.6	0.1	0.8	0.3		9.3	--
Coefficient of variation (%)	4.3	--	3.1	0.3	0.0	0.6	0.5		22.5	--

Table 12. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Male Ripnany, Czechoslovakia, 1975. Concluded.

Cultivar	Germination date December	Sprouting %	Fall growth speed 1-9	Date of Tillering	Date of Jointing	Date of Heading
				days from Jan. 1		
Maris Templar	4	100	8	76	121	148
Maris Huntsman	4	100	7	76	121	148
Kormoran	3	100	5	77	123	147
Talent	4	100	7	74	119	140
Lely	6	100	7	77	122	148
GKF-2	4	100	9	75	115	137
Blueboy	4	100	9	73	116	141
Demar 4	3	100	8	73	119	139
Manella	6	100	6	76	122	146
Dwarf Bezostaya	8	100	9	74	116	140
Bezostaya 1	7	100	9	74	115	140
Biserka	4	100	9	75	116	137
Martonvasar 2	7	100	9	75	115	141
Jubilar	8	100	5	77	120	149
Kavkaz	7	100	9	76	116	144
Kitakomi-Komugi	3	100	9	74	114	137
Sentinel	5	100	8	77	117	140
Aurora	4	100	9	75	117	144
Favorit	5	100	9	74	116	139
Bolal	5	100	9	76	114	138
Likafen	7	100	7	76	119	142
Dunav-1	5	100	8	75	115	140
Burgas 2	5	100	9	73	115	141
Atlas 66	4	100	9	75	116	140
Sieve	3	100	8	77	117	147
Sanja	3	100	9	74	117	138
Lerma Rojo 64	4	100	9	73	115	137
Blueboy II	6	100	8	76	117	140
Rashid	6	100	8	76	115	137
TRS 237	8	37	7	77	118	139
Mean	5.1	97.9	8.1	75.2	117.3	141.5
L.S.D. of cultivar means (.05)	--	--	--	0.1	0.2	0.2
Coefficient of variation (%)	--	--	--	0.1	0.1	0.1

CZECHOSLOVAKIA

Sedlec

COOPERATOR(S): J. Maly; A. Vernerova.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 10, 1974.

PRECIPITATION DURING CYCLE OF TEST: 523 mm (October 1, 1974-August 31, 1975).

AMOUNT OF IRRIGATION APPLIED: None

FERTILIZER USED: Preplant: N = 40 kg/ha; P_2O_5 = 218 kg/ha; K_2O = 329 kg/ha.
May 7, 1975: N = 30 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: October was cold and rainy. The winter was mild. Spring was dry, but after heading, rainfal occurred. July and August were warm.

DISEASE DEVELOPMENT: Mildew was observed in slight amounts. No other disease occurred.

INSECT, WEED OR PEST PROBLEMS: None

DATE OF HARVEST: 5 days after date of ripeness (July 24-August 12, 1975).

AREA HARVESTED FOR YIELD: 7.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Evaluation of emergence - December 6, 1974
Winter survival - March 21, 1975
Promptness of spring growth - April 17, 1975
Tillering - May 3, 1975
Erysiphe graminis - June 12, 1975
Lodging - June 10, 18, July 24, 1975
Height - June 30, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging
Test weight	.39**						
Protein	-.66**	-.53**					
Flowering	-.15	-.66**	.41**				
Ripening	-.22*	-.69**	.44**	.87**			
Plant height	-.53**	-.62**	.60**	.40**	.45**		
Lodging	-.47**	-.11	.33**	-.09	-.01	.35**	
1000-kernel weight	-.05	-.12	.23*	.15	.28**	.17	-.15

**Significant at the 1% level. *Significant at the 5% level.

Table 13. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Sedlec, Czechoslovakia, 1975.

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging July 24 %	1000-kernel weight cm	Mildew Sev. %
Talent	73.6	82.0	13.9	164	204	86	1	36.3	0
GKF-2	73.0	80.4	14.6	159	201	92	4	44.2	1
Maris Huntsman	68.9	76.7	16.6	170	214	109	29	50.4	0
Martonvasar 2	67.5	82.6	16.4	164	204	98	15	48.5	1
Maris Templar	66.4	78.8	15.3	169	218	106	5	50.4	0
Demar 4	66.3	83.0	14.2	162	203	99	0	40.9	1
Sanja	65.7	81.0	14.1	159	201	84	1	37.2	0
Kitakomi-Komugi	64.6	81.8	14.0	158	203	96	71	38.1	1
Burgas 2	64.2	80.4	15.8	165	213	92	0	46.0	1
Biserka	63.8	80.9	16.0	158	201	88	0	42.7	0
Blueboy	62.5	79.1	15.6	166	207	111	29	42.0	1
Bezostaya 1	61.9	83.2	16.4	163	205	103	5	48.4	5
Likafen	61.2	80.7	14.1	167	205	100	8	33.9	20
Lely	60.6	78.5	17.4	172	218	111	16	40.9	1
Dwarf Bezostaya	60.0	82.3	14.7	164	205	75	0	41.9	1
Favorit	59.4	82.0	18.3	161	204	101	45	44.8	5
Blueboy II	55.4	79.4	16.4	166	207	110	36	38.0	5
Manella	53.8	78.4	17.3	169	213	111	40	46.1	1
Kormoran	52.3	77.0	17.3	169	213	116	31	41.0	0
Lerma Rojo 64	51.0	81.4	15.0	156	201	99	65	44.1	1
Dunav-1	49.8	82.9	15.7	160	204	85	0	43.6	0
Aurora	49.5	80.4	17.6	166	206	104	0	51.4	1
Sentinel	49.1	80.0	19.0	161	203	113	49	38.7	1
Bolal	48.6	82.1	15.9	160	204	120	86	43.4	1
TRS 237	45.8	77.8	16.8	161	206	125	1	43.8	0
Jubilar	43.2	77.5	17.2	170	218	117	30	45.0	1
Kavkaz	42.8	77.2	18.9	170	214	114	0	42.5	1
Atlas 66	41.6	80.2	19.5	167	213	110	73	41.5	1
Rashid	36.7	80.0	17.3	160	203	111	88	43.3	1
Sieve	32.2	75.7	21.4	169	213	121	70	44.1	1
Mean	56.4	80.1	16.4	164.1	207.4	103.5	26.6	43.1	1.8
L.S.D. of cultivar means (.05)	5.3	0.6	0.8	1.2	1.4	5.7	22.9	2.3	--
Coefficient of variation (%)	6.7	0.5	3.4	0.5	0.5	3.9	61.2	3.8	--

Table 13. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Sedlec, Czechoslovakia, 1975. Concluded.

Cultivar	Evaluation of spring growth 0-9	Promptness of spring growth 0-9	Lodging June 10 %	Lodging June 18 %	Tillering 0-9	Date of heading days from Jan. 1	Number of: Plants/m^2	Spikes/m^2	Kernels/m^2	Kernels/spike
Talent	4	4	0	0	3	130	359	692	14227	21
GKF-2	3	2	0	0	4	125	366	617	11572	19
Maris Huntsman	4	4	0	29	3	128	338	632	9572	15
Martonvasar 2	4	3	0	0	3	125	344	575	9750	17
Maris Templar	4	4	0	3	3	130	355	648	9242	14
Demar 4	3	3	0	0	3	125	367	521	11340	22
Sanja	3	3	0	0	3	126	366	518	12389	24
Kitakomi-Komugi	3	2	0	24	3	121	426	643	11876	18
Burgas 2	3	3	0	0	3	125	331	551	9774	18
Biserka	3	3	0	0	3	122	328	521	10472	20
Blueboy	3	3	0	20	3	125	340	600	10425	17
Bezostaya 1	4	3	0	0	4	124	352	591	8954	15
Likafen	4	4	0	0	3	129	349	891	12663	14
Lely	3	5	0	15	2	130	354	638	10394	16
Dwarf Bezostaya	3	3	0	0	3	126	378	589	10019	17
Favorit	3	3	11	33	3	125	384	655	9292	14
Blueboy II	3	3	1	48	3	131	378	649	10199	16
Manella	3	5	0	38	1	129	324	592	8158	14
Kormoran	3	4	0	25	1	129	333	643	8959	14
Lerma Rojo 64	3	2	0	20	5	120	361	562	8095	15
Dunav-1	4	3	0	0	5	126	345	499	8009	16
Aurora	3	2	0	0	4	125	345	565	6746	12
Sentinel	4	4	34	54	3	125	337	739	8896	12
Bolal	4	2	49	83	4	123	353	550	7840	14
TRS 237	5	5	0	0	3	123	187	480	7334	15
Jubilar	4	4	0	31	2	130	304	716	6737	9
Kavkaz	4	3	0	0	3	124	313	523	6705	13
Atlas 66	4	2	54	64	3	125	319	474	7083	15
Rashid	4	3	70	78	4	123	306	620	5928	10
Sieve	3	3	10	48	2	125	339	606	5113	8
Mean	3.4	3.3	7.6	20.3	3.0	125.7	342.6	603.2	9258.6	15.5
L.S.D. of cultivar means (.05)	1.0	0.6	16.0	28.9	0.7	1.4	37.4	57.3	940.5	2.2
Coefficient of variation (%)	20.0	12.0	149.2	101.5	16.5	0.8	7.8	6.8	7.2	9.9

ENGLAND

Cambridge

COOPERATOR(S): F. G. H. Lupton

DATE OF PLANTING (EFFECTIVE GERMINATION): December 10, 1974.

PRECIPITATION DURING CYCLE OF TEST: 347 mm.

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: Not reported.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: The winter was very wet. Spring and early summer was cold and wet, then the weather was very hot until harvest.

DISEASE DEVELOPMENT: A slight attack of mildew and stripe rust was observed.

INSECT, WEED OR PEST PROBLEMS: Birds damaged a few plots.

DATE OF HARVEST: August 5, 1975.

AREA HARVESTED FOR YIELD: 6.5 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Flowering - June 6, 1975
Erysiphe graminis - June 25, 1975
Puccinia striiformis - June 13 and 25, 1975.
Height - July 29, 1975

Correlation Coefficients

	Yield	Protein	Flowering	Ripening
Protein	-.35**			
No. of observations	60			
Flowering	.34**	-.41**		
No. of observations	60	110		
Ripening	.21	-.39**	.89**	
No. of observations	60	110	120	
Plant height	-.00	.22*	-.17	.14
No. of observations	60	110	120	120

**Significant at the 1% level. *Significant at the 5% level.

Table 14. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Cambridge, England, 1975.

Cultivars	Yield[a] q/ha	Protein[a] %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Stripe rust June 13 Sev. %	Stripe rust June 25 Sev. %	Mildew Sev. %
Talent	59.9	10.6	162	211	88	10	25	15
Aurora	52.9	13.0	162	211	103	10	27	42
Kavkaz	52.1	12.3	162	212	109	10	20	25
Maris Templar	51.2	12.0	170	221	103	20	45	20
Burgas 2	51.2	13.4	162	211	91	13	35	40
Jubilar	49.2	12.6	168	212	110	20	10	37
Manella	46.1	12.1	169	218	110	10	25	45
Sieve	46.1	15.0	153	203	130	10	12	22
Atlas 66	45.6	15.4	151	202	123	10	45	37
Maris Huntsman	44.8	13.4	171	220	107	20	25	27
Sanja	44.0	12.0	152	202	80	33	80	40
Demar 4	44.0	11.8	156	205	96	20	30	25
GKF-2	43.7	12.4	160	210	89	20	55	32
Kitakomi-Komugi	43.2	11.9	158	205	91	43	65	45
Dunav-1	42.3	15.1	162	212	84	23	25	17
Bezostaya 1	42.0	12.4	163	214	106	20	45	40
Lely	41.0	12.3	167	216	97	10	17	40
Likafen	40.2	11.4	162	210	94	10	17	72
Dwarf Bezostaya	39.9	11.9	162	212	68	35	35	27
Blueboy	39.9	10.9	162	211	109	20	60	62
Blueboy II	39.5	12.4	162	211	108	20	25	67
Martonvasar 2	39.5	12.8	164	212	101	18	42	47
Biserka	38.1	16.1	154	200	84	35	72	22
Rashid	37.5	13.8	146	197	115	33	72	55
Bolal	35.7	11.2	150	200	116	78	90	25
Favorit	34.9	13.6	153	203	103	35	62	27
Sentinel	30.6	16.8	163	212	100	15	55	52
Kormoran	30.5	12.0	170	218	99	20	50	32
TRS 237	28.2	13.9	152	205	115	53	75	25
Lerma Rojo 64	24.8	18.5	148	198	101	18	27	77
Mean	41.9	13.1	159.9	209.1	100.8	23.1	42.3	38.0
L.S.D. of cultivar means (.05)	9.7	1.6	1.2	4.6	6.9	--	--	--
Coefficient of variation (%)	11.3	6.0	0.5	1.6	4.9	--	--	--

a) Two replications only.

FINLAND

Jokioinen

COOPERATOR(S): R. Manner

DATE OF PLANTING (EFFECTIVE GERMINATION): September 5, 1974.

PRECIPITATION DURING CYCLE OF TEST: 549 mm (September 5, 1974-August 15, 1975).

AMOUNT OF IRRIGATION APPLIED: None

FERTILIZER USED: N = 160 kg/ha; P_2O_5 = 100 kg/ha; K_2O = 75 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: The fall and winter were wet. Spring and summer were dry.

DISEASE DEVELOPMENT: Very few diseases.

INSECT, WEED OR PEST PROBLEMS: None

DATE OF HARVEST: August 15, 1975.

AREA HARVESTED FOR YIELD: 2.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Winter survival - May 5, 1975
Flowering - June 11-18, 1975
Height - July 10, 1975
Ripeness - July 21-August 5, 1975
Lodging - August 4, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging	Winter survival
Test weight	.44*							
No. of observations	23							
Protein	-.67**	-.19						
No. of observations	115	23						
Flowering	.13	-.01	-.45**					
No. of observations	109	23	109					
Ripening	.24*	-.19	-.47**	.66**				
No. of observations	102	23	102	102				
Plant height	.61**	.36	-.31**	.05	.12			
No. of observations	110	23	110	108	102			
Lodging	.35**	.23	-.25**	.06	.07	.47**		
No. of observations	113	23	110	108	102	110		
Winter survival	.64**	.67**	-.17	-.27**	-.19	.68**	.33**	
No. of observations	120	23	115	109	102	110	113	

**Significant at the 1% level. *Significant at the 5% level.

Table 15. Agronomic and grain quality data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Jokioinen, Finland, 1975.

Cultivars	Yield q/ha	Test weight[a] kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging %	Winter survival %
Kormoran	60.4	78.8	12.9	168	212	81	1	92
Manella	54.5	80.8	12.9	168	212	78	5	97
Jubilar	47.0	79.1	13.5	168	212	81	6	94
Aurora	43.8	81.5	14.7	164	211	71	3	95
Lely	41.0	80.0	14.0	167	213	74	3	98
Bolal	35.6	82.9	15.2	162	207	75	2	91
Kavkaz	35.0	82.1	14.8	166	212	80	1	90
Blueboy II	34.8	80.9	14.5	163	209	76	4	97
Maris Huntsman	34.3	77.1	14.8	168	212	69	4	87
Bezostaya 1	32.6	82.6	14.2	164	210	70	2	92
Demar 4	32.6	82.5	13.4	164	212	54	2	37
Favorit	29.8	82.5	15.8	162	208	71	3	95
Likafen	29.7	82.1	15.5	162	209	66	1	88
Burgas 2	29.4	79.4	15.9	164	210	66	0	89
Dunav-1	26.6	81.4	16.7	163	208	54	1	87
Blueboy	25.3	82.1	15.2	163	209	78	6	92
Dwarf Bezostaya	25.1	82.3	16.3	164	210	56	0	93
Martonvasar 2	24.8	80.7	14.9	164	207	66	2	97
TRS 237	20.9	80.8	17.0	162	208	59	2	56
Maris Templar	20.9	79.4	12.3	170	215	51	0	7
GKF-2	19.2	80.0	17.4	162	206	65	1	94
Kitakomi-Komugi	14.2	81.8	16.8	162	209	56	2	38
Sentinel	12.5	79.6	18.9	162	203	64	0	94
Sieve	10.3	-	15.2	168	213	59	1	4
Sanja	7.0	-	17.0	164	210	38	0	25
Atlas 66	3.9	-	16.3	165	211	58	0	2
Talent	1.6	-	15.2	166	211	43	1	2
Biserka	0.0	-	17.9	165	208	53	0	1
Lerma Rojo 64	0.0	-	-	-	-	-	-	0
Rashid	0.0	-	-	-	-	-	-	0
Mean	25.1	80.9	15.4	164.5	209.6	64.9	1.8	64.4
L.S.D. of cultivar means (.05)	18.6	-	2.2	1.6	2.1	8.5	2.6	15.0
Coefficient of variation (%)	52.9	-	10.0	0.7	0.7	9.3	105.2	16.6

a) One replication only.

HUNGARY

Martonvasar

COOPERATOR(S): S. Rajki; L. Balla.

DATE OF PLANTING (EFFECTIVE GERMINATION): November 8, 1974.

PRECIPITATION DURING CYCLE OF TEST: 423 mm.

AMOUNT OF IRRIGATION APPLIED: None

FERTILIZER USED: N = 160 kg/ha; P_2O_5 = 366 kg/ha; K_2O = 192 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: The fall was very wet, the winter very mild, and the summer was wet and early.

DISEASE DEVELOPMENT: A heavy infection of mildew was observed.

INSECT, WEED OR PEST PROBLEMS: None

DATE OF HARVEST: July 23, 1975.

AREA HARVESTED FOR YIELD: 4.3 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Erysiphe graminis - June 3, 1975
Lodging - July 8, 1975
Height - July 11, 1975

Correlation Coefficients

	Yield	Protein	Flowering	Ripening	Plant height
Protein	-.31**				
Flowering	.05	.13			
Ripening	.14	.08	.83**		
Plant height	.07	.20*	.47**	.62**	
Lodging	-.44**	.41**	.01	.09	.39**

**Significant at the 1% level. *Significant at the 5% level.

Table 16. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Martonvasar, Hungary, 1975.

Cultivars	Yield q/ha	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging %	Mildew Sev. %
Biserka	67.7	14.8	143	187	85	4	46
Talent	59.8	14.9	145	188	80	23	65
Kormoran	59.1	14.6	150	191	111	54	46
Sanja	59.1	13.4	142	187	81	20	65
Maris Huntsman	57.8	14.9	150	193	108	28	5
Blueboy	57.7	13.5	145	189	108	35	99
Kavkaz	57.2	15.6	148	189	104	33	65
Aurora	57.1	15.3	145	189	105	4	99
Demar 4	54.5	13.7	148	187	93	1	65
TRS 237	54.0	14.9	143	189	116	48	65
GKF-2	53.7	15.9	142	186	89	14	65
Sentinel	51.5	17.2	145	188	96	80	65
Jubilar	48.5	14.8	156	196	113	49	52
Bezostaya 1	48.5	14.9	146	187	100	42	99
Likafen	48.3	14.1	147	190	100	43	99
Dunav-1	46.9	15.8	144	186	82	1	65
Maris Templar	46.7	15.4	151	194	105	45	5
Blueboy II	46.6	14.0	145	188	102	39	99
Sieve	45.0	17.9	150	193	123	92	40
Martonvasar 2	40.8	15.7	145	186	95	58	65
Favorit	39.8	17.0	145	187	101	95	99
Manella	39.7	14.7	149	191	107	65	65
Atlas 66	39.5	17.2	147	190	101	92	65
Bolal	39.5	15.9	143	187	103	99	99
Lely	33.0	16.5	150	194	105	50	65
Burgas 2	32.3	15.6	146	186	89	0	99
Dwarf Bezostaya	31.0	15.1	146	186	68	0	99
Kitakomi-Komugi	30.6	14.4	142	188	93	71	99
Lerma Rojo 64	30.6	14.6	141	184	91	95	99
Rashid	21.2	16.6	142	186	102	99	99
Mean	46.6	15.3	145.8	188.6	98.4	45.8	72.1
L.S.D. of cultivar means (.05)	10.5	0.3	1.4	1.4	6.1	31.0	--
Coefficient of variation (%)	16.0	1.5	0.7	0.5	4.4	48.1	--

HUNGARY

Szeged

COOPERATOR(S): Z. Barabas.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 20, 1974.

PRECIPITATION DURING CYCLE OF TEST: 350 mm.

AMOUNT OF IRRIGATION APPLIED: None

FERTILIZER USED: N = 50 kg/ha; P_2O_5 = 36 kg/ha; K_2O = 40 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: The winter and spring were mild and dry. Summer was abnormally wet, causing nursery to be abandoned.

DISEASE DEVELOPMENT: Powdery mildew was strongly infected. No leaf rust was observed.

INSECT, WEED OR PEST PROBLEMS: None

DATE OF HARVEST: Not harvested.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Winter survival - February 12, 1975
Puccinia graminis tritici - June 18, 1975
Height - June 19, 1975
Septoria tritici - June 20, 1975

Correlation Coefficients

	Protein	Flowering
Flowering	.34**	
Plant height	.31**	.37**

**Significant at the 1% level.

Table 17. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Szeged, Hungary, 1975.

Cultivars	Protein %	Date of flowering days from Jan. 1	Plant height cm	Septoria Sev. %
Favorit	17.5	143	89	20
Jubilar	15.9	154	105	10
Dwarf Bezostaya	15.2	146	65	30
Manella	16.6	150	95	10
Likafen	15.1	149	99	10
Blueboy II	14.2	145	99	30
Bezostaya 1	16.0	143	84	30
Burgas 2	15.7	146	80	30
Demar 4	13.7	143	85	20
Aurora	15.5	146	93	30
Sanja	13.8	142	73	30
Bolal	14.7	141	101	20
Kavkaz	16.0	149	95	10
Atlas 66	19.0	144	103	0
Blueboy	13.8	146	95	20
Lerma Rojo 64	16.0	139	96	30
Talent	15.6	144	79	20
Kitakomi-Komugi	13.7	141	88	30
Kormoran	15.3	150	98	0
Rashid	15.6	140	108	40
Sentinel	17.2	144	89	20
Lely	18.1	154	99	50
TRS 237	16.2	143	104	30
Biserka	16.2	140	78	20
GKF-2	16.0	141	84	40
Sieve	19.0	152	110	10
Dunav-1	15.8	141	79	30
Martonvasar 2	16.7	143	83	30
Maris Huntsman	16.5	153	95	30
Maris Templar	17.6	154	100	30
Mean	15.9	145.4	91.5	23.7
L.S.D. of cultivar means (.05)	0.7	1.1	6.2	--
Coefficient of variation (%)	3.3	0.5	4.8	--

INDIA

Simla

COOPERATOR(S): M. K. Upadhyay; B. Ram.

DATE OF PLANTING (EFFECTIVE GERMINATION): November 1, 1974.

PRECIPITATION DURING CYCLE OF TEST: 446 mm. (November 1, 1974-June 15, 19

AMOUNT OF IRRIGATION APPLIED: 4 applications. (Amount not reported).

FERTILIZER USED: N = 80 kg/ha; P_2O_5 = 92 kg/ha; K_2O = 48 kg/ha.
(Calcium ammonium nitrate, superphosphate, and muriate of potash).

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Rainfall and oth
conditions throughout the test were quite good.

DISEASE DEVELOPMENT: None observed.

INSECT, WEED OR PEST PROBLEM: None

DATE OF HARVEST: June 8 and 15, 1975.

AREA HARVESTED FOR YIELD: 2.3 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Flowering and Maturity recorded as appropriate.
Height and Lodging recorded on data of maturity.

Correlation Coefficients

	Yield	Protein	Flowering	Ripening	Plant height	Lodging
Protein	-.30**					
Flowering	-.13	.06				
Ripening	-.09	-.01	.90**			
Plant height	.17	.33**	-.21*	-.20*		
Lodging	.03	.39**	-.33**	-.32**	.59**	
1000-kernel weight	.04	-.06	-.11	-.02	.11	.02

**Significant at the 1% level. *Significant at the 5% level.

Table 18. Agronomic, and grain quality data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Simla, India, 1975.[a]

Cultivars	Yield q/ha	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging %	1000-kernel weight gm
Kitakomi-Komugi	62.6	11.4	112	148	87	0	39.3
TRS 237	54.5	13.2	110	146	113	3	41.3
Sanja	52.4	12.5	115	145	81	0	37.0
Lerma Rojo 64	51.6	12.0	90	133	115	20	42.0
Dwarf Bezostaya	51.0	12.3	118	151	66	0	40.7
Blueboy II	49.0	12.1	115	147	111	0	32.7
Aurora	48.1	13.6	119	148	104	3	40.7
Likafen	47.5	14.7	120	151	96	0	32.0
Demar 4	47.0	13.1	111	144	100	0	36.0
Kormoran	46.6	13.2	126	158	88	0	37.3
Dunav-1	46.1	14.2	114	147	92	0	40.7
Blueboy	45.5	11.9	117	145	107	0	40.0
Bolal	45.5	13.7	112	143	117	17	36.7
Talent	43.8	12.7	113	148	72	0	35.0
Atlas 66	42.9	16.1	112	144	127	20	34.7
Manella	42.9	12.0	125	157	93	0	38.0
Bezostaya 1	42.6	13.6	115	145	98	10	41.0
Burgas 2	42.0	14.8	121	148	88	0	38.0
Favorit	41.7	15.5	113	144	107	10	38.0
Kavkaz	40.2	13.3	121	149	107	0	40.7
Sentinel	39.7	14.4	120	147	102	7	32.7
Maris Templar	39.7	13.8	125	160	94	0	44.0
Martonvasar 2	38.5	14.3	115	147	93	0	44.7
GKF-2	37.9	12.7	111	145	92	0	37.3
Lely	37.4	11.4	130	162	100	0	36.7
Biserka	35.1	13.4	108	142	83	0	35.3
Rashid	34.4	14.3	92	132	130	20	40.0
Jubilar	29.5	14.0	128	160	98	0	36.0
Maris Huntsman	28.1	13.4	124	156	108	0	41.0
Sieve	26.3	17.2	123	150	123	20	40.7
Mean	43.0	13.5	115.9	148.1	99.7	4.3	38.3
L.S.D. of cultivar means (.05)	15.0	1.7	3.8	3.5	15.7	14.6	3.9
Coefficient of variation (%)	21.3	7.8	2.0	1.4	9.6	206.9	6.2
Local cultivar Kalyansona	44.4	11.7	112	142	71	0	--

a) Three replications of data.

IRAN

Hamadan

COOPERATOR(S): N. Safaii

DATE OF PLANTING (EFFECTIVE GERMINATION): October 13, 1974.

PRECIPITATION DURING CYCLE OF TEST: Not reported.

AMOUNT OF IRRIGATION APPLIED: 5 applications (amounts not reported).

FERTILIZER USED: N = 120 kg/ha; P_2O_5 = 60 kg/ha (Ammonium phosphate and urea).

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: The winter was milder than normal.

DISEASE DEVELOPMENT: Very little of any diseases occured.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: July 20, 1975.

AREA HARVESTED FOR YIELD: 3.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN: Not reported.

Correlation Coefficients

	Yield	Protein	Flowering	Ripening	Plant height	Lodging	Shattering
Protein	-.42**						
Flowering	-.42**	.19*					
Ripening	-.35**	.11	.75**				
Plant height	-.20*	.12	.28**	.33**			
Lodging	.05	-.00	-.12	-.09	.20*		
Shattering	-.08	-.12	-.01	.04	.30**	.24**	
Winter survival	.05	.03	.08	.21*	.10	-.15	-.09

**Significant at the 1% level. *Significiant at the 5% level.

Table 19. Agronomic, grain quality, and total yield data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Hamadan, Iran, 1975.

Cultivars	Yield q/ha	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging %	Shattering %	Winter survival %	Total plot yield[a]
GKF-2	56.0	11.6	149	184	85	0	1	91	5.6
Bolal	55.7	13.2	149	182	99	9	3	94	5.6
Dwarf Bezostaya	54.3	12.4	151	183	70	0	3	93	5.4
Kitakomi-Komugi	52.9	12.6	149	183	87	0	3	95	5.3
Sanja	51.6	13.2	149	183	77	0	1	96	5.2
Blueboy	49.9	12.7	149	183	89	0	2	94	5.0
Martonvasar 2	49.0	14.1	150	182	93	0	0	96	4.8
Burgas 2	48.5	13.6	151	183	83	0	1	96	4.9
Talent	47.8	14.8	150	183	82	0	2	96	4.8
Lerma Rojo 64	47.3	14.6	150	183	89	0	1	89	4.7
Sentinel	46.8	14.6	148	182	92	6	2	93	4.7
Demar 4	46.8	13.9	150	183	92	0	6	95	4.7
Likafen	46.7	12.5	146	183	94	0	4	96	4.7
Biserka	46.6	11.8	149	183	85	0	5	95	4.7
Blueboy II	46.2	13.8	148	182	92	0	10	94	4.6
Kavkaz	45.9	13.8	160	186	105	0	4	94	4.6
Bezostaya 1	43.9	12.6	150	183	97	0	6	95	4.4
Favorit	43.5	15.0	149	182	92	0	3	93	4.4
Maris Huntsman	42.7	14.9	159	188	96	0	3	95	4.2
Lely	42.7	12.0	160	188	94	0	1	98	4.3
Rashid	41.4	13.9	149	184	104	21	13	91	4.2
TRS 237	40.6	14.2	149	183	111	0	7	96	4.1
Dunav-1	39.9	14.0	150	183	87	0	4	98	4.0
Manella	39.3	15.5	160	188	90	0	0	96	3.9
Maris Templar	38.8	12.4	159	188	105	0	6	96	3.7
Aurora	38.6	14.3	154	185	92	0	3	94	3.9
Kormoran	38.2	14.8	159	189	98	0	3	99	3.8
Sieve	33.0	15.8	159	187	115	0	4	94	3.3
Atlas 66	32.9	16.6	149	183	107	0	0	94	3.3
Jubilar	30.3	14.7	164	188	107	0	8	94	3.3
Mean	44.6	13.8	152.1	184.1	93.7	1.2	3.5	94.6	4.5
L.S.D. of cultivar means (.05)	9.5	2.6	3.9	2.1	10.8	9.9	4.4	4.9	1.0
Coefficient of variation (%)	15.1	13.3	1.8	0.8	8.2	584.6	89.9	3.7	15.5
Local cultivars:									
Omid	48.2	12.1	150	183	126	69	0	96	4.8
Roshan	49.7	11.2	150	183	125	48	0	91	5.0

a) Grain and straw (tons/hectare).

IRAN

Karaj

COOPERATOR(S): H. Kaveh; T. Mahlugi; Mr. Payman.

DATE OF PLANTING (EFFECTIVE GERMINATION): November 2, 1974.

PRECIPITATION DURING CYCLE OF TEST: 268.82 mm.

AMOUNT OF IRRIGATION APPLIED: 6 applications (amounts not reported).

FERTILIZER USED: N = 120 kg/ha; P_2O_5 = 60 kg/ha (Urea and ammonium phosphate).

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: A mild winter was followed by early, warm, and dry spring. Later spring was cool.

DISEASE DEVELOPMENT: Stem rust was inoculated 3 times, resulting in a good infection. Stripe rust was late, but some infection was observed.

INSECT, WEED OR PEST PROBLEMS: Not reported.

DATE OF HARVEST: Not reported.

AREA HARVESTED FOR YIELD: 3.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN: Not reported.

Correlation Coefficients

	Yield	Protein	Flowering	Ripening	Plant height
Protein	-.26**				
No. of observations	120				
Flowering	-.18*	-.34**			
No. of observations	120	120			
Ripening	-.11	-.37**	.95**		
No. of observations	120	120	120		
Plant height	-.39**	.29**	.27**	.17	
No. of observations	120	120	120	120	
Lodging	-.18	.28	-.37*	-.41*	.26
No. of observations	30	30	30	30	30

**Significant at the 1% level. *Significant at the 5% level.

Table 20. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Karaj, Iran, 1975.

Cultivars	Yield q/ha	Protein %	Date of Flowering days from Jan. 1	Date of Ripening days from Jan. 1	Plant height cm	Lodging[a] %	Stripe Rust Sev. %	Stripe Rust Resp.	Stem Rust Sev. %	Stem Rust Resp.
Dwarf Bezostaya	68.4	10.1	130	178	66	0	0	-	62	S
GKF-2	67.1	10.3	124	172	75	0	25	S	26	S
Kavkaz	65.9	12.1	135	178	100	0	0	-	8	0-S
Bolal	65.6	11.7	125	172	109	25	0	-	5	0-S
Martonvasar 2	65.1	12.5	128	175	86	0	10	S	7	0-S
Biserka	64.9	11.9	122	170	74	0	0	-	7	0-S
Kitakomi-Komugi	64.7	10.8	123	172	85	0	75	S	52	S
Burgas 2	64.1	12.8	129	177	83	0	0	-	7	0-S
Lely	63.9	9.6	142	184	89	0	31	S	43	S
Lerma Rojo 64	63.3	11.6	118	169	88	15	25	S	2	0-S
Talent	61.9	11.9	127	176	78	0	0	-	27	S
Bezostaya 1	61.0	11.5	129	176	93	0	50	S	37	S
Manella	60.8	10.5	140	181	99	0	0	-	42	S
Blueboy II	60.7	11.6	126	173	98	0	50	S	33	0-S
Sentinel	60.6	12.9	128	174	98	0	0	-	5	0-S
TRS 237	60.3	12.7	124	174	99	0	25	0-S	2	0-S
Maris Huntsman	60.1	10.4	141	183	101	0	0	-	37	S
Favorit	60.0	12.4	125	172	90	0	0	-	31	0-S
Maris Templar	59.8	10.9	141	184	100	0	0	-	37	S
Sanja	59.1	11.2	124	174	69	0	0	-	37	S
Likafen	58.8	10.9	135	181	94	0	50	S	2	0-S
Aurora	57.9	12.4	130	178	94	0	0	-	11	0-S
Dunav-1	56.8	12.4	125	174	74	0	10	S	21	S
Demar 4	56.7	11.2	129	177	88	0	0	-	33	0-S
Blueboy	56.6	10.3	128	176	105	0	50	S	43	S
Kormoran	51.3	11.2	136	181	95	0	50	S	50	S
Rashid	50.2	13.0	119	169	105	99	50	S	37	S
Atlas 66	47.5	13.8	125	174	110	15	0	-	2	0-S
Jubilar	45.0	10.6	143	180	96	0	0	-	30	S
Sieve	39.1	14.3	136	178	120	0	0	-	5	0-S
Mean	59.2	11.6	129.6	176.1	91.9	5.1	16.7		24.7	
L.S.D. of cultivar means (.05)	8.4	0.9	0.1	--	8.6	--	--		--	
Coefficient of variation (%)	10.1	5.2	0.1	--	6.7	--	--		--	
Local cultivars:										
Omid	55.4	--	133	179	104	0	0	-	50	S
Karaj 2	54.7	--	126	175	98	0	0	-	35	S

a) One replication only.

IRAQ

Sulaimaniya

COOPERATOR(S): A. I. Alaka; M. M. Said; M. A. Aziz.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 20, 1974.

PRECIPITATION DURING CYCLE OF TEST: 639.8 mm.

AMOUNT OF IRRIGATION APPLIED: None

FERTILIZER USED: N = 80 kg/ha; P_2O_5 = 80 kg/ha (Ammonium sulfate and super phosphate).

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Normal except for a dry period the first 2 weeks of April. This did not seem to affect growth.

DISEASE DEVELOPMENT: Very little development of any diseases.

INSECT, WEED OR PEST PROBLEMS: None

DATE OF HARVEST: June 20, 1975

AREA HARVESTED FOR YIELD: 3.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Cold resistance - early March
Date of flowering - late April and mid May
Maturity - early June

Correlation Coefficients

	Yield	Protein	Flowering	Ripening
Protein	-.26**			
Flowering	-.32**	.35**		
Ripening	-.30**	.38**	.94**	
Plant height	.05	.28**	-.01	.06

**Significant at the 1% level. *Significant at the 5% level.

Table 21. Agronomic and grain quality data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Sulaimaniya, Iraq, 1975.

Cultivars	Yield q/ha	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm
Bolal	37.3	11.7	121	152	105
GKF-2	33.6	12.8	122	152	80
Sanja	32.9	13.0	123	152	65
Kavkaz	30.1	13.7	133	161	95
Talent	29.8	13.3	127	158	74
Favorit	29.4	12.1	122	152	98
Blueboy	29.3	12.1	126	156	101
Aurora	29.0	13.0	133	158	86
Demar 4	29.0	11.9	122	154	85
Martonvasar 2	28.6	13.1	125	155	89
Rashid	28.4	12.3	109	147	109
Blueboy II	28.2	12.5	124	156	98
Biserka	27.8	11.9	119	150	68
Burgas 2	27.7	13.8	134	160	76
Kitakomi-Komugi	27.4	12.0	119	150	83
Dwarf Bezostaya	27.0	13.1	135	160	74
Bezostaya 1	26.9	13.3	130	159	86
Sentinel	26.8	13.5	127	157	98
Likafen	26.7	12.0	133	159	90
Maris Huntsman	26.0	14.3	141	164	100
TRS 237	25.2	13.2	122	154	101
Dunav-1	23.9	13.3	123	153	70
Maris Templar	23.6	14.4	140	164	93
Jubilar	23.3	14.3	137	164	99
Atlas 66	23.3	16.2	131	160	105
Sieve	23.3	15.8	136	161	120
Kormoran	22.9	13.2	141	163	89
Manella	22.5	13.1	140	163	89
Lerma Rojo 64	21.3	13.3	109	145	95
Lely	20.2	11.7	144	166	83
Mean	27.0	13.1	128.2	156.7	90.0
L.S.D. of cultivar means (.05)	6.6	1.0	3.5	2.4	8.2
Coefficient of variation (%)	17.3	5.6	1.9	1.1	6.5

ITALY

Milano

COOPERATOR: B. Borghi.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 24, 1974.

PRECIPITATION DURING CYCLE OF TEST: 753 mm.

AMOUNT OF IRRIGATION APPLIED: None

FERTILIZER USED: N = 120 kg/ha; P_2O_5 = 107 kg/ha; K_2O = 52 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: The winter was mild, spring and summer were rainy.

DISEASE DEVELOPMENT: No rust was observed.

INSECT, WEED OR PEST PROBLEMS: Cereal leaf beetle (Oulema melanopus) was a problem.

DATE OF HARVEST: July 10, 1975.

AREA HARVESTED FOR YIELD: 7.5 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN: Not reported.

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height
Test weight	.35**					
Protein	-.43**	-.01				
Flowering	.01	-.39**	.01			
Ripening	-.10	-.39**	.02	.36**		
Plant height	-.25**	-.20*	.31**	.41**	.22*	
Lodging	-.34**	-.13	.33**	-.16	-.00	.27**

**Significant at the 1% level. *Significant at the 5% level.

Table 22. Agronomic and grain quality data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Milano, Italy, 1975.

Cultivars	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging %
Sanja	61.3	76.0	13.2	135	189	79	36
Blueboy	61.0	74.5	12.9	139	189	111	53
Talent	60.7	73.4	15.0	138	189	90	60
Burgas 2	60.3	76.9	14.2	140	188	91	5
Manella	60.2	77.0	12.9	143	189	106	51
Martonvasar 2	59.5	78.3	15.2	137	188	102	92
Demar 4	58.7	79.4	13.6	135	189	101	13
Aurora	58.7	78.6	15.4	139	188	104	39
Kavkaz	57.9	76.5	15.4	141	189	111	30
Maris Huntsman	57.6	70.5	13.9	144	190	114	64
Bezostaya 1	54.7	79.6	14.6	137	188	108	35
GKF-2	53.4	74.7	14.8	135	188	93	90
Kitakomi-Komugi	53.2	72.7	12.9	134	190	99	99
Maris Templar	53.1	69.9	14.6	144	191	105	44
Biserka	52.8	74.2	14.5	132	190	88	28
Blueboy II	52.2	75.9	13.6	138	190	106	80
Dwarf Bezostaya	52.1	77.2	13.5	138	189	73	0
Favorit	51.0	77.9	15.8	135	188	91	98
Likafen	50.7	75.4	13.8	141	189	104	21
Lerma Rojo 64	48.8	74.7	14.1	127	189	95	99
Bolal	47.6	79.3	13.2	134	188	105	99
Jubilar	46.4	72.6	14.0	145	191	111	61
Sentinel	46.3	77.3	16.3	139	189	101	90
Atlas 66	46.3	77.0	16.4	138	190	123	92
Kormoran	45.8	68.4	13.8	143	188	106	61
Lely	45.0	67.7	13.7	146	190	108	19
Dunav-1	43.0	77.4	15.4	134	188	86	10
TRS-237	41.2	73.3	16.3	136	189	119	34
Sieve	34.8	73.5	17.9	143	190	129	97
Rashid	32.1	72.5	15.4	133	189	105	99
Mean	51.5	75.1	14.5	138.0	189.0	102.1	56.5
L.S.D. of cultivar means (.05)	8.0	2.4	1.0	1.2	1.3	5.6	33.6
Coefficient of variation (%)	11.1	2.3	5.0	0.6	0.5	3.9	42.3

JAPAN

Morioka

COOPERATOR(S): T. Gotoh; H. Fujiwara.

DATE OF PLANTING (EFFECTIVE GERMINATION): September 24, 1974.

PRECIPITATION DURING CYCLE OF TEST: 1077 mm.

AMOUNT OF IRRIGATION APPLIED: None

FERTILIZER USED: Preplant: N = 90 kg/ha; P_2O_5 = 144 kg/ha; K_2O = 108 kg/h.
Spring: N = 20.5 kg/ha (Ammonium sulfate).

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Snow cover was present for unusually long period. Other conditions were normal.

DISEASE DEVELOPMENT: Some cultivars were damaged by snow mold. Incidence of leaf rust was slight.

INSECT, WEED OR PEST PROBLEMS: None

DATE OF HARVEST: July 21, 23, 24, and 30, 1975.

AREA HARVESTED FOR YIELD: 1.98 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Winter survival - April 15, 1975
Puccinia recondita - July 8, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging
Test weight	.69**						
No. of observations	110						
Protein	-.63**	-.50**					
No. of observations	116	110					
Flowering	-.35**	-.78**	.39**				
No. of observations	112	110	112				
Ripening	-.42**	-.79**	.45**	.89**			
No. of observations	112	110	112	112			
Plant height	.24**	.00	.13	.27**	.29**		
No. of observations	115	110	115	112	112		
Lodging	.11	.24**	-.02	-.22*	-.28**	.19*	
No. of observations	115	110	115	112	112	115	
Winter survival	.89**	.71**	-.48**	-.44**	-.51**	.15	.18*
No. of observations	120	110	116	112	112	115	115

**Significant at the 1% level. *Significant at the 5% level.

grown at Morioka Iwate, Japan, 1975.

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging %	Winter survival %	Leaf Rust Sev. %	Leaf Rust Resp.
Burgas 2	40.8	78.4	15.7	159	204	90	0	96	5	VR
Kitakomi-Komugi	39.8	82.0	15.3	154	199	103	0	80	46	S
Kavkaz	39.4	77.8	17.5	161	203	113	0	100	5	VR-R
Manella	39.2	75.6	15.4	165	204	112	0	88	21	M-S
Blueboy II	38.6	75.5	16.0	159	204	117	0	72	7	VR-MR
Aurora	38.4	78.4	17.2	159	202	104	0	90	6	VR-R
Blueboy	36.5	71.2	15.0	160	205	118	0	49	32	MS-S
Bezostaya 1	36.0	79.0	16.9	156	199	107	0	97	10	R-MR
Martonvasar 2	34.9	77.5	17.4	157	200	101	0	94	10	R-MR
Bolal	34.0	81.5	16.0	156	198	120	15	83	82	S-VS
Dwarf Bezostaya	33.5	77.1	14.8	158	201	77	0	92	6	R
Sentinel	32.8	78.5	19.0	157	198	106	5	94	6	VR-R
Favorit	32.7	78.2	18.7	156	198	108	3	93	21	MR-S
Dunav-1	31.7	78.5	16.8	156	199	84	0	92	6	R-MR
Lely	28.9	64.6	19.3	171	211	100	0	59	10	VR-M
Kormoran	28.7	68.2	16.9	166	206	101	0	68	7	VR-R
Maris Huntsman	26.3	61.3	17.7	169	209	104	0	48	12	VR-MR
Jubilar	26.1	59.4	16.1	169	208	112	0	47	32	S
Demar 4	23.7	72.9	16.5	159	200	92	0	38	42	S-VS
GKF-2	21.6	74.7	16.5	157	198	86	0	41	21	M-S
Likafen	18.9	71.9	16.4	164	206	97	0	24	13	M-S
Sieve	16.5	64.4	20.2	169	208	138	0	30	28	M-MS
Sanja	16.2	72.6	16.4	158	199	72	0	25	5	VR
Biserka	13.7	70.9	19.0	157	201	76	0	18	5	VR
TRS 237	12.7	65.6	18.1	158	206	113	0	38	13	R-M
Maris Templar	9.8	52.1	19.8	173	213	97	0	12	7	R-M
Talent	9.8	61.1	18.3	161	203	78	0	11	13	M-MS
Atlas 66	7.8	67.5	21.9	164	211	116	0	5	5	VR-M
Rashid	0.6	--	19.3	--	--	96	0	1	73	S-VS
Lerma Rojo 64	0.0	--	--	--	--	--	-	0	--	-
Mean	25.6	72.1	17.4	160.8	203.2	101.3	0.8	56.1	18.9	
L.S.D. of cultivar means (.05)	5.8	3.9	0.7	1.1	1.2	5.0	3.3	11.5	--	
Coefficient of variation (%)	16.2	3.9	3.0	0.5	0.4	3.5	302.6	14.6	--	
Local cultivars:										
Aobakomugi	21.7	77.8	--	153	194	97	5	40	36	S
Nanbukomugi	25.4	80.0	--	150	191	98	0	94	58	S

JORDAN

Amman

COOPERATOR(S): Z. Ghosheh; N. Abdelfatah; M. H. A. Aziz.

DATE OF PLANTING (EFFECTIVE GERMINATION): December 16, 1974.

PRECIPITATION DURING CYCLE OF TEST: 80 mm.

AMOUNT OF IRRIGATION APPLIED: 6 applications, amounts not reported.

FERTILIZER USED: N = 150 kg/ha; P_2O_5 = 172 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Rainfall was above normal, During the milk stage there were hot winds which caused some seed shriveling.

DISEASE DEVELOPMENT: None.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: July 8, 1975

AREA HARVESTED FOR YIELD: Yield was not determined.

DATES WHEN DIFFERENT NOTES WERE TAKEN: Not reported.

Correlation Coefficients

	Test weight	Protein	Flowering	Ripening	Plant height
Protein	-.29				
No. of observations	30				
Flowering	-.82**	.25**			
No. of observations	30	120			
Ripening	-.58**	.04	.49**		
No. of observations	30	120	120		
Plant height	.18	-.13	-.26**	.04	
No. of observations	30	120	120	120	
1000 kernel weight	.44*	-.27	-.43*	-.54**	.48**
No. of observations	30	30	30	30	30

**Significant at the 1% level. *Significant at the 5% level.

Table 24. Agronomic and grain quality data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Amman, Jordan, 1975.

Cultivars	Test weight[a] kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	1000-kernel weight gm
Favorit	74.4	15.6	137	184	72	33.3
Jubilar	64.8	18.1	157	190	64	25.9
Dwarf Bezostaya	75.2	15.5	138	184	57	29.1
Manella	67.8	16.0	157	191	54	25.3
Likafen	75.1	15.0	146	188	72	25.2
Blueboy II	71.3	14.7	139	183	71	36.1
Bezostaya 1	76.2	15.8	140	184	79	24.9
Burgas 2	75.0	16.3	138	180	61	31.2
Demar 4	72.3	15.4	138	187	67	29.7
Aurora	74.0	15.9	139	188	75	36.8
Sanja	72.0	15.8	139	180	51	27.7
Bolal	76.1	15.1	137	180	76	37.4
Kavkaz	74.2	16.7	141	187	76	36.5
Atlas 66	72.0	17.9	140	187	89	28.6
Blueboy	71.2	13.2	135	184	75	29.5
Lerma Rojo 64	77.0	15.1	127	180	70	34.5
Talent	72.1	15.6	139	184	60	30.5
Kitakomi-Komugi	77.0	15.0	136	184	67	29.7
Kormoran	64.2	16.5	157	188	59	25.7
Rashid	78.4	15.3	127	181	75	35.6
Sentinel	75.0	15.2	142	188	65	28.4
Lely	64.1	15.1	158	192	60	26.3
TRS 237	71.5	16.3	137	187	81	32.0
Biserka	72.0	15.4	141	180	60	28.8
GKF-2	73.8	15.2	138	177	61	35.4
Sieve	67.3	18.0	157	190	80	34.4
Dunav-1	74.9	15.3	140	187	63	30.4
Martonvasar 2	76.2	16.5	139	173	68	39.8
Maris Huntsman	63.4	14.3	157	191	66	29.8
Maris Templar	66.0	16.7	157	188	63	28.5
Mean	72.2	15.7	142.4	184.8	67.7	30.9
L.S.D. of cultivar means (.05)	--	1.9	3.6	7.6	8.6	--
Coefficient of variation (%)	--	8.4	1.8	2.9	9.1	--

a) One replication only.

KOREA

Suwon

COOPERATOR: H. O. Choi.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 11, 1974.

PRECIPITATION DURING CYCLE OF TEST: 455.5 mm.

AMOUNT OF IRRIGATION APPLIED: None

FERTILIZER USED: N = 150 kg/ha; P_2O_5 = 137 kg/ha; K_2O = 72 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Not reported.

DISEASE DEVELOPMENT: Not reported.

INSECT, WEED OR PEST PROBLEMS: Hand weeded once.

DATE OF HARVEST: July 10, 1975.

AREA HARVESTED FOR YIELD: 3.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Winter survival - February 15, 1975
Septoria tritici - June 10, 1975
Puccinia recondita - June 20, 1975
Lodging - on date of ripeness

Correlation Coefficients

	Yield	Test weight	Flowering	Ripening	Plant height	Lodging	Winter survival
Test weight	.64**						
Flowering	-.37**	-.51**					
Ripening	-.43**	-.53**	.58**				
Plant height	.10	-.05	.17	.21*			
Lodging	-.09	-.19*	.18*	.20*	.26**		
Winter survival	.12	-.01	.25**	.10	-.11	-.12	
1000 kernel weight	.63**	.60**	-.31**	-.39**	.16	-.22*	.06

**Significant at the 1% level. *Significant at the 5% level.

Table 25. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Suwon, Korea, 1975.

Cultivars	Yield q/ha	Test weight kg/hl	Date of Flowering: days from Jan. 1	Date of Ripening: days from Jan. 1	Plant height cm	Lodging %	Winter survival %	1000-kernel weight gm	Leaf Rust Sev. %	Leaf Rust Resp.	Septoria Sev. %
Kitakomi-Komugi	60.7	75.1	138	177	102	72	93	32.6	35	MS-S	35
Favorit	59.2	75.7	139	176	110	40	94	39.7	25	MR-MS	67
Martonvasar 2	57.3	74.6	143	178	101	18	100	35.8	67	MS-S	47
Aurora	55.0	74.1	154	179	102	60	100	37.0	31	MS	32
Demar 4	50.6	76.0	142	177	95	0	74	34.3	55	MR-MS	40
Blueboy II	49.7	70.1	143	180	106	50	89	30.8	57	MR-MS	42
Kavkaz	48.1	71.8	149	181	108	70	100	35.3	8	R-MR	42
Atlas 66	47.7	74.8	144	179	126	30	83	35.0	1	R	20
Bolal	47.5	76.4	141	176	112	5	98	33.5	32	MR-MS	70
Burgas 2	47.0	71.8	144	180	89	0	99	32.8	32	MR-MS	50
Lerma Rojo 64	46.9	77.6	131	174	100	67	56	34.6	35	MS-S	52
Bezostaya 1	46.6	74.3	151	178	105	52	99	36.8	42	MR-MS	47
Biserka	46.1	73.5	139	175	87	4	86	31.7	0	O-R	22
Blueboy	45.6	67.5	143	180	107	23	96	30.5	42	MR-MS	35
Sentinel	45.4	73.7	140	176	103	53	100	30.9	40	MR-MS	55
Talent	45.4	69.9	140	178	90	48	83	27.7	3	R-MR	40
TRS 237	45.0	73.4	141	179	125	0	81	36.1	60	MR-MS	35
Sanja	43.7	72.8	139	177	81	70	83	29.1	65	MS	30
Dunav-1	43.1	74.1	140	170	89	25	93	32.7	82	MS-S	72
GKF-2	43.0	71.1	140	175	93	72	91	31.3	42	MS-S	47
Rashid	39.4	72.6	131	176	119	43	74	34.2	94	S	75
Sieve	38.9	69.3	150	180	124	97	86	31.1	57	MR-MS	40
Maris Huntsman	36.6	63.0	155	184	105	0	93	30.6	45	MR-MS	42
Kormoran	34.3	65.1	151	182	108	57	96	29.6	70	MS-S	50
Manella	30.1	66.7	150	181	103	65	66	27.3	35	MR-MS	55
Jubilar	29.8	69.2	155	186	116	75	89	26.1	32	MR-MS	45
Maris Templar	27.4	60.9	154	186	105	76	85	30.3	45	MR-MS	35
Lely	26.6	61.2	155	185	103	53	85	21.0	35	MR-MS	32
Dwarf Bezostaya	26.2	69.2	144	181	66	0	100	29.4	52	MS-S	57
Likafen	20.7	70.5	149	183	95	20	99	25.4	35	MR-MS	77
Mean	42.8	71.2	144.4	178.9	102.4	41.4	88.9	31.8	41.8		46.3
L.S.D. of cultivar means (.05)	8.7	4.0	6.2	4.5	4.4	29.1	9.8	3.6	--		--
Coefficient of variation (%)	14.5	4.0	3.0	1.8	3.1	50.0	7.9	8.0	--		--
Local cultivars:											
Yungkwang	54.9	70.9	138	178	112	83	91	39.5	84	S	55
Shinkwang	57.0	75.0	132	173	88	99	91	35.5	40	MR	40

LEBANON*

Beirut

COOPERATOR (S): A. Chaaban

DATE OF PLANTING (EFFECTIVE GERMINATION): Not reported.

PRECIPITATION DURING CYCLE OF TEST: Not reported.

AMOUNT OF IRRIGATION APPLIED: Not reported.

FERTILIZER USED: Not reported.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Not reported.

DISEASE DEVELOPMENT: Not reported.

INSECT, WEED OR PEST PROBLEMS: Not reported.

DATE OF HARVEST: Not reported.

AREA HARVESTED FOR YIELD: Not reported.

DATES WHEN DIFFERENT NOTES WERE TAKEN: Not reported.

* The nursery data are incomplete due to the civil war in Lebanon.

Table 26. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Beirut, Lebanon, 1975.

Cultivars	Test weight[a] kg/hl	Protein %	Date of[a] Heading (days from Jan. 1)	Date of[a] Ripening (days from Jan. 1)	Plant height[a] cm	Rust[a] Stripe Sev. %	Rust[a] Stripe Resp.	Rust[a] Leaf Sev. %	Rust[a] Leaf Resp.	Rust[a] Stem Sev. %	Rust[a] Stem Resp.
Favorit	77.1	17.5	148	190	115	t	MS	t	MS	0	-
Jubilar	70.6	17.0	168	205	115	0	-	t	MS	0	-
Dwarf Bezostaya	75.4	14.7	157	192	75	t	MS	0	-	0	-
Manella	72.3	16.3	170	205	115	0	-	0	-	t	MS
Likafen	70.5	17.2	161	193	100	40	S	0	-	5	S
Blueboy II	71.9	14.6	152	192	110	0	-	0	-	0	-
Bezostaya 1	79.4	15.3	154	192	120	t	MS	0	-	0	-
Burgas 2	76.2	16.4	154	192	100	0	-	0	-	0	-
Demar 4	74.6	15.2	152	192	110	0	-	0	-	0	-
Aurora	77.9	16.2	161	193	120	0	-	0	-	0	-
Sanja	73.7	14.5	148	191	85	0	-	0	-	0	-
Bolal	78.6	15.0	148	190	140	t	MS	0	-	5	S
Kavkaz	77.6	16.7	163	193	125	0	-	0	-	0	-
Atlas 66	73.1	19.2	155	188	140	5	S	0	-	0	-
Blueboy	70.6	14.8	152	192	110	t	S	0	-	0	-
Lerma Rojo 64	78.3	15.8	134	180	115	t	S	0	-	0	-
Talent	72.2	15.5	150	192	95	0	-	t	MS	t	MS
Kitakomi-Komugi	76.1	14.4	146	188	100	t	MS	0	-	t	S
Kormoran	67.2	17.5	170	194	115	0	-	0	-	0	-
Rashid	78.9	16.5	143	186	140	t	S	0	-	5	S
Sentinel	75.4	17.0	153	190	125	t	MR	t	MR	0	-
Lely	69.8	16.6	171	207	105	5	MS	0	-	5	S
TRS 237	75.9	15.4	148	190	130	10	S	0	-	10	S
Biserka	75.0	15.6	146	186	100	t	MS	0	-	0	-
GKF-2	73.2	14.8	150	187	95	0	-	0	-	t	S
Sieve	71.6	19.8	168	193	135	0	-	0	-	t	MS
Dunav-1	76.1	15.7	148	192	95	0	-	0	-	0	-
Martonvasar 2	78.0	16.4	148	192	110	t	MR	0	-	0	-
Maris Huntsman	69.9	16.5	170	206	115	0	-	0	-	0	-
Maris Templar	70.5	15.9	171	207	105	0	-	t	R	0	-
Mean	74.3	16.1	155.3	193.0	112.0	-		-		-	
L.S.D. of cultivar means (.05)	--	0.6	--	--	--	-		-		-	
Coefficient of variation (%)	--	2.7	--	--	--	-		-		-	

a) One replication only.

MEXICO

Toluca

COOPERATOR: CIMMYT.

DATE OF PLANTING (EFFECTIVE GERMINATION): November 18, 1974.

PRECIPITATION DURING CYCLE OF TEST: Not reported.

AMOUNT OF IRRIGATION APPLIED: 12 applications (amounts not reported).

FERTILIZER USED: N = 100 kg/ha; P_2O_5 = 183 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Dry weather prevailed from November through May. June and July were rainy.

DISEASE DEVELOPMENT: Stem rust, leaf rust, and stripe rust were all observed.

INSECT, WEED OR PEST PROBLEMS: Birds caused some damage.

DATE OF HARVEST: July 15, 1975.

AREA HARVESTED FOR YIELD: 2.4 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Puccinia striiformis - June 4, 1975
Puccinia recondita - July 10, 1975
Puccinia graminis tritici - July 10, 1975

Correlation Coefficients

	Yield	Protein	Flowering	Plant height	Lodging
Protein	-.18*				
Flowering	-.18*	-.50**			
Plant height	-.14	-.07	.33**		
Lodging	-.21*	.32**	-.24**	.09	
Frost damage	.06	-.01	-.12	-.31**	-.10

**Significant at the 1% level. *Significant at the 5% level.

Table 27. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Toluca, Mexico, 1975.

Cultivars	Yield q/ha	Protein %	Date of flowering days from Jan. 1	Plant height cm	Lodging %	Frost damage 1-9	Rust[a] Stripe Sev. %	Stripe Resp.	Leaf Sev. %	Leaf Resp.	Stem Sev. %	Stem Resp.
Likafen	64.1	15.1	173	108	10	2	1	R-MS	22	MS-S	0	0-MR
Burgas 2	57.9	14.4	173	101	5	2	5	MR-MS	2	0-MS	0	0-R
Kitakomi-Komugi	45.7	13.2	165	93	70	2	60	MS-S	5	MS	7	MR-MS
Martonvasar 2	41.1	15.5	173	95	60	2	12	MS	0	0-MS	20	MS-S
Demar 4	40.5	13.6	180	105	34	2	1	R-MR	7	MS	7	MS
Blueboy	40.3	14.2	172	100	60	2	20	MR-MS	0	0-MS	5	MR-MS
GKF-2	39.6	15.2	165	99	38	2	5	0-MS	3	MS	45	MS-S
Dwarf Bezostaya	37.0	13.5	177	70	0	2	15	MS	0	0-R	7	MS
Blueboy II	36.1	15.1	169	101	50	2	2	0-MR	5	0-MR	0	0-R
Bezostaya 1	35.8	14.1	175	100	48	2	30	MS	7	MR	22	MS
Aurora	34.8	14.7	185	103	20	2	1	R-MR	0	0-MS	3	R-MS
Dunav-1	33.3	14.7	184	94	19	2	0	0-R	1	R-MS	1	MS
Biserka	31.2	16.7	165	93	33	2	45	MS	0	-	0	-
Sentinel	31.2	15.7	180	104	70	2	35	MS	1	R-MS	0	-
Favorit	30.4	17.3	170	99	78	2	20	R-MS	1	MS	10	MS
Maris Templar	30.4	13.5	195	105	35	2	0	-	3	MS	10	MS
Sanja	29.1	13.8	170	93	20	2	25	MS	0	0-MS	1	R-MS
Talent	28.6	14.6	171	91	63	2	10	R-MS	3	MS	2	0-MS
Kormoran	28.6	13.8	195	110	20	1	0	-	10	MS	12	MS-S
Atlas 66	27.1	18.1	170	106	58	2	30	MS	2	0-MS	10	0-MS
Maris Huntsman	26.7	13.0	190	108	30	2	0	-	10	MS	30	MS
Jubilar	26.5	12.5	199	109	13	2	30	MS	3	MS	7	MS
TRS 237	26.4	15.7	167	123	20	2	40	MS	0	0-R	10	MS
Bolal	24.3	14.1	170	110	93	2	85	S	10	MS	5	0-MS
Lely	24.1	13.7	201	110	35	1	0	0-R	5	MS	55	S
Lerma Rojo 64	22.5	16.7	138	96	49	2	50	MS-S	10	MS	10	MS
Manella	19.4	12.3	201	115	33	2	0	-	12	MS-S	12	MS
Kavkaz	18.7	15.0	190	106	33	2	5	0-MR	3	R-MS	0	0-R
Rashid	17.9	17.6	151	96	70	2	45	MS-S	10	MS	50	MS-S
Sieve	15.9	16.8	199	114	63	2	0	0-R	15	MS	30	MS-S
Mean	32.2	14.8	176.9	101.8	40.8	1.7	19.1		5.0		12.4	
L.S.D. of cultivar means (.05)	9.1	0.9	4.3	12.0	29.1	0.6	-		-		-	
Coefficient of variation (%)	20.2	4.2	1.7	8.4	50.8	27.3	-		-		-	

a) Two replications only.

NEPAL

Kathmandu

COOPERATOR(S): B. K. Thapa; A. N. Bhattarai.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 17, 1974.

PRECIPITATION DURING CYCLE OF TEST: 268 mm.

AMOUNT OF IRRIGATION APPLIED: Application made, but amount not recorded.

FERTILIZER USED: N = 100 kg/ha; P_2O_5 = 183 kg/ha; K_2O = 72 kg/ha (Urea, ammonium sulfate, and muriate of potash).

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Favorable weather up to tillering stage. There was a drought in February and March. A heavy hail storm occured on April 23.

DISEASE DEVELOPMENT: Very little of any diseases.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: April 25 - May 31, 1975.

AREA HARVESTED FOR YIELD: 3.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Disease notes - April 22, 1975
Height - April 23 - May 15, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging
Test weight	.17						
Protein	-.19*	.17					
Flowering	-.28**	-.52**	.15				
Ripening	-.18	-.32**	.12	.58**			
Plant height	.25**	.11	.07	-.23*	-.08		
Lodging	.14	.05	.13	.01	-.06	.21*	
Shattering	.14	.04	.03	-.21*	-.04	.15	-.04

**Significant at the 1% level. *Significant at the 5% level.

Table 28. Agronomic, grain quality and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Kathmandu, Nepal, 1975.

Cultivars	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging %	Shattering %	Leaf Rust Sev. %	Leaf Rust Resp.
Bolal	47.2	77.0	10.1	95	113	105	6	2	3	R-MS
Blueboy	43.6	73.4	9.9	94	112	96	0	4	5	O-R
Lerma Rojo 64	43.5	79.3	10.0	54	105	97	0	4	0	-
Rashid	42.9	79.2	10.7	81	106	114	0	4	0	O-R
Blueboy II	42.8	74.3	10.4	95	113	99	0	9	1	O-R
Aurora	42.7	79.2	12.3	97	115	82	0	3	4	O-R
Kitakomi-Komugi	42.3	75.5	10.5	94	110	89	0	4	3	O-R
Burgas 2	39.6	78.0	11.5	98	116	76	0	0	4	R
Kormoran	39.5	70.0	10.7	106	119	86	0	0	1	O-R
Maris Templar	36.6	73.8	10.8	98	117	85	0	1	0	O-R
Favorit	36.6	77.2	11.6	96	112	88	0	1	4	O-R
Martonvasar 2	35.2	76.4	10.9	97	113	87	0	1	0	O-R
Likafen	34.4	77.7	10.9	94	113	81	0	1	0	O-R
Bezostaya 1	34.4	78.7	11.1	97	115	90	0	0	2	O-R
Kavkaz	34.1	78.7	11.1	99	117	88	0	3	4	R
Maris Huntsman	33.9	74.0	10.8	99	116	90	0	0	1	O-MS
Demar 4	33.8	74.2	11.8	95	113	88	0	2	1	O-R
Manella	33.5	73.2	11.3	106	116	82	0	2	0	O-R
Talent	32.0	74.3	11.0	94	112	72	0	1	2	O-R
Sentinel	31.8	78.0	11.6	98	116	79	0	1	1	O-R
Dwarf Bezostaya	31.7	77.1	11.2	96	114	76	0	1	2	O-R
Lely	31.4	70.3	10.0	108	115	80	0	1	0	O-R
Biserka	30.0	75.2	11.2	93	116	82	0	13	0	O-R
Sanja	29.9	75.3	11.7	95	111	75	1	3	2	O-R
TRS 237	29.4	75.2	12.0	94	119	110	1	2	6	R
Atlas 66	29.0	76.0	12.7	93	116	105	0	5	3	O-R
GKF-2	28.8	74.2	10.8	94	111	85	0	3	1	O-R
Jubilar	27.1	73.0	10.9	108	118	91	0	1	1	O-R
Sieve	26.7	76.1	15.0	100	112	104	3	3	0	O-R
Dunav-1	16.8	75.8	12.6	96	114	81	0	1	0	O-R
Mean	34.7	75.7	11.2	95.4	113.7	88.6	0.3	2.4	1.7	
L.S.D. of cultivar means (.05)	8.0	0.1	1.0	2.9	3.9	15.7	2.8	4.9	-	
Coefficient of variation (%)	16.3	0.1	6.2	2.2	2.4	12.6	605.9	143.1	-	

NETHERLANDS

Wageningen

COOPERATOR: A. C. Zeven

DATE OF PLANTING (EFFECTIVE GERMINATION): October 22, 1974.

PRECIPITATION DURING CYCLE OF TEST: 697.6 mm.

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: None.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: The autumn was very wet, followed by a mild winter with no frost. The spring was wet, the summer was hot.

DISEASE DEVELOPMENT: Stripe rust and powdery mildew were observed.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: July 23 - August 13, 1975.

AREA HARVESTED FOR YIELD: 4.5 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Height - June 27, 1975
Diseases - June 27, 1975
Lodging - July 14, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging	Shattering
Test weight	.04							
Protein	-.65**	.02						
Flowering	.48**	-.22*	-.39**					
Ripening	.37**	-.42**	-.29**	.47**				
Plant height	-.41**	-.17	.28**	.17	-.14			
Lodging	-.65**	.02	.55**	-.22*	-.36**	.60**		
Shattering	-.19*	.04	.14	-.42**	-.17	-.09	.07	
Winter survival	.35**	-.14	-.37**	.45**	.41**	-.05	-.19*	-.30**

**Significant at the 1% level. *Significant at the 5% level.

Table 29. Agronomic, grain quality,and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Wageningen, The Netherlands, 1975.

Cultivars	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging %	Shattering %	Winter survival %	Stripe Rust Sev. %	Mildew Sev. %
Lely	65.9	73.8	10.0	169	225	99	0	13	95	2	0
Maris Huntsman	62.6	72.5	10.7	165	225	112	3	11	94	0	0
Manella	60.4	78.3	9.8	163	216	109	1	10	95	0	0
Maris Templar	58.3	74.0	10.0	164	225	102	0	11	94	0	6
Bezostaya 1	56.6	80.3	11.0	160	211	113	0	9	95	2	17
Jubilar	55.1	79.5	10.0	165	216	115	0	10	95	3	0
Talent	53.9	79.8	12.1	159	213	89	0	10	90	0	1
Dwarf Bezostaya	53.6	79.8	12.0	161	219	73	0	14	95	1	17
Demar 4	52.4	79.5	11.5	155	216	103	0	33	90	0	10
GKF-2	51.7	79.8	11.8	157	211	99	0	15	91	0	12
Martonvasar 2	51.6	80.8	12.3	160	216	111	1	15	90	0	18
Biserka	49.3	77.3	11.6	155	211	86	0	14	91	1	25
Kormoran	49.1	72.8	10.7	164	225	112	0	13	95	0	22
Likafen	49.1	81.0	11.1	162	216	106	0	11	91	17	3
Aurora	48.5	76.3	11.7	161	215	106	0	11	94	3	10
Dunav-1	48.2	78.5	13.3	157	225	87	0	14	91	0	10
Kavkaz	48.2	78.8	11.4	163	216	114	0	15	94	1	5
Blueboy II	48.0	79.3	12.6	159	216	121	1	10	90	8	11
Blueboy	47.0	77.3	10.7	160	216	116	3	14	91	5	45
Burgas 2	45.5	77.3	13.5	161	216	94	0	15	91	10	21
Sanja	45.1	77.5	10.7	159	211	87	0	15	90	0	57
Kitakomi-Komugi	41.3	78.3	12.2	156	211	100	33	29	90	1	47
Favorit	40.9	79.5	13.9	157	211	108	4	15	91	0	75
Atlas 66	38.8	81.3	13.0	161	211	136	84	13	90	0	5
Sieve	38.4	79.0	15.0	164	211	141	93	14	91	0	0
Lerma Rojo 64	37.4	80.0	14.4	155	204	100	70	15	90	7	22
Sentinel	37.0	80.0	13.8	160	211	113	56	14	91	1	10
Bolal	32.9	75.5	12.9	156	204	130	83	15	91	0	82
TRS 237	29.0	68.3	15.5	159	216	133	34	16	90	0	75
Rashid	25.4	76.0	14.4	156	225	124	89	13	94	2	41
Mean	47.4	77.7	12.1	160.0	215.5	107.8	18.4	14.1	92.0	2.1	21.6
L.S.D. of cultivar means (.05)	6.5	2.1	1.4	1.1	-	5.5	14.1	3.1	2.5	-	-
Coefficient of variation (%)	9.8	2.0	8.3	0.5	-	3.6	54.6	15.4	1.9	-	-

POLAND

Warsaw

COOPERATOR: S. Starzycki.

DATE OF PLANTING (EFFECTIVE GERMINATION): September 18, 1974.

PRECIPITATION DURING CYCLE OF TEST: 545 mm.

AMOUNT OF IRRIGATION APPLIED. None.

FERTILIZER USED: N = 120 kg/ha; P_2O_5 = 229 kg/ha; K_2O = 72 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Autumn was cold and very wet. Winter was light, with no snow. Spring was early and dry, summer was dry and hot.

DISEASE DEVELOPMENT: Attacks of leaf rust, stripe rust, mildew, and Septoria occured.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: July 20-28, 1975.

AREA HARVESTED FOR YIELD: 7.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:

Winter survival - March 24, 1975
Puccinia striiformis - June 20, 1975
Erysiphe graminis - June 21, 1975
Aphids - June 23, 1975
Septoria tritici - June 30, 1975
Puccinia recondita - July 1, 1975
Height - July 15, 1975
Shattering - August 11, 1975
Lodging - August 18, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging	Shattering	Winter survival
Test weight	.21*								
Protein	-.53**	.01							
Flowering	.57**	.22*	-.23*						
Ripening	.60**	.19*	-.30**	.71**					
Plant height	-.04	.01	.23*	.46**	.31**				
Lodging	-.66**	-.12	.64**	-.31**	-.40**	.33**			
Shattering	-.28**	-.29**	-.16	-.32**	-.12	-.04	.10		
Winter survival	.23*	.14	-.17	.15	.06	-.03	-.02	.20*	
1000 kernel weight	.47**	.21*	-.31**	.50**	.48**	.20*	-.23*	-.19*	.12

**Significant at the 1% level. *Significant at the 5% level.

Table 30. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Warsaw, Poland, 1975.

Cultivars	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging %	Shattering %	Winter survival %	1000-kernel weight gm
Maris Templar	66.1	74.0	12.0	160	208	108	0	8	98	57.0
Kormoran	63.7	74.4	13.5	161	205	112	3	3	99	43.9
Talent	59.3	74.7	13.8	154	203	87	0	4	99	38.6
Lely	57.2	74.6	13.4	162	207	110	0	2	100	43.9
Maris Huntsman	57.1	71.1	12.8	160	205	108	0	6	100	44.5
Jubilar	55.4	75.9	13.5	161	206	121	1	4	99	47.7
Manella	54.9	75.1	13.5	161	205	109	10	2	100	45.9
Dwarf Bezostaya	52.5	75.1	13.5	157	204	77	0	1	88	45.2
Kavkaz	52.5	75.6	14.5	160	204	107	4	1	93	48.3
Bezostaya 1	51.6	77.0	14.4	156	203	99	6	1	94	45.2
Sanja	50.6	72.8	14.3	152	202	84	0	2	95	41.4
Aurora	48.5	76.1	13.5	158	203	101	0	2	95	47.7
Burgas 2	48.3	70.7	14.1	158	203	88	0	2	98	44.8
GKF-2	48.0	73.6	13.4	150	203	91	23	3	100	44.7
Sentinel	47.7	75.3	15.8	152	201	98	31	2	95	36.9
Martonvasar 2	47.3	76.3	14.4	153	202	98	9	4	100	46.8
Blueboy	45.7	75.2	13.6	157	204	115	14	2	93	44.0
Demar 4	45.5	75.1	13.1	150	203	94	0	17	99	41.3
Likafen	45.0	76.9	13.8	158	204	105	3	1	98	37.9
Biserka	43.1	73.6	13.1	147	202	86	15	7	100	38.1
Dunav-1	42.6	76.0	14.9	151	204	83	3	3	86	40.8
Favorit	42.3	74.7	15.1	151	201	101	53	4	100	41.9
Atlas 66	41.0	77.7	17.5	154	205	116	75	1	94	41.2
Kitakomi-Komugi	40.6	71.9	12.9	149	202	97	20	24	99	40.4
TRS 237	38.8	70.8	15.1	150	203	117	9	2	71	40.6
Blueboy II	36.1	72.4	15.3	158	204	112	39	13	96	37.7
Sieve	34.7	75.1	17.1	160	204	123	95	2	99	47.6
Bolal	33.6	73.0	14.0	153	200	112	95	2	89	40.9
Lerma Rojo 64	26.9	72.9	17.0	147	198	93	73	3	94	41.0
Rashid	17.3	70.2	16.2	148	201	108	99	16	96	39.0
Mean	46.5	74.2	14.3	154.8	203.3	101.9	22.5	4.7	95.4	43.1
L.S.D. of cultivar means (.05)	6.0	2.6	0.9	1.3	1.2	5.8	18.1	3.5	7.0	2.6
Coefficient of variation (%)	9.2	2.5	4.5	0.6	0.4	4.0	57.2	54.2	5.2	4.3
Local cultivars										
Grana	55.6	73.5	-	159	206	112	0	2	100	45.4
Luna	51.4	72.7	-	157	203	96	0	1	100	41.9

Table 30. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Warsaw, Poland, 1975. Concluded.

Cultivar	Rust: Stripe Sev. %	Rust: Stripe Resp.	Rust: Leaf Sev. %	Rust: Leaf Resp.	Rust: Stem Sev. %	Rust: Stem Resp.	Mildew Sev. %	Septoria Sev. %	Date of heading (days from Jan. 1)	Aphid infestation %
Maris Templar	0	-	5	0-MR	0	-	0	22	153	9
Kormoran	16	R-MS	5	0-MS	0	-	15	22	153	14
Talent	0	-	0	-	0	-	7	17	144	13
Lely	0	-	2	0-MR	5	0-MS	25	25	156	16
Maris Huntsman	0	-	10	0-MS	0	0-MR	2	22	151	18
Jubilar	0	-	17	MR-MS	7	0-MS	12	15	154	15
Manella	0	-	6	0-MS	4	0-MS	13	12	151	18
Dwarf Bezostaya	0	-	2	0-MS	0	-	42	42	148	28
Kavkaz	0	-	25	MS-S	5	0-MS	35	30	151	20
Bezostaya 1	2	0-MR	13	MS	1	0-MS	26	32	147	19
Sanja	3	0-MR	0	-	0	-	37	40	141	33
Aurora	0	-	45	MS-S	25	0-MS	42	40	148	30
Burgas 2	0	-	27	MS	7	0-MS	62	47	147	33
GKF-2	0	-	16	MR-MS	7	0-MS	13	35	139	25
Sentinel	10	0-MS	2	0-MS	2	0-MS	8	52	141	25
Martonvasar 2	7	0-MS	11	MR-MS	2	0-MS	15	42	146	33
Blueboy	30	0-MS	5	0-MS	0	-	52	40	146	13
Demar 4	0	-	17	MR-MS	6	0-MS	18	27	141	21
Likafen	2	0-MS	0	-	0	-	70	27	148	13
Biserka	17	0-S	0	0-R	0	0-R	3	47	138	30
Dunav-1	0	-	0	0-MR	0	-	6	47	143	40
Favorit	12	0-MS	22	M-MS	15	0-MS	10	55	141	19
Atlas 66	5	0-MR	2	0-MS	2	0-MS	21	22	145	20
Kitakomi-Komugi	7	0-MS	10	MR-MS	0	-	32	35	139	31
TRS 237	31	MS	20	MR-MS	5	0-MS	11	32	141	19
Blueboy II	8	0-MS	6	0-MS	0	-	38	37	147	21
Sieve	0	-	14	MR-MS	0	-	17	25	151	14
Bolal	37	0-S	35	M-S	2	0-MS	13	60	145	14
Lerma Rojo 64	0	-	5	0-MR	0	-	31	60	136	19
Rashid	5	0-MS	42	MS-S	12	0-MS	26	55	138	33
Mean	6.4		12.1		3.6		23.4	35.5	145.5	21.1
L.S.D. of cultivar means (.05)	-		-		-		-	-	1.3	13.1
Coefficient of variation (%)	-		-		-		-	-	0.6	44.2
Local cultivars										
Grana	0	-	9	MR-MS	4	0-MS	8	30	150	15
Luna	0	-	25	MS	5	0-MS	13	25	147	9

ROMANIA

Fundulea

COOPERATOR(S): N. Eustatiu; G. H. Ittu; N. N. Saulescu.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 17, 1974.

PRECIPITATION DURING CYCLE OF TEST: 566 mm (August 1, 1974 to July 1, 1975).

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: N = 100 kg/ha; P_2O_5 = 70 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Rainfall was good in the fall, the winter was moderate and the spring had well distributed rains. The first part of June was very hot, affecting yields of late maturing varieties.

DISEASE DEVELOPMENT: Leaf rust infection occured early, affecting yield in several varieties. Powdery mildew was also observed.

INSECT, WEED OR PEST PROBLEMS: 3.5 kg/ha of Dicotex was applied for weed control.

DATE OF HARVEST: July 10, 1975.

AREA HARVESTED FOR YIELD: 3.0 square meters

DATES WHEN DIFFERENT NOTES WERE TAKEN:

Winter survival - March 27, 1975
Erysiphe graminis - June 8, 1975
Height - June 10, 1975
Puccinia recondita - June 12, 1975
Puccinia graminis tritici - June 17, 1975
Lodging - June 18, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging
Test weight	.66**						
Protein	-.28**	-.18					
Flowering	-.65**	-.69**	.41**				
Ripening	-.57**	-.64**	.32**	.94**			
Plant height	-.30**	-.18*	.36**	.31**	.19*		
Lodging	.13	.29**	.28**	-.29**	-.43**	.54**	
Frost damage	.31**	.30**	.19*	-.32**	-.34**	-.00	.32**

**Significant at the 1% level. *Significant at the 5% level.

Table 31. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Fundulea, Romania, 1975.

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging %	Frost damage 1-9	Rust: Leaf Sev. %	Rust: Leaf Resp.	Rust: Stem Sev. %	Rust: Stem Resp.	Mildew Sev. %
Biserka	55.0	73.5	15.5	139	173	88	0	5	6	R	22	VS	10
Talent	54.1	69.4	15.6	143	175	91	0	3	50	S-VS	6	R-MR	30
Sanja	51.3	71.2	13.9	141	171	80	0	3	26	R	0	-	27
Lerma Rojo 64	48.8	75.9	15.6	136	167	103	80	8	37	MS-S	0	-	40
Kitakomi-Komugi	48.6	72.8	13.2	138	169	96	68	2	99	VS	72	VS	75
Sentinel	44.2	72.0	16.9	143	175	110	99	1	17	R-MR	0	-	47
Atlas 66	43.9	74.1	18.0	146	174	119	85	4	7	R	8	R	20
Blueboy II	43.3	68.8	13.2	143	175	113	35	2	28	VR-R	15	R	77
TRS 237	42.1	71.2	14.6	141	173	118	28	1	99	S	5	R-MR	47
Likafen	41.5	73.8	13.9	148	181	100	0	3	20	R	27	S	47
GKF-2	40.0	69.0	14.5	139	172	93	9	1	99	S	22	S	52
Favorit	39.7	73.7	15.4	140	171	104	20	1	99	S	0	-	70
Bezostaya 1	39.6	73.8	14.0	144	177	99	3	1	99	S	18	MS-S	70
Dunav-1	39.3	71.4	15.4	141	175	88	0	2	55	MS	32	VS	35
Martonvasar 2	37.8	70.1	15.5	142	174	98	10	1	99	VS	32	VS	77
Kormoran	36.9	64.7	16.1	150	182	110	21	1	55	S	87	VS	62
Demar 4	35.6	68.5	14.8	141	173	90	0	4	99	VS	7	R-MR	80
Blueboy	33.8	64.7	12.8	144	176	113	21	2	92	S	27	S	80
Bolal	32.9	68.6	13.8	141	170	123	95	1	99	S	0	-	80
Dwarf Bezostaya	31.6	68.3	14.1	145	176	68	0	1	89	S	22	S	67
Rashid	28.9	69.8	16.3	139	171	115	99	6	92	S	0	-	80
Lely	28.4	62.8	16.5	154	183	108	9	1	13	R-MR	92	VS	80
Sieve	28.2	68.2	19.6	150	179	129	99	3	30	MS	27	S	40
Manella	27.8	64.8	15.1	149	179	109	4	3	99	VS	40	S-VS	80
Aurora	27.2	70.6	15.1	146	177	100	0	1	99	VS	7	R	80
Maris Templar	26.9	62.8	17.2	153	183	105	0	3	20	MR-MS	40	VS	10
Kavkaz	25.8	70.7	16.0	149	180	105	0	1	99	VS	6	R	80
Burgas 2	25.5	64.5	15.9	145	176	91	0	2	99	VS	18	R	80
Maris Huntsman	25.1	59.1	16.4	153	183	109	0	2	85	S	32	VS	10
Jubilar	18.0	63.3	15.6	153	182	116	0	1	99	VS	30	MS-S	80
Mean	36.7	69.1	15.3	144.5	175.7	102.8	26.1	2.3	67.0		23.1		57.1
L.S.D. of cultivar means (.05)	4.3	1.3	0.7	--	1.3	4.6	14.2	0.5	--		--		--
Coefficient of variation (%)	8.4	1.4	3.4	0.0	0.5	3.2	38.9	13.9	--		--		--
Local cultivars:													
F26-70	47.3	77.0	15.8	139	170	101	0	2	77	S	0	-	10
F54-70	54.7	77.5	16.1	141	173	105	1	2	12	R	0	-	40
Iulia	51.4	76.3	14.3	139	171	101	0	2	70	S	0	-	40
Ceres	52.4	75.5	14.8	141	173	101	6	1	13	R	0	-	47

REPUBLIC OF SOUTH AFRICA

Bethlehem

COOPERATOR(S): I. B. Edwards; I. B. J. Smit.

DATE OF PLANTING (EFFECTIVE GERMINATION): May 16, 1975.

PRECIPITATION DURING CYCLE OF TEST: 525 mm (May 1 - December 31, 1975).

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: N = 12.6 kg/ha; P_2O_5 = 43 kg/ha; K_2O = 15 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Initial soil moisture was adequate. The winter was normal. Spring precipitation was adequate. Some cultivars were damaged by hail, depending on growth stage.

DISEASE DEVELOPMENT: A severe rust infection occured at end of growing season.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: December 4-30, 1975.

AREA HARVESTED FOR YIELD: 5.6 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Flowering - September 18 - November 3, 1975
Height - November 10 - December 18, 1975
Lodging - November 10 - December 18, 1975
Ripening - November 10 - December 18, 1975
Puccinia graminis tritici - December 10-19, 1975
Puccinia recondita - December 10-19, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging
Test weight	-.19*						
Protein	-.50**	.36**					
Flowering	.62**	-.68**	-.54**				
Ripening	.54**	-.77**	-.49**	.93**			
Plant height	-.02	-.57**	.06	.33**	.43**		
Lodging	.12	-.26**	-.20*	.27**	.30**	.02	
Shattering	-.17	-.05	.05	.00	.08	-.01	-.07

**Significant at the 1% level. *Significant at the 5% level.

Table 32. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Bethlehem, South Africa, 1975.

Cultivar	Yield	Test weight	Protein	Date of Flowering	Date of Ripening	Plant height	Lodging	Shattering	Rust Leaf Sev.	Rust Leaf Resp.	Rust Stem Sev.	Rust Stem Resp.	Hail damage[a]
	q/ha	kg/hl	%	days from Jan. 1		cm	%	%	%		%		%
Dwarf Bezostaya	29.7	78.8	13.7	288	336	57	0	0	0	0-S	1	0-S	0
Kormoran	29.2	70.5	13.8	302	346	87	0	0	30	S	72	S	0
Likafen	28.7	71.8	12.8	298	348	94	0	0	31	MS-S	55	S	0
Sentinel	28.4	75.5	16.5	290	339	80	0	0	7	MR-S	10	MS	0
Lely	28.4	70.8	13.8	307	353	88	0	0	94	S	17	S	0
Aurora	27.7	76.6	16.0	290	340	83	0	0	0	-	0	-	0
Burgas 2	27.6	76.8	16.3	285	337	69	0	0	0	-	0	-	0
GKF-2	26.1	78.0	15.0	286	330	71	0	0	29	0-S	99	S	0
Maris Huntsman	25.5	67.8	12.6	302	351	94	0	0	55	S	99	S	0
Maris Templar	24.9	70.4	13.8	303	352	83	10	0	8	MS-S	87	S	0
Bezostaya 1	24.3	78.0	15.4	287	337	80	0	0	0	-	1	0-S	0
Kavkaz	22.3	73.1	16.9	293	342	90	0	15	0	-	0	-	0
Talent	22.3	76.0	15.5	287	332	66	0	0	65	S	67	MS	14
Martonvasar 2	22.1	77.4	16.4	285	332	78	0	0	0	-	3	0-S	0
Dunav-1	21.4	76.6	16.4	288	338	68	0	0	1	0-S	57	S	0
Bolal	21.3	79.0	15.0	278	330	86	0	0	17	0-S	57	S	0
Sieve	19.6	74.1	18.2	302	347	113	0	0	30	MS-S	80	S	0
Blueboy	19.5	74.9	14.4	287	334	81	0	0	49	0-S	91	S	14
Likafen	18.9	72.3	15.7	289	342	79	0	20	74	MS-S	94	S	15
Jubilar	18.7	68.5	13.0	305	350	96	0	0	87	S	62	S	0
Favorit	18.4	76.4	17.4	286	330	79	0	0	2	0-S	75	MR-S	7
Manella	16.3	71.3	19.4	287	343	93	0	0	15	0-S	99	S	0
Lerma Rojo 64	14.2	76.4	17.8	263	318	90	0	0	0	-	0	-	0
Sanja	14.1	77.1	16.1	282	330	63	0	0	12	S	84	S	12
TRS 237	13.1	74.3	16.6	277	334	86	0	0	7	MR-MS	74	S	25
Kitakomi-Komugi	12.6	77.6	15.5	278	332	76	0	9	1	0-S	99	S	50
Demar 4	12.5	77.4	15.3	289	337	78	0	11	62	S	72	S	47
Biserka	12.0	77.8	16.6	278	326	64	0	0	24	0-S	99	S	25
Blueboy II	9.5	73.9	16.4	281	334	79	0	0	15	0-S	52	MR-S	47
Rashid	7.1	77.0	17.6	267	320	90	0	0	0	-	0	-	50
Mean	20.5	74.9	15.6	287.9	337.2	81.3	0.3	1.8	23.8		53.5		10.2
L.S.D. of cultivar means (.05)	2.1	0.8	0.6	1.5	1.7	3.3	-	1.4	-		-		-
Coefficient of variation (%)	7.4	0.8	2.7	0.4	0.4	2.9	0.0	54.6	-		-		-

a) One replication only.

SWEDEN

Svalof

COOPERATOR: G. Olsson.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 18, 1974.

PRECIPITATION DURING CYCLE OF TEST: 569 mm (October 1, 1974 through July 31, 1975).

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: N = 120 kg/ha; P_2O_5 = 73 kg/ha; K_2O = 54 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: The winter was mild, spring was normal, and the summer was dry and warm.

DISEASE DEVELOPMENT: More stripe rust than normal, but mildew was less than normal.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: July 29, 1975 - August 6, 1975.

AREA HARVESTED FOR YIELD: 2.1 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:

Winter survival - April 20, 1975
Plant numbers - April 29, 1975
Puccinia striiformis - June 30, 1975
Erysiphe graminis - June 30, 1975
Height - July 14, 1975
Lodging - July 28, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging	Frost damage
Test weight	-.10							
Protein	-.69**	-.13						
Flowering	.74**	.01	-.66**					
Ripening	.71**	-.16	-.43**	.82**				
Plant height	.28**	-.20*	-.07	.23*	.35**			
Lodging	-.21*	.05	.19*	-.24**	-.10	.66**		
Frost damage	-.38**	-.03	.28**	-.44**	-.27**	.19*	.46**	
1000 kernel weight	.41**	-.15	-.14	.12	.17	.19*	.17	-.01

**Significant at the 1% level.

*Significant at the 5% level.

Table 33. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Svalof, Sweden, 1975.

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering days from Jan. 1	Date of Ripening days from Jan. 1	Plant height cm	Lodging %	Frost damage 0-9	1000-kernel weight gm	Stripe rust Sev. %	Mildew Sev. %	Plants/m^2	Heads/m^2	Pearling resistance value
Maris Huntsman	78.5	79.4	12.1	175	216	86	10	0	48.6	0	0	635	603	7.4
Maris Templar	75.1	81.3	12.1	173	217	76	2	0	53.3	0	0	580	647	6.2
Lely	73.4	81.4	12.2	175	216	81	2	0	43.8	0	22	603	688	6.8
Manella	71.4	81.9	11.9	172	214	90	11	0	44.0	0	27	462	572	6.8
Talent	68.4	83.2	13.2	169	213	70	3	1	39.6	0	5	632	709	7.1
Jubilar	67.3	82.7	13.4	174	216	89	10	0	46.4	0	18	487	556	6.7
Kavkaz	66.8	83.9	13.7	173	213	86	10	0	47.5	2	10	497	533	7.4
Kormoran	62.8	80.3	12.2	174	214	85	6	0	40.4	4	8	532	651	7.8
Aurora	61.5	84.1	13.6	172	214	80	6	0	45.1	0	20	536	576	7.5
Sieve	54.5	81.4	14.6	174	214	96	23	0	46.6	0	3	606	627	6.6
Likafen	53.3	84.7	13.3	172	211	80	9	0	37.0	0	60	521	596	8.1
Bezostaya 1	53.0	84.2	13.7	170	214	83	18	0	46.8	0	15	569	537	7.5
Demar 4	52.2	83.5	12.8	168	208	71	2	0	39.4	2	27	543	618	6.8
Blueboy	50.8	81.8	12.0	172	210	86	11	0	38.0	23	37	580	581	7.0
Bolal	50.2	83.7	13.0	166	205	89	19	1	46.0	45	12	504	659	7.6
Martonvasar 2	48.4	83.8	14.5	171	208	78	11	0	45.0	6	20	565	635	7.2
Favorit	47.1	83.7	15.0	166	208	80	25	0	44.8	6	13	635	603	7.4
Burgas 2	47.0	80.9	16.1	172	217	69	1	0	42.6	0	35	476	624	7.2
GKF-2	46.4	81.7	14.2	167	206	74	4	0	46.8	4	21	558	617	7.2
Blueboy II	45.6	82.9	13.3	171	212	83	13	1	32.0	2	52	635	600	7.3
Dunav-1	45.2	84.4	14.1	170	210	65	2	0	42.1	1	1	495	611	7.6
Dwarf Bezostaya	44.9	85.2	12.8	172	209	59	0	1	41.9	3	21	493	538	7.9
Kitakomi-Komugi	44.4	82.0	14.8	166	209	71	7	0	41.0	8	36	618	605	7.0
Sanja	42.6	82.1	15.0	167	206	63	0	0	38.9	10	21	513	666	7.0
Atlas 66	41.9	82.7	16.6	169	214	91	19	1	37.5	3	16	492	536	7.5
TRS 237	41.6	80.8	15.8	168	214	94	20	1	40.9	29	5	355	467	7.3
Rashid	41.4	82.6	15.2	164	206	95	40	2	46.4	11	31	554	496	6.6
Biserka	37.7	81.0	15.6	163	205	64	1	0	42.9	32	3	551	612	6.6
Sentinel	33.9	81.6	18.9	163	205	76	4	0	38.1	18	7	612	746	7.1
Lerma Rojo 64	27.8	81.1	16.7	161	204	76	19	2	46.3	3	52	494	553	6.4
Mean	52.5	82.5	14.1	169.5	210.8	79.5	10.1	0.4	43.0	7.1	19.9	543.3	602.0	7.2
L.S.D. of cultivar means (.05)	4.8	0.6	0.5	0.7	1.1	3.4	5.1	0.5	1.6	-	-	94.8	90.5	-
Coefficient of variation (%)	6.5	0.5	2.8	0.3	0.4	3.1	35.8	89.6	2.6	-	-	12.4	10.7	-

SWITZERLAND

Zurich

COOPERATOR(S): G. Popow; F. Weilenmann.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 13, 1975.

PRECIPITATION DURING CYCLE OF TEST: 680 mm.

AMOUND OF IRRIGATION APPLIED: None.

FERTILIZER USED: N = 120 kg/ha; P_2O_5 = 80 kg/ha; K_2O = 240 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: A very mild winter was followed by an early, but cool spring. The period before harvest was dry.

DISEASE DEVELOPMENT: Septoria nodorum and Erysiphe graminis were heavy, Puccinia striiformis was very light.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: July 30, August 4, 1975.

AREA HARVESTED FOR YIELD: 4.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Puccinia striiformis - July 4, 1975
Erysiphe graminis - July 18, 1975
Height - July 18, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Plant height	Lodging
Test weight	.23*					
Protein	-.40**	-.07				
Flowering	.15	-.39**	-.07			
Plant height	-.15	-.14	.23*	.38**		
Lodging	-.33**	.19*	.32**	-.32**	.48**	
1000 kernel weight	.12	.09	.32**	.36**	.28**	-.09

**Significant at the 1% level. *Significant at the 5% level.

Table 34. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Zurich, Switzerland, 1975.

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Date of flowering days from Jan. 1	Plant height cm	Lodging %	1000-kernel weight gm	Mildew Sev. %	Mildew Resp.	Septoria nodorum[a]	Zeleny[a] value %
Maris Huntsman	56.7	76.9	14.1	164	108	6	49.0	0	-	57	19
Biserka	51.8	80.4	14.8	148	83	0	37.5	10	MR	56	45
Maris Templar	50.2	78.2	14.3	165	99	0	46.5	2	0-MR	40	30
Demar 4	50.0	83.3	13.6	152	91	0	40.7	8	MR	61	42
Sanja	49.0	81.2	13.5	150	74	4	38.0	26	MR-S	61	47
Talent	48.1	80.7	14.7	154	86	3	38.8	2	0-MR	65	38
Kormoran	48.0	78.4	13.2	165	104	1	40.5	7	MR	67	64
Manella	46.8	81.1	13.5	162	106	4	46.1	10	MR	65	33
GKF-2	45.3	79.4	14.9	149	86	5	42.5	10	0-MR	64	53
Martonvasar 2	44.9	81.8	15.8	157	99	38	47.9	10	MR	61	56
Jubilar	43.9	79.3	13.6	166	110	1	48.4	12	MR	50	32
Favorit	43.7	82.0	16.1	150	103	66	44.3	10	MR	68	69
Blueboy	42.9	79.0	13.5	159	111	21	42.5	21	MR-S	71	25
Atlas 66	42.9	81.8	16.5	158	121	88	39.5	5	MR	62	48
Lely	42.7	76.5	14.0	166	99	0	34.9	10	MR	54	24
Bezostaya 1	42.7	82.8	15.6	156	101	34	47.6	15	MR	43	59
Sentinel	40.7	81.2	17.0	151	103	60	37.6	8	MR	60	60
Kitakomi-Komugi	39.1	80.7	13.3	150	91	39	37.6	25	MR-S	67	41
Blueboy II	38.8	78.8	14.5	158	109	26	38.8	21	MR-M	66	35
Dunav-1	38.8	81.9	15.7	152	80	0	41.8	3	0-MR	61	56
Burgas 2	37.6	79.8	16.6	155	89	0	47.0	5	MR	--	40
Bolal	36.8	82.8	14.5	151	111	92	45.6	12	MR-M	62	60
Dwarf Bezostaya	36.2	81.5	14.3	158	70	0	42.0	17	MR-M	--	66
Aurora	35.5	78.9	17.3	160	100	1	51.9	3	0-MR	78	52
Sieve	35.0	80.4	17.5	163	129	85	49.3	13	MR-M	64	26
Kavkaz	34.1	77.4	17.6	161	104	5	51.4	1	0-MR	73	43
Lerma Rojo 64	33.7	78.6	14.6	147	91	68	37.5	36	M-S	76	42
Likafen	30.1	80.0	14.5	160	98	1	33.5	47	S	58	53
Rashid	28.5	79.0	15.7	147	108	99	38.4	25	M	60	53
TRS 237	21.4	76.9	15.9	153	106	14	41.0	13	MR-M	--	54
Mean	41.2	80.0	15.0	156.0	98.9	25.3	42.6	12.9		61.9	45.5
L.S.D. of cultivar means (.05)	6.0	1.2	0.6	1.6	7.1	19.6	2.4	--		--	--
Coefficient of variation (%)	10.3	1.0	3.0	0.7	5.1	55.0	4.0	--		--	--

a) One replication only.

TURKEY

Ankara

COOPERATOR(S): A. Bayraktar; H. Bakioglu; K. Yakar; A. Demirlicakmak.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 15, 1974.

PRECIPITATION DURING CYCLE OF TEST: 280 mm.

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: N = 60 kg/ha; P_2O_5 = 60 kg/ha (Diammonium phosphate and ammonium nitrate).

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Fall rains were very late, therefore emergence did not occur until March 1, 1975. Wind erosion was a problem in March and April. Good rains fell in May and June.

DISEASE DEVELOPMENT: None.

INSECT, WEED OR PEST PROBLEMS: A few weeds were present, but not severe.

DATE OF HARVEST: August 1, 1975.

AREA HARVESTED FOR YIELD: 6.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN: Not reported.

Correlation Coefficients

	Yield	Test weight	Protein	Flowering
Test weight	-.10			
No. of observations	25			
Protein	-.23	-.42*		
No. of observations	30	25		
Flowering	.02	-.73**	.55**	
No. of observations	30	25	30	
1000 kernel weight	.20*	.68**	-.41*	-.54**
No. of observations	120	25	30	30

**Significant at the 1% level. *Significant at the 5% level.

Cultivar	Yield q/ha	Test weight[a] kg/hl	Protein[a] %	Date of flowering[a] days from Jan. 1	1000-kernel weight gm
Lely	21.3	67.0	18.6	176	29.1
Sentinel	18.5	76.4	17.4	158	32.4
Blueboy	17.8	73.3	15.1	159	34.1
Maris Templar	16.9	67.3	17.6	176	33.7
Martonvasar 2	16.1	--	16.5	158	38.4
Sieve	15.6	71.4	19.9	173	34.5
Rashid	15.0	--	16.9	152	40.1
Dunav-1	14.3	--	16.5	158	35.9
Kitakomi-Komugi	14.1	77.2	15.2	148	32.3
Maris Huntsman	13.5	67.3	16.8	176	31.8
GKF-2	13.4	--	15.7	158	36.6
Biserka	13.2	73.2	15.7	156	30.9
Blueboy II	13.0	72.1	15.9	161	28.3
Aurora	12.0	74.7	17.6	171	32.7
Kavkaz	10.4	72.8	17.8	173	33.8
Likafen	10.0	70.4	19.3	173	29.8
Bolal	10.0	76.9	17.5	158	34.4
Bezostaya 1	9.7	74.8	16.9	166	34.6
Talent	9.2	70.5	17.3	158	30.2
Kormoran	8.5	66.9	16.2	173	27.9
TRS 237	7.6	72.1	17.3	156	31.6
Burgas 2	7.4	71.6	18.9	171	29.7
Jubilar	7.3	58.9	20.0	176	27.2
Favorit	7.3	72.5	17.5	158	35.4
Atlas 66	6.9	68.7	21.7	173	25.2
Mænella	6.4	67.0	17.3	176	30.7
Lerma Rojo 64	6.2	77.2	17.6	145	37.9
Sanja	6.2	72.0	17.2	168	27.3
Demar 4	4.1	70.8	18.5	168	26.5
Dwarf Bezostaya	3.3	--	17.9	173	34.2
Mean	11.2	71.3	17.5	164.8	32.2
L.S.D. of cultivar means (.05)	7.3	--	--	--	1.2
Coefficient of variation (%)	46.8	--	--	--	2.7
Local cultivars:					
Zlatna dolina	5.4	68.3	17.8	166	31.2
Rousalka	11.4	75.9	15.8	148	39.7
Maris Nimrod	9.8	61.9	18.0	181	28.7
NS 732	4.9	68.1	14.7	148	29.2

a) One replication only.

TURKEY

Erzurum

COOPERATOR(S): B. Yilmaz; A. S. Kiral.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 10, 1974.

PRECIPITATION DURING CYCLE OF TEST: 421.7 mm.

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: N = 60 kg/ha; P_2O_5 = 60 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: The weather was rainy up through the first week of June, then it was dry and hot.

DISEASE DEVELOPMENT: No problems.

INSECT, WEED OR PEST PROBLEMS: Weeds presented some problems.

DATE OF HARVEST: August 17, 1975.

AREA HARVESTED FOR YIELD: 5.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:

Emergence - October 24-26, 1974
Winter survival - April 10-12, 1975
Flowering date - June 20-July 4, 1975
Ripeness date - July 19-August 8, 1975
Diseases - August 5, 1975
Height - August 10, 1975
Shattering - August 15, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height
Test weight	.23*					
Protein	-.20*	-.20*				
Flowering	-.15	-.68**	.07			
Ripening	-.11	-.55**	-.01	.85**		
Plant height	.20*	.30**	.20*	-.27**	-.38**	
Shattering	-.10	-.08	-.02	-.14	-.21*	-.11

**Significant at the 1% level. *Significant at the 5% level.

Table 36. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Erzurum, Turkey, 1975.

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Shattering %	Rust: Stripe Sev. %	Rust: Stem Sev. %	Rust: Stem Resp.
Bolal	29.0	79.8	11.4	175	208	74	0	2	7	O-S
Martonvasar 2	27.9	78.5	12.9	175	205	71	0	0	7	O-S
Talent	26.5	75.8	12.4	174	208	59	0	3	5	MR
Bezostaya 1	25.9	79.0	12.8	176	209	71	0	0	17	S
GKF-2	25.7	77.0	12.6	174	201	67	0	0	12	O-S
Favorit	25.5	77.8	12.7	175	205	77	0	0	6	S
Blueboy II	25.1	76.0	12.4	178	206	75	2	0	0	-
Kitakomi-Komugi	24.8	78.5	11.8	172	202	68	0	0	30	S
Dwarf Bezostaya	24.4	78.3	11.7	177	209	52	0	0	10	MS-S
Atlas 66	24.2	76.0	15.4	177	208	90	0	12	0	-
Sentinel	23.2	78.5	12.8	174	204	74	0	0	2	O-S
Lely	22.3	74.0	12.2	184	222	52	0	0	7	O-S
Demar 4	21.8	76.5	11.9	174	209	66	1	5	11	S
Lerma Rojo 64	21.4	77.5	13.0	173	200	76	0	0	0	O-R
Kormoran	21.4	73.5	12.3	182	218	55	0	0	5	O-S
Dunav-1	21.2	78.8	12.8	174	212	54	0	0	5	S
Kavkaz	21.2	74.8	13.3	180	212	72	0	0	0	-
Likafen	21.1	77.3	13.2	178	211	65	0	0	10	MR-MS
Manella	20.8	75.0	12.7	183	211	57	0	0	8	MR-MS
Blueboy	20.5	75.0	12.5	179	209	67	0	0	3	O-S
Burgas 2	20.2	76.3	13.4	178	208	58	0	0	0	-
Maris Huntsman	19.9	73.3	12.9	184	219	59	0	0	5	O-S
Maris Templar	19.5	73.0	12.7	185	220	58	0	12	10	MS-S
Biserka	19.1	75.5	13.1	173	202	58	2	0	12	O-S
Jubilar	19.1	73.3	13.4	185	215	61	0	0	22	S
Rashid	17.9	78.8	12.7	173	202	78	0	0	12	S
Sieve	17.9	74.3	14.4	183	213	77	0	0	2	O-S
Sanja	17.6	75.5	13.9	173	202	52	2	20	17	S
Aurora	16.7	77.3	13.7	177	212	66	0	0	0	O-R
TRS 237	12.6	76.0	13.7	174	206	74	0	0	7	O-S
Mean	21.8	76.3	12.9	177.2	208.8	66.0	0.2	1.8	7.7	
L.S.D. of cultivar means (.05)	7.3	1.5	1.5	1.4	1.1	6.5	0.8	-	-	
Coefficient of variation (%)	24.0	1.4	8.5	0.6	0.4	7.0	237.8	-	-	

TURKEY

Eskisehir

COOPERATOR(S): H. Kutluk; E. Karma; F. Altay.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 15, 1974.

PRECIPITATION DURING CYCLE OF TEST: 403.8 mm (September 1974 through August 31, 1975).

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: N = 40 kg/ha; P_2O_5 = 60 kg/ha (Diammonium phosphate).

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Fall and spring were rainy. Hail occured on May 28, 1975.

DISEASE DEVELOPMENT: Stripe rust and stem rust infections were serious; leaf rust was also observed.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: July 20, 1975.

AREA HARVESTED FOR YIELD: 8.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:

Winter survival - January 25, 1975
Date of flowering - May 20, 1975
Puccinia striiformis - June 16, 1975
Puccinia recondita - June 20, 1975
Puccinia graminis tritici - July 4, 1975
Lodging - July 6, 1975
Date of Ripening - July 8, 197
Shattering - July 30, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging	Shatter
Test weight	.01							
Protein	-.40**	.16						
Flowering	.03	-.54**	-.23*					
Ripening	.10	-.32**	-.26**	.49**				
Plant height	-.04	-.04	.16	.38**	.11			
Lodging	-.48**	.10	.42**	-.17	-.12	.27**		
Shattering	-.10	.17	.19*	-.09	-.18*	.15	-.04	
Frost damage	-.37**	-.03	-.07	-.24**	-.13	-.19*	.22*	-.06

**Significant at the 1% level. *Significant at the 5% level.

Table 37. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Eskisehir, Turkey, 1975.

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering days from Jan. 1	Date of Ripening days from Jan. 1	Plant height cm	Lodging %	Shattering %	Frost damage 1-9	Rust Stripe Sev. %	Rust Stripe Resp.	Rust Leaf Sev. %	Rust Leaf Resp.	Rust Stem Sev. %	Rust Stem Resp.
Lely	42.9	74.5	11.6	164	200	93	1	0	3	0	-	2	MR-S	42	0-S
Kavkaz	42.4	83.0	13.3	155	196	101	0	0	3	0	-	1	MS-S	0	0-MR
Blueboy	42.1	75.6	11.1	153	193	99	3	1	4	5	R-MS	0	0-MS	15	MR-S
Burgas 2	41.9	84.1	12.6	151	193	83	0	0	4	0	0-VR	1	MR-S	0	-
Aurora	41.9	83.5	13.4	154	195	95	0	0	3	0	-	0	0-S	0	-
Bolal	41.3	82.7	11.6	148	190	108	15	1	4	16	MR-S	28	MR-S	0	-
Lerma Rojo 64	40.7	83.1	14.2	141	186	85	13	0	4	1	0-MS	0	0-MS	0	-
GKF-2	40.4	80.5	12.8	147	188	76	0	0	3	2	0-MR	13	MS-S	2	0-S
Bezostaya 1	40.2	86.8	12.8	150	193	96	0	0	4	0	-	1	R-S	3	MS-S
Kormoran	40.2	77.2	13.1	159	197	93	0	0	4	0	-	2	MS-S	16	MS-S
Maris Huntsman	39.5	73.0	11.8	161	199	98	0	0	4	0	-	1	R-MR	8	MS-S
Blueboy II	39.4	80.3	12.5	151	194	95	0	1	3	0	-	1	R-MS	0	0-MS
Maris Templar	38.5	75.5	12.2	163	200	91	0	0	3	0	-	1	MR-MS	8	MR-S
Talent	38.1	80.6	14.5	150	193	75	0	0	5	0	0-VR	3	MS-S	0	0-S
Martonvasar 2	37.6	82.1	12.7	150	191	91	0	0	4	3	0-MS	1	R-S	1	0-MS
Sentinel	36.5	78.6	14.8	151	192	95	1	0	4	17	R-MS	0	-	0	0-MS
Kitakomi-Komugi	36.4	83.7	13.8	146	191	83	0	8	4	1	0-S	4	MS-S	3	MS-S
Dwarf Bezostaya	36.3	83.1	11.9	150	192	61	0	0	4	0	-	3	MS-S	4	0-S
Favorit	34.9	83.4	12.8	149	192	94	1	4	4	1	0-R	1	MR-S	1	0-S
Demar 4	34.4	82.0	12.4	150	190	79	0	1	4	0	0-VR	14	MR-S	7	MR-S
Manella	33.2	80.5	12.6	157	197	86	0	0	5	0	-	25	MS-S	32	MS-S
Jubilar	32.6	77.9	11.6	164	197	103	0	0	4	0	-	16	MS-S	36	MS-S
Sanja	32.4	79.4	12.7	148	188	63	0	0	6	2	0-S	4	0-S	5	0-S
Biserka	32.2	77.9	13.7	146	188	69	0	1	4	1	0-MR	0	0-R	0	-
Dunav-1	29.5	81.8	14.6	148	190	73	0	0	3	0	-	1	R-MS	0	0-MS
Likafen	29.2	80.3	11.7	156	197	88	0	0	5	73	S	3	0-S	0	0-MS
TRS 237	27.1	79.9	14.5	149	193	98	0	1	5	46	M-S	6	MR-S	0	-
Sieve	25.9	81.1	17.1	158	184	125	20	5	3	0	-	7	MS-S	4	MS-S
Rashid	23.3	82.7	14.8	146	189	94	90	0	6	26	VR-S	25	MS-S	11	MS-S
Atlas 66	20.6	78.8	15.9	154	196	110	50	0	4	63	S	0	0-MR	0	0-MR
Mean	35.7	80.4	13.2	152.2	192.7	89.8	6.4	0.7	3.9	8.6		5.5		6.6	
L.S.D. of cultivar means (.05)	6.1	2.9	1.3	1.8	6.6	7.0	9.5	2.1	1.0	-		-		-	
Coefficient of variation (%)	12.2	2.6	6.8	0.8	2.4	5.6	105.0	232.4	18.9	-		-		-	

UNITED STATES

California

Davis

COOPERATOR(S): C. O. Qualset; H. E. Vogt.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 18, 1974.

PRECIPITATION DURING CYCLE OF TEST: 412 mm.

AMOUNT OF IRRIGATION APPLIED: 219 mm (in 3 applications).

FERTILIZER USED: N = 30 kg/ha (Ammonium nitrate).

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: The winter and early spring were wet. From April to harvest, conditions were dry.

DISEASE DEVELOPMENT: No stem rust or stripe rust, however Septoria was observed.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: June 11, 1975.

AREA HARVESTED FOR YIELD: 3.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Septoria tritici - May 4, 1975
Lodging - June 9, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height
Test weight	.40*					
No. of observations	29					
Protein	-.39**	-.23				
No. of observations	120	29				
Flowering	-.06	-.55**	-.02			
No. of observations	120	29	120			
Ripening	.03	-.39*	.03	.79**		
No. of observations	30	29	30	30		
Plant height	-.33**	-.39*	.30**	.33**	.30	
No. of observations	120	29	120	120	30	
Lodging	-.23*	.18	.45**	-.28**	-.12	.48**
No. of observations	120	29	120	120	30	120

**Significant at the 1% level. *Significant at the 5% level.

Nursery grown at Davis, California, USA, 1975.

Cultivar	Yield q/ha	Test weight[a] kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening[a] (days from Jan. 1)	Plant height cm	Lodging %	Septoria Sev. %
Talent	66.0	--	11.9	119	152	101	0	26
Blueboy	63.1	74.2	10.6	122	151	124	9	70
GKF-2	62.8	77.5	11.2	115	151	110	18	70
Biserka	62.7	78.0	11.1	111	150	102	0	56
Likafen	62.1	76.9	11.3	128	158	119	0	76
Bolal	59.9	78.9	11.4	114	151	131	97	43
Dwarf Bezostaya	59.6	78.8	11.4	123	157	82	0	80
Blueboy II	57.1	73.8	11.2	121	153	127	19	70
Bezostaya 1	56.9	77.3	12.4	122	156	121	49	70
TRS 237	54.5	77.3	13.2	117	151	140	60	70
Dunav-1	54.3	79.3	12.1	120	155	98	0	76
Sentinel	54.2	78.6	11.8	125	154	128	60	63
Burgas 2	54.1	78.7	11.5	119	152	106	0	76
Demar 4	54.0	77.1	11.8	119	153	113	1	50
Sanja	54.0	76.6	12.0	114	150	95	0	70
Martonvasar 2	53.8	79.1	11.5	120	151	117	73	73
Lely	53.5	64.8	12.5	139	165	115	0	66
Aurora	53.1	78.4	12.2	125	154	118	11	66
Favorit	52.8	78.4	13.0	119	148	117	53	73
Manella	51.8	74.6	13.1	130	160	121	4	26
Maris Templar	47.9	76.0	12.0	136	161	116	0	73
Kormoran	47.4	78.4	12.6	130	157	123	5	23
Jubilar	45.4	71.0	12.7	137	163	130	0	53
Kitakomi-Komugi	44.9	74.2	10.9	113	150	116	9	80
Lerma Rojo 64	43.0	78.0	13.2	98	112	97	15	80
Maris Huntsman	41.8	70.0	11.5	133	160	127	0	60
Kavkaz	41.3	78.8	11.4	127	154	123	34	70
Atlas 66	39.5	74.4	15.4	124	152	149	80	70
Rashid	33.8	77.8	14.8	98	146	120	99	70
Sieve	31.2	72.2	14.3	133	157	142	51	53
Mean	51.9	76.2	12.2	121.5	152.8	117.6	24.8	63.4
L.S.D. of cultivar means (.05)	10.3	--	1.1	1.9	--	7.1	21.8	--
Coefficient of variation (%)	14.2	--	6.7	1.1	--	4.3	62.6	--
Local cultivars:								
Anza	65.9	81.5	-	102	145	92	0	70
WW33	72.4	80.0	-	109	149	94	0	70

a) One replication only.

UNITED STATES

Colorado

Fort Collins

COOPERATOR: J. R. Welsh.

DATE OF PLANTING (EFFECTIVE GERMINATION): September 18, 1974.

PRECIPITATION DURING CYCLE OF TEST: 343 mm.

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: None.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: May was abnormally cool and rainy.

DISEASE DEVELOPMENT: The plots were artificially inoculated with stem rust races 15B-2 (TNM), 15B-2 (TLM), and 56 (MBC).

INSECT, WEED OR PEST PROBLEMS: Not reported.

DATE OF HARVEST: August 19, 1975.

AREA HARVESTED FOR YIELD: 3.11 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Puccinia graminis tritici - August 10, 1975
Height - August 13, 1975
Lodging - August 13, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Plant height	Lodging
Test weight	-.28				
No. of observations	28				
Protein	-.22*	.55**			
No. of observations	112	28			
Plant height	-.18	.05	.38		
No. of observations	15	15	15		
Lodging	.03	.33	.48**	.42	
No. of observations	28	28	28	15	
Winter survival	.83**	.00	.00	.00	.00
No. of observations	30	28	28	15	28

**Significant at the 1% level. *Significant at the 5% level.

Table 39. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Fort Collins, Colorado, USA, 1975.

Cultivar	Yield q/ha	Test weight[a] kg/hl	Protein %	Plant height[a] cm	Lodging[a] %	Winter survival[a] %	Stem Rust[a] Sev. %	Resp.
GKF-2	86.2	71.3	15.3	--	0	100	10	MR
Aurora	83.3	76.9	16.5	101	0	100	1	MS
Talent	81.5	68.5	14.9	--	0	100	20	S
Kormoran	80.8	65.5	15.5	--	0	100	10	MS
Kavkaz	80.6	72.5	16.6	115	0	100	10	MR
Blueboy	79.8	66.8	13.8	107	10	100	70	S
Martonvasar 2	79.4	72.8	15.9	--	5	100	15	S
Bezostaya 1	78.5	70.2	13.2	75	0	100	40	S
Kitakomi-Komugi	77.6	70.3	14.8	--	0	100	30	S
Sentinel	76.8	69.9	17.1	--	0	100	1	R
Blueboy II	76.1	68.6	15.3	98	0	100	10	MR
Lely	74.5	63.1	14.7	--	0	100	30	S
Burgas 2	73.2	69.9	16.5	88	0	100	1	R
Favorit	72.9	74.8	17.6	101	5	100	10	S
Maris Templar	71.2	66.8	14.1	--	0	100	30	S
Likafen	70.0	70.8	15.7	96	0	100	1	R
Dwarf Bezostaya	69.1	73.1	15.1	100	0	100	50	S
Maris Huntsman	68.7	61.9	14.6	--	0	100	30	MR
Sanja	67.0	69.0	15.5	78	0	100	1	R
Dunav-1	66.7	69.5	15.6	--	0	100	25	S
Bolal	66.4	78.8	15.7	105	5	100	0	-
Biserka	66.2	69.9	16.4	--	0	100	1	R
Manella	65.8	68.2	14.3	109	0	100	20	S
TRS 237	65.0	69.5	16.6	--	0	100	20	MS
Demar 4	61.7	75.6	15.0	89	0	100	20	MS
Jubilar	58.9	65.5	14.5	102	0	100	50	S
Atlas 66	56.4	70.4	18.4	118	5	100	20	MS
Sieve	55.6	75.5	19.4	--	20	100	20	MS
Lerma Rojo 64	0.0	--	--	--	-	0	-	-
Rashid	0.0	--	--	--	-	0	-	-
Mean	67.0	70.2	15.6	98.8	1.8	93.3	19.5	
L.S.D. of cultivar means (.05)	13.3	--	0.4	--	-	--	-	
Coefficient of variation (%)	14.1	--	1.6	--	-	--	-	

a) One replication only.

UNITED STATES

Nebraska

Lincoln

COOPERATOR(S): V. A. Johnson; J. W. Schmidt.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 2, 1974

PRECIPITATION DURING CYCLE OF TEST: 437 mm (October 1, 1974-June 30, 1975).

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: N = 22 kg/ha; P_2O_5 = 67 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Mild winter, spring and summer were generally good.

DISEASE DEVELOPMENT: Some stem rust and leaf rust was observed.

INSECT, WEED OR PEST PROBLEMS: Weeds were controlled with 2,4-D.

DATE OF HARVEST: July 6, 1975.

AREA HARVESTED FOR YIELD: 1.67 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN: Not reported.

Correlation Coefficients

	Yield	Protein
Protein	-.48**	
No. of observations	116	
1000-kernel weight	.62**	-.13
No. of observations	116	116

**Significant at the 1% level.

Table 40. Agronomic and grain quality data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Lincoln, Nebraska, USA, 1975.

Cultivar	Yield q/ha	Protein %	1000-kernel weight g
Burgas 2	42.2	16.4	34.6
Aurora	41.0	16.4	39.6
Martonvasar 2	40.3	16.3	38.8
Favorit	38.9	16.9	36.4
Biserka	38.3	14.9	30.7
Bezostaya 1	38.2	15.6	37.7
Kavkaz	38.0	17.1	38.6
Kitakomi-Komugi	37.9	13.6	31.9
Bolal	37.3	14.1	35.9
GKF-2	37.1	14.9	29.9
Blueboy II	36.9	14.7	32.2
Blueboy	35.1	13.2	32.2
Talent	34.5	14.6	27.7
Dunav-2	34.4	15.9	32.1
Sanja	33.7	15.3	29.9
Sentinel	32.9	16.7	29.4
TRS 237	32.3	16.1	36.4
Atlas 66	31.2	19.0	32.0
Demar 4	29.2	14.9	27.6
Dwarf Bezostaya	26.7	15.4	27.5
Kormoran	24.6	16.4	25.3
Manella	23.3	16.5	26.2
Sieve	22.5	18.8	32.3
Maris Huntsman	20.0	16.6	25.0
Likafen	19.9	15.7	25.2
Lely	19.0	17.8	21.3
Maris Templar	17.2	17.4	25.3
Jubilar	13.3	17.9	23.3
Rashid	8.0	17.8	31.1
Lerma Rojo 64	0.0	--	--
Mean	29.4	16.1	30.9
L.S.D. of cultivar means (.05)	3.9	0.5	2.2
Coefficient of variation (%)	9.3	2.2	5.1

UNITED STATES

New York

Ithaca

COOPERATOR: N. F. Jensen

DATE OF PLANTING (EFFECTIVE GERMINATION): October 8, 1974.

PRECIPITATION DURING CYCLE OF TEST: 962 mm (August 1, 1974 - July 31, 1975).

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: Preplant: N = 22 kg/ha; P_2O_5 = 46 kg/ha; K_2O = 5 kg/ha.
February 21, 1975: N = 37 kg/ha (Ammonium nitrate).

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Normal.

DISEASE DEVELOPMENT: Low occurance of all diseases.

INSECT, WEED OR PEST PROBLEMS: Minimal.

DATE OF HARVEST: July 23, 1975.

AREA HARVESTED FOR YIELD: 2.23 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Winter survival - May 28, 1975
Height - early July, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Plant height
Test weight	.67**			
No. of observations	30			
Protein	-.50**	-.40*		
No. of observations	120	30		
Plant height	.50**	.80**	-.20*	
No. of observations	120	30	120	
Winter survival	.71**	.64**	-.46**	.23*
No. of observations	120	30	120	120

**Significant at the 1% level. *Significant at the 5% level.

Table 41. Agronomic and grain quality data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Ithaca, New York, USA, 1975.

Cultivar	Yield q/ha	Test weight[a] kg/hl	Protein %	Plant height cm	Winter survival %
Blueboy	42.8	73.1	12.2	91	77
Maris Templar	42.6	71.3	13.1	87	61
Kavkaz	40.1	76.8	14.3	91	81
Blueboy II	38.3	74.2	12.9	92	78
Bolal	38.0	77.3	14.1	103	79
Aurora	37.9	77.3	14.5	80	78
Demar 4	37.5	74.2	13.3	73	80
Bezostaya 1	37.3	77.1	14.1	81	80
Maris Huntsman	37.3	68.1	13.2	85	67
Jubilar	36.8	73.7	12.3	92	70
Talent	36.7	73.7	14.1	66	76
Manella	36.6	75.3	13.0	85	81
Sentinel	34.9	75.3	15.0	90	79
Kormoran	34.6	70.9	13.3	85	74
Favorit	34.3	75.3	14.6	86	73
Lely	33.9	69.4	13.4	82	85
Atlas 66	33.1	75.0	15.9	100	58
Sieve	32.7	74.8	15.8	111	74
Burgas 2	30.9	73.2	14.8	68	73
Martonvasar 2	29.3	75.3	14.5	79	77
Dunav-1	29.3	73.0	15.3	64	80
Biserka	29.1	72.2	14.7	67	74
Sanja	28.7	68.4	14.1	59	73
GKF-2	28.2	68.1	14.3	67	75
Kitakomi-Komugi	24.6	70.1	14.3	77	74
Dwarf Bezostaya	24.5	72.1	15.0	58	78
Likafen	23.1	73.0	13.7	79	71
TRS 237	22.9	70.1	16.1	95	50
Rashid	9.3	71.2	14.9	90	13
Lerma Rojo 64	1.7	0.0	17.7	33	4
Mean	31.6	70.7	14.3	80.4	69.6
L.S.D. of cultivar means (.05)	6.0	--	0.8	10.7	13.7
Coefficient of variation (%)	13.5	--	4.1	9.5	14.0

a) One replication only.

UNITED STATES

North Carolina

Rowan County

COOPERATOR: C. F. Murphy

DATE OF PLANTING (EFFECTIVE GERMINATION): October 8, 1975.

PRECIPITATION DURING CYCLE OF TEST: Not reported.

AMOUNT OF IRRIGATION APPLIED: Not reported.

FERTILIZER USED: N = 112 kg/ha; P_2O_5 = 116 kg/ha; K_2O = 108 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Mild winter, other conditions were fair to good.

DISEASE DEVELOPMENT: Very little.

INSECT, WEED OR PEST PROBLEMS: Not reported.

DATE OF HARVEST: June 10, 1975.

AREA HARVESTED FOR YIELD: 1.48 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Winter survival - April 1, 1975
Height - May 27, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	
Test weight	.34				
No. of observations	30				
Protein	-.32**	.13			
No. of observations	120	30			
Flowering	-.23*	-.48**	.32**		
No. of observations	120	30	120		
Plant height	.10	.24	.35**	.33**	
No. of observations	120	30	120	120	

**Significant at the 1% level. *Significant at the 5% level.

Table 42. Agronomic and grain quality data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at North Carolina, USA, 1975.

Cultivar	Yield q/ha	Test weight[a] kg/hl	Protein %	Date of flowering days from Jan. 1	Plant height cm
Blueboy II	29.5	71.4	12.7	120	96
Bolal	28.5	73.7	11.5	116	100
Biserka	28.3	70.6	11.7	116	81
Blueboy	27.8	71.5	11.7	121	93
Talent	27.2	69.1	12.4	116	77
Aurora	27.0	73.9	13.2	122	92
Favorit	26.2	73.2	13.2	119	94
Martonvasar 2	26.1	73.0	12.8	121	89
Sentinel	25.7	72.8	13.1	123	92
Kavkaz	25.5	73.9	12.3	123	91
Demar 4	25.4	71.0	12.4	117	87
Manella	24.5	67.0	13.0	125	90
GKF-2	23.5	68.7	11.9	118	82
Bezostaya 1	23.2	74.8	13.0	121	85
Dunav-1	23.1	72.8	14.0	120	78
Atlas 66	22.6	74.1	14.8	122	118
Burgas 2	22.5	71.4	13.6	121	77
Dwarf Bezostaya	21.2	72.2	12.8	121	63
Lely	21.2	65.2	13.7	135	91
Kitakomi-Komugi	21.1	70.9	11.7	117	84
Maris Templar	21.1	65.6	12.7	130	88
Sieve	20.7	71.5	15.5	128	122
TRS 237	19.6	71.2	13.8	121	103
Maris Huntsman	19.2	63.2	12.7	130	95
Sanja	19.0	66.0	13.2	116	71
Likafen	18.7	72.2	13.2	124	89
Kormoran	18.6	63.8	12.5	128	83
Jubilar	17.8	68.2	13.6	134	101
Rashid	17.1	70.9	12.7	116	94
Lerma Rojo 64	13.2	69.6	13.8	116	78
Mean	22.8	70.4	13.0	121.8	89.4
L.S.D. of cultivar means (.05)	4.7	--	1.0	0.8	5.3
Coefficient of variation (%)	14.6	--	5.6	0.4	4.3

a) One replication only.

UNITED STATES

Oklahoma

Stillwater

COOPERATOR: E. L. Smith.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 8, 1974.

PRECIPITATION DURING CYCLE OF TEST: 1052 mm (October 1, 1974-June 30, 1975).

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: Preplant: N = 40 kg/ha; P_2O_5 = 103 kg/ha.
Topdress: N = 57 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Precipitation was above normal. Temperatures were below normal in the spring and early summer.

DISEASE DEVELOPMENT: Leaf rust, powdery mildew, and Septoria were observed.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: June 19, 1975.

AREA HARVESTED FOR YIELD: 1.47 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Forage ratings - February 12, 1975
Freeze damage - February 28, 1975
Heading - April and May, 1975
Flag leaf area measurements - May 19, 1975
Height - May 19, 1975
Rust data - May 27, 1975
Ripening - June 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging	Shattering	
Test weight	.48**								
No. of observations	29								
Protein	-.44**	.19							
No. of observations	116	29							
Flowering	.16	.29	-.00						
No. of observations	116	29	116						
Ripening	.06	.16	-.02	.93**					
No. of observations	116	29	116	116					
Plant height	-.10	-.26	.21*	.22*	.29**				
No. of observations	116	29	116	116	116				
Lodging	-.35**	-.48**	.17	-.38**	-.41**	-.01			
No. of observations	116	29	116	116	116	116			
Shattering	-.42**	-.37*	.02	-.45**	-.39**	-.28**	.19*		
No. of observations	116	29	116	116	116	116	116		
Winter survival	.56**	.14	.08	.13	.09	-.03	-.01	.08	
No. of observations	120	29	116	116	116	116	116	116	

**Significant at the 1% level.

*Significant at the 5% level.

Table 43. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Stillwater, Oklahoma, USA, 1975.

Cultivar	Yield q/ha	Test weight[a] kg/hl	Protein %	Date of Flowering days from Jan. 1	Date of Ripening days from Jan. 1	Plant height cm	Lodging %	Shattering %	Winter survival %	Forage evaluation[b] 1-9	No. of tillers/ plot
Burgas 2	24.6	72.9	17.8	121	155	77	8	10	100	5	41
Sentinel	24.4	71.8	16.7	123	156	87	16	10	100	7	88
Dwarf Bezostaya	20.5	73.9	15.7	124	158	60	11	10	100	5	50
Maris Templar	20.2	69.8	16.3	133	169	77	4	10	100	4	57
Bolal	20.1	72.3	16.6	120	153	90	35	10	100	4	62
Kormoran	20.0	70.5	17.6	130	163	75	19	10	100	7	57
Blueboy	19.8	67.7	15.7	122	158	90	4	10	100	3	62
Bezostaya 1	19.3	73.4	17.0	123	158	80	25	10	100	5	48
Martonvasar 2	18.8	71.8	17.5	121	155	80	33	10	100	6	45
Jubilar	18.4	71.6	16.3	134	168	87	8	10	100	6	57
Manella	18.2	73.1	17.4	128	163	86	18	10	100	7	46
Aurora	17.0	74.9	18.1	125	159	84	7	10	100	4	39
Likafen	16.8	73.1	16.6	126	162	80	5	10	100	3	51
Dunav-1	16.7	72.1	18.4	121	156	66	5	20	100	5	38
Blueboy II	16.0	69.8	16.7	121	158	91	5	25	100	4	57
GKF-2	15.9	67.4	17.9	119	153	79	53	10	100	4	51
TRS-237	15.5	68.5	17.7	120	157	93	14	10	100	5	60
Talent	15.4	66.4	17.4	119	155	73	38	20	100	3	77
Maris Huntsman	14.7	70.0	16.9	131	167	85	6	10	100	6	49
Favorit	14.4	70.3	18.5	121	154	82	25	10	100	4	52
Lely	13.8	68.7	16.9	133	168	84	8	10	100	6	50
Kavkaz	13.8	74.9	18.0	127	162	87	9	10	100	4	44
Atlas 66	11.7	69.8	20.1	126	164	92	24	10	100	2	38
Biserka	11.5	66.9	18.6	115	152	74	7	45	100	4	42
Sanja	11.2	68.5	16.8	118	154	68	43	40	100	3	53
Demar 4	9.2	69.5	17.5	120	154	75	25	65	100	3	55
Kitakomi-Komugi	7.8	64.4	16.7	117	155	82	58	40	100	3	39
Rashid	7.7	68.2	16.9	120	156	83	20	10	28	3	39
Sieve	7.7	65.6	20.6	131	163	94	38	10	100	4	50
Lerma Rojo 64	0.0	--	--	--	--	--	--	--	5	-	--
Mean	15.4	70.3	17.4	123.6	158.7	81.3	19.6	16.4	94.4	4.3	51.6
L.S.D. of cultivar means (.05)	3.1	--	1.1	1.0	1.6	5.0	9.5	9.5	1.3	1.3	9.2
Coefficient of variation (%)	14.5	--	4.5	0.6	0.7	4.4	34.6	41.1	1.0	20.9	10.9

a) One replication only
b) 1-3 = good, 4-6 = medium, 7-9 = poor

Table 43. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Stillwater, Oklahoma, USA, 1975. Concluded.

Cultivar	Leaf Rust[c]		Septoria[c]		Bacterial blight[c]	Stage of growth[d]	Average flag leaf area	Seeds/spike	1000-kernel[e] weight
	Sev. %	Resp.	Flag leaf %	Middle of plant %	flag leaf %		cm^2		gm
Burgas 2	20	MS	2	50	10	8	19.4	35	33.7
Sentinel	30	S	5	100	20	8	10.8	24	28.3
Dwarf Bezostaya	10	S	20	100	10	7	16.9	35	28.2
Maris Templar	10	S	t	70	5	7	20.9	24	29.9
Bolal	40	S	n	n	n	8-9	13.7	28	29.3
Kormoran	50	S	5	70	3	7	12.6	28	27.0
Blueboy	5	MS-S	n	n	3	8	16.9	34	28.3
Bezostaya 1	20	S	5	70	t	7	17.0	31	31.9
Martonvasar 2	5	M	95	100	n	8	19.4	29	34.2
Jubilar	40	S	5	60	t	6	21.5	27	25.5
Manella	30	S	10	50	20	6	13.8	31	28.3
Aurora	10	MS-S	5	50	10	7	17.8	35	29.5
Likafen	60	S	5	70	n	7	18.2	28	27.2
Dunav-1	5	M	50	100	n	8	19.2	36	29.3
Blueboy II	t	MS	5	70	t	8	18.1	27	26.7
GKF-2	20	MS-S	Pyc. in flag		n	8-9	18.0	33	28.3
TRS-237	40	S	5	100	3	8-9	13.9	25	32.3
Talent	n		50	100	25	7-8	15.7	32	24.8
Maris Huntsman	30	S	2	80	20	7	20.4	27	33.0
Favorit	5	S	n	n	n	8	14.4	26	28.7
Lely	30	S	10	50	t	6	16.3	34	24.6
Kavkaz	40	MS-S	5	50	5	7	19.1	33	29.5
Atlas 66	20	S	1	5	3	7	18.9	29	23.7
Biserka	20	MS-S	Pyc. in flag		n	9	18.0	39	24.0
Sanja	10	MS-S	10	100	n	8-9	15.2	37	23.9
Demar 4	60	S	n	n	10	8-9	18.9	29	21.8
Kitakomi-Komugi	20	S	Pyc. in flag		n	8	16.8	35	28.2
Rashid	30	S	n	n	n	7	13.7	27	24.8
Sieve	30	MS	1	50	50	7	21.7	20	28.7
Lerma Rojo 64	40	S	50	100	n	7	--	--	--
Mean	25.2		15.7	72.5	10.4	-	17.1	30.3	28.1
L.S.D. of cultivar means (.05)	--		--	--	--	-	--	--	--
Coefficient of variation (%)	--		--	--	--	-	--	--	--

c) Lower case "n" indicates necrotic tissue from undetermined cause which masked symptoms of the disease.
d) Stage of growth when disease notes were taken; 6 = milk, 7 = soft dough, 8 = hard dough, 9 = ripe.
e) Based on kernel weight of 8 spikes.

UNITED STATES

Oregon

Corvallis

COOPERATOR(S): W. E. Kronstad; M. L. Powelson.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 22, 1974.

PRECIPITATION DURING CYCLE OF TEST: 945 mm.

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: Fall: N = 11.5 kg/ha (Ammonium sulfate).
Spring: N = 34.5 kg/ha (Urea).

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: A very mild winter was followed by a cool and wet spring and summer.

DISEASE DEVELOPMENT: Stripe rust development was strong.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: August 14, 1975.

AREA HARVESTED FOR YIELD: 5.947 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Puccinia striiformis - June 6, 1975
Lodging - August 7, 1975
Height - August 7, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Plant height
Test weight	.57**				
No. of observations	120				
Protein	-.27**	.07			
No. of observations	111	111			
Flowering	.28**	.18*	.07		
No. of observations	120	120	111		
Plant height	-.12	.06	.38**	.24**	
No. of observations	120	120	111	120	
Lodging	-.82**	-.58**	.47**	-.22*	.36**
No. of observations	120	120	111	120	120

**Significant at the 1% level. *Significant at the 5% level.

Table 44. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Corvallis, Oregon, USA. 1975.

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Date of flowering days from Jan. 1	Plant height cm	Lodging %	Stripe Rust Sev. %	Stripe Rust Resp.
Talent	85.7	73.1	13.3	147	101	4	0	-
Lely	83.4	72.8	13.0	158	124	8	7	O-VR
Kavkaz	82.4	75.1	14.7	154	128	4	0	-
Aurora	77.2	75.5	14.7	150	128	8	8	R
Maris Huntsman	75.6	71.7	13.3	156	119	13	8	R
Burgas 2	74.5	73.5	15.3	150	105	0	7	R
Demar 4	71.2	73.6	13.1	149	116	0	50	VS
Dunav-1	66.4	75.5	14.4	144	99	2	25	MR
Bezostaya 1	65.2	75.4	13.9	135	126	9	75	MS
Blueboy II	63.9	68.1	12.4	146	124	30	75	MR
Jubilar	63.8	73.3	13.8	159	134	23	7	R
Maris Templar	63.3	72.3	13.7	156	120	10	0	-
Likafen	60.8	71.3	13.1	154	115	0	0	-
Biserka	60.7	70.5	13.7	146	99	3	90	S
Dwarf Bezostaya	59.6	72.3	13.5	151	78	0	75	MR
Martonvasar 2	57.5	74.0	14.1	145	120	45	91	MS
Manella	52.9	73.4	13.4	156	123	34	0	-
Blueboy	51.3	64.7	12.4	144	124	53	99	S
GKF-2	49.2	70.3	14.1	143	105	65	50	MR-MS
Sanja	48.1	68.3	12.6	147	91	15	97	MS
Favorit	46.5	72.7	15.2	147	116	45	75	MS
Sentinel	44.9	70.9	15.0	150	136	75	91	MS-S
TRS 237	44.7	69.7	13.8	143	142	60	92	MS
Kormoran	41.6	70.8	15.0	155	126	53	0	-
Atlas 66	41.2	73.5	16.5	150	153	72	10	MR
Sieve	36.0	69.1	18.2	155	153	96	8	VR
Bolal	33.8	67.6	12.7	148	130	77	93	MS
Lerma Rojo 64	28.4	70.0	15.3	140	96	87	0	-
Rashid	24.0	70.2	13.8	144	128	84	99	VS
Kitakomi-Komugi	19.4	60.2	13.4	145	105	99	99	S
Mean	55.8	71.3	14.0	148.9	118.8	35.7	44.4	
L.S.D. of cultivar means (.05)	14.0	2.5	1.0	--	6.4	23.2	--	
Coefficient of variation (%)	17.9	2.5	4.9	0.0	3.8	46.2	--	

UNITED STATES

Washington

Pullman

COOPERATOR(S): R. E. Allan; C. J. Peterson.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 1, 1974.

PRECIPITATION DURING CYCLE OF TEST: 528 mm (September 1, 1974 - August 31, 1975).

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: A split plot design was used where half the nursery received 0 fertilizer and the other half received 22 kg/ha of N (Ammonium nitrate) in the spring.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Spring was colder than normal.

DISEASE DEVELOPMENT: Some stripe rust was observed.

INSECT, WEED OR PEST PROBLEMS: None

DATE OF HARVEST: August 15, 1975.

AREA HARVESTED FOR YIELD: 2.97 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN: None

Correlation Coefficients

	Yield	Test weight	Protein
Test weight	-.08		
Protein	-.22*	.18*	
Flowering	.41**	-.10	-.07

**Significant at the 1% level. *Significant at the 5% level.

Table 45. Agronomic, grain quality data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Pullman, Washington, USA, 1975.

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Date of flowering days from Jan. 1
Aurora	62.5	79.6	15.0	166
Maris Huntsman	62.5	75.3	13.7	169
Lely	61.2	78.3	13.4	173
Demar 4	57.9	79.4	12.2	162
Manella	56.6	75.9	13.4	169
Talent	55.9	76.2	14.3	164
Kavkaz	55.7	80.2	14.3	169
Kormoran	55.5	75.1	14.7	170
Blueboy II	54.9	75.9	13.5	164
Maris Templar	54.2	76.1	12.7	170
Likafen	53.3	77.0	13.9	167
Kitakomi-Komugi	51.3	78.6	14.3	160
Bezostaya 1	49.5	77.8	14.0	164
Jubilar	49.2	78.3	13.4	171
Martonvasar 2	49.0	79.8	14.6	164
Biserka	48.0	75.1	13.5	158
Burgas 2	47.2	79.8	15.5	165
GKF-2	46.1	76.7	14.5	161
Dunav-1	45.4	78.7	15.5	162
Blueboy	45.0	74.5	11.6	164
Favorit	45.0	79.4	13.5	162
Sentinel	44.5	78.8	15.9	162
Lerma Rojo 64	43.8	77.8	15.1	150
Sanja	40.1	75.3	13.1	161
Bolal	39.9	78.3	12.7	162
TRS 237	37.2	78.0	14.9	162
Atlas 66	36.8	78.5	16.4	163
Dwarf Bezostaya	35.9	78.1	13.8	165
Rashid	35.7	78.5	15.5	155
Sieve	33.2	77.2	16.8	170
Mean	48.4	77.6	14.2	164.0
L.S.D. of cultivar means (.05)	4.6	2.1	1.3	1.6
Coefficient of variation (%)	6.8	1.9	6.5	0.7
Local cultivars:				
Luke	64.9	78.5	11.8	170
Nugaines	58.7	79.1	12.1	170

U.S.S.R.

Krasnodar

COOPERATOR: Y. M. Puchkov.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 11, 1974.

PRECIPITATION DURING CYCLE OF TEST: 599 mm.

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: N = 130 kg/ha; P_2O_5 = 206 kg/ha; K_2O = 54 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: A mild winter was followed by an early, humid spring. Temperatures were high during grain filling period. Maturity was 10-15 days earlier than normal.

DISEASE DEVELOPMENT: Leaf rust was observed late in the growing cycle.

INSECT, WEED OR PEST PROBLEMS: Some bird damage. Also stink bugs (Eurygaster integriceps), European wheat stem sawfly (Cephus pygmaeus) and cereal leaf beetle (Oulema melanopus) were observed.

DATE OF HARVEST: July 2, 1975.

AREA HARVESTED FOR YIELD: 6.6 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Winter survival - March 12, 1975 Lodging - May 27, 1975
Erysiphe graminis - May 4 & 20, 1975 Puccinia recondita - May 28 & June 4

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging	Winter survival
Test weight	.56**							
Protein	-.51**	-.35**						
Flowering	-.39**	-.66**	.43**					
Ripening	-.38**	-.50**	.55**	.80**				
Plant height	-.25*	-.09	.16	.13	.06			
Lodging	-.02	-.08	-.24*	.10	-.01	-.44**		
Winter survival	-.12	-.12	-.07	.40**	.15	.12	.06	
1000-kernel weight	.34**	.51**	.04	-.33**	-.17	.05	-.05	-.54**

**Significant at the 1% level. *Significant at the 5% level.

Table 46. Agronomic, grain quality, and disease data for 26 of the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Krasnodar, USSR, 1975.[a]

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging %	Winter survival %	1000-kernel weight gm	Leaf Rust[b] Sev. %	Leaf Rust[b] Resp.	Mildew Sev. %
Kitakomi-Komugi	40.8	70.1	13.4	130	167	98	40	90	27.1	38	VS	2
Sanja	37.4	70.1	14.2	131	164	87	99	90	28.5	1	VR	2
Likafen	36.7	71.4	14.0	137	171	94	80	100	22.6	3	VR	35
Lerma Rojo 64	36.6	72.8	14.8	125	165	89	80	50	35.0	1	VR	18
Bezostaya 1	36.4	69.9	15.8	131	163	88	60	80	25.7	1	MS	1
Talent	35.8	67.6	15.9	132	168	91	60	90	25.1	3	MS	3
Sentinel	34.3	71.1	17.1	134	167	110	40	100	27.5	1	VR	18
Blueboy	32.9	64.7	13.8	134	162	113	60	100	25.9	13	VS	27
GKF-2	31.7	66.2	15.6	133	168	90	60	80	25.3	55	S	3
Biserka	31.5	71.2	16.0	129	163	93	60	80	28.4	1	VR	1
Martonvasar 2	30.6	70.0	17.0	134	166	108	40	100	27.7	30	VS	18
Dunav-1	30.1	72.4	16.2	133	169	91	40	90	30.2	30	MS	1
TRS 237	30.0	69.9	15.1	132	166	112	40	90	27.0	60	S	2
Bolal	27.2	69.5	14.0	132	165	120	40	100	23.3	99	VS	5
Atlas 66	26.7	70.1	17.3	132	170	114	40	90	26.4	1	VR	8
Sieve	26.0	69.2	19.4	138	171	118	60	80	33.7	18	VS	13
Aurora	25.7	69.1	15.6	135	169	103	99	100	25.7	90	VS	12
Burgas 2	24.8	63.4	16.4	134	168	93	80	100	21.7	99	VS	28
Maris Huntsman	24.8	58.7	17.3	143	174	104	60	80	28.3	35	S	1
Rashid	24.2	68.1	15.5	125	163	119	40	60	28.0	90	VR	35
Lely	23.6	65.7	15.9	145	177	103	80	100	26.5	0	VR	13
Kavkaz	23.2	68.7	17.3	130	171	102	60	100	26.5	90	VS	23
Kormoran	22.6	60.6	17.3	141	171	107	40	100	22.0	30	VR	13
Demar 4	21.8	64.4	14.2	133	162	97	99	100	23.4	60	VS	9
Blueboy II	21.1	57.4	17.1	141	176	101	60	90	23.3	30	MS	1
Maris Templar	20.4	59.9	18.3	142	176	103	60	80	22.7	28	S	1
Maan	29.1	67.4	15.9	134.1	168.2	101.7	60.7	89.2	26.4	9.9		9.8
L.S.D. of cultivar means (.05)	7.4	1.8	0.7	--	0.4	8.7	-	-	2.4	-		-
Coefficient of variation (%)	18.0	1.9	3.3	0.0	0.2	6.0	0.0	0.0	6.4	-		-

a) Jubilar, Manella, Favorit, and Dwarf Bezostaya may have been mixed so were not reported.
b) One replication only.

U.S.S.R.

Odessa

COOPERATOR: A. A. Sozinov.

DATE OF PLANTING (EFFECTIVE GERMINATION): October 9, 1974.

PRECIPITATION DURING CYCLE OF TEST: 330 mm (October 1, 1974-July 31, 1975).

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: None.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: The fall was very favorable for growing. The winter was warm and spring was early and dry. Early summer was rainy, but conditions became hot and dry in August.

DISEASE DEVELOPMENT: Powdery mildew and leaf rust were present.

INSECT, WEED OR PEST PROBLEMS: Stink bugs and sparrows caused problems.

DATE OF HARVEST: June 30 - July 3, 1975.

AREA HARVESTED FOR YIELD: 3.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Winter survival - March 3, 1975
Lodging - May 19, June 2, 26, 1975
Diseases - June 10-20, 1975
Height - June 25, 1975
Shattering - July 12, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging	Shattering
Test weight	.45**							
Protein	-.39**	-.19*						
Flowering	-.12	-.53**	.19*					
Ripening	-.27**	-.44**	.32**	.74**				
Plant height	-.34**	-.07	.24**	-.09	-.10			
Lodging	-.58**	-.31**	.40**	-.17	-.09	.54**		
Shattering	.50**	.17	-.15	-.19*	-.14	-.12	-.14	
Winter survival	.06	-.22*	-.10	.30**	.09	.00	-.15	-.02

**Significant at the 1% level.

*Significant at the 5% lev

Table 47. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Odessa, USSR, 1975.

Cultivars	Yield q/ha	Test weight kg/hl	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging %	Shattering %	Winter survival %	Leaf Rust Sev. %	Leaf Rust Resp.
Biserka	41.2	75.9	15.8	135	172	105	6	30	99	2	MR
Sanja	40.2	74.9	14.6	138	174	95	19	10	91	0	R-MR
Demar 4	35.7	76.3	15.0	138	174	95	56	29	86	41	VS
Dwarf Bezostaya	34.5	74.1	14.4	139	175	62	0	2	100	22	S-VS
Aurora	33.9	77.4	15.1	140	175	106	19	11	85	57	VS
Burgas 2	32.2	76.0	15.5	139	176	90	0	0	93	33	VS
Talent	31.9	71.8	16.8	138	176	93	56	29	89	4	MR
Kavkaz	31.4	77.1	16.1	142	177	113	44	11	95	45	VS
Kitakomi-Komugi	29.9	73.6	12.8	135	173	104	99	30	91	26	M
Dunav-1	29.8	75.1	16.4	138	175	101	99	16	86	26	MR-M
Maris Huntsman	29.1	65.9	16.0	143	176	109	75	11	99	25	MR-MS
TRS 237	28.9	72.4	16.3	138	173	125	99	1	98	4	R-MR
GKF-2	27.8	71.1	14.5	137	173	112	99	0	93	26	M
Manella	27.2	70.1	17.3	142	177	104	93	3	89	30	S-VS
Blueboy II	26.0	70.0	14.1	140	176	102	56	6	94	2	VR
Bezostaya 1	25.4	74.4	15.1	139	177	109	62	5	98	11	MR-M
Blueboy	24.4	68.8	13.1	139	174	108	50	0	97	17	M
Lerma Rojo 64	24.0	75.5	16.0	132	173	99	99	0	70	5	R-M
Martonvasar 2	23.9	72.9	15.9	138	173	116	99	0	92	28	M
Likafen	23.5	72.7	14.0	141	176	86	0	0	86	0	R-MR
Favorit	23.4	74.4	18.1	138	174	106	99	0	84	35	MR-VS
Lely	21.1	66.9	16.8	145	179	108	50	0	93	0	-
Kormoran	21.0	65.2	18.0	143	177	109	87	9	86	26	MR-M
Jubilar	20.0	64.9	17.0	140	177	96	93	6	100	50	VS
Maris Templar	19.7	67.4	16.7	142	176	94	93	5	99	15	MS-VS
Atlas 66	19.3	73.3	18.3	137	176	115	93	3	94	30	R-VS
Sentinel	19.2	74.2	17.4	139	173	102	99	0	100	25	MR-MS
Bolal	18.8	74.1	16.0	137	173	117	99	0	91	42	M-VS
Rashid	17.4	74.7	15.8	132	174	117	99	5	88	27	M
Sieve	11.7	70.6	19.6	141	177	113	99	3	90	12	MR-MS
Mean	26.4	72.4	15.9	138.8	175.0	103.6	68.0	7.5	91.8	22.2	
L.S.D. of cultivar means (.05)	4.4	1.9	1.5	--	0.5	1.0	20.7	2.6	5.3	--	
Coefficient of variation (%)	11.9	1.9	6.8	0.0	0.2	0.7	21.7	24.8	4.1	--	

WEST GERMANY

Monsheim

COOPERATOR: A. Lein

DATE OF PLANTING (EFFECTIVE GERMINATION): November 6, 1974.

PRECIPITATION DURING CYCLE OF TEST: 524 mm (October 1, 1974 - July 31, 1975).

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: N = 60 kg/ha (February 8, 1975); N = 80 kg/ha (May 16, 1975); P_2O_5 = 60 kg/ha; K_2O = 185 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: The winter was too warm and dry. Also, April, May, and June were dry.

DISEASE DEVELOPMENT: Some mildew and low attacks of rust were observed.

INSECT, WEED OR PEST PROBLEMS: Birds damaged plots 9 and 91 (Demar 4).

DATE OF HARVEST: July 29, 1975.

AREA HARVESTED FOR YIELD: 5.25 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:
Erysiphe graminis - May 21, 1975
Lodging - June 20, 1975
Ophiobolus graminis - June 25, 1975

Correlation Coefficients

	Yield	Protein	Flowering	Ripening	Plant height
Protein	-.30**				
Flowering	.42**	-.01			
Ripening	.16	.03	.13		
Plant height	-.21*	.32**	.04	-.08	
Lodging	-.56**	.53**	-.37**	-.08	.36**

**Significant at the 1% level. *Significant at the 5% level.

Table 48. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Monsheim, West Germany, 1975.

Cultivar	Yield q/ha	Protein %	Date of Flowering (days from Jan. 1)	Date of Ripening (days from Jan. 1)	Plant height cm	Lodging %	Mildew Sev. %	Ophiobolus graminis 1-9
Maris Huntsman	57.2	14.1	156	204	84	0	10	1
Talent	56.2	13.8	148	196	68	0	12	3
Maris Templar	55.7	14.4	158	203	74	0	10	2
Burgas 2	53.4	14.9	151	197	70	0	12	2
GKF-2	50.9	13.0	146	195	73	0	30	3
Lely	50.0	13.9	158	204	75	0	27	2
Kavkaz	49.8	14.8	155	202	83	0	10	2
Aurora	49.8	14.3	153	202	78	0	10	3
Blueboy	49.7	12.6	151	196	85	0	37	3
Bezostaya 1	48.9	13.4	152	196	80	0	37	3
Sanja	48.8	12.9	146	197	65	0	22	3
Martonvasar 2	48.8	13.8	150	196	83	7	32	3
Manella	47.2	13.6	153	203	82	0	27	2
Dwarf Bezostaya	47.2	12.8	149	199	54	0	37	2
Kormoran	47.0	14.2	155	203	79	0	22	2
TRS 237	46.8	14.0	146	195	99	11	20	2
Biserka	46.3	14.3	141	196	72	0	22	4
Kitakomi-Komugi	46.0	12.6	146	195	78	0	62	3
Jubilar	45.8	13.8	158	178	84	0	20	2
Dunav-1	45.4	13.8	147	199	72	0	12	3
Favorit	44.6	15.2	147	195	78	18	27	4
Blueboy II	44.5	13.4	151	200	82	0	47	2
Sentinel	44.0	16.4	148	199	80	60	22	3
Atlas 66	42.9	17.0	148	195	92	74	22	3
Sieve	42.2	16.9	157	201	86	18	20	2
Likafen	42.0	13.4	152	195	72	0	70	3
Lerma Rojo 64	41.4	14.3	139	191	82	18	75	3
Demar 4	40.7	13.7	147	197	79	0	27	2
Bolal	39.5	13.9	147	195	88	94	27	3
Rashid	32.4	15.9	139	195	84	99	62	3
Mean	46.8	14.2	149.8	197.2	78.5	13.2	29.0	2.4
L.S.D. of cultivar means (.05)	3.8	0.5	2.1	13.3	4.7	11.8	--	0.8
Coefficient of variation (%)	5.7	2.3	1.0	4.8	4.2	63.3	--	22.3

WEST GERMANY

Weihenstephan

COOPERATOR: G. Fischbeck.

DATE OF PLANTING (EFFECTIVE GERMINATION): November 7, 1974.

PRECIPITATION DURING CYCLE OF TEST: 696 mm (November 1, 1974-August 20, 1975).

AMOUNT OF IRRIGATION APPLIED: None.

FERTILIZER USED: N = 30 kg/ha; P_2O_5 = 80 kg/ha; K_2O = 160 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: Rainfall was above average, especially in the fall, early spring, and before harvest. Harvest was spread out because of unfavorable conditions at the time.

DISEASE DEVELOPMENT: Head blight (Septoria nodorum) was present in moderate intensity.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: August 4-20, 1975.

AREA HARVESTED FOR YIELD: 1.976 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN: Not reported.

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Plant height
Test weight	.03				
Protein	-.79**	-.02			
Flowering	.24**	-.80**	-.16		
Plant height	.00	-.19*	.18	.32**	
Lodging	-.21*	.22*	.27**	-.26**	.41**

**Significant at the 1% level. *Significant at the 5% level.

Table 49. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Weihenstephan, West Germany 1975.

Cultivar	Yield q/ha	Test weight kg/hl	Protein %	Date of flowering: days from Jan. 1	Plant height cm	Lodging %	Septoria nodorum Sev. %	Heads/m^2
Maris Templar	69.0	74.3	12.1	164	85	0	32	488
Maris Huntsman	69.0	72.2	12.1	164	93	0	25	409
Manella	66.7	74.2	11.8	163	89	0	30	429
Kormoran	66.2	73.7	11.9	165	93	0	20	421
Blueboy	65.6	77.3	12.3	158	96	3	35	489
Jubilar	65.4	76.0	12.8	166	94	0	40	432
Lely	64.6	72.1	11.9	165	86	0	30	449
Demar 4	63.2	83.1	13.0	154	78	0	30	459
Talent	63.1	75.6	13.1	157	70	0	30	596
Favorit	60.9	83.6	14.2	155	84	5	30	556
Bezostaya 1	60.3	78.7	13.8	159	88	0	52	429
GKF-2	59.1	80.7	13.7	151	74	0	30	508
Bolal	58.8	78.1	13.2	155	97	45	30	524
Sanja	57.6	81.4	13.3	154	66	0	40	502
Blueboy II	56.8	77.0	13.8	159	95	0	50	515
Kitakomi-Komugi	56.3	83.3	12.7	151	76	3	30	415
Biserka	56.2	81.0	13.9	149	65	0	45	433
Martonvasar 2	56.1	76.6	14.3	159	82	3	50	429
Dwarf Bezostaya	55.6	76.8	13.2	160	60	3	50	488
Atlas 66	54.3	78.1	15.4	157	110	35	27	502
Sieve	52.5	77.5	15.9	163	113	30	32	539
Likafen	51.7	75.7	13.9	161	84	0	37	537
Sentinel	51.6	82.9	15.1	154	89	8	37	691
Lerma Rojo 64	50.2	83.4	13.7	148	77	15	37	545
Dunav-1	49.7	77.9	14.8	157	66	0	45	374
Rashid	46.8	83.0	14.7	150	98	55	42	452
Burgas 2	44.5	71.7	15.9	159	70	13	52	389
TRS 237	43.6	74.0	16.1	157	105	0	55	362
Aurora	41.5	73.0	15.7	161	85	0	65	352
Kavkaz	37.0	71.1	16.6	164	89	0	67	347
Mean	56.5	77.5	13.8	157.9	85.0	7.2	39.2	468.7
L.S.D. of cultivar means (.05)	3.8	1.1	0.7	1.0	4.0	13.1	--	--
Coefficient of variation (%)	4.9	1.0	3.6	0.4	3.4	130.0	--	--

YUGOSLAVIA

Novi Sad

COOPERATOR: S. Borojevic.

DATE OF PLANTING (EFFECTIVE GERMINATION): November 10, 1974.

PRECIPITATION DURING CYCLE OF TEST: 482 mm.

AMOUNT OF IRRIGATION APPLIED: 40 mm.

FERTILIZER USED: N = 81 kg/ha; P_2O_5 = 84 kg/ha; K_2O = 57 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDITIONS DURING TEST: The winter was mild with no snow. May and June were wet, causing lodging and creating favorable conditions for diseases.

DISEASE DEVELOPMENT: Not reported.

INSECT, WEED OR PEST PROBLEMS: Not reported.

DATE OF HARVEST: July 18, 1975.

AREA HARVESTED FOR YIELD: 4.0 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN: Not reported.

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height
Test weight	.30**					
Protein	-.41**	-.12				
Flowering	-.36**	-.36**	.26**			
Ripening	-.27**	-.32**	.13	.93**		
Plant height	-.28**	-.07	.33**	.06	.02	
Lodging	-.31**	-.10	.51**	-.25**	-.31**	.33**

**Significant at the 1% level. *Significant at the 5% level.

Table 50. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Novi Sad, Yugoslavia, 1975.

Cultivar	Yield	Test weight	Protein	Date of Flowering	Date of Ripening	Plant height	Lodging	Rust Leaf Sev.	Rust Leaf Resp.	Rust Stem Sev.	Rust Stem Resp.	Mildew	Septoria
	q/ha	kg/hl	%	days from Jan. 1		cm	%	%		%		%	%
Biserka	52.0	71.3	15.5	138	174	80	23	7	MS-S	11	R-S	1	10
Sanja	48.8	70.3	13.7	139	178	72	8	4	R-S	6	MR-S	7	10
Aurora	42.2	72.6	15.9	143	180	92	23	46	MS-S	8	MS	42	22
Demar 4	42.1	71.4	14.8	139	178	84	30	35	S	12	R-S	5	15
Dunav-1	41.3	72.2	15.7	141	179	75	15	4	MS	8	MR-MS	1	12
Talent	40.3	67.9	16.4	141	178	75	88	10	MS-S	7	R-S	1	10
Favorit	40.2	71.0	17.5	139	177	89	97	40	S	9	MS	10	17
Bezostaya 1	39.3	72.6	15.9	141	178	87	70	13	MS-S	6	MR-S	16	20
Kitakomi-Komugi	38.9	66.9	14.3	139	177	76	70	9	R-S	12	R-MR	7	22
GKF-2	38.9	67.7	15.9	141	179	75	48	22	S	6	R-MS	3	17
Dwarf Bezostaya	38.3	72.1	15.0	142	179	60	3	2	R-MS	2	R-MS	17	20
Blueboy	38.0	64.9	13.9	142	179	85	65	17	S	12	MS-S	50	22
Kavkaz	37.7	71.0	16.2	143	182	84	42	20	S	7	R-S	21	20
Martonvasar 2	37.2	71.0	16.9	141	179	84	92	11	MS-S	7	MS-S	5	20
Kormoran	36.5	65.5	15.8	146	181	77	43	8	MS-S	5	0-S	11	10
Maris Huntsman	36.0	62.2	16.3	147	183	81	45	17	MS-S	7	MS-S	1	10
Sentinel	35.8	70.7	17.2	142	177	86	99	6	MR-S	7	R-MS	4	17
Blueboy II	35.6	66.2	14.3	142	179	88	20	15	R-S	4	R-MR	52	25
Atlas 66	34.6	61.9	18.2	143	180	101	92	5	MS-S	6	MS	1	17
Maris Templar	33.1	63.8	17.1	147	183	81	55	6	S	5	R-MS	1	10
Jubilar	32.9	66.4	16.1	150	186	93	30	25	S	9	MS-S	26	10
TRS 237	32.8	68.7	15.9	140	178	97	65	17	S	7	R-MS	2	12
Likafen	32.7	68.7	14.8	145	181	85	5	6	MR-MS	5	R-MS	40	17
Burgas 2	31.3	67.2	15.8	142	179	78	3	31	S	10	R-MS	47	20
Bolal	30.9	69.7	15.7	141	177	96	99	41	S	10	MR-S	4	27
Lely	29.4	65.2	16.5	153	189	83	18	9	MS-S	11	S	30	15
Lerma Rojo 64	29.1	67.4	16.5	137	173	84	99	5	R-MS	8	MR-MS	7	20
Sieve	28.9	69.8	19.6	146	180	92	85	12	S	7	R-S	1	15
Manella	27.7	65.2	16.4	146	181	78	58	7	MS-S	5	R-S	17	15
Rashid	23.7	69.2	16.7	139	177	93	99	21	S	15	MS-S	17	25
Mean	36.2	68.3	16.0	142.5	179.3	83.6	52.8	15.7		7.8		14.9	16.7
L.S.D. of cultivar means (.05)	5.0	4.5	0.5	--	0.8	5.8	24.3	--		--		--	--
Coefficient of variation (%)	9.8	4.7	2.1	0.0	0.3	4.9	32.8	--		--		--	--

YUGOSLAVIA

Zagreb

COOPERATOR: J. Potocanac.

DATE OF PLANTING (EFFECTIVE GERMINATION): December 9, 1974.

PRECIPITATION DURING CYCLE OF TEST: Not reported.

AMOUNT OF IRRIGATION APPLIED: Not reported.

FERTILIZER USED: N = 185 kg/ha; P_2O_5 = 206 kg/ha; K_2O = 108 kg/ha.

GENERAL DESCRIPTION OF CLIMATIC CONDTIONS DURING TEST: There was a lot of rain in the fall. The winter was open, with no frost damage. Late spring also had a lot of rain.

DISEASE DEVELOPMENT: The weather was favorable for Fusarium sp., Puccinia sps., Erysiphe graminis, and Septoria sps.

INSECT, WEED OR PEST PROBLEMS: None.

DATE OF HARVEST: July 23, 1975

AREA HARVESTED FOR YIELD: 4 square meters.

DATES WHEN DIFFERENT NOTES WERE TAKEN:

Sprouting - January 21, 1975
Winter survival - April 28, 1975
Erysiphe graminis - May 19, 1975
Septoria nodorum - June 23, 1975
Puccinia recondita - June 26, 1975
Puccinia graminis tritici - July 3, 1975
Lodging - July 10, 1975

Correlation Coefficients

	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging
Test weight	.44*						
No. of observations	30						
Protein	-.10	.35					
No. of observations	120	30					
Flowering	-.10	-.55**	-.36**				
No. of observations	60	30	60				
Ripening	.03	-.36*	-.36**	.82**			
No. of observations	60	30	60	60			
Plant height	-.33**	-.27	-.06	.54**	.47**		
No. of observations	120	30	120	60	60		
Lodging	-.46**	.06	.35**	-.25	-.34**	.33**	
No. of observations	120	30	120	60	60	120	
Winter survival	.16	-.04	-.28**	.24	.20	-.04	-.08
No. of observations	120	30	120	60	60	120	120

**Significant at the 1% level. *Significant at the 5% level.

Table 51. Agronomic, grain quality, and disease data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Zagreb, Yugoslavia, 1975.

Cultivar	Yield q/ha	Test weight[a] kg/hl	Protein %	Date of Flowering[b] days from Jan. 1	Date of Ripening[b] days from Jan. 1	Plant height cm	Lodging %	Winter survival %	Rust[a] Leaf Sev. %	Rust[a] Leaf Resp.	Rust[a] Stem Sev. %	Rust[a] Stem Resp.	Mildew[a] Sev. %
Talent	52.9	71.6	14.4	144	189	79	11	100	10	MR	15	R	40
Sanja	51.1	72.0	13.6	142	187	66	11	99	20	MR	25	S	20
GKF-2	47.6	69.0	14.2	142	188	75	20	100	25	MS	85	S	20
Kavkaz	46.8	72.9	14.5	149	195	94	38	99	5	R	10	R	30
Biserka	46.4	73.4	15.2	141	188	75	8	99	30	S	60	MS	50
Aurora	45.0	71.4	14.3	147	194	85	19	99	5	MR	30	R	40
Dunav-1	42.7	71.0	16.0	143	187	76	4	99	10	VR	70	S	20
Demar 4	42.3	72.7	12.4	144	188	82	23	99	15	S	75	S	30
Maris Templar	40.3	64.2	13.7	156	197	89	9	100	10	VR	40	S	10
Maris Huntsman	38.1	64.9	12.7	156	197	93	21	100	25	MS	55	S	30
Kormoran	37.8	64.5	12.4	153	193	84	15	100	10	MS	60	S	60
Martonvasar 2	35.1	71.8	14.5	145	186	83	46	98	20	S	50	MS	20
Blueboy	35.0	64.6	11.5	146	190	86	20	98	75	S	90	S	30
Bezostaya 1	34.5	72.6	14.2	145	188	83	48	98	10	MS	50	S	40
Kitakomi-Komugi	34.3	73.8	12.9	142	192	75	64	100	5	MR	70	MS	60
Favorit	34.1	71.5	14.0	143	188	86	70	99	25	MS	80	S	20
Dwarf Bezostaya	33.6	67.3	14.0	146	187	56	1	97	5	M	35	S	20
Burgas 2	33.5	67.3	15.0	145	190	79	1	98	10	R	15	R	50
Blueboy II	32.7	63.7	13.4	145	191	90	19	99	15	MS	45	S	60
Likafen	32.3	71.1	13.7	151	196	83	0	99	5	R	10	MR	50
Manella	31.7	67.4	12.3	152	195	88	6	99	5	MS	70	S	20
Atlas 66	30.9	69.4	14.5	147	190	92	91	100	20	MS	70	MS	20
TRS 237	30.8	69.8	15.6	144	189	93	50	79	5	MR	5	MR	50
Jubilar	30.4	64.5	11.5	156	194	99	15	100	10	MS	70	S	10
Sieve	30.3	71.4	15.7	154	191	105	88	100	10	MS	90	S	30
Sentinel	30.2	70.8	16.6	145	190	83	58	98	15	R	20	MR	70
Lely	30.0	63.7	13.5	157	197	91	3	100	20	MS	90	S	50
Bolal	27.2	69.7	15.2	143	189	88	97	98	15	MS	65	MR	60
Lerma Rojo 64	26.7	69.2	14.7	141	182	84	91	100	1	0	1	0	70
Rashid	14.9	64.4	15.6	142	187	90	99	97	40	S	90	S	60
Mean	36.0	69.1	14.0	146.7	190.5	84.3	34.8	98.2	15.9		51.4		38.0
L.S.D. of cultivar means (.05)	6.9	--	0.8	1.3	--	5.9	17.5	2.0	--		--		--
Coefficient of variation (%)	13.8	--	4.3	0.4	0.0	5.0	35.9	1.5	--		--		--

a) One replication only.
b) Two replications only.

Table 52. Summary of average yield in quintals per hectare for cultivars grown in the Seventh International Winter Wheat Performance Nursery, 1975.

Cultivar	Kabul, Afghanistan	Balcarce, Argentina	Bordenave, Argentina	Vienna, Austria	Tolbukhin, Bulgaria	Chillan, Chile	Temuco, Chile	Male Ripnany, Czechoslovakia
Talent	40.9	35.5	20.4	47.7	65.6	26.9	24.6	96.7
Aurora	35.8	29.0	19.7	42.6	40.0	34.4	67.6	78.5
Blueboy	54.2	31.2	30.2	33.9	44.3	31.6	61.3	88.5
Bezostaya 1	45.5	36.8	18.4	41.2	46.3	31.6	49.9	86.4
GKF-2	48.3	33.8	23.2	38.6	56.3	33.2	36.5	88.6
Maris Huntsman	43.1	12.0	9.6	47.7	33.3	34.5	60.1	100.7
Kavkaz	53.0	29.6	17.2	42.6	37.0	32.8	61.4	84.1
Martonvasar 2	50.3	32.2	21.1	43.9	37.3	27.4	44.8	85.3
Burgas 2	40.1	39.2	25.2	27.2	37.3	37.7	59.2	72.1
Blueboy II	52.4	29.4	21.0	33.1	51.6	28.0	61.4	68.4
Biserka	35.1	61.7	25.7	52.6	56.0	17.4	26.1	85.6
Kormoran	50.2	13.9	15.4	44.0	38.6	29.3	62.6	97.2
Demar 4	41.2	22.8	22.3	46.2	49.6	14.1	38.1	87.6
Maris Templar	41.6	14.6	14.1	42.8	33.0	29.9	56.3	100.9
Lely	51.4	19.4	13.1	27.0	21.3	29.4	58.5	96.6
Manella	50.5	19.0	13.0	34.5	25.3	30.7	64.5	86.9
Sanja	27.4	40.0	23.1	47.7	64.3	16.5	25.1	70.4
Dwarf Bezostaya	38.4	35.4	16.2	36.4	41.6	29.9	39.3	86.5
Favorit	42.6	37.1	21.3	33.3	51.3	26.6	18.1	78.2
Kitakomi-Komugi	42.3	18.5	24.2	41.8	59.3	15.2	11.6	83.9
Sentinel	44.2	33.4	22.7	32.9	50.0	26.6	38.8	79.0
Dunav-1	44.6	22.2	19.4	41.0	48.3	28.1	42.9	72.7
Likafen	35.2	34.6	13.8	31.7	39.0	9.8	62.3	77.3
Bolal	46.7	27.2	25.3	33.8	43.6	18.1	19.0	77.3
Jubilar	29.8	10.4	9.6	32.4	16.3	28.4	47.0	84.5
TRS 237	36.4	26.2	23.8	34.2	47.3	16.0	14.2	41.7
Atlas 66	29.2	19.6	16.4	31.1	48.3	17.8	20.2	71.3
Sieve	33.6	9.0	10.5	27.3	20.7	18.8	47.8	70.9
Lerma Rojo 64	32.0	23.3	17.3	34.4	47.0	11.7	11.4	69.3
Rashid	38.6	11.5	17.0	24.3	39.3	7.9	7.3	51.9
Mean	41.8	26.9	19.0	37.6	43.0	24.7	41.3	80.6

Table 52. Summary of average yield in quintals per hectare for cultivars grown in the Seventh International Winter Wheat Performance Nursery, 1975. Continued.

Cultivar	Sedlec, Czechoslovakia	Cambridge,[a] England	Jokioinen, Finland	Martonvasar, Hungary	Simla,[b] India	Hamadan, Iran	Karaj, Iran	Sulaimaniya, Iraq
Talent	73.6	59.9	1.6	59.8	43.8	47.8	61.9	29.8
Aurora	49.5	52.9	43.8	57.1	48.1	38.6	57.9	29.0
Blueboy	62.5	39.9	25.3	57.7	45.5	49.9	56.6	29.3
Bezostaya 1	61.9	42.0	32.6	48.5	42.6	43.9	61.0	26.9
GKF-2	73.0	43.7	19.2	53.7	37.9	56.0	67.1	33.6
Maris Huntsman	68.9	44.8	34.3	57.8	28.1	42.7	60.1	26.0
Kavkaz	42.8	52.1	35.0	57.2	40.2	45.9	65.9	30.1
Martonvasar 2	67.5	39.5	24.8	40.8	38.5	49.0	65.1	28.6
Burgas 2	64.2	51.2	29.4	32.3	42.0	48.5	64.1	27.7
Blueboy II	55.4	39.5	34.8	46.6	49.0	46.2	60.7	28.2
Biserka	63.8	38.1	0.0	67.7	35.1	46.6	64.9	27.8
Kormoran	52.3	30.5	60.4	59.1	46.6	38.2	51.3	22.9
Demar 4	66.3	44.0	32.6	54.5	47.0	46.8	56.7	29.0
Maris Templar	66.4	51.2	20.9	46.7	39.7	38.8	59.8	23.6
Lely	60.6	41.0	41.0	33.0	37.4	42.7	63.9	20.2
Manella	53.8	46.1	54.5	39.7	42.9	39.3	60.8	22.5
Sanja	65.7	44.0	7.0	59.1	52.4	51.6	59.1	32.9
Dwarf Bezostaya	60.0	39.9	25.1	31.0	51.0	54.3	68.4	27.0
Favorit	59.4	34.9	29.8	39.8	41.7	43.5	60.0	29.4
Kitakomi-Komugi	64.6	43.2	14.2	30.6	62.6	52.9	64.7	27.4
Sentinel	49.1	30.6	12.5	51.5	39.7	46.8	60.6	26.8
Dunav-1	49.8	42.3	26.6	46.9	46.1	39.9	56.8	23.9
Likafen	61.2	40.2	29.7	48.3	47.5	46.7	58.8	26.7
Bolal	48.6	35.7	35.6	39.5	45.5	55.7	65.6	37.3
Jubilar	43.2	49.3	47.0	48.5	29.5	30.3	45.0	23.3
TRS 237	45.8	28.2	20.9	54.0	54.5	40.6	60.3	25.2
Atlas 66	41.6	45.6	3.9	39.5	42.9	32.9	47.5	23.3
Sieve	32.2	46.1	10.3	45.0	26.3	33.0	39.1	23.3
Lerma Rojo 64	51.0	24.8	0.0	30.6	51.6	47.3	63.3	21.3
Rashid	36.7	37.5	0.0	21.2	34.4	41.4	50.2	28.4
Mean	56.4	41.9	25.1	46.6	43.0	44.6	59.2	27.0

a) Two replications only.
b) Three replications only.

Table 52. Summary of average yield in quintals per hectare for cultivars grown in the Seventh International Winter Wheat Performance Nursery, 1975. Continued.

Cultivar	Milano, Italy	Morioka Iwate, Japan	Suwon, Korea	Beirut,[c] Lebanon	Toluca, Mexico	Kathmandu, Nepal	Wageningen, Netherlands	Warsaw, Poland
Talent	60.7	9.8	45.4	72.2	28.6	32.0	53.9	59.3
Aurora	58.7	38.4	55.0	77.9	34.8	42.7	48.5	48.5
Blueboy	61.0	36.5	45.6	70.6	40.3	43.6	47.0	45.7
Bezostaya 1	54.7	36.0	46.6	79.4	35.8	34.4	56.6	51.6
GKF-2	53.4	21.6	43.0	73.2	39.6	28.8	51.7	48.0
Maris Huntsman	57.6	26.3	36.6	69.9	26.7	33.9	62.6	57.1
Kavkaz	57.9	39.4	48.1	77.6	18.7	34.1	48.2	52.5
Martonvasar 2	59.5	34.9	57.3	78.0	41.1	35.2	51.6	47.3
Burgas 2	60.3	40.8	47.0	76.2	57.9	39.6	45.5	48.3
Blueboy II	52.2	38.6	49.7	71.9	36.1	42.8	48.0	36.1
Biserka	52.8	13.7	46.1	75.0	31.2	30.0	49.3	43.1
Kormoran	45.8	28.7	34.3	67.2	28.6	39.5	49.1	63.7
Demar 4	58.7	23.7	50.6	74.6	40.5	33.8	52.4	45.5
Maris Templar	53.1	9.8	27.4	70.5	30.4	36.6	58.3	66.1
Lely	45.0	28.9	26.6	69.8	24.1	31.4	65.9	57.2
Manella	60.2	39.2	30.1	72.3	19.4	33.5	60.4	54.9
Sanja	61.3	16.2	43.7	73.7	29.1	29.9	45.1	50.6
Dwarf Bezostaya	52.1	33.5	26.2	75.4	37.0	31.7	53.6	52.5
Favorit	51.0	32.7	59.2	77.1	30.4	36.6	40.9	42.3
Kitakomi-Komugi	53.2	39.8	60.7	76.1	45.7	42.3	41.3	40.6
Sentinel	46.3	32.8	45.4	75.4	31.2	31.8	37.0	47.7
Dunav-1	43.0	31.7	43.1	76.1	33.3	16.8	48.2	42.6
Likafen	50.7	18.9	20.7	70.5	64.1	34.4	49.1	45.0
Bolal	47.6	34.0	47.5	78.6	24.3	47.2	32.9	33.6
Jubilar	46.4	26.1	29.8	70.6	26.5	27.1	55.1	55.4
TRS 237	41.2	12.7	45.0	75.9	26.4	29.4	29.0	38.8
Atlas 66	46.3	7.8	47.7	73.1	27.1	29.0	38.8	41.0
Sieve	34.8	16.5	38.9	71.6	15.9	26.7	38.4	34.7
Lerma Rojo 64	48.8	0.0	46.9	78.3	22.5	43.5	37.4	26.9
Rashid	32.1	0.6	39.4	78.9	17.9	42.9	25.4	17.3
Mean	51.5	25.6	42.8	74.3	32.2	34.7	47.4	46.5

c) One replication only.

Table 52. Summary of average yield in quintals per hectare for cultivars grown in the Seventh International Winter Wheat Performance Nursery, 1975. Continued.

Cultivar	Fundulea, Romania	Bethlehem, Republic of South Africa	Svalof, Sweden	Zurich, Switzerland	Ankara, Turkey	Erzurum, Turkey	Eskisehir, Turkey	Davis, California U.S.A.
Talent	54.1	22.3	68.4	48.1	9.2	26.5	38.1	66.0
Aurora	27.2	27.7	61.5	35.5	12.0	16.7	41.9	53.1
Blueboy	33.8	19.5	50.8	42.9	17.8	20.5	42.1	63.1
Bezostaya 1	39.6	24.3	53.0	42.7	9.7	25.9	40.2	56.9
GKF-2	40.0	26.1	46.4	45.3	13.4	25.7	40.4	62.8
Maris Huntsman	25.1	25.5	78.5	56.7	13.5	19.9	39.5	41.8
Kavkaz	25.8	22.3	66.8	34.1	10.4	21.2	42.4	41.3
Martonvasar 2	37.8	22.1	48.4	44.9	16.1	27.9	37.6	53.8
Burgas 2	25.5	27.6	47.0	37.6	7.4	20.2	41.9	54.1
Blueboy II	43.3	9.5	45.6	38.8	13.0	25.1	39.4	57.1
Biserka	55.0	12.0	37.7	51.8	13.2	19.1	32.2	62.7
Kormoran	36.9	29.2	62.8	48.0	8.5	21.4	40.2	47.4
Demar 4	35.6	12.5	52.2	50.0	4.1	21.8	34.4	54.0
Maris Templar	26.9	24.9	75.1	50.2	16.9	19.5	38.5	47.9
Lely	28.4	28.4	73.4	42.7	21.3	22.3	42.9	53.5
Manella	27.8	28.7	71.4	46.8	6.4	20.8	33.2	51.8
Sanja	51.3	14.1	42.6	49.0	6.2	17.6	32.4	54.0
Dwarf Bezostaya	31.6	29.7	44.9	36.2	3.3	24.4	36.3	59.6
Favorit	39.7	18.4	47.1	43.7	7.3	25.5	34.9	52.8
Kitakomi-Komugi	48.6	12.6	44.4	39.1	14.1	24.8	36.4	44.9
Sentinel	44.2	28.4	33.9	40.7	18.5	23.2	36.5	54.2
Dunav-1	39.3	21.4	45.2	38.8	14.3	21.2	29.5	54.3
Likafen	41.5	18.9	53.3	30.1	10.1	21.1	29.2	62.1
Bolal	32.9	21.3	50.2	36.8	10.0	29.0	41.3	59.9
Jubilar	18.0	18.7	67.3	43.9	7.3	19.1	32.6	45.4
TRS 237	42.1	13.1	41.6	21.4	7.6	12.6	27.1	54.5
Atlas 66	43.9	16.3	41.9	42.9	6.9	24.2	20.6	39.5
Sieve	28.2	19.6	54.5	35.0	15.6	17.9	25.9	31.2
Lerma Rojo 64	48.8	14.2	27.8	33.7	6.2	21.4	40.7	43.0
Rashid	28.9	7.1	41.4	28.5	15.0	17.9	23.3	33.8
Mean	36.7	20.5	52.5	41.2	11.2	21.8	35.7	51.9

Table 52. Summary of average yield in quintals per hectare for cultivars grown in the Seventh International Winter Wheat Performance Nursery, 1975. Continued.

Cultivar	Fort Collins, Colorado U.S.A.	Lincoln, Nebraska U.S.A.	Ithaca, New York U.S.A.	Rowan County, North Carolina U.S.A.	Stillwater Oklahoma, U.S.A.	Corvallis, Oregon U.S.A.	Pullman, Washington U.S.A.	Krasnodar,[d] U.S.S.R.
Talent	81.5	34.5	36.7	27.2	15.4	85.7	55.9	35.8
Aurora	83.3	41.0	37.9	27.0	17.0	77.2	62.5	25.7
Blueboy	79.8	35.1	42.8	27.8	19.8	51.3	45.0	32.9
Bezostaya 1	78.5	38.2	37.3	23.2	19.3	65.2	49.5	36.4
GKF-2	86.2	37.1	28.2	23.5	15.9	49.2	46.1	31.7
Maris Huntsman	68.7	20.0	37.3	19.2	14.7	75.6	62.5	24.8
Kavkaz	80.6	38.0	40.1	25.5	13.8	82.4	55.7	23.2
Martonvasar 2	79.4	40.3	29.3	26.1	18.8	57.5	49.0	30.6
Burgas 2	73.2	42.2	30.9	22.5	24.6	74.5	47.2	24.8
Blueboy II	76.1	36.9	38.3	29.5	16.0	63.9	54.9	21.1
Biserka	66.2	38.3	29.1	28.3	11.5	60.7	48.0	31.5
Kormoran	80.8	24.6	34.6	18.6	20.0	41.6	55.5	22.6
Demar 4	61.7	29.2	37.5	25.4	9.2	71.2	57.9	21.8
Maris Templar	71.2	17.2	42.6	21.1	20.2	63.3	54.2	20.4
Lely	74.5	19.0	33.9	21.2	13.8	83.4	61.2	23.6
Manella	65.8	23.3	36.6	24.5	18.2	52.9	56.6	--
Sanja	67.0	33.7	28.7	19.0	11.2	48.1	40.1	37.4
Dwarf Bezostaya	69.1	26.7	24.5	21.2	20.5	59.6	35.9	--
Favorit	72.9	38.9	34.3	26.2	14.4	46.5	45.0	--
Kitakomi-Komugi	77.6	37.9	24.6	21.1	7.8	19.4	51.3	40.8
Sentinel	76.8	32.9	34.9	25.7	24.4	44.9	44.5	34.3
Dunav-1	66.7	34.4	29.3	23.1	16.7	66.4	45.4	30.1
Likafen	70.0	19.9	23.1	18.7	16.8	60.8	53.3	36.7
Bolal	66.4	37.3	38.0	28.5	20.1	33.8	39.9	27.2
Jubilar	58.9	13.3	36.8	17.8	18.4	63.8	49.2	--
TRS 237	65.0	32.3	22.9	19.6	15.5	44.7	37.2	30.0
Atlas 66	56.4	31.2	33.1	22.6	11.7	41.2	36.8	26.7
Sieve	55.6	22.5	32.7	20.7	7.7	36.0	33.2	26.0
Lerma Rojo 64	0.0	0.0	1.7	13.2	0.0	28.4	43.8	36.6
Rashid	0.0	8.0	9.3	17.1	7.7	24.0	35.7	24.2
Mean	67.0	29.4	31.6	22.8	15.4	55.8	48.4	29.1

d) Four varieties were possibly mixed, so they were not analyzed. Therefore the location is not included in the overall means.

Table 52. Summary of average yield in quintals per hectare for cultivars grown in the Seventh International Winter Wheat Performance Nursery, 1975. Concluded.

Cultivar	Odessa, U.S.S.R.	Monsheim, West Germany	Weihenstephan, West Germany	Novi Sad, Yugoslavia	Zagreb, Yugoslavia	Cultivar yield mean 44 sites	
						q/ha	% of Bezostaya 1
Talent	31.9	56.2	63.1	40.3	52.9	45.1	104.6
Aurora	33.9	49.8	41.5	42.2	45.0	43.9	101.9
Blueboy	24.4	49.7	65.6	38.0	35.0	43.6	101.2
Bezostaya 1	25.4	48.9	60.3	39.3	34.5	43.1	100.0
GKF-2	27.8	50.9	59.1	38.9	47.6	43.0	99.8
Maris Huntsman	29.1	57.2	69.0	36.0	38.1	42.8	99.3
Kavkaz	31.4	49.8	37.0	37.7	46.8	42.6	98.8
Martonvasar 2	23.9	48.8	56.1	37.2	35.1	42.4	98.4
Burgas 2	32.2	53.4	44.5	31.3	33.5	42.1	97.7
Blueboy II	26.0	44.5	56.8	35.6	32.7	41.9	97.2
Biserka	41.2	46.3	56.2	52.0	46.4	41.7	96.8
Kormoran	21.0	47.0	66.2	36.5	37.8	41.6	96.5
Demar 4	35.7	40.7	63.2	42.1	42.3	41.6	96.5
Maris Templar	19.7	55.7	69.0	33.1	40.3	41.2	95.6
Lely	21.1	50.0	64.6	29.4	30.0	40.9	94.9
Manella	27.2	47.2	66.7	27.7	31.7	40.8	94.7
Sanja	40.2	48.8	57.6	48.8	51.1	40.1	93.0
Dwarf Bezostaya	34.5	47.2	55.6	38.3	33.6	39.6	91.9
Favorit	23.4	44.6	60.9	40.2	34.1	39.6	91.9
Kitakomi-Komugi	29.9	46.0	56.3	38.9	34.3	39.4	91.4
Sentinel	19.2	44.0	51.6	35.8	30.2	38.9	90.3
Dunav-1	29.8	45.4	49.7	41.3	42.7	38.9	90.3
Likafen	23.5	42.0	51.7	32.7	32.3	38.6	89.6
Bolal	18.8	39.5	58.8	30.9	27.2	38.4	89.1
Jubilar	20.0	45.8	65.4	32.9	30.4	36.1	83.8
TRS 237	28.9	46.8	43.6	32.8	30.8	33.5	77.7
Atlas 66	19.3	42.9	54.3	34.6	30.9	33.0	76.6
Sieve	11.7	42.2	52.5	28.9	30.3	30.3	70.3
Lerma Rojo 64	24.0	41.4	50.2	29.1	26.7	29.4	68.2
Rashid	17.4	32.4	46.8	23.7	14.9	24.7	57.3
Mean	26.4	46.8	56.5	36.2	36.0	39.3	91.2

Table 53. Summary of yield rankings for cultivars grown in the Seventh International Winter Wheat Performance Nursery, 1975.

Cultivar	Kabul, Afghanistan	Balcarce, Argentina	Bordenave, Argentina	Vienna, Austria	Tolbukhin, Bulgaria	Chillan, Chile	Temuco, Chile	Male Ripnany, Czechoslovakia	Sedlec, Czechoslovakia
Talent	18	6	14	2	1	17	23	4	1
Aurora	23	15	15	9	18	3	1	18	22
Blueboy	1	12	1	19	15	6	7	7	11
Bezostaya 1	10	5	17	12	14	7	12	11	12
GKF-2	8	9	7	14	4	4	20	6	2
Maris Huntsman	13	27	30	2	25	2	8	2	3
Kavkaz	2	13	19	10	24	5	5	15	27
Martonvasar 2	6	11	12	7	22	16	15	13	4
Burgas 2	19	3	4	28	22	1	9	23	9
Blueboy II	3	14	13	22	6	15	5	28	17
Biserka	25	1	2	1	5	23	21	12	10
Kormoran	7	26	23	6	21	12	3	3	19
Demar 4	17	19	10	5	9	27	19	8	6
Maris Templar	16	25	24	8	26	9	11	1	5
Lely	4	22	26	29	28	11	10	5	14
Manella	5	23	27	16	27	8	2	9	18
Sanja	30	2	8	2	2	24	22	26	7
Dwarf Bezostaya	21	7	22	15	17	9	17	10	15
Favorit	14	4	11	21	7	18	26	19	16
Kitakomi-Komugi	15	24	5	11	3	26	28	16	8
Sentinel	12	10	9	23	8	19	18	17	23
Dunav-1	11	20	16	13	10	14	16	22	21
Likafen	24	8	25	25	20	29	4	21	13
Bolal	9	16	3	20	16	21	25	20	24
Jubilar	28	29	29	24	30	13	14	14	26
TRS 237	22	17	6	18	12	25	27	30	25
Atlas 66	29	21	21	26	11	22	24	24	28
Sieve	26	30	28	27	29	20	13	25	30
Lerma Rojo 64	27	18	18	17	13	28	29	27	20
Rashid	20	28	20	30	19	30	30	29	29

Table 53. Summary of yield rankings for cultivars grown in the Seventh International Winter Wheat Performance Nursery, 1975. Continued.

Cultivar	Cambridge, England	Jokioinen, Finland	Martonvasar, Hungary	Simla, India	Hamadan, Iran	Karaj, Iran	Sulaimaniya, Iraq	Milano, Italy	Morioka Iwate, Japan
Talent	1	27	2	14	9	11	5	3	27
Aurora	2	4	8	7	26	22	8	8	6
Blueboy	19	16	6	12	6	25	7	2	7
Bezostaya 1	16	10	14	17	17	12	17	11	3
GKF-2	13	21	11	24	1	2	2	12	20
Maris Huntsman	10	9	5	29	19	17	20	10	17
Kavkaz	3	7	7	20	16	3	4	9	3
Martonvasar 2	22	18	20	23	7	5	10	6	9
Burgas 2	5	14	26	18	8	8	14	4	1
Blueboy II	21	8	18	6	15	14	12	16	5
Biserka	23	30	1	26	14	6	13	15	24
Kormoran	28	1	3	10	27	26	27	25	16
Demar 4	12	11	9	9	12	24	9	7	19
Maris Templar	4	20	17	22	25	19	23	14	26
Lely	17	5	25	25	20	9	30	26	15
Manella	7	2	22	16	24	13	28	5	4
Sanja	11	25	4	3	5	20	3	1	23
Dwarf Bezostaya	19	17	27	5	3	1	16	17	11
Favorit	26	12	21	19	18	18	6	18	13
Kitakomi-Komugi	14	22	28	1	4	7	15	13	2
Sentinel	27	23	12	21	11	15	18	23	12
Dunav-1	15	15	16	11	23	23	22	27	14
Likafen	18	13	15	8	13	21	19	19	21
Bolal	25	6	24	13	2	4	1	21	10
Jubilar	6	3	13	28	30	29	24	22	18
TRS 237	29	19	10	2	22	16	21	28	25
Atlas 66	9	26	23	15	29	28	25	24	28
Sieve	8	24	19	30	28	30	25	29	22
Lerma Rojo 64	30	30	29	4	10	10	29	20	30
Rashid	24	30	30	27	21	27	11	30	29

Table 53. Summary of yield rankings for cultivars grown in the Seventh International Winter Wheat Performance Nursery, 1975. Continued.

Cultivar	Suwon, Korea	Beirut, Lebanon	Toluca, Mexico	Kathmandu, Nepal	Wageningen, Netherlands	Warsaw, Poland	Fundulea, Romania	Bethlehem, Republic of South Africa	Svalof, Sweden
Talent	16	21	18	19	7	3	2	13	5
Aurora	4	6	11	6	15	12	25	6	9
Blueboy	14	24	6	2	19	17	18	18	14
Bezostaya 1	12	1	10	14	5	10	13	11	12
GKF-2	20	18	7	27	10	14	11	8	19
Maris Huntsman	23	28	21	16	2	5	29	9	1
Kavkaz	7	7	28	15	17	9	27	12	7
Martonvasar 2	3	5	4	12	11	16	15	14	16
Burgas 2	10	9	2	8	20	13	28	7	18
Blueboy II	6	22	9	5	18	26	8	29	20
Biserka	13	15	13	23	12	20	1	28	28
Kormoran	24	30	19	9	13	2	16	2	8
Demar 4	5	16	5	17	9	18	17	27	13
Maris Templar	27	26	16	10	4	1	26	10	2
Lely	28	29	25	22	1	4	22	5	3
Manella	25	20	27	18	3	7	24	3	4
Sanja	18	17	17	24	21	11	3	24	24
Dwarf Bezostaya	29	13	8	21	8	8	20	1	22
Favorit	2	8	15	11	23	22	12	21	17
Kitakomi-Komugi	1	10	3	7	22	24	5	26	23
Sentinel	15	13	14	20	27	15	6	4	29
Dunav-1	19	10	12	30	16	21	14	15	21
Likafen	30	26	1	13	14	19	10	19	11
Bolal	9	3	24	1	28	28	19	16	15
Jubilar	26	24	22	28	6	6	30	20	6
TRS 237	17	12	23	25	29	25	9	25	26
Atlas 66	8	19	20	26	24	23	7	22	25
Sieve	22	23	30	29	25	27	23	17	10
Lerma Rojo 64	11	4	26	3	26	29	4	23	30
Rashid	21	2	29	4	30	30	21	30	27

Table 53. Summary of yield rankings for cultivars grown in the Seventh International Winter Wheat Performance Nursery, 1975. Continued.

Cultivar	Zurich, Switzerland	Ankara, Turkey	Erzurum, Turkey	Eskisehir, Turkey	Davis, California U.S.A.	Fort Collins, Colorado U.S.A.	Lincoln, Nebraska U.S.A.	Ithaca, New York U.S.A.	Rowan County North Carolina U.S.A.
Talent	6	19	3	14	1	3	13	11	5
Aurora	24	14	29	5	18	2	2	6	6
Blueboy	13	3	20	3	2	6	12	1	4
Bezostaya 1	16	18	4	9	9	8	6	8	14
GKF-2	9	11	5	8	3	1	10	24	13
Maris Huntsman	1	10	22	11	26	18	24	9	24
Kavkaz	26	15	17	2	27	5	7	3	10
Martonvasar 2	10	5	2	15	16	7	3	20	8
Burgas 2	21	22	21	4	13	13	1	19	17
Blueboy II	19	13	7	12	8	11	11	4	1
Biserka	2	12	24	24	4	22	5	22	3
Kormoran	7	20	15	10	22	4	21	14	27
Demar 4	4	29	13	20	14	25	19	7	11
Maris Templar	3	4	23	13	21	15	27	2	21
Lely	15	1	12	1	17	12	26	16	19
Manella	8	26	19	21	20	23	22	12	12
Sanja	5	28	28	23	15	19	15	23	25
Dwarf Bezostaya	23	30	9	18	7	17	20	26	18
Favorit	12	24	6	19	19	14	4	15	7
Kitakomi-Komugi	18	9	8	17	24	9	8	25	20
Sentinel	17	2	11	16	12	10	16	13	9
Dunav-1	20	8	16	25	11	20	14	21	15
Likafen	28	16	18	26	5	16	25	27	26
Bolal	22	17	1	6	6	21	9	5	2
Jubilar	11	23	25	22	23	26	28	10	28
TRS 237	30	21	30	27	10	24	17	28	23
Atlas 66	14	25	10	30	28	27	18	17	16
Sieve	25	6	27	28	30	28	23	18	22
Lerma Rojo 64	27	27	14	7	25	30	30	30	30
Rashid	29	7	26	29	29	30	29	29	29

Table 53. Summary of yield rankings for cultivars grown in the Seventh International Winter Wheat Performance Nursery, 1975. Concluded.

Cultivar	Stillwater, Oklahoma U.S.A.	Corvallis, Oregon U.S.A.	Pullman, Washington U.S.A.	Krasnodar, U.S.S.R.	Odessa, U.S.S.R.	Monsheim, West Germany	Weihenstephan, West Germany	Novi Sad, Yugoslavia	Zagreb, Yugoslavia
Talent	18	1	6	6	7	2	9	6	1
Aurora	12	4	1	17	5	8	29	3	6
Blueboy	7	18	20	8	17	9	5	12	13
Bezostaya 1	8	9	13	5	16	10	11	8	14
GKF-2	16	19	18	9	13	5	12	10	3
Maris Huntsman	19	5	2	19	11	1	2	16	10
Kavkaz	22	3	7	22	8	7	30	13	4
Martonvasar 2	9	16	15	11	19	12	18	14	12
Burgas 2	1	6	17	18	6	4	27	24	18
Blueboy II	15	10	9	25	15	22	15	18	19
Biserka	24	14	16	10	1	17	17	1	5
Kormoran	6	24	8	23	23	15	4	15	11
Demar 4	26	7	4	24	3	28	8	4	8
Maris Templar	4	12	10	26	25	3	1	20	9
Lely	21	2	3	21	22	6	7	26	27
Manella	11	17	5	-	14	13	3	29	21
Sanja	25	20	24	2	2	11	14	2	2
Dwarf Bezostaya	3	15	28	-	4	14	19	11	17
Favorit	20	21	21	-	21	21	10	7	16
Kitakomi-Komugi	27	30	12	1	9	18	16	9	15
Sentinel	2	22	22	7	27	23	23	17	26
Dunav-1	14	8	19	12	10	20	25	5	7
Likafen	13	13	11	3	20	26	22	23	20
Bolal	5	27	25	14	28	29	13	25	28
Jubilar	10	11	14	-	24	19	6	21	24
TRS 237	17	23	26	13	12	16	28	22	23
Atlas 66	23	25	27	15	26	24	20	19	22
Sieve	29	26	30	16	30	25	21	28	25
Lerma Rojo 64	30	28	23	4	18	27	24	27	29
Rashid	28	29	29	20	29	30	26	30	30

Table 54. Summary of agronomic, quality and yield data for cultivars grown in the Seventh International Winter Wheat Performance Nursery, 1975.

Cultivar	Yield		Test weight		1000-kernel weight		Protein		Plant height		Lodging	
	q/ha	% of Bezostaya 1	kg/hl	rank	gm	rank	%	rank	cm	rank	%	rank
Number of sites	42		19		8		35		38		26	
Talent	44.8	104.4	76.0	19	32.9	28	14.0	14	80.2	5	16.4	11
Aurora	43.6	101.6	77.6	6	42.0	2	14.6	10	95.0	17	10.7	8
Blueboy	43.5	101.4	73.8	26	36.6	19	12.5	30	99.8	23	23.7	19
Bezostaya 1	42.9	100.0	78.8	1	41.5	4	14.0	15	94.8	16	22.0	15
GKF-2	42.8	99.8	75.9	20	38.9	10	13.8	19	84.8	7	22.6	17
Maris Huntsman	42.6	99.3	71.1	30	40.8	7	13.7	21	99.1	22	17.5	12
Kavkaz	42.3	98.6	76.6	12	41.7	3	14.7	8	100.4	24	15.8	10
Martonvasar 2	42.2	98.4	77.8	4	41.5	5	14.5	12	92.6	12	30.7	22
Burgas 2	41.8	97.4	76.1	18	37.4	17	14.6	11	83.3	6	2.3	2
Blueboy II	41.7	97.2	74.8	22	32.7	29	13.4	26	98.9	21	23.4	18
Kormoran	41.6	97.0	72.2	29	35.9	21	13.9	16	95.7	18	22.2	16
Biserka	41.5	96.7	76.6	11	37.5	16	14.3	13	79.9	3	6.2	3
Demar 4	41.4	96.5	77.7	5	35.5	23	13.3	27	89.1	10	7.9	5
Maris Templar	40.9	95.3	72.3	28	43.1	1	13.8	18	94.1	13	20.0	13
Lely	40.7	94.9	72.4	27	33.7	27	13.8	20	94.3	14	12.9	9
Manella	40.5	94.4	74.3	24	37.7	15	13.7	22	96.3	19	25.2	20
Sanja	39.9	93.0	76.2	16	34.7	25	13.6	25	73.8	2	9.7	7
Dwarf Bezostaya	39.4	91.8	77.1	10	36.6	20	13.3	29	66.2	1	1.5	1
Favorit	39.4	91.8	78.0	2	39.9	9	15.1	5	94.6	15	41.8	24
Kitakomi-Komugi	39.1	91.1	76.2	17	35.8	22	13.3	28	87.7	8	40.7	23
Sentinel	38.8	90.4	77.3	7	34.2	26	15.6	3	96.7	20	50.6	26
Dunav-1	38.6	90.0	77.8	3	38.8	11	14.6	9	79.9	4	9.3	6
Likafen	38.4	89.5	76.2	15	32.2	30	13.6	24	91.0	11	6.6	4
Bolal	38.2	89.0	77.2	9	38.5	12	13.6	23	104.5	27	64.8	29
Jubilar	35.7	83.2	73.9	25	37.1	18	13.9	17	101.5	25	21.2	14
TRS 237	33.3	77.6	74.5	23	38.0	14	15.0	6	107.7	28	25.3	21
Atlas 66	32.6	76.0	76.6	13	35.5	24	16.6	2	111.1	29	60.7	27
Sieve	29.9	69.7	74.8	21	41.1	6	17.0	1	115.5	30	63.2	28
Lerma Rojo 64	29.2	68.1	77.2	8	39.9	8	15.0	7	88.8	9	50.5	25
Rashid	24.2	56.4	76.4	14	38.2	13	15.1	4	103.2	26	73.6	30
Mean	39.0		75.8		37.7		14.3		93.3		26.6	
L.S.D. of cultivar means (.05)	3.8		1.4		3.6		0.4		2.6		9.9	
Coefficient of variation (%)	14.6		1.9		4.6		5.2		5.5		50.8	

Table 54. Summary of agronomic, quality and yield data for cultivars grown in the Seventh International Winter Wheat Performance Nursery, 1975. Concluded.

Cultivar	Date of Flowering: days from Jan 1.	Flowering: rank	Date of Ripening: days from Jan 1.	Ripening: rank	Shattering: %	Shattering: rank	Winter survival: %	Winter survival: rank	Frost damage: 0-9	Frost damage: rank
Number of sites	34		26		11		12		4	
Talent	157.3	12	203.7	13	7.7	21	74.6	26	2.4	24
Aurora	160.3	21	205.6	21	4.0	11	88.6	14	1.5	2
Blueboy	158.4	16	203.8	15	3.3	6	88.5	15	1.9	15
Bezostaya 1	158.6	18	203.8	14	2.7	3	93.3	1	1.6	6
GKF-2	154.7	5	200.4	6	3.6	7	85.8	17	1.6	5
Maris Huntsman	167.0	27	210.8	28	3.9	10	86.3	16	2.0	18
Kavkaz	163.0	23	206.8	24	7.5	20	93.0	3	1.5	2
Martonvasar 2	158.1	14	202.2	9	3.7	8	93.3	2	1.7	8
Burgas 2	159.4	19	204.5	20	3.0	4	90.6	7	1.8	11
Blueboy II	158.1	13	204.0	17	10.2	25	90.8	6	1.9	15
Kormoran	166.2	26	209.6	27	4.4	14	89.6	11	1.5	2
Biserka	152.9	3	199.8	3	11.5	26	75.3	24	2.6	27
Demar 4	156.3	10	202.8	10	17.8	29	80.1	20	2.3	22
Maris Templar	167.2	28	211.3	29	4.0	12	76.2	22	2.0	18
Lely	169.1	30	212.3	30	2.3	1	91.1	5	1.3	1
Manella	165.6	25	209.0	25	2.4	2	89.9	10	2.5	25
Sanja	154.9	6	200.4	5	7.3	19	75.6	23	2.8	28
Dwarf Bezostaya	159.7	20	204.5	18	3.2	5	89.3	12	1.9	14
Favorit	155.7	9	200.9	7	7.8	22	90.2	9	1.7	8
Kitakomi-Komugi	153.4	4	201.4	8	21.9	30	84.5	19	1.8	11
Sentinel	158.3	15	202.9	11	3.7	8	91.9	4	1.7	8
Dunav-1	156.3	11	204.0	16	4.2	13	90.6	7	1.8	11
Likafen	161.9	22	206.2	22	6.8	18	80.0	21	2.4	23
Bolal	154.9	7	200.1	4	9.2	23	89.3	12	1.9	15
Jubilar	168.8	29	209.5	26	5.4	15	85.6	18	1.6	6
TRS 237	155.2	8	203.2	12	9.2	24	73.2	27	2.2	21
Atlas 66	158.5	17	204.5	19	6.1	17	70.8	28	2.5	25
Sieve	165.3	24	206.3	23	15.5	28	75.0	25	2.0	18
Lerma Rojo 64	146.9	1	196.9	1	6.0	16	52.3	30	4.1	30
Rashid	149.2	2	199.1	2	11.6	27	58.2	29	3.8	29
Mean	159.0		204.3		7.0		83.1		2.1	
L.S.D. of cultivar means (.05)	1.6		1.7		6.9		13.0		1.2	
Coefficient of variation (%)	1.4		1.4		92.5		10.5		23.8	

Table 55. Correlation coefficients for yield, protein, and other agronomic traits combined over 44 nursery sites of the Seventh International Winter Wheat Performance Nursery, 1975.

Trait	Yield	Test weight	Protein	Flowering	Ripening	Plant height	Lodging	Shattering	Winter survival	Frost damage
Test weight	.24**									
Number of observations	2929									
Protein	-.20**	-.23**								
Number of observations	4815	2830								
Flowering	-.26**	.16**	.09**							
Number of observations	4292	2781	4453							
Ripening	-.24**	.20**	.07**	.98**						
Number of observations	3332	2246	3382	3512						
Plant height	.12**	-.12**	.02	-.09**	-.07**					
Number of observations	4580	2801	4741	4442	3512					
Lodging	-.16**	-.25**	.32**	-.14**	-.13**	.33**				
Number of observations	3483	2250	3354	3272	2582	3470				
Shattering	-.11**	-.04	.11**	-.02	.01	.09**	.16**			
Number of observations	1436	1109	1436	1316	1316	1436	956			
Winter survival	.35**	.08**	-.12**	-.51**	-.34**	.30**	.09**	.10**		
Number of observations	1694	961	1564	1472	1352	1670	1203	836		
Frost damage	-.02	-.11*	-.13**	-.48**	-.48**	.28**	.05	-.41**	---	
Number of observations	600	480	600	600	480	600	480	240	0	
1000-kernel weight	.53**	.69**	-.23**	.48**	.59**	.15**	-.24**	-.34**	.09*	-.01
Number of observations	1537	908	1357	1241	971	1331	1121	327	551	120

**Significant at the 1% level. *Significant at the 5% level.

Table 56. Summary of yield, quality, and agronomic data for the 30 cultivars grown in the Seventh International Winter Wheat Performance Nursery at sites in Northern Europe, 1975.

Cultivar	Yield		Test weight	1000-kernel weight	Protein	Plant height	Lodging	Date of		Shattering	Winter survival
	q/ha	% of Bezostaya	kg/hl	gm	%	cm	%	Flowering	Ripening	%	%
								days from Jan. 1			
Number of sites	9		7	4	9	10	9	10	8	2	4
Maris Huntsman	66.5	119	74.5	47.2	13.7	100.3	17.5	162.8	210.7	8.4	95.1
Maris Templar	64.9	116	76.0	49.9	13.4	94.4	11.9	162.8	211.9	9.6	74.5
Talent	63.0	113	79.1	35.0	13.8	80.0	4.1	155.8	203.3	6.8	71.9
Lely	59.8	107	75.9	38.8	13.8	95.0	7.6	164.4	211.0	7.0	97.7
Kormoran	58.9	106	75.8	40.8	13.8	98.1	12.4	162.7	209.0	7.6	95.1
Manella	58.1	104	77.9	44.0	13.4	99.7	19.9	161.4	208.0	6.0	98.0
Demar 4	56.0	100	80.9	38.9	13.4	88.0	4.7	153.3	201.6	24.6	81.4
Bezostaya 1	55.8	100	80.7	45.2	14.2	95.3	12.0	157.1	203.3	4.9	94.6
GKF-2	55.7	100	78.6	40.8	14.2	83.2	9.1	152.2	200.4	9.1	96.2
Martonvasar 2	54.8	98	80.0	46.2	14.8	91.7	17.2	157.0	202.4	9.3	96.2
Jubilar	54.8	98	78.0	44.5	14.0	103.2	17.5	163.8	206.1	7.1	96.9
Blueboy	54.1	97	77.8	41.0	13.1	102.9	19.2	157.7	204.0	7.8	93.4
Biserka	54.0	97	78.7	38.9	14.8	78.4	5.3	149.9	199.0	10.1	72.9
Sanja	53.0	95	78.9	37.7	13.7	73.2	4.5	152.3	199.6	8.3	77.5
Dwarf Bezostaya	52.5	94	79.4	39.8	13.5	66.9	3.6	157.2	204.1	7.4	91.9
Kitakomi-Komugi	50.9	91	79.3	36.4	13.7	87.3	29.5	151.5	200.3	26.3	81.0
Kavkaz	50.9	91	77.3	47.6	15.6	100.1	5.7	160.9	206.7	8.1	93.5
Aurora	50.6	91	78.0	48.7	15.0	94.4	5.8	159.1	205.0	6.8	94.1
Favorit	50.0	90	80.2	42.0	15.9	93.8	37.4	152.8	200.3	9.5	96.5
Likafen	49.0	88	79.6	33.3	13.7	91.2	5.9	159.3	204.2	6.3	92.2
Burgas 2	48.9	88	76.7	42.5	15.3	82.8	4.8	157.9	204.7	8.5	93.2
Dunav-1	48.1	86	79.9	41.6	14.9	77.6	6.1	154.2	204.9	8.1	89.3
Blueboy II	47.4	85	77.8	36.6	14.3	101.3	19.3	157.6	205.1	11.5	95.8
Sentinel	46.2	83	79.7	36.0	17.0	96.9	46.2	154.3	201.4	7.6	95.1
Bolal	45.7	82	79.0	41.1	14.3	108.0	75.1	152.4	198.3	8.3	89.7
Atlas 66	45.1	81	79.7	39.4	17.1	111.3	65.8	155.6	203.8	6.8	69.6
Sieve	43.1	77	77.6	45.9	17.4	116.5	62.1	160.8	204.4	7.9	71.3
Lerma Rojo 64	41.3	74	78.6	39.0	15.5	88.6	50.0	148.2	196.7	8.9	68.1
TRS 237	38.1	68	74.2	41.0	16.0	108.9	16.5	153.3	203.4	9.0	69.8
Rashid	33.8	61	78.0	38.3	15.8	105.5	83.2	149.2	200.5	14.4	67.2
Mean	51.7		78.3	41.3	14.6	93.8	22.7	156.6	203.8	9.4	86.7
L.S.D. of cultivar means (.05)	6.3		2.0	3.6	0.9	3.9	13.9	1.8	3.4	6.7	28.1
Coefficient of variation (%)	7.2		1.3	4.0	3.9	3.9	45.9	0.6	1.8	25.1	7.4

Table 57. Summary of yield, quality, and agronomic data for the 30 cultivars grown in the Seventh International Winter Wheat Performance Nursery at sites in Southern Europe, 1975.

Cultivar	Yield		Test weight	Protein	Plant height	Lodging	Date of		Winter survival
	q/ha	% of Bezostaya 1	kg/hl	%	cm	%	Flowering	Ripening	%
							days from Jan. 1		
Number of sites	7		4	8	8	7	7	5	2
Sanja	53.7	130	73.1	13.7	78.6	13.6	139.0	179.7	95.0
Biserka	53.0	129	73.7	15.4	85.4	9.6	137.3	179.0	99.3
Talent	52.2	127	70.6	15.3	84.0	35.4	141.2	181.1	94.6
Demar 4	45.5	110	73.9	14.0	90.6	17.5	139.6	180.2	92.1
GKF-2	45.4	110	70.6	15.0	88.6	40.6	138.8	179.6	96.5
Aurora	43.4	105	74.8	15.2	97.5	14.8	143.4	181.8	92.3
Kitakomi-Komugi	42.1	102	71.5	13.4	91.3	73.3	137.8	179.3	95.6
Blueboy	42.0	102	68.2	13.1	101.3	37.5	142.4	181.4	97.4
Kavkaz	41.9	102	73.8	15.7	101.5	27.3	145.5	183.4	96.8
Dunav-1	41.6	101	74.0	15.6	83.8	18.4	139.7	180.6	92.3
Bezostaya 1	41.2	100	75.1	14.9	95.4	37.5	141.8	181.3	98.1
Blueboy II	41.1	100	70.2	13.7	99.9	36.0	142.2	181.6	96.1
Favorit	39.9	97	74.2	16.3	95.1	70.8	139.5	179.4	91.1
Sentinel	39.6	96	73.5	16.8	96.5	82.4	142.1	180.2	98.9
TRS 237	39.6	96	71.4	15.4	109.5	48.3	139.7	180.5	88.5
Maris Huntsman	39.6	96	64.4	15.4	101.6	33.4	148.5	185.0	99.6
Kormoran	39.4	96	65.9	15.2	99.4	43.5	147.1	183.8	92.9
Martonvasar 2	38.8	94	73.1	15.8	94.7	59.4	141.0	180.0	94.9
Likafen	38.3	93	72.7	14.4	93.5	9.8	145.9	183.4	92.5
Atlas 66	37.5	91	71.6	17.3	107.4	88.1	142.6	182.0	96.6
Dwarf Bezostaya	37.5	91	72.9	14.5	64.9	0.5	142.8	180.9	98.1
Lerma Rojo 64	36.4	88	73.4	15.6	93.8	83.7	134.5	177.1	84.5
Maris Templar	36.1	88	66.0	16.1	97.6	37.8	148.7	185.3	99.4
Burgas 2	36.0	87	71.1	15.3	86.0	1.3	142.6	180.9	95.1
Bolal	34.4	83	72.9	14.7	105.6	92.5	139.5	178.9	94.4
Manella	34.2	83	69.3	15.2	98.7	46.0	146.8	183.5	93.9
Jubilar	30.3	74	66.8	15.2	104.1	37.6	150.3	186.3	99.5
Lely	29.7	72	65.6	16.1	100.1	21.4	151.0	187.0	96.6
Sieve	28.5	69	70.5	18.6	113.6	92.4	147.5	183.9	94.6
Rashid	25.3	61	71.5	15.8	104.8	97.4	136.6	179.4	92.5
Mean	39.5		71.2	15.3	95.5	43.6	142.5	181.5	95.0
L.S.D. of cultivar means (.05)	7.1		3.0	0.8	5.1	18.3	1.8	2.4	12.0
Coefficient of variation (%)	14.3		2.8	4.0	4.0	39.6	0.4	0.4	3.0

Table 58. Summary of yield, quality, and agronomic data for the 30 cultivars grown in the Seventh International Winter Wheat Performance Nursery at sites in North America, 1975.

Cultivar	Yield		Test weight	Protein	Plant height	Lodging	Date of flowering	Winter survival
	q/ha	% of Bezostaya 1	kg/hl	%	cm	%	from Jan. 1	%
Number of sites	9		2	7	5	3	5	2
Aurora	48.2	107	77.5	14.9	103.9	12.9	149.6	89.0
Talent	47.9	107	74.6	14.2	87.3	22.1	143.3	88.1
Burgas 2	47.4	106	76.6	14.9	91.6	1.8	145.6	86.4
Blueboy II	45.4	101	72.0	13.8	108.0	32.9	143.9	89.0
Blueboy	45.0	100	69.6	12.7	106.5	40.4	144.4	88.4
Bezostaya 1	44.9	100	76.6	14.3	102.6	35.0	143.3	89.9
Kavkaz	44.0	98	77.7	14.6	108.0	23.3	152.4	90.4
Martonvasar 2	43.9	98	76.9	14.7	100.0	59.2	144.7	88.4
Likafen	43.2	98	74.2	14.2	101.8	3.3	149.2	85.5
GKF-2	43.2	98	73.5	14.3	92.5	40.0	140.4	87.6
Demar 4	42.9	96	76.5	13.7	98.6	11.8	145.1	90.1
Lely	42.7	95	75.5	14.5	104.3	14.2	161.0	92.5
Biserka	41.8	93	72.8	14.5	88.3	11.8	139.2	87.0
Sentinel	41.1	92	74.9	15.0	110.0	68.3	148.0	89.3
Dunav-1	41.0	91	77.1	15.1	86.5	6.8	145.7	89.8
Maris Templar	40.9	91	74.2	13.9	103.2	15.1	157.2	80.4
Maris Huntsman	40.7	91	73.5	13.9	106.7	14.2	155.6	83.3
Favorit	40.1	89	76.1	15.3	102.4	58.3	143.2	86.5
Dwarf Bezostaya	39.3	88	75.2	13.9	70.3	0.1	147.2	89.0
Kormoran	39.1	87	73.0	14.4	105.1	25.8	155.4	87.0
Manella	38.8	86	74.7	14.1	106.9	23.3	156.1	90.4
Bolal	38.7	86	73.0	13.5	114.7	88.8	141.7	89.5
Sanja	36.7	82	71.8	14.0	81.8	11.7	141.5	86.4
Kitakomi-Komugi	36.7	82	69.4	13.5	94.9	59.3	139.9	86.9
Jubilar	36.7	82	75.8	14.1	113.1	11.7	160.0	84.8
TRS 237	35.3	79	73.9	15.3	120.4	46.7	141.9	74.8
Atlas 66	33.3	74	76.0	17.1	125.2	69.9	145.7	78.9
Sieve	28.4	63	73.2	16.9	128.4	69.8	157.0	86.9
Rashid	17.1	38	74.4	15.7	105.3	84.3	132.8	20.3
Lerma Rojo 64	16.9	38	73.9	-- [a]	80.0	50.2	128.5	4.3
Mean	39.4		74.5	14.5	101.6	33.8	146.6	82.0
L.S.D. of cultivar means (.05)	8.7		4.5	0.9	7.7	30.3	6.5	12.7
Coefficient of variation (%)	15.5		2.2	4.9	6.1	52.5	1.1	8.4

a) This entry not included in analysis.

Table 59. Summary of yield, quality, and agronomic data for the 30 cultivars grown in the Seventh International Winter Wheat Performance Nursery at sites in the Southern Hemisphere, 1975.

Cultivar	Yield		Test weight	Protein	Plant height	Lodging	Date of		Shattering
	q/ha	% of Bezostaya 1	kg/hl	%	cm	%	Flowering	Ripening	%
							days from Jan. 1		
Number of sites	5		3	5	5	2	3	3	3
Burgas 2	37.8	117	79.0	14.0	86.5	1.3	291.7	339.8	0.0
Aurora	35.7	111	79.3	14.5	99.8	10.0	289.6	342.9	0.4
Blueboy	34.8	108	76.0	12.1	98.7	13.8	291.8	337.7	4.0
Kavkaz	32.6	101	77.1	14.4	105.1	12.5	301.0	344.1	11.8
Bezostaya 1	32.2	100	79.9	13.5	94.7	15.0	295.8	339.0	0.4
Manella	31.2	97	74.0	13.1	100.4	6.3	306.3	351.6	0.0
GKF-2	30.6	95	78.1	13.3	87.1	11.3	289.1	333.3	0.8
Dwarf Bezostaya	30.1	93	79.1	12.6	66.4	1.3	297.5	340.8	0.8
Kormoran	30.1	93	71.3	13.3	95.2	11.3	308.0	351.0	0.4
Sentinel	30.0	93	78.2	14.9	99.1	20.0	297.1	339.3	4.2
Blueboy II	29.8	93	75.3	13.0	96.7	13.8	289.6	337.7	16.2
Lely	29.8	93	72.7	13.4	94.8	8.8	308.6	356.1	0.0
Martonvasar 2	29.5	92	79.5	14.1	96.6	12.5	294.5	337.7	3.6
Biserka	28.6	89	79.0	14.2	80.2	2.5	285.6	331.0	14.6
Maris Huntsman	28.3	88	71.0	13.0	101.8	8.8	308.3	353.0	0.8
Maris Templar	28.0	87	72.0	13.3	91.6	11.3	308.8	351.9	1.7
Likafen	27.9	87	74.1	13.6	87.2	8.8	296.5	344.0	13.3
Dunav-1	26.8	83	78.6	14.6	81.1	5.0	294.9	341.6	1.5
Talent	25.9	80	77.1	13.7	81.5	12.5	292.4	339.1	10.8
Favorit	24.3	75	78.7	15.1	95.5	10.0	291.9	332.9	13.2
Sanja	23.7	74	77.7	13.8	74.3	5.0	287.8	333.0	8.3
Jubilar	22.8	71	72.8	13.1	100.3	7.5	310.6	352.5	5.3
Bolal	22.2	69	79.8	13.3	98.0	16.3	287.4	332.8	15.6
Demar 4	21.9	68	77.5	13.8	90.6	2.5	295.4	339.2	30.6
Sieve	21.1	66	74.4	16.1	118.9	38.8	306.8	347.9	41.7
TRS 237	18.6	58	77.2	14.5	105.5	11.3	286.0	335.0	23.3
Atlas 66	18.1	56	76.7	15.9	113.2	23.8	294.2	339.5	12.8
Kitakomi-Komugi	16.4	51	75.8	14.0	87.6	10.0	287.8	337.9	29.7
Lerma Rojo 64	15.6	48	77.5	15.9	90.9	10.0	270.4	325.0	9.2
Rashid	10.1	31	77.0	15.4	98.5	22.5	274.3	327.0	20.0
Mean	26.5		76.5	14.0	93.9	11.5	294.6	340.5	9.8
L.S.D. of cultivar means (.05)	13.0		3.3	1.5	8.8	22.6	6.1	5.2	20.6
Coefficient of variation (%)	13.7		0.9	4.5	4.8	64.5	1.9	0.7	89.4

Table 60. Summary of yield, quality, and agronomic data for the 30 cultivars grown in the Seventh International Winter Wheat Performance Nursery at sites in the Near and Middle Eastern Regions, 1975.

Cultivar	Yield		Test weight	1000-kernel weight	Protein	Plant height	Lodging	Date of Flowering	Date of Ripening	Shattering	Winter survival
	q/ha	% of Bezostaya 1	kg/hl	gm	%	cm	%	days from Jan. 1		%	%
Number of sites	9		3	2	9	9	4	9	9	5	2
Bolal	41.9	115	79.8	35.9	12.5	96.9	11.1	135.6	171.1	7.5	82.5
Kitakomi-Komugi	40.2	110	79.2	35.3	12.6	79.2	0.0	132.9	171.0	13.8	76.1
Blueboy	39.8	109	74.7	36.6	11.9	90.9	0.7	137.8	173.4	1.7	86.0
Blueboy II	39.3	108	76.9	30.2	12.7	90.7	0.0	137.4	172.7	6.9	87.4
GKF-2	39.1	107	77.2	36.9	12.7	76.7	0.1	135.1	169.7	3.9	72.5
Martonvasar 2	38.7	106	79.0	41.1	13.6	84.3	0.0	137.4	170.9	2.2	86.8
Kavkaz	38.1	104	78.8	36.7	13.7	91.9	0.0	142.9	176.2	3.9	83.9
Lely	37.0	101	72.9	32.3	11.9	81.3	0.3	150.8	181.8	2.3	90.4
Dwarf Bezostaya	36.8	101	79.5	37.0	12.4	64.2	0.0	139.7	174.3	3.2	68.9
Burgas 2	36.7	101	79.5	33.2	13.7	74.5	0.0	140.5	174.3	3.3	77.9
Bezostaya 1	36.5	100	81.5	37.3	13.3	87.9	2.0	138.2	173.8	2.8	84.8
Talent	36.4	100	76.9	32.3	13.5	71.0	0.0	137.1	173.4	2.0	74.1
Sentinel	36.3	99	78.4	32.5	14.0	87.0	3.3	138.6	173.5	2.5	75.9
Lerma Rojo 64	35.9	98	80.0	39.6	13.1	87.1	7.3	124.3	167.0	4.1	60.6
Favorit	35.5	97	79.5	36.5	13.7	88.6	2.3	136.0	171.3	5.4	77.5
Aurora	35.5	97	80.0	36.1	14.0	84.9	0.7	140.6	175.8	3.6	67.3
Kormoran	35.1	96	73.6	31.9	13.3	83.0	0.0	147.9	179.7	4.6	85.1
Maris Templar	34.9	96	74.1	38.1	13.1	85.4	0.0	148.7	180.3	3.0	79.9
Demar 4	34.6	95	77.6	30.5	12.8	81.8	0.0	136.3	173.1	5.3	79.5
Maris Huntsman	34.2	94	73.4	35.7	13.0	89.1	0.0	148.6	179.9	2.7	74.9
Manella	34.2	94	76.2	33.8	13.1	81.3	0.0	148.4	178.7	2.4	82.0
Likafen	34.0	93	78.4	30.8	12.9	83.8	0.0	141.5	176.4	4.4	56.1
Sanja	33.9	93	76.7	31.4	13.2	64.4	0.1	136.1	170.3	5.7	63.6
Biserka	33.7	92	72.2	32.8	13.0	71.0	0.0	134.2	170.2	6.6	67.5
Rashid	32.4	89	80.2	40.0	13.7	98.7	35.5	128.3	168.0	6.9	64.4
Dunav-1	32.2	88	78.8	37.9	13.6	73.6	0.0	135.7	173.2	1.9	90.9
TRS 237	32.0	88	77.0	35.7	14.0	96.7	0.8	135.4	173.6	2.5	76.5
Atlas 66	28.1	77	76.9	29.2	16.0	103.2	17.3	138.3	174.7	2.5	66.3
Jubilar	27.0	74	74.7	31.0	13.5	89.5	0.0	150.9	179.7	4.7	67.5
Sieve	26.8	73	77.1	37.1	16.2	106.1	10.1	146.7	175.1	5.2	68.1
Mean	35.2		77.5	34.9	13.4	84.8	3.0	139.4	174.1	4.2	75.8
L.S.D. of cultivar means (.05)	4.8		2.4	4.4	0.7	5.4	12.4	3.5	2.5	5.8	24.5
Coefficient of variation (%)	18.5		1.8	4.7	7.8	8.6	215.9	1.6	1.7	154.6	21.4

Table 61. Summary of yield, quality, and agronomic data for the 30 cultivars grown in the Seventh International Winter Wheat Performance Nursery at sites in the Far Eastern region, 1975.

Cultivar	Yield		Test weight	Plant height	Lodging	Date of Flowering	Date of Ripening	Winter survival
	q/ha	% of Bezostaya 1	kg/hl	cm	%	days from Jan. 1	days from Jan. 1	%
Number of sites	2		2	2	2	2	2	2
Kitakomi-Komugi	50.2	122	78.5	102.4	36.1	146.0	187.6	86.4
Aurora	46.7	113	76.3	103.0	29.9	156.4	190.6	95.0
Martonvasar 2	46.1	112	76.1	100.9	8.8	149.8	188.8	97.1
Favorit	46.0	111	76.9	108.5	21.3	147.3	186.8	93.1
Blueboy II	44.2	107	72.8	111.6	25.0	150.9	191.9	80.4
Burgas 2	43.9	106	75.1	89.3	0.0	151.1	191.8	97.8
Kavkaz	43.7	106	74.8	110.3	34.9	154.9	192.0	99.8
Bezostaya 1	41.3	100	76.7	105.9	26.1	153.5	188.1	98.0
Blueboy	41.1	100	69.3	112.5	11.3	151.3	192.6	72.6
Bolal	40.8	99	78.9	115.5	10.0	148.0	186.6	90.0
Sentinel	39.1	95	76.1	104.5	28.8	148.5	187.1	97.0
Dunav-1	37.4	91	76.3	86.4	12.4	147.9	184.3	92.1
Demar 4	37.1	90	74.5	93.3	0.0	150.5	188.3	56.0
Manella	34.6	84	71.1	107.4	32.5	157.4	192.4	77.0
GKF-2	32.3	78	72.9	89.5	36.1	148.1	186.5	65.9
Kormoran	31.5	76	66.6	104.4	28.6	158.3	193.8	82.3
Maris Huntsman	31.5	76	62.1	104.8	0.0	161.6	196.6	70.0
Sanja	29.9	72	72.7	76.6	34.9	148.5	187.6	53.8
Biserka	29.9	72	72.2	81.1	1.9	147.6	187.9	52.0
Dwarf Bezostaya	29.9	72	73.1	71.3	0.0	150.9	190.6	96.0
TRS 237	28.8	70	69.5	119.3	0.0	149.5	192.1	59.6
Jubilar	27.9	68	64.3	114.0	37.4	161.9	197.1	67.9
Lely	27.7	67	62.9	101.5	26.3	163.0	197.9	71.8
Atlas 66	27.7	67	72.4[b]	120.8	15.0	153.8	194.8	43.6
Sieve	27.7	67	66.8	130.8	48.4	159.6	194.3	58.1
Talent	27.6	67	65.5	84.1	23.8	150.1	190.6	46.8
Lerma Rojo 64	23.5	57	77.6[a]	99.5[a]	67.3[a]	130.8[a]	173.8[a]	28.1
Rashid	20.0	48	72.6[a]	109.0[a]	24.3[a]	130.8[a]	175.5[a]	37.5
Likafen	19.8	48	71.2	96.3	10.0	156.4	194.4	61.5
Maris Templar	18.6	45	56.5	101.3	38.0	163.5	199.6	48.5
Mean	34.2		71.5	101.7	20.6	153.1	191.2	72.5
L.S.D. of cultivar means (.05)	20.3		8.0	10.9	43.9	5.4	3.9	41.5
Coefficient of variation (%)	15.4		3.9	3.1	67.9	2.1	1.2	10.5

a) One site only; these cultivars are not included in the overall means and analysis.
b) Six replications of data reported.

Table 62. Reaction of International Winter Wheat Performance Nursery cultivars to Yellow rust (Puccinia striiformis) in 1975.

Cultivar	Balcarce, Argentina		Chillan, Chile		Temuco, Chile		Cambridge, England	Karaj, Iran		Beirut, Lebanon		Toluca, Mexico		Wageningen, Netherlands
	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %
Number of replications	4		1		4		4	4		1		2		4
Favorit	40	S	90	S	90	S	62	0	-	1	MS	20	R-MS	0
Jubilar	1	MR	0	-	55	MS-S	10	0	-	0	-	30	MS	3
Dwarf Bezostaya	0	-	40	MR	25	MS	35	0	-	1	MS	15	MS	1
Manella	0	-	0	-	0	-	25	0	-	0	-	0	-	0
Likafen	0	-	90	S	15	MS	17	50	S	40	S	1	R-MS	17
Blueboy II	0	-	0	-	6	MS	25	50	S	0	-	2	O-MR	8
Bezostaya 1	1	MR	40	S	42	MS	45	50	S	1	MS	30	MS	2
Burgas 2	0	-	40	S	0	-	35	0	-	0	-	5	MR-MS	10
Demar 4	10	S	60	S	50	MS-S	30	0	-	0	-	1	R-MR	0
Aurora	0	-	0	-	0	-	27	0	-	0	-	1	R-MR	3
Sanja	60	S	90	S	65	MS-S	80	0	-	0	-	25	MS	0
Bolal	0	-	80	S	65	MS	90	0	-	1	MS	85	S	0
Kavkaz	0	-	0	-	0	-	20	0	-	0	-	5	O-MR	1
Atlas 66	60	S	90	S	85	MS-VS	45	0	-	5	S	30	MS	0
Blueboy	30	S	50	MR	16	MS	60	50	S	1	S	20	MR-MS	5
Lerma Rojo 64	0	-	90	S	1	MR	27	25	S	1	S	50	MS-S	7
Talent	40	S	60	S	77	MS-S	25	0	-	0	-	10	R-MS	0
Kitakomi-Komugi	10	MS	70	S	52	MS-S	65	75	S	1	MS	60	MS-S	1
Kormoran	0	-	0	-	0	-	50	50	S	0	-	0	-	0
Rashid	0	-	90	S	90	S	72	50	S	1	S	45	MS-S	2
Sentinel	32	S	50	S	50	MS	55	0	-	1	MR	35	MS	1
Lely	0	-	0	-	6	O-MS	17	31	S	5	MS	0	O-R	2
TRS 237	37	S	80	S	50	MS	75	25	O-S	10	S	40	MS	0
Biserka	67	MS	80	S	42	MS	72	0	-	1	MS	45	MS	1
GKF-2	30	MS	40	MR	22	MS	55	25	S	0	-	5	O-MS	0
Sieve	0	-	10	MS	20	MS	12	0	-	0	-	0	O-R	0
Dunav-1	10	S	20	MR	0	O-MS	25	10	S	0	-	0	O-R	0
Martonvasar 2	0	-	80	S	47	MS	42	10	S	1	MR	12	MS	0
Maris Huntsman	0	-	10	S	72	MS-S	25	0	-	0	-	0	-	0
Maris Templar	0	-	0	-	0	-	45	0	-	0	-	0	-	0

Table 62. Reaction of International Winter Wheat Performance Nursery cultivars to Yellow rust (Puccinia striiformis) in 1975. Concluded.

Cultivar	Warsaw, Poland		Svalof, Sweden	Zurich, Switzerland		Erzurum, Turkey	Eskisehir, Turkey		Corvallis, Oregon, U.S.A.		Severity	
	Sev. %	Resp.	Sev. %	Sev. %	Resp.	Sev. %	Sev. %	Resp.	Sev. %	Resp.	cultivar mean over 14 locations,%	High score
Number of replications	4		4	4		4	4		4			
Favorit	12	O-MS	6	2	O-MR	0	1	O-R	75	MS	29	90
Jubilar	0	-	0	0	-	0	0	-	7	R	8	55
Dwarf Bezostaya	0	-	3	0	-	0	0	-	75	MR	14	75
Manella	0	-	0	0	-	0	0	-	0	-	2	25
Likafen	2	O-MS	0	0	-	0	73	S	0	-	22	90
Blueboy II	8	O-MS	2	0	-	0	0	-	75	MR	13	75
Bezostaya 1	2	O-MR	0	0	-	0	0	-	75	MS	21	75
Burgas 2	0	-	0	0	-	0	0	O-VR	7	R	7	40
Demar 4	0	-	2	0	-	5	0	O-VR	50	VS	15	60
Aurora	0	-	0	0	-	0	0	-	8	R	3	27
Sanja	3	O-MR	10	0	-	20	2	O-S	97	MS	32	97
Bolal	37	O-S	45	8	O-M	2	16	MR-S	93	MS	37	93
Kavkaz	0	-	2	0	-	0	0	-	0	-	2	20
Atlas 66	5	O-MR	3	0	-	12	63	S	10	MR	29	90
Blueboy	30	O-MS	23	0	-	0	5	R-MS	99	S	28	99
Lerma Rojo 64	0	-	3	0	-	0	1	O-MS	0	-	15	90
Talent	0	-	0	0	-	3	0	O-VR	0	-	15	77
Kitakomi-Komugi	7	O-MS	8	0	-	0	1	O-S	99	S	32	99
Kormoran	16	R-MS	4	0	-	0	0	-	0	-	9	50
Rashid	5	O-MS	11	0	-	0	26	VR-S	99	VS	35	99
Sentinel	10	O-MS	18	0	-	0	17	R-MS	91	MS-S	26	91
Lely	0	-	0	0	-	0	0	-	7	O-VR	5	31
TRS 237	31	MS	29	0	-	0	46	M-S	92	MS	37	92
Biserka	17	O-S	32	0	-	0	1	O-MR	90	S	32	90
GKF-2	0	-	4	0	-	0	2	O-MR	50	MR-MS	17	55
Sieve	0	-	0	0	-	0	0	-	8	VR	4	20
Dunav-1	0	-	1	0	-	0	0	-	25	MR	7	25
Martonvasar 2	7	O-MS	6	0	-	0	3	O-MS	91	MS	21	91
Maris Huntsman	0	-	0	0	-	0	0	-	8	R	8	72
Maris Templar	0	-	0	0	-	12	0	-	0	-	4	45

Table 63. Reaction of International Winter Wheat Performance Nursery cultivars to Stem rust (Puccinia graminis tritici) in 1975.

Cultivar	Balcarce, Argentina		Karaj, Iran		Beirut, Lebanon		Toluca, Mexico		Warsaw, Poland		Fundulea, Romania		Bethlehem, South Africa	
	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.
Number of replications	4		4		1		2		4		4		4	
Favorit	50	S	31	0-S	0	-	10	MS	15	0-MS	0	-	75	MR-S
Jubilar	70	S	30	S	0	-	7	MS	7	0-MS	30	MS-S	62	S
Dwarf Bezostaya	80	S	62	S	0	-	7	MS	0	-	22	S	1	0-S
Manella	40	S	42	S	1	MS	12	MS	4	0-MS	40	S-VS	55	S
Likafen	40	S	2	0-S	5	S	0	0-MR	0	-	27	S	94	S
Blueboy II	2	0-MS	33	0-S	0	-	0	0-R	0	-	15	R	52	MR-S
Bezostaya 1	50	S	37	S	0	-	22	MS	1	0-MS	18	MS-S	1	0-S
Burgas 2	0	-	7	0-S	0	-	0	0-R	7	0-MS	18	R	0	-
Demar 4	7	0-MS	33	0-S	0	-	7	MS	6	0-MS	7	R-MR	72	S
Aurora	10	MS	11	0-S	0	-	3	R-MS	25	0-MS	7	R	0	-
Sanja	20	S	37	S	0	-	1	R-MS	0	-	0	-	84	S
Bolal	0	-	5	0-S	5	S	5	0-MS	2	0-MS	0	-	57	S
Kavkaz	0	-	8	0-S	0	-	0	0-R	5	0-MS	6	R	0	-
Atlas 66	40	S	2	0-S	0	-	10	0-MS	2	0-MS	8	R	99	S
Blueboy	57	S	43	S	0	-	5	MR-MS	0	-	27	S	91	S
Lerma Rojo 64	0	-	2	0-S	0	-	10	MS	0	-	0	-	0	-
Talent	20	MS	27	S	1	MS	2	0-MS	0	-	6	R-MR	67	MS
Kitakomi-Komugi	40	S	52	S	1	S	7	MR-MS	0	-	72	VS	99	S
Kormoran	40	S	50	S	0	-	12	MS-S	0	-	87	VS	72	S
Rashid	0	-	37	S	5	S	50	MS-S	12	0-MS	0	-	0	-
Sentinel	0	-	5	0-S	0	-	0	-	2	0-MS	0	-	10	MS
Lely	40	S	43	S	5	S	55	S	5	0-MS	92	VS	17	S
TRS 237	0	-	2	0-S	10	S	10	MS	5	0-MS	5	R-MR	74	S
Biserka	0	-	7	0-S	0	-	0	-	0	0-R	22	VS	99	S
GKP-2	0	-	26	S	1	S	45	MS-S	7	0-MS	22	S	99	S
Sieve	0	-	5	0-S	1	MS	30	MS-S	0	-	27	S	80	S
Dunav-1	2	0-R	21	S	0	-	1	MS	0	-	32	VS	57	S
Martonvasar 2	40	S	7	0-S	0	-	20	MS-S	2	0-MS	32	VS	3	0-S
Maris Huntsman	0	-	37	S	0	-	30	MS	0	0-MR	32	VS	99	S
Maris Templar	0	-	37	S	0	-	10	MS	0	-	40	VS	87	S

Table 63. Reaction of International Winter Wheat Performance Nursery cultivars to Stem rust (Puccinia graminia tritici) in 1975. Concluded.

Cultivar	Erzurum, Turkey		Eskisehir, Turkey		Fort Collins, Colorado U.S.A.		Novi Sad, Yugoslavia		Zagreb, Yugoslavia		Severity	
	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Cultivar mean over 12 locations, %	High score
Number of replications	4		4		1		4		1			
Favorit	6	S	1	0-S	10	S	9	MS	80	S	24	80
Jubilar	22	S	36	MS-S	50	S	9	MS-S	70	S	33	70
Dwarf Bezostaya	10	MS-S	4	0-S	50	S	2	R-MS	35	S	23	80
Manella	8	MR-MS	32	MS-S	20	S	5	R-S	70	S	27	70
Likafen	10	MR-MS	0	0-MS	1	R	5	R-MS	10	MR	16	94
Blueboy II	0	-	0	0-MS	10	MR	4	R-MR	45	S	13	52
Bezostaya 1	17	S	3	MS-S	40	S	6	MR-S	50	S	20	50
Burgas 2	0	-	0	-	1	R	10	R-MS	15	R	5	18
Demar 4	11	S	7	MR-S	20	MS	12	R-S	75	S	21	75
Aurora	0	0-R	0	-	1	MS	8	MS	30	R	8	30
Sanja	17	S	5	0-S	1	R	6	MR-S	25	S	16	84
Bolal	7	0-S	0	-	0	-	10	MR-S	65	MR	13	65
Kavkaz	0	-	0	0-MR	10	MR	7	R-S	10	R	4	10
Atlas 66	0	-	0	0-MR	20	MS	6	MS	70	MS	21	99
Blueboy	3	0-S	15	MR-S	70	S	12	MS-S	90	S	34	91
Lerma Rojo 64	0	0-R	0	-	-	-	8	MR-MS	1	-	2	10
Talent	5	MR	0	0-S	20	S	7	R-S	15	R	14	67
Kitakomi-Komugi	30	S	3	MS-S	30	S	12	R-MR	70	MS	35	99
Kormoran	5	0-S	16	MS-S	10	MS	5	0-S	60	S	30	87
Rashid	12	S	11	MS-S	-	-	15	MS-S	90	S	21	90
Sentinel	2	0-S	0	0-MS	1	R	7	R-MS	20	MR	4	20
Lely	7	0-S	42	0-S	30	S	11	S	90	S	36	92
TRS 237	7	0-S	0	-	20	MS	7	R-MS	5	MR	12	74
Biserka	12	0-S	0	-	1	R	11	R-S	60	MS	18	99
GKF-2	12	0-S	2	0-S	10	MR	6	R-MS	85	S	26	99
Sieve	2	0-S	4	MS-S	20	MS	7	R-S	90	S	22	90
Dunav-1	5	0-S	0	0-MS	25	S	8	MR-MS	70	S	18	70
Martonvasar 2	7	0-S	1	0-MS	15	S	7	MS-S	50	MS	15	50
Maris Huntsman	5	0-S	8	MS-S	30	MR	7	MS-S	55	S	25	99
Maris Templar	10	MS-S	8	MR-S	30	S	5	R-MS	40	S	22	87

Table 64. Reaction of International Winter Wheat Performance Nursery cultivars to Leaf rust (Puccinia recondita) in 1975.

Cultivar	Balcarce, Argentina		Tolbukhin, Bulgaria		Male Ripnany, Czechoslovakia	Morioka Iwate, Japan		Suwon, Korea		Toluca, Mexico		Kathmandu, Nepal		Warsaw, Poland	
	Sev. %	Resp.	Sev. %	Resp.	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.
Number of replications	4		4		4	4		4		2		4		4	
Favorit	70	S	60	VS	R	21	MR-S	25	MR-MS	1	MS	4	0-R	22	M-MS
Jubilar	85	S	60	VS	M	32	S	32	MR-MS	3	MS	1	0-R	17	MR-MS
Dwarf Bezostaya	10	MR-MS	10	S	VR-MR	6	R	52	MS-S	0	0-R	1	0-R	2	0-MS
Manella	80	S	25	S	R-MR	21	M-S	35	MR-MS	12	MS-S	0	0-R	6	0-MS
Likafen	87	S	1	R	VR	13	M-S	35	MR-MS	22	MS-S	0	0-R	0	-
Blueboy II	40	MS	1	R	VR	7	VR-MR	57	MR-MS	5	0-MR	1	0-R	6	0-MS
Bezostaya 1	30	S	15	VS	VR-R	10	R-MR	42	MR-MS	7	MR	2	0-R	13	MS
Burgas 2	60	MS	99	VS	MR	5	VR	32	MR-MS	2	0-MS	4	R	27	MS
Demar 4	90	S	65	VS	R	42	S-VS	55	MR-MS	7	MS	1	0-R	17	MR-MS
Aurora	60	MS	99	VS	R	6	VR-R	31	MS	0	0-MS	4	0-R	45	MS-S
Sanja	0	-	1	MR	R	5	VR	65	MS	0	0-MS	2	0-R	0	-
Bolal	87	S	99	VS	R	82	S-VS	32	MR-MS	10	MS	3	R-MS	35	M-S
Kavkaz	10	R	60	VS	MR	5	VR-R	8	R-MR	3	R-MS	4	R	25	MS-S
Atlas 66	40	S	0	-	R	5	VR-M	1	R	2	0-MS	3	0-R	2	0-MS
Blueboy	32	S	1	M	R	32	MS-S	42	MR-MS	0	0-MS	5	0-R	5	0-MS
Lerma Rojo 64	90	S	5	MS	VR	0	-	35	MS-S	10	MS	0	-	5	0-MS
Talent	40	S	1	MR	VR	13	M-MS	3	R-MR	3	MS	2	0-R	0	-
Kitakomi-Komugi	60	S	25	VR	MR	46	S	35	MS-S	5	MS	3	0-R	10	MR-MS
Kormoran	90	MS-S	5	MR	R	7	VR-R	70	MS-S	10	MS	1	0-R	5	0-MS
Rashid	87	S	99	VS	R	73	S-VS	94	S	10	MS	0	0-R	42	MS-S
Sentinel	60	S	1	R	0	6	VR-R	40	MR-MS	1	R-MS	1	0-R	2	0-MS
Lely	80	S	0	-	R	10	VR-M	35	MR-MS	5	MS	0	0-R	2	0-MR
TRS 237	20	S	10	S	MR	13	R-M	60	MR-MS	0	0-R	6	R	20	MR-MS
Biserka	10	MS	0	-	VR	5	VR	0	0-R	0	-	0	0-R	0	0-R
GKF-2	60	S	60	VS	VR	21	M-S	42	MS-S	3	MS	1	0-R	16	MR-MS
Sieve	77	S	5	M	VR	28	M-MS	57	MR-MS	15	MS	0	0-R	14	MR-MS
Dunav-1	10	R	5	M	R	6	R-MR	82	MS-S	1	R-MS	0	0-R	0	0-MR
Martonvasar 2	40	S	10	S	MR	10	R-MR	67	MS-S	0	0-MS	0	0-R	11	MR-MS
Maris Huntsman	80	S	45	M	R	12	VR-MR	45	MR-MS	10	MS	1	0-MS	10	0-MS
Maris Templar	47	MR-MS	5	MR	R	7	R-M	45	MR-MS	3	MS	0	0-R	5	0-MR

Table 64. Reaction of International Winter Wheat Performance Nursery cultivars to Leaf rust (Puccinia recondita) in 1975. Concluded.

Cultivar	Fundulea, Romania		Bethlehem, South Africa		Eskisehir, Turkey		Stillwater, Oklahoma U.S.A.		Krasnodar,[a] U.S.S.R.		Odessa, U.S.S.R.		Novi Sad, Yugoslavia		Zagreb, Yugoslavia		Severity Cultivar mean over: 14 locations %	Severity Cultivar mean over: High score
	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.	Sev. %	Resp.		
Number of replications	4		4		4		-[b]		1		4		4		1			
Favorit	99	S	2	0-S	1	MR-S	5	S	-	-	35	MR-VS	40	S	25	MS	29	99
Jubilar	99	VS	87	S	16	MS-S	40	S	-	-	50	VS	25	S	10	MS	40	99
Dwarf Bezostaya	89	S	0	0-S	3	MS-S	10	S	-	-	22	S-VS	2	R-MS	5	M	15	89
Manella	99	VS	31	MS-S	25	MS-S	30	S	-	-	30	S-VS	7	MS-S	5	MS	29	99
Likafen	20	R	74	MS-S	3	0-S	60	S	3	VR	0	R-MR	6	MR-MS	5	R	23	87
Blueboy II	28	VR-R	15	0-S	1	R-MS	1	MS	30	MS	2	VR	15	R-S	15	MS	14	57
Bezostaya 1	99	S	0	-	1	R-S	20	S	1	MS	11	MR-M	13	MS-S	10	MS	20	99
Burgas 2	99	VS	0	-	1	MR-S	20	MS	99	VS	33	VS	31	S	10	R	30	99
Demar 4	99	VS	62	S	14	MR-S	60	S	60	VS	41	VS	35	S	15	S	43	99
Aurora	99	VS	0	-	0	0-S	10	MS-S	90	VS	57	VS	46	MS-S	5	MR	33	99
Sanja	26	R	12	S	4	0-S	10	MS-S	1	VR	0	R-MR	4	R-S	20	MR	11	65
Bolal	99	S	17	0-S	28	MR-S	40	S	99	VS	42	M-VS	41	S	15	MS	45	99
Kavkaz	99	VS	0	-	1	MS-S	40	MS-S	90	VS	45	VS	20	S	5	R	23	99
Atlas 66	7	R	15	0-S	0	0-MR	20	S	1	VR	30	R-VS	5	MS-S	20	MS	11	40
Blueboy	92	S	49	0-S	0	0-MS	5	MS-S	13	VS	17	M	17	S	75	S	27	92
Lerma Rojo 64	37	MS-S	0	-	0	0-MS	40	S	1	VR	5	R-M	5	R-MS	1	-	17	90
Talent	50	S-VS	65	S	3	MS-S	-	-	3	MS	4	MR	10	MS-S	10	MR	16	65
Kitakomi-Komugi	99	VS	1	0-S	4	MS-S	20	S	38	VS	26	M	9	R-S	5	MR	25	99
Kormoran	55	S	30	S	2	MS-S	50	S	30	VR	26	MR-M	8	MS-S	10	MS	26	90
Rashid	92	S	0	-	25	MS-S	30	S	90	VR	27	M	21	S	40	S	46	99
Sentinel	17	R-MR	7	MR-S	0	-	30	S	1	VR	25	MR-MS	6	MR-S	15	R	15	60
Lely	13	R-MR	94	S	2	MR-S	30	S	0	VR	0	-	9	MS-S	20	MS	21	94
TRS 237	99	S	7	MR-MS	6	MR-S	40	S	60	S	4	R-MR	17	S	5	MR	22	99
Biserka	6	R	24	0-S	0	0-R	20	MS-S	1	VR	2	MR	7	MS-S	30	S	7	30
GKF-2	99	S	29	0-S	13	MS-S	20	MS-S	55	S	26	M	22	S	25	MS	31	99
Sieve	30	MS	30	MS-S	7	MS-S	30	MS	18	VS	12	MR-MS	12	S	10	MS	23	77
Dunav-1	55	MS	1	0-S	1	R-MS	5	M	30	MS	26	MR-M	4	MS	10	VR	15	82
Martonvasar 2	99	VS	0	-	1	R-S	5	M	30	VS	28	M	11	MS-S	20	S	22	99
Maris Huntsman	85	S	55	S	1	R-MR	30	S	35	S	25	MR-MS	17	MS-S	25	MS	32	85
Maris Templar	20	MR-MS	8	MS-S	1	MR-MS	10	S	28	S	15	MS-VS	6	S	10	VR	13	47

a) This location is not included in overall means.
b) Number of replications is unknown.

Table 65. Reaction of International Winter Wheat Performance Nursery cultivars to Powdery mildew (Erysiphe graminis) in 1975.

Cultivar	Vienna, Austria Sev. %	Tolbukhin, Bulgaria Sev. %	Resp.	Male Ripnany, Czechoslovakia Sev. %	Sedlec, Czechoslovakia Sev. %	Cambridge England Sev. %	Martonvasar, Hungary Sev. %	Wageningen, Netherlands Sev. %	Warsaw, Poland Sev. %	Fundulea, Romania Sev. %
Number of replications	4	4		4	4	4	4	4	4	4
Favorit	60	10	VS	25	5	27	99	75	10	70
Jubilar	60	15	S	15	1	37	52	0	12	80
Dwarf Bezostaya	62	15	VS	30	1	27	99	17	42	67
Manella	72	25	VS	15	1	45	65	0	13	80
Likafen	80	65	VS	70	20	72	99	3	70	47
Blueboy II	80	80	VS	70	5	67	99	11	38	77
Bezostaya 1	75	25	VS	50	5	40	99	17	26	70
Burgas 2	80	45	VS	70	1	40	99	21	62	80
Demar 4	62	10	S	40	1	25	65	10	18	80
Aurora	72	30	VS	50	1	42	99	10	42	80
Sanja	52	25	VS	40	0	40	65	57	37	27
Bolal	60	25	VS	50	1	25	99	82	13	80
Kavkaz	70	45	VS	70	1	25	65	5	35	80
Atlas 66	50	10	VS	20	1	37	65	5	21	20
Blueboy	80	80	VS	70	1	62	99	45	52	80
Lerma Rojo 64	80	25	VS	70	1	77	99	22	31	40
Talent	40	5	VS	10	0	15	65	1	7	30
Kitakomi-Komugi	70	5	VR	50	1	45	99	47	32	75
Kormoran	57	30	S	10	0	32	46	22	15	62
Rashid	90	50	VS	80	1	55	99	41	26	80
Sentinel	50	25	VS	20	1	52	65	10	8	47
Lely	80	30	VS	20	1	40	65	0	25	80
TRS 237	55	10	S	20	0	25	65	75	11	47
Biserka	42	15	S	15	0	22	46	25	3	10
GKF-2	60	10	VS	40	1	32	65	12	13	52
Sieve	52	5	MS	20	1	22	40	0	17	40
Dunav-1	40	1	MS	15	0	17	65	10	6	35
Martonvasar 2	70	25	VS	20	1	47	65	18	15	77
Maris Huntsman	20	0	-	0	0	27	5	0	2	10
Maris Templar	17	0	-	0	0	20	5	6	0	10

Table 65. Reaction of International Winter Wheat Performance Nursery cultivars to Powdery mildew (Erysiphe graminis) in 1975. Concluded.

Cultivar	Svalof, Sweden	Zurich, Switzerland		Krasnodar,[a] U.S.S.R.	Monsheim, West Germany	Novi Sad, Yugoslavia	Zagreb, Yugoslavia	Severity	
	Sev. %	Sev. %	Resp.	Sev. %	Sev. %	Sev. %	Sev. %	Cultivar mean over 14 locations, %	High score
Number of replications	4	4		3	4	4	1		
Favorit	13	10	MR	-	27	10	20	33	99
Jubilar	18	12	MR	-	20	26	10	26	80
Dwarf Bezostaya	21	17	MR-M	-	37	17	20	34	99
Manella	27	10	MR	-	27	17	20	30	80
Likafen	60	47	S	35	70	40	50	57	99
Blueboy II	52	21	MR-M	1	47	52	60	54	99
Bezostaya 1	15	15	MR	1	37	16	40	38	99
Burgas 2	35	5	MR	28	12	47	50	46	99
Demar 4	27	8	MR	9	27	5	30	29	80
Aurora	20	3	0-MR	12	10	42	40	39	99
Sanja	21	26	MR-S	2	22	7	20	31	65
Bolal	12	12	MR-M	5	27	4	60	39	99
Kavkaz	10	1	0-MR	23	10	21	30	33	80
Atlas 66	16	5	MR	8	22	1	20	21	65
Blueboy	37	21	MR-S	27	37	50	30	53	99
Lerma Rojo 64	52	36	M-S	18	75	7	70	49	99
Talent	5	2	0-MR	3	12	1	40	17	65
Kitakomi-Komugi	36	25	MR-S	2	62	7	60	44	99
Kormoran	8	7	MR	13	22	11	60	27	62
Rashid	31	25	M	35	62	17	60	51	99
Sentinel	7	8	MR	18	22	4	70	28	70
Lely	22	10	MR	13	27	30	50	34	80
TRS 237	5	13	MR-M	2	20	2	50	28	75
Biserka	3	10	MR	1	22	1	50	19	50
GKF-2	21	10	0-MR	3	30	3	20	26	65
Sieve	3	13	MR-M	13	20	1	30	19	52
Dunav-1	1	3	0-MR	1	12	1	20	16	65
Martonvasar 2	20	10	MR	18	32	5	20	30	77
Maris Huntsman	0	0	-	1	10	1	30	8	30
Maris Templar	0	2	0-MR	1	10	1	10	6	20

a) Location is not included in overall mean.

Table 66. Reaction of International Winter Wheat Performance Nursery cultivars to Septoria (Septoria tritici, Septoria nodorum) in 1975.

Cultivar	Szeged, Hungary Sev. %	Suwon, Korea Sev. %	Warsaw, Poland Sev. %	Zurich,[a] Switzerland Sev. %	Davis, California U. S. A. Sev. %	Stillwater,[b] Oklahoma U. S. A. Sev. %	Weihenstephan, West Germany Sev. %	Novi Sad, Yugoslavia Sev. %	Severity: Cultivar mean over 7 locations %	Severity: High score
Number of replications	4	4	4	1	3	-[c]	4	4		
Favorit	20	67	55	68	73	-	30	17	47	73
Jubilar	10	45	15	50	53	60	40	10	32	60
Dwarf Bezostaya	30	57	42	-	80	99	50	20	47	99
Manella	10	55	12	65	26	50	30	15	30	65
Likafen	10	77	27	58	76	70	37	17	43	77
Blueboy II	30	42	37	66	70	70	50	25	46	70
Bezostaya 1	30	47	32	43	70	70	52	20	42	70
Burgas 2	30	50	47	-	76	50	52	20	46	76
Demar 4	20	40	27	61	50	-	30	15	35	61
Aurora	30	32	40	78	66	50	65	22	48	78
Sanja	30	30	40	61	70	99	40	10	40	99
Bolal	20	70	60	62	43	-	30	27	45	70
Kavkaz	10	42	30	73	70	50	67	20	45	73
Atlas 66	0	20	22	62	70	5	27	17	31	70
Blueboy	20	35	40	71	70	-	35	22	42	71
Lerma Rojo 64	30	52	60	76	80	99	37	20	51	99
Talent	20	40	17	65	26	99	30	10	30	99
Kitakomi-Komugi	30	35	35	67	80	-	30	22	43	80
Kormoran	0	50	22	67	23	70	20	10	27	70
Rashid	40	75	55	60	70	-	42	25	52	75
Sentinel	20	55	52	60	63	99	37	17	43	99
Lely	50	32	25	54	66	50	30	15	39	66
TRS 237	30	35	32	-	70	99	55	12	39	99
Biserka	20	22	47	56	56	-	45	10	37	56
GKF-2	40	47	35	64	70	-	30	17	43	70
Sieve	10	40	25	64	53	50	32	15	34	64
Dunav-1	30	72	47	61	76	99	45	12	49	99
Martonvasar 2	30	47	42	61	73	99	50	20	46	99
Maris Huntsman	30	42	22	57	60	80	25	10	35	80
Maris Templar	30	35	22	40	73	70	32	10	35	73

a) Missing data not included in overall mean.
b) Location is not included in the overall mean.
c) Number of replications is unknown.

Table 67. Reaction of Seventh International Winter Wheat Performance Nursery cultivars to yellow, leaf, and stem rusts from plantings in the fourth and fifth RDISN's grown in 1974 and 1975.[a]

Cultivar	Type of rust and rust reaction: Yellow ACI	Yellow HS	Leaf ACI	Leaf HS	Stem ACI	Stem HS	Seedling[b]
Fourth RDISN							
Aurora	1.3	5 S	0.0	0 0	0.0	5 S	-
Blueboy II	3.8	10 S	20.2	70 S	18.5	80 S	-
Kavkaz	0.3	1 S	15.0	70 S	3.3	10 S	-
Dwarf Bezostaya	2.0	5 S	10.3	30 S	70.0	100 S	-
Sanja	18.4	60 S	16.1	60 S	50.4	100 S	-
Likafen	35.0	80 S	60.0	80 S	50.4	100 S	-
Favorit	4.2	20 S	24.5	80 S	66.7	100 S	-
Bolal	3.3	10 S	64.1	100 S	66.7	100 S	-
Burgas 2	3.3	10 S	12.6	50 S	3.3	10 S	-
Demar 4	0.3	1 S	31.2	60 S	46.7	60 S	-
Manella	0.3	1 S	50.1	80 S	21.7	50 S	-
Jubilar	2.0	5 S	50.0	60 S	45.0	90 S	-
NS 732	7.0	30 S	8.2	40 S	50.0	80 S	-
Atlas 66	41.7	80 S	31.9	100 S	76.7	90 S	-
Blueboy	3.8	10 S	22.6	100 S	67.5	100 S	-
Bezostaya 1	7.5	20 S	1.3	5 S	70.0	90 S	-
Lerma Rojo 64	22.4	60 S	17.4	80 S	48.5	90 S	-
Fifth RDISN							
Talent	3.2	40 MS	38.3	100 S	18.2	80 S	8
Kitakomi-Komugi	15.4	70 S	13.1	50 S	52.2	100 S	8
Kormoran	1.4	30 MR	2.3	10 MS	47.1	100 S	9
Rashid	7.3	30 MS	41.8	90 S	46.9	100 S	8
Sentinel	7.4	20 S	2.5	15 MS	8.9	40 S	0
Lely	1.2	30 MR	18.1	90 S	30.2	100 S	0
TRS 237	19.8	50 S	19.1	80 S	8.0	25 S	0
Dunav-1	8.7	40 S	0.3	5 R	22.5	80 S	8
GKF-2	5.9	40 S	19.7	80 S	23.1	60 S	3
Sieve	5.5	40 S	21.4	70 S	17.0	40 S	0
Biserka	4.0	20 S	2.0	10 MS	7.4	25 S	5
Martonvasar 2	7.1	20 S	00.8	5 MS	11.4	40 S	0
Maris Huntsman	4.5	40 S	12.8	60 S	38.1	100 S	0
Maris Templar	1.8	10 S	9.6	40 S	24.3	80 S	9

a) Data provided by Dr. E. E. Saari and Dr. J. P. Srivastava in association with the Arid Lands Agricultural Development Program. The RDISN is grown in many locations from Morocco to India.

b) Stem rust seedling test results provided by U.S.D.A., A.R.S., Beltsville, Maryland. (0 = most resistant, 9 = most susceptible)

The average coefficient of rust infection (ACI) has been calculated for the three rusts in the manner used in the International Rust Nursery (USDA).

Reaction type	Abbreviation	Response value
No disease	0	0.0
Resistant	R	0.2
Moderately resistant	MR	0.4
Intermediate	M or X	0.6
Moderately susceptible	MS	0.8
Susceptible	S	1.0

The severity of attack multiplied by the response value provides the coefficient of infection. For example, 20 MS is transformed as 20 (severity) x 0.8 (response value) = 16.0. An average coefficient of rust infection (ACI) for each cultivar is derived by calculating a mean value over all locations. The high disease score (HS) is the highest disease reading obtained for each entry among all locations.

ACI	Classes	General
0	No disease*	
0.1 - 2.0	Very resistant	
2.1 - 5.0	Resistant	Resistant
5.1 - 10.0	Moderately resistant	
10.1 - 15.0	Low intermediate	Intermediate
15.1 - 20.0	Intermediate	
20.1 - 30.0	High intermediate	
30.1 - 40.0	Moderately susceptible	
40.1 - 60.0	Susceptible	Susceptible
60+	Very Susceptible	

* May represent immunity, escape or no disease development.

Table 68. Protein data for cultivars grown in the Seventh International Winter Wheat Performance Nursery at Rieti, Italy in 1975.[a]

Cultivar	Protein %
Favorit	13.4
Jubilar	12.2
Dwarf Bezostaya	12.6
Manella	12.3
Likafen	11.8
Blueboy II	12.3
Bezostaya 1	13.1
Burgas 2	14.9
Demar 4	11.6
Aurora	14.2
Sanja	13.0
Bolal	11.9
Kavkaz	14.9
Atlas 66	15.5
Blueboy	10.1
Lerma Rojo 64	13.9
Talent	13.0
Kitakomi-Komugi	11.1
Kormoran	11.3
Rashid	12.9
Sentinel	15.9
Lely	13.4
TRS 237	13.5
Biserka	13.6
GKF-2	12.5
Sieve	15.6
Dunav-1	14.2
Martonvasar 2	12.9
Maris Huntsman	11.2
Maris Templar	13.1

a) Wheat samples for protein analysis were provided by Dr. Giuseppina V. Zitelli.

Table 69. Quality data for cultivars grown in the Seventh International Winter Wheat Performance Nursery in 1975 at Svalof, Sweden.[6]

Cultivar	Protein in dry matter: Wheat %	Protein in dry matter: Flour %	Gluten content %	Falling number sec	Pearling resistance gms	Flour yield %	Flour test weight	Dough, g/100g flour	Bread baking: Weight[1] g	Bread baking: Volume[1] ml	Bread baking: Form[2] 1-7	Bread baking: Porosity[3] 1-8
Favorit	15.6	14.3	37.0	414	7.4	63	449	163	139	880	5	6
Jubilar	13.5	11.4	35.8	318	6.7	56	379	158	134	589	3	7
Dwarf Bezostaya	12.6	11.6	32.0	432	7.9	68	472	163	143	567	3	6
Manella	11.9	10.3	31.0	325	6.8	63	382	157	137	597	3	6
Likafen	13.3	12.3	36.0	389	8.1	68	472	160	139	691	4	6
Blueboy II	13.9	11.5	37.5	390	7.3	57	380	158	133	695	4	6
Bezostaya 1	13.9	12.7	39.1	375	7.5	68	473	164	131	689	4	5
Burgas 2	16.0	14.4	49.5[4]	301	7.2	66	454	165[4]	Impossible to bake			
Demar 4	12.9	11.0	31.5	358	6.8	62	388	154	128	605	4	6
Aurora	14.0	12.5	36.1	278	7.5	65	460	162	141	632	4	6
Sanja	15.4	13.4	38.8	365	7.0	56	394	158	130	679	4	6
Bolal	13.3	12.0	35.5	453	7.4	66	463	161	137	781	5	6
Kavkaz	14.1	12.5	38.5	249	7.4	65	458	160	133	736	5	5
Atlas 66	16.7	15.2	50.2[5]	419	7.5	50	369	162	138	823	5	6
Blueboy	12.2	10.4	35.0	368	7.0	59	380	157	133	707	5	7
Lerma Rojo 64	16.6	15.0	51.2[5]	402	6.4	52	363	158	133	822	6	7
Talent	13.2	11.0	37.5	310	7.0	63	398	161	137	617	4	6
Kitakomi-Komugi	14.7	12.3	41.1	424	7.0	56	417	161	134	628	4	6
Kormoran	12.2	10.9	30.8	361	7.8	67	473	160	142	576	4	6

Table 69. Quality data for cultivars grown in the Seventh International Winter Wheat Performance Nursery in 1975 at Svalof, Sweden.[6] Concluded.

Cultivar	Protein in dry matter		Gluten content	Falling number	Pearling resistance	Flour yield	Flour test weight	Dough, g/100g flour	Bread baking			
	Wheat %	Flour %	%	sec	gms	%			Weight[1] g	Volume[1] ml	Form[2] 1-7	Porosity[3] 1-8
Rashid	15.3	12.8	39.0	227	6.6	55	395	160	133	784	5	6
Sentinel	19.2	17.7	49.2	367	7.1	59	432	161	134	821	5	6
Lely	11.8	10.5	33.2	336	6.8	61	392	163	142	636	4	6
TRS 237	16.0	14.2	41.0	289	7.3	62	472	164	139	951	6	6
Biserka	15.9	14.0	42.1	363	6.6	47	356	160	138	762	5	5
GKF-2	14.2	13.1	39.0	468	7.2	60	434	162	134	791	5	6
Sieve	14.9	12.4	41.2	400	6.6	55	363	160	134	717	4	6
Dunav-1	14.4	12.8	36.0	421	7.6	67	468	162	141	705	4	6
Martonvasar 2	14.8	13.6	36.2	422	7.2	65	463	162	138	713	4	6
Maris Huntsman	12.1	10.6	33.3[5]	215	7.4	66	468	162[5]	141	648	4	6
Maris Templar	12.2	10.2	30.0	289	6.2	62	400	156	133	613	4	6

1) Calculated on 100 g flour.
2) Form: Scale 1-7, 7 is the best value.
3) Porosity according to Dallman: Scale 1-8, 8 the smallest pores.
4) Very sticky.
5) Sticky.
6) Data provided by Dr. Gosta Olsson.

Table 70. Quality data for 30 cultivars grown in the Seventh International Winter Wheat Performance Nursery and a local check variety at Vienna, Austria in 1975[1].

Cultivar	Wet gluten content %	Swelling number Q_o	Swelling number Q_{30}	Zeleny value	Test weight kg/hl
Favorit	39.0	26	22	68	71.25
Jubilar	38.8	16	12	38	73.45
Dwarf Bezostaya	29.4	25	20	50	68.45
Manella	34.8	13	8	34	72.25
Likafen	30.0	21	17	36	71.85
Blueboy II	30.1	16	11	32	70.05
Bezostaya 1	32.1	22	18	66	74.45
Burgas 2	34.2	16	11	34	69.45
Demar 4	29.6	21	17	30	72.65
Aurora	33.1	20	16	40	76.65
Sanja	28.8	24	20	35	69.85
Bolal	32.9	22	18	49	71.65
Kavkaz	38.0	17	13	54	76.05
Atlas 66	50.5	10	5	39	72.05
Blueboy	29.2	13	8	25	69.65
Lerma Rojo 64	38.4	14	10	32	71.65
Talent	38.0	12	8	33	66.60
Kitakomi-Komugi	28.6	18	14	30	70.65
Kormoran	37.3	24	20	62	72.45
Rashid	36.6	17	12	45	71.65
Sentinel	41.0	25	21	64	71.25
Lely	41.0	2	0	27	74.45
TRS 237	41.7	15	11	61	71.85
Biserka	35.8	19	14	36	74.85
GKP-2	34.2	15	11	50	66.40
Sieve	56.3	1	0	30	73.05
Dunav-1	35.4	23	19	46	74.65
Martonvasar 2	34.6	20	16	65	73.05
Maris Huntsman	42.6	0	0	28	71.25
Maris Templar	37.0	15	10	40	73.05
Probstdorfer Extrem	44.7	22	18	63	74.65
Mean	36.6	17	13	43	71.98

1) Data reported by Dr. R. Hron and Dr. W. Walt.
2) Local check variety.

Table 71. Yield and quality data for selected cultivars from an observation planting of the Seventh International Winter Wheat Performance Nursery at Christchurch, New Zealand in 1975.[1]

Cultivar	Yield gms	Yield rank	Q	Baking Score
Favorit	761	8	24	40
Manella	962	5	16[4]	42
Likafen	859	7	24	30
Bezostaya 1	860[3]	6	22	35
Burgas 2	1152	3	24	25
Kavkaz	703[3]	10	17[4]	40
Blueboy	710[3]	9	15	42
Kormoran	964	4	24	27
Sentinel	692[3]	12	24	39
Lely	1175	2	18	40
Martonvasar 2	701	11	23	27
Kopara, (local check)	1479	1	23	43

1) Data provided by Dr. Graeme Coles.

2) The Q-value is derived from the stress-strain curves of flour compressed by an Instron Universal Tester.

3) Bird damage.

4) Poor milling.

Table 72. Agronomic, disease, and insect data from observation plantings of the Seventh International Winter Wheat Performance Nursery in 1975 in Kansas, Nebraska, and Washington, U.S.A.[1]

	Pratt, Kansas					York, Nebraska							Othello, Washington						
Cultivar	Stand[3] 0-9	SBMV[2] 0-9	Leaf rust Sev. %	Resp	Hes-sian fly 0-9	Heading date days from Jan. 1	Plant height cm	Leaf rust Sev. %	Resp	Sep-toria 0-9	Stem rust Sev. %	Resp	Plant height cm	Shat-tering 0-9	Straw Maturity 0-9	Stripe rust 0-9	Mildew 0-9	Leaf rust 0-9	
Favorit	8	1	5	MR	0	145	77	15	S	3	10	S	85	2	2	1	3	0	1
Jubilar	6	8	40	S	5	154	86	30	S	3	30	S	99	1	5	1	1	0	1
Dwarf Bezostaya	7	1	5	MS	3	147	57	TR	-	5	5	S	59	1	4	1	2	0	0
Manella	8	3	30	S	6	152	84	20	S	4	10	S	93	1	5	1	1	0	1
Likafen	8	2	70	S	3	148	83	60	S	4	10	S	86	1	6	1	1	2	2
Blueboy II	9	2	TR	-	2	147	82	TR	-	3	5	S	88	2	3	1	3	0	0
Bezostaya 1	8	2	TR	-	3	147	74	10	MR	4	10	S	86	1	3	1	4	0	0
Burgas 2	8	2	TR	-	1	148	67	TR	-	3	TR	-	83	1	6	1	1	0	0
Demar 4	7	7	50	S	2	146	62	10	S	4	5	S	75	1	3	1	2	0	1
Aurora	7	2	TR	-	3	149	75	T	MR	3	5	S	90	1	3	1	2	0	0
Sanja	7	2	TR	-	2	146	77	TR	-	4	TR	-	60	2	2	1	8	0	0
Bolal	8	2	80	S	2	145	55	40	S	6	TR	-	97	3	2	2	9	0	0
Kavkaz	7	7	TR	-	4	152	82	TM	R	4	TR	S	100	1	4	1	1	0	0
Atlas 66	7	7	5	MR	1	150	99	10	S	3	TR	S	112	2	3	1	2	0	0
Blueboy	9	2	5	MR	0	147	88	TR	S	3	40	S	99	3	3	1	6	0	0
Lerma Rojo 64	1	7	5	MS	-	-	-	-	-	-	-	-	80	3	1	1	5	0	0
Talent	7	7	10	MR	3	146	64	20	S	4	5	S	80	1	3	1	0	0	1
Kitakami-Komugi	7	7	30	MS	3	145	74	20	MS	4	5	S	80	3	2	1	7	1	0
Kormoran	8	-	5	MR	3	154	67	15	S	4	5	S	105	1	3	1	0	0	1
Rashid	5	7	90	S	7	-	76	40	S	3	-	-	104	4	2	1	5	0	0
Sentinel	9	2	70	S	2	149	84	30	S	4	TR	-	93	2	2	1	3	0	0
Lely	7	7	5	MR	5	156	83	20	MS	4	15	S	100	1	6	1	1	0	1
TRS 237	7	2	30	MS	4	145	82	30	S	3	10	S	104	1	2	1	5	0	0
Biserka	8	2	TR	MR	1	145	64	TR	-	3	5	S	81	1	2	1	4	0	0
GKF-2	7	2	10	MR	4	145	67	5	MS	4	5	S	82	1	1	1	3	0	0
Sieve	8	-	5	MR	1	146	111	20	S	3	5	S	120	1	3	1	0	0	1
Dunav-1	8	2	TR	-	3	147	62	5	MR	4	5	S	76	1	2	1	1	0	0
Martonvasar 2	8	2	TR	-	3	153	81	TR	MR	5	10	S	93	1	2	1	3	1	1
Maris Huntsman	7	7	TR	-	6	157	86	20	S	3	20	S	104	1	5	1	0	0	1
Maris Templar	7	7	TR	-	6	157	88	5	MR	2	20	S	102	1	5	1	0	0	0

1) Data provided by Dr. Allen Diehl of Northrup King.

2) SBMV = Soil borne mosaic virus.

3) Scale 0-9, (0 = good, 9 = poor).

Table 73. Agronomic and protein data for the 30 cultivars in the Seventh International Winter Wheat Performance Nursery grown at Pullman, Washington, U.S.A. in 1975.[a]

Cultivar	Yield q/ha	Test weight kg/hl	Protein %
Aurora	64.3	80.4	15.9
Lely	63.0	76.3	14.4
Maris Templar	55.7	75.4	14.4
Maris Huntsman	55.5	75.3	14.0
Talent	54.9	76.4	15.1
Kavkaz	54.6	80.3	16.4
Demar 4	54.3	78.5	13.6
Manella	53.0	76.7	14.5
Burgas 2	52.7	78.6	16.6
Bezostaya 1	52.1	81.4	15.0
Jubilar	52.1	75.1	14.9
Kitakomi-Komugi	51.4	79.0	14.8
Blueboy II	49.4	76.1	14.3
Martonvasar 2	49.1	78.5	15.4
Blueboy	48.9	74.6	13.1
Kormoran	48.5	73.7	16.0
Favorit	48.0	78.3	14.9
Likafen	47.2	77.8	15.3
Dunav-1	46.2	76.3	16.6
Biserka	45.1	75.0	13.9
GKF-2	44.3	75.1	15.2
Lerma Rojo 64	44.2	75.4	15.9
Sanja	42.1	75.2	14.5
Bolal	41.9	77.0	14.3
Sentinel	41.3	77.4	16.5
TRS 237	39.9	77.1	15.4
Atlas 66	36.7	76.2	18.1
Rashid	36.4	78.3	15.9
Dwarf Bezostaya	33.7	76.7	14.4
Sieve	32.8	75.6	17.5
Mean	48.0	76.9	15.2
L.S.D. of cultivar means (.05)	5.2	2.2	1.1
Coefficient of variation (%)	7.7	2.0	5.1
Local cultivars:			
Luke	63.1	77.0	--
Nugaines	51.9	78.6	--

a) Applied 67.2 kg/ha of NH NO in the spring

Table 74. Two-year means and rankings of grain yield (q/ha) expressed on a regional basis for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975.

Cultivar	Northern Europe		Southern Europe		Near East		Far East		North America		Southern Hemisphere		Cultivar mean over 36 locations
	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	
Number of Sites	7		6		9		2		9		4		36[b]
Aurora	54.5	4	50.5	4	31.6	10	46.6	1	42.4	1	32.4	3	41.8
Blueboy	51.4	7	46.7	8	35.9	2	39.0	8	39.5	5	34.9	1	41.1
Kavkaz	54.8	3	51.1	3	32.3	7	43.5	5	39.6	4	30.2	6	40.9
Bezostaya 1	54.3	5	48.5	5	33.0	4	44.1	3	39.2	6	29.7	7	40.8
Burgas 2	48.1	11	45.4	9	32.9	5	44.7	2	42.3	2	33.6	2	40.2
Blueboy II	45.9	12	47.2	7	35.0	3	44.0	4	40.1	3	29.6	8	39.6
Demar 4	54.1	6	51.1	2	29.6	12	32.7	11	36.8	9	23.9	11	38.2
Sanja	50.9	8	57.0	1	29.4	13	32.1	12	33.5	12	24.3	10	38.2
Manella	57.8	1	40.9	14	28.3	14	33.4	10	36.3	10	31.0	5	37.9
Dwarf Bezostaya	48.8	10	45.3	10	31.8	9	34.5	9	37.2	8	29.6	9	37.8
Favorit	49.1	9	47.4	6	31.9	8	41.7	6	35.0	11	23.8	12	37.8
Bolal	43.5	15	43.4	11	36.7	1	39.8	7	31.1[a]	14	22.5	14	36.5
Likafen	44.9	13	40.4	15	30.9	11	21.0	15	38.9	7	32.3	4	36.0
Jubilar	55.6	2	40.0	16	22.6	16	24.8	13	32.7	13	22.9	13	33.6
Atlas 66	44.0	14	42.3	12	24.7	15	23.6	14	28.6	15	17.7	16	31.1
Lerma Rojo 64	37.3	16	42.0	13	32.6	6	20.0	16	14.4	16	19.9	15	28.9
Mean	49.7		46.2		31.2		35.3		35.5		27.4		37.5
L.S.D. of cultivar means (.05)	6.8		8.9		3.0		20.3		7.0		12.8		3.3
Coefficient of variation (%)	9.3		14.8		16.9		13.2		15.6		15.4		14.0

a) Bolal was missing from Corvallis, Oregon in 1974.

b) Corvallis, Oregon was omitted from the overall means and analysis.

Table 75. Two-year means and rankings for grain yield (q/ha) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975.

Cultivar	Kabul, Afghanistan		Balcarce, Argentina		Bordenave, Argentina		Vienna, Austria		Tolbukhin, Bulgaria		Temuco, Chile		Martonvasar, Hungary		Simla, India	
	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank
Aurora	49.9	8	17.7	11	24.0	8	45.0	4	39.8	9	63.9	3	60.3	5	27.7	3
Blueboy	57.9	1	28.3	3	32.7	1	43.7	6	40.3	8	59.6	5	61.5	4	26.3	8
Kavkaz	55.0	3	19.1	10	17.5	15	47.1	3	37.1	12	62.1	4	66.6	1	21.6	14
Bezostaya 1	51.7	4	27.5	4	23.3	9	44.8	5	45.6	3	46.5	9	58.7	6	24.5	11
Burgas 2	50.7	6	26.3	6	28.8	3	35.3	16	37.0	13	57.0	6	45.8	14	25.8	9
Blueboy II	55.9	2	20.4	9	28.9	2	37.5	13	45.1	4	55.9	7	53.5	9	27.7	4
Demar 4	43.7	11	13.3	15	24.0	7	49.4	2	44.1	6	44.6	10	62.1	3	26.9	7
Sanja	42.0	14	25.6	7	27.8	4	56.7	1	51.5	1	30.4	12	65.1	2	28.2	2
Manella	51.2	5	16.3	12	18.2	14	42.5	10	29.8	15	64.6	2	49.4	12	20.4	15
Dwarf Bezostaya	48.7	10	29.0	2	22.6	10	42.7	9	37.8	10	41.9	11	44.0	16	27.0	6
Favorit	48.9	9	29.4	1	25.7	6	43.4	8	47.0	2	22.8	15	55.4	7	23.6	12
Bolal	50.6	7	20.6	8	26.7	5	43.6	7	44.3	5	22.5	16	52.9	10	27.5	5
Likafen	42.6	13	26.6	5	20.8	12	37.5	14	31.8	14	65.8	1	44.6	15	25.5	10
Jubilar	36.5	15	10.4	16	10.4	16	38.1	12	25.0	16	51.3	8	54.1	8	14.5	16
Atlas 66	36.0	16	14.6	14	19.2	13	36.1	15	37.3	11	22.9	14	50.4	11	22.8	13
Lerma Rojo 64	43.1	12	15.9	13	21.0	11	42.3	11	41.5	7	28.5	13	46.1	13	28.4	1
Mean	47.8		21.3		23.2		42.9		39.7		46.3		54.4		24.9	
L.S.D. of cultivar means (.05)	12.7		11.5		6.6		7.6		16.4		16.2		15.5		7.1	
Coefficient of variation (%)	14.8		16.9		13.0		9.1		16.5		14.6		12.3		21.2	

Table 75. Two-year means and rankings for grain yield (q/ha) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Continued.

Cultivar	Hamadan, Iran		Karaj, Iran		Sulaimaniya, Iraq		Milano, Italy		Morioka Iwate, Japan		Suwon, Korea		Toluca, Mexico		Kathmandu, Nepal	
	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank
Aurora	32.3	13	43.5	11	25.7	8	70.7	3	43.0	2	50.3	3	24.1	9	34.6	4
Blueboy	39.0	5	45.4	8	28.4	2	58.9	9	31.9	10	46.0	9	32.5	3	32.1	6
Kavkaz	36.7	10	47.2	6	25.7	9	71.1	1	44.4	1	42.5	10	15.2	16	30.5	8
Bezostaya 1	36.2	12	46.9	7	24.1	11	59.1	7	39.2	4	49.0	5	28.6	7	28.6	10
Burgas 2	38.1	6	47.8	4	23.6	12	70.9	2	40.6	3	48.8	6	47.1	2	36.3	3
Blueboy II	37.9	7	47.3	5	27.5	6	56.3	12	35.7	6	52.4	1	30.6	5	37.6	2
Demar 4	36.8	9	42.7	13	27.5	5	63.2	6	17.6	12	47.8	7	31.4	4	28.6	11
Sanja	39.5	4	43.0	12	28.1	3	70.5	4	14.5	14	49.7	4	26.2	8	25.8	13
Manella	31.9	14	40.1	14	21.0	14	57.6	10	35.7	5	31.1	15	16.6	13	23.6	14
Dwarf Bezostaya	42.9	1	52.4	1	21.9	13	65.8	5	34.7	7	34.2	13	29.9	6	23.5	15
Favorit	36.5	11	45.2	9	26.1	7	53.6	13	33.1	8	50.3	2	23.9	10	30.4	9
Bolal	42.0	2	49.7	3	34.1	1	49.1	15	32.5	9	47.1	8	16.6	14	40.3	1
Likafen	37.0	8	44.4	10	24.1	10	52.0	14	16.1	13	25.9	16	51.5	1	31.3	7
Jubilar	27.1	16	29.6	16	17.6	16	57.3	11	18.4	11	31.3	14	19.7	12	15.9	16
Atlas 66	27.7	15	37.8	15	20.4	15	59.0	8	4.9	15	42.3	11	21.0	11	26.6	12
Lerma Rojo 64	40.8	3	50.0	2	27.8	4	49.0	16	0.0	16	39.9	12	15.9	15	34.3	5
Mean	36.4		44.6		25.2		60.2		27.6		43.0		26.9		30.0	
L.S.D. of cultivar means (.05)	8.3		7.9		8.5		17.2		10.9		14.8		8.4		8.8	
Coefficient of variation (%)	14.2		14.7		17.1		19.9		14.4		12.2		22.0		16.2	

Table 75. Two-year means and rankings for grain yield (q/ha) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Continued.

Cultivar	Wageningen, The Netherlands		Warsaw, Poland		Fundulea, Romania		Bethlehem, Republic of South Africa		Svalof, Sweden		Zurich, Switzerland		Ankara, Turkey		Erzurum, Turkey	
	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank
Aurora	53.9	5	51.9	4	34.4	15	24.1	3	67.2	4	54.0	1	13.6	6	20.8	14
Blueboy	49.3	8	43.6	12	42.4	7	18.9	9	61.6	9	45.2	10	19.8	1	32.3	1
Kavkaz	52.5	6	53.9	2	35.4	14	22.0	5	70.4	3	53.8	2	13.7	5	23.8	10
Bezostaya 1	54.4	4	51.1	5	43.3	5	21.5	6	63.6	6	48.2	8	15.5	3	30.0	3
Burgas 2	45.1	12	45.9	9	36.8	13	22.5	4	56.3	11	49.7	6	12.8	8	24.2	8
Blueboy II	47.5	10	37.0	15	45.9	4	13.2	16	55.4	13	41.4	11	16.2	2	28.7	5
Demar 4	55.8	2	49.2	6	40.1	10	13.8	14	61.9	8	52.4	3	7.4	15	19.9	15
Sanja	47.0	11	48.0	7	50.9	1	13.6	15	46.6	15	40.9	12	7.4	14	19.7	16
Manella	59.8	1	53.0	3	38.5	12	24.9	1	83.6	1	49.8	5	11.1	10	24.0	9
Dwarf Bezostaya	51.3	7	46.0	8	39.7	11	24.8	2	55.8	12	38.7	13	7.6	13	28.8	4
Favorit	40.4	13	44.2	10	46.4	3	17.4	10	58.0	10	49.9	4	12.5	9	27.0	6
Bolal	33.8	15	37.6	14	43.1	6	20.1	7	65.3	5	30.6	16	14.7	4	30.9	2
Likafen	48.0	9	39.1	13	41.5	8	16.2	11	62.9	7	34.0	15	13.6	7	26.8	7
Jubilar	55.2	3	57.5	1	29.5	16	19.6	8	79.0	2	48.8	7	9.3	11	23.5	11
Atlas 66	36.9	14	43.8	11	40.8	9	14.1	13	50.2	14	46.6	9	6.8	16	21.7	13
Lerma Rojo 64	33.1	16	24.5	16	50.0	2	14.2	12	37.1	16	36.6	14	8.6	12	22.2	12
Mean	47.7		45.4		41.2		18.8		60.9		45.0		11.9		25.3	
L.S.D. of cultivar means (.05)	7.8		9.9		14.1		7.1		8.9		21.8		5.1		9.8	
Coefficient of variation (%)	9.0		15.4		7.6		10.3		6.2		9.6		29.5		22.0	

Table 75. Two-year means and rankings for grain yield (q/ha) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Continued.

Cultivar	Eskisehir, Turkey		Davis, California U.S.A.		Fort Collins, Colorado U.S.A.		Lincoln, Nebraska U.S.A.		Ithaca, New York U.S.A.		Rowan County, North Carolina U.S.A.		Stillwater, Oklahoma U.S.A.	
	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank
Aurora	36.0	6	40.4	8	78.1	2	37.0	1	42.7	2	29.9	1	13.6	5
Blueboy	40.9	1	41.8	7	78.6	1	31.2	8	38.9	3	25.0	5	13.4	6
Kavkaz	35.9	7	34.1	15	74.1	5	35.5	2	44.3	1	27.1	2	13.1	7
Bezostaya 1	39.0	3	44.8	4	71.4	8	35.4	3	35.6	5	23.5	9	14.9	3
Burgas 2	35.9	8	42.8	5	73.5	6	34.5	5	36.4	4	24.2	7	18.4	2
Blueboy II	35.8	9	38.2	12	77.2	3	31.4	7	35.5	6	26.0	3	12.6	8
Demar 4	33.1	10	34.7	13	58.7	13	25.8	11	35.4	7	24.6	6	7.0	14
Sanja	30.7	14	42.1	6	64.2	12	29.1	9	29.4	12	17.3	14	9.5	13
Manella	30.8	13	45.8	3	66.2	10	19.6	14	34.1	9	26.0	4	14.7	4
Dwarf Bezostaya	32.5	11	48.6	2	72.0	7	26.0	10	26.2	14	22.2	10	18.8	1
Favorit	36.1	5	34.5	14	68.7	9	35.3	4	31.9	10	24.1	8	10.9	11
Bolal	40.2	2	38.5	11	66.1	11	33.3	6	27.1	13	21.5	11	12.0	10
Likafen	32.0	12	52.3	1	77.0	4	19.7	13	22.1	15	14.8	15	10.4	12
Jubilar	29.4	15	38.5	9	56.9	14	11.7	15	34.5	8	18.7	13	12.4	9
Atlas 66	22.5	16	28.3	16	53.1	15	25.4	12	31.1	11	20.4	12	6.3	15
Lerma Rojo 64	38.1	4	38.5	10	24.4	16	1.3	16	0.9	16	6.6	16	0.0	16
Mean	34.3		40.2		66.3		27.0		31.6		22.0		11.7	
L.S.D. of cultivar means (.05)	9.4		16.7		22.4		6.8		11.8		8.9		7.0	
Coefficient of variation (%)	11.6		14.1		12.9		10.7		12.5		16.5		17.7	

Table 75. Two-year means and rankings for grain yield (q/ha) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Concluded.

Cultivar	Corvallis,[a] Oregon U.S.A.		Pullman, Washington U.S.A.		Monsheim, West Germany		Weihenstephan, West Germany		Novi Sad, Yugoslavia		Zagreb, Yugoslavia		Cultivar mean over 36 locations
	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha	rank	q/ha
Aurora	68.9	3	46.7	1	51.8	1	57.6	10	43.7	5	54.2	2	41.8
Blueboy	55.3	11	38.5	8	48.5	6	68.0	3	46.3	2	31.0	15	41.1
Kavkaz	74.0	1	39.1	7	50.1	4	56.0	11	40.3	9	56.2	1	40.9
Bezostaya 1	61.5	7	37.0	10	50.3	3	67.5	4	43.1	8	41.5	6	40.8
Burgas 2	64.6	4	39.6	6	50.7	2	53.9	12	39.4	11	42.3	5	40.2
Blueboy II	63.0	6	46.3	2	43.0	11	59.7	8	43.4	6	39.3	7	39.6
Demar 4	71.9	2	41.9	5	38.3	15	72.2	1	45.6	4	51.6	4	38.2
Sanja	53.6	12	30.3	14	48.1	7	68.8	2	50.6	1	53.6	3	38.2
Manella	60.9	8	42.9	3	48.8	5	67.0	5	34.3	15	35.6	10	37.9
Dwarf Bezostaya	60.6	9	30.9	13	47.8	8	59.1	9	46.0	3	38.3	9	37.8
Favorit	49.3	13	36.3	11	45.7	10	62.0	7	43.4	7	38.7	8	37.8
Bolal	33.8[b]	15	32.2	12	42.4	12	51.5	15	38.6	13	32.5	13	36.5
Likafen	59.8	10	42.3	4	40.7	14	52.2	14	39.5	10	33.1	12	36.0
Jubilar	64.2	5	38.2	9	46.9	9	64.0	6	39.0	12	35.4	11	33.6
Atlas 66	41.7	14	29.8	15	41.1	13	53.2	13	35.6	14	30.4	16	31.1
Lerma Rojo 64	14.2	16	28.0	16	37.1	16	50.3	16	33.4	16	32.1	14	28.9
Mean	56.8		37.5		45.7		60.2		41.4		40.4		37.5
L.S.D. of cultivar means (.05)	19.3		11.5		6.0		20.9		7.9		11.4		3.3
Coefficient of variation (%)	15.3		12.4		6.6		8.2		9.6		11.7		14.0

a) Oregon is not included in the overall means and analysis.

b) 1975 data only.

Table 76. Two-year means and rankings of grain protein (%) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975.

Cultivar	Kabul, Afghanistan		Balcarce, Argentina		Bordenave, Argentina		Vienna, Austria		Tolbukhin, Bulgaria		Temuco, Chile		Martonvasar, Hungary	
	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank
Atlas 66	18.2	1	17.6	1	18.8	1	18.6	1	18.5	1	14.2	3	16.9	1
Favorit	14.7	5	15.9	5	16.4	7	17.4	2	16.5	7	16.0	2	16.4	2
Lerma Rojo 64	14.1	8	16.6	2	15.3	12	15.4	5	17.1	3	16.8	1	14.2	10
Burgas 2	14.3	6	16.3	3	15.6	10	14.9	7	16.0	8	13.7	6	14.8	5
Kavkaz	15.4	3	15.8	8	17.7	4	15.7	4	16.6	5	14.0	4	15.2	3
Aurora	15.9	2	16.3	4	16.9	6	15.1	6	15.7	9	13.5	7	14.8	4
Bezostaya 1	15.4	4	15.1	10	15.7	9	14.6	10	15.1	11	13.4	8	14.3	8
Likafen	14.3	7	14.4	13	17.4	5	14.7	9	16.5	6	11.7	15	13.7	12
Jubilar	13.8	12	15.8	6	18.3	2	16.0	3	17.2	2	11.4	16	14.5	7
Bolal	13.8	11	14.6	11	14.5	16	14.7	8	14.5	15	13.8	5	14.7	6
Manella	13.9	9	15.3	9	18.3	2	14.3	11	16.7	4	12.0	13	14.2	9
Blueboy II	13.5	14	14.5	12	14.5	16	14.1	12	14.6	13	12.5	12	13.4	13
Sanja	13.8	10	13.9	14	15.6	11	13.4	14	14.6	14	12.7	10	13.1	16
Demar 4	13.8	13	15.8	7	16.0	8	13.7	13	14.9	12	12.9	9	13.3	14
Dwarf Bezostaya	12.3	16	13.1	16	15.0	13	13.1	16	15.4	10	12.6	11	14.2	11
Blueboy	12.7	15	13.4	15	14.8	14	13.3	15	14.4	16	11.7	14	13.1	15
Mean	14.4		15.3		16.3		14.9		15.9		13.3		14.4	
L.S.D. of cultivar means (.05)	1.4		1.8		1.2		1.1		1.3		1.8		0.8	
Coefficient of variation (%)	4.6		1.0		5.6		3.0		4.7		4.5		1.4	

Table 76. Two-year means and rankings of grain protein (%) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Continued.

Cultivar	Simla, India		Hamadan, Iran		Karaj, Iran		Sulaimaniya, Iraq		Milano, Italy		Morioka[a] Iwate, Japan		Wageningen, The Netherlands	
	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank
Atlas 66	19.4	1	16.4	1	14.6	1	17.6	1	16.2	1	21.8	1	13.3	3
Favorit	17.5	2	15.2	5	12.5	5	13.8	12	15.2	2	18.7	2	13.6	2
Lerma Rojo 64	15.7	13	14.2	8	12.4	6	13.8	13	15.1	3	--	-	14.3	1
Burgas 2	17.2	5	15.0	6	13.2	2	15.9	3	14.5	6	16.2	10	13.0	4
Kavkaz	17.2	6	14.5	7	12.1	10	14.4	8	14.6	5	17.5	3	11.0	10
Aurora	16.2	9	15.2	4	12.9	3	14.9	4	14.7	4	17.3	4	11.2	8
Bezostaya 1	17.3	4	13.6	12	11.7	12	14.5	7	14.4	7	16.8	7	11.2	9
Likafen	17.4	3	14.0	9	12.2	8	14.3	9	13.0	15	16.5	9	10.6	13
Jubilar	16.2	10	15.5	3	11.3	15	16.9	2	13.4	12	17.1	5	10.2	15
Bolal	16.8	7	13.9	10	12.3	7	13.0	15	13.2	13	15.3	13	12.6	5
Manella	16.6	8	15.6	2	10.8	11	14.7	5	13.4	11	15.9	12	9.8	16
Blueboy II	15.3	16	13.5	14	12.5	4	14.2	10	13.2	13	16.1	11	12.1	6
Sanja	16.1	11	13.5	13	12.1	9	14.1	11	13.4	10	16.6	8	10.8	12
Demar 4	16.0	12	13.6	11	11.5	13	12.9	16	13.5	8	17.1	5	11.0	11
Dwarf Bezostaya	15.6	14	12.6	16	11.1	16	14.5	6	13.5	9	15.1	14	11.5	7
Blueboy	15.5	15	13.3	15	11.5	13	13.1	14	12.8	16	14.4	15	10.2	14
Mean	16.6		14.3		12.2		14.5		14.0		16.8		11.6	
L.S.D. of cultivar means (.05)	1.8		1.8		1.2		1.7		1.5		1.4		0.9	
Coefficient of variation (%)	6.6		12.1		9.3		6.6		4.6		3.4		6.5	

a) This location is included only in the overall means and analysis for 33 sites.

Table 76. Two-year means and rankings of grain protein (%) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Continued.

Cultivar	Warsaw, Poland		Fundulea, Romania		Bethlehem, Republic of South Africa		Svalof, Sweden		Zurich, Switzerland		Erzurum, Turkey		Eskisehir, Turkey	
	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank
Atlas 66	16.2	2	17.0	1	19.2	1	17.2	2	16.5	1	17.1	1	15.2	1
Favorit	15.3	3	14.6	4	17.0	3	16.7	3	15.8	4	14.5	9	12.4	7
Lerma Rojo 64	16.6	1	14.2	7	17.6	2	17.6	1	15.1	6	14.7	6	13.8	2
Burgas 2	14.4	4	14.7	3	16.5	6	16.5	4	15.8	5	14.8	4	12.5	6
Kavkaz	14.1	6	15.0	2	16.8	4	15.2	6	16.2	2	14.7	5	13.0	3
Aurora	13.6	10	14.5	5	16.2	8	15.1	7	16.0	3	14.9	3	12.7	5
Bezostaya 1	13.9	7	13.7	10	15.3	11	14.6	9	14.8	7	13.6	11	12.2	8
Likafen	13.8	8	13.3	12	16.8	5	14.5	10	13.9	10	14.6	7	11.6	13
Jubilar	13.1	14	14.3	6	12.9	16	13.4	14	13.6	12	14.9	2	11.4	14
Bolal	13.8	9	13.3	11	15.0	12	14.4	11	14.8	8	12.9	15	11.2	15
Manella	13.1	15	13.8	8	13.7	15	12.5	16	13.1	14	14.5	8	12.2	8
Blueboy II	14.4	4	12.8	15	15.7	9	14.8	8	13.8	11	13.4	12	11.9	10
Sanja	13.4	13	13.1	14	16.3	7	15.4	5	13.0	15	14.4	10	12.8	4
Demar 4	12.8	16	13.7	9	15.7	10	13.5	12	13.2	13	13.1	14	11.9	11
Dwarf Bezostaya	13.5	11	13.2	13	13.9	14	13.3	15	13.9	9	12.8	16	11.7	12
Blueboy	13.4	12	12.2	16	14.6	13	13.5	13	12.9	16	13.2	13	10.7	16
Mean	14.1		14.0		15.8		14.9		14.5		14.2		12.3	
L.S.D. of cultivar means (.05)	1.3		1.0		1.4		1.6		1.6		1.2		0.8	
Coefficient of variation (%)	4.7		3.3		3.9		2.4		3.0		5.9		5.7	

Table 76. Two-year means and rankings of grain protein (%) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Continued.

Cultivar	Davis, California U.S.A.		Fort Collins,[a] Colorado U.S.A.		Lincoln,[a] Nebraska U.S.A.		Ithaca,[a] New York U.S.A.		Rowan County,[a] North Carolina U.S.A.		Stillwater,[a] Oklahoma U.S.A.		Corvallis,[a] Oregon U.S.A.	
	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank
Atlas 66	13.5	1	18.1	1	18.6	1	15.5	1	15.8	1	20.5	1	15.7	2
Favorit	12.0	3	17.5	2	16.5	5	14.7	3	14.4	2	19.4	4	14.7	4
Lerma Rojo 64	12.2	2	--	-	--	-	--	-	--	-	--	-	--	-
Burgas 2	11.3	7	16.5	3	16.3	6	15.1	2	14.3	3	19.0	7	16.4	1
Kavkaz	10.9	12	16.3	4	16.9	3	13.8	8	13.5	8	19.5	3	14.6	5
Aurora	11.2	9	16.3	5	16.2	7	14.1	4	13.9	5	19.3	5	15.1	3
Bezostaya 1	11.3	7	14.2	13	15.0	10	13.6	9	13.9	6	18.1	10	13.6	6
Likafen	10.2	15	15.0	7	15.5	8	13.9	7	13.6	7	18.0	11	12.4	11
Jubilar	11.6	5	14.4	11	17.5	2	12.4	14	13.4	10	19.2	6	12.7	9
Bolal	10.6	14	15.3	6	13.8	14	14.0	6	12.9	14	16.9	14	--	-
Manella	11.6	5	13.9	14	16.9	3	12.7	13	13.2	11	19.6	2	12.4	12
Blueboy II	11.1	10	14.7	10	14.9	12	12.9	12	13.2	12	18.2	8	12.5	10
Sanja	11.0	11	14.9	8	15.4	9	13.1	11	14.1	4	18.2	9	12.4	13
Demar 4	11.8	4	14.9	9	14.9	11	13.3	10	13.2	13	17.9	12	12.8	8
Dwarf Bezostaya	10.8	13	14.3	12	14.9	13	14.1	5	13.4	9	17.3	13	13.5	7
Blueboy	10.0	16	13.7	15	12.8	15	12.0	15	12.0	15	16.6	15	11.7	14
Mean	11.3		15.3		15.7		13.7		13.7		18.5		13.5	
L.S.D. of cultivar means (.05)	1.5		1.3		0.8		1.2		1.3		2.1		1.8	
Coefficient of variation (%)	5.7		2.2		2.2		3.7		6.6		2.8		5.0	

a) These locations are included only in the overall means and analysis for 33 sites.

Table 76. Two-year means and rankings of grain protein (%) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Concluded.

Cultivar	Pullman, Washington U.S.A.		Monsheim, West Germany		Weihenstephan, West Germany		Novi Sad, Yugoslavia		Zagreb, Yugoslavia		Cultivar[b] mean over 33 locations		Cultivar[c] mean over 26 locations
	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%
Atlas 66	16.2	1	17.5	1	15.3	1	18.1	1	15.2	1	17.0	1	16.7
Favorit	14.0	5	15.3	4	13.8	5	16.9	2	14.5	4	15.4	2	15.1
Lerma Rojo 64	14.5	4	15.5	3	13.8	4	15.8	5	15.1	2	--	-	15.1
Burgas 2	15.1	2	15.5	2	14.1	3	15.2	8	14.5	3	15.1	3	14.8
Kavkaz	14.0	6	14.9	5	14.4	2	16.4	3	14.1	6	15.0	4	14.7
Aurora	14.8	3	14.6	6	13.4	7	15.6	7	13.7	7	14.9	5	14.6
Bezostaya 1	13.7	8	13.6	12	12.4	11	15.1	9	13.6	8	14.2	6	14.0
Likafen	13.8	7	13.8	9	13.0	8	14.9	10	13.6	9	14.1	8	13.9
Jubilar	12.7	12	13.7	10	12.3	12	15.7	6	11.1	16	14.2	7	13.9
Bolal	11.7	16	13.9	7	13.4	6	14.9	11	14.4	5	13.9	10	13.7
Manella	12.5	13	13.7	11	12.2	15	15.9	4	11.8	14	14.0	9	13.7
Blueboy II	13.4	9	13.6	13	12.7	10	14.1	13	13.1	11	13.8	12	13.6
Sanja	12.9	11	13.3	14	12.3	12	13.0	16	13.0	12	13.8	11	13.5
Demar 4	12.2	14	13.8	8	12.2	14	14.2	12	12.4	13	13.7	13	13.4
Dwarf Bezostaya	13.0	10	12.5	15	12.7	9	13.8	14	13.2	10	13.5	14	13.2
Blueboy	12.0	15	12.5	15	11.4	16	13.7	15	11.3	15	12.9	15	12.7
Mean	13.5		14.2		13.1		15.2		13.4		14.4		14.2
L.S.D. of cultivar means (.05)	1.2		1.0		2.5		1.1		1.4		0.3		0.4
Coefficient of variation (%)	5.4		2.6		4.8		3.0		3.9		4.9		5.2

b) This analysis excludes Lerma Rojo 64.

c) This analysis excludes those sites where Lerma Rojo 64 had poor winter survival.

Table 77. Two-year means and rankings of test weight (kg/hl) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975.

Cultivar	Balcarce,[a] Argentina		Bordenave, Argentina		Milano, Italy		Morioka Iwate,[a] Japan		Suwon, Korea		Wageningen, The Netherlands		Warsaw, Poland		Fundulea, Romania	
	kg/hl	rank	kg/hl	rank	kg/hl	rank	kg/hl	rank	kg/hl	rank	kg/hl	rank	kg/hl	rank	kg/hl	rank
Bezostaya 1	74.0	11	80.6	3	80.6	2	78.5	2	76.0	3	81.3	2	76.9	1	73.9	5
Favorit	77.5	3	80.2	4	78.7	5	77.1	3	75.5	4	80.5	4	74.4	8	76.1	2
Demar 4	75.9	6	80.1	5	81.1	1	68.8	11	77.1	1	79.5	7	75.8	3	72.8	8
Aurora	77.8	2	80.9	1	80.0	3	76.8	4	74.4	6	79.0	9	75.4	4	73.9	4
Dwarf Bezostaya	74.8	9	79.9	6	78.1	7	74.0	7	68.8	13	80.9	3	74.8	5	72.2	10
Lerma Rojo 64	78.2	1	79.1	9	77.3	11	--	-	74.4	7	79.8	6	74.4	7	76.5	1
Bolal	77.1	4	80.8	2	79.3	4	80.1	1	77.1	2	78.3	13	74.0	11	72.8	6
Atlas 66	75.8	7	78.5	10	77.4	10	67.5	14	73.5	8	81.6	1	76.5	2	72.8	6
Likafen	72.2	12	79.8	7	74.6	12	68.4	13	69.9	12	80.3	5	72.9	14	74.9	3
Sanja	75.1	8	78.4	12	78.0	8	71.0	8	74.7	5	77.8	14	73.6	12	71.6	11
Kavkaz	77.0	5	79.4	8	77.8	9	74.5	6	71.3	10	75.6	16	74.4	9	72.4	9
Burgas 2	74.3	10	78.4	11	78.2	6	75.8	5	72.2	9	78.8	11	71.9	16	69.7	13
Manella	72.2	12	75.9	15	73.2	13	70.2	10	68.7	14	78.4	12	74.3	10	69.0	14
Blueboy II	71.1	14	77.9	13	72.2	14	70.6	9	70.2	11	79.5	7	71.0	15	71.4	12
Blueboy	67.4	15	77.6	14	71.5	16	68.5	12	66.4	16	77.8	14	72.9	13	68.4	15
Jubilar	66.1	16	72.0	16	72.2	15	56.3	15	67.0	15	79.0	9	74.6	6	67.7	16
Mean	74.0		78.7		76.9		72.1		72.3		79.2		74.2		72.2	
L.S.D. of cultivar means (.05)	2.5		2.8		6.0		5.0		4.3		4.2		4.3		5.8	
Coefficient of variation (%)	0.0		0.9		2.6		4.0		4.0		3.8		2.8		1.0	

a) These sites are not included in the overall means and analysis.

Table 77. Two-year means and rankings of test weight (kg/hl) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Concluded.

Cultivar	Bethlehem, Republic of South Africa		Svalof, Sweden		Zurich, Switzerland		Erzurum, Turkey		Eskisehir, Turkey		Pullman, Washington U.S.A.		Weihenstephan, West Germany		Novi Sad, Yugoslavia		Cultivar mean over 14 locations
	kg/hl	rank	kg/hl	rank	kg/hl	rank	kg/hl	rank	kg/hl	rank	kg/hl	rank	kg/hl	rank	kg/hl	rank	
Bezostaya 1	79.5	1	83.4	2	80.9	1	78.4	1	85.9	1	70.5	3	79.8	2	74.8	1	78.7
Favorit	77.4	6	82.1	8	79.2	3	76.9	3	83.7	4	70.5	4	79.1	3	73.4	4	77.6
Demar 4	77.6	5	82.3	5	77.6	5	74.6	11	81.6	9	69.8	8	80.9	1	73.6	3	77.4
Aurora	78.5	4	82.0	9	77.1	9	76.3	6	83.7	3	70.8	2	76.7	7	74.3	2	77.3
Dwarf Bezostaya	79.4	2	83.6	1	77.6	4	76.3	5	83.1	7	69.4	10	77.0	6	73.1	5	76.7
Lerma Rojo 64	76.5	9	79.8	15	77.1	8	76.1	7	83.9	2	68.9	11	78.4	5	70.5	10	76.5
Bolal	79.1	3	82.5	4	69.3	15	78.2	2	83.3	5	70.0	6	74.9	12	72.1	7	76.5
Atlas 66	73.9	15	82.2	6	80.5	2	73.6	14	79.6	14	69.5	9	76.6	8	68.4	16	76.0
Likafen	75.3	12	82.8	3	75.8	11	76.6	4	81.2	10	69.9	7	74.4	14	72.0	8	75.7
Sanja	76.5	8	81.0	13	74.2	12	74.2	13	80.0	12	67.6	14	78.6	4	72.0	9	75.5
Kavkaz	76.0	10	80.0	14	73.4	13	74.9	9	82.6	8	70.9	1	74.6	13	72.9	6	75.4
Burgas 2	77.2	7	78.9	16	77.4	7	75.8	8	83.2	6	70.4	5	74.0	16	70.0	12	75.4
Manella	75.0	13	81.5	12	77.6	5	73.6	15	79.6	13	66.6	15	74.3	15	69.2	15	74.0
Blueboy II	74.6	14	81.8	10	68.8	16	74.9	10	80.1	11	67.7	13	75.1	11	69.4	14	73.8
Blueboy	75.6	11	81.6	11	73.0	14	74.4	12	76.6	16	66.5	16	75.4	9	69.6	13	73.3
Jubilar	72.3	16	82.2	7	76.9	10	71.2	16	77.2	15	68.6	12	75.2	10	70.2	11	73.3
Mean	76.5		81.7		76.0		75.4		81.6		69.2		76.5		71.6		75.8
L.S.D. of cultivar means (.05)	4.0		2.8		10.0		2.0		2.4		2.5		7.7		4.1		1.3
Coefficient of variation (%)	0.7		0.5		2.6		2.2		1.7		1.9		1.8		4.2		2.5

Table 78. Two-year means and rankings of 1000-kernel weight (g) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975.

Cultivar	Vienna, Austria		Simla, India		Warsaw, Poland		Svalof, Sweden		Zurich, Switzerland		Lincoln,[a] Nebraska U.S.A.		Cultivar mean over 5 locations
	g	rank	g	rank	g	rank	g	rank	g	rank	g	rank	g
Aurora	45.8	2	34.9	2	47.7	2	50.6	3	45.6	1	38.9	1	45.1
Kavkaz	47.3	1	33.7	4	48.0	1	51.5	1	43.6	2	37.7	2	45.1
Bezostaya 1	43.1	3	32.7	5	46.0	3	50.3	4	39.7	7	37.7	3	42.6
Manella	41.1	5	34.9	2	42.2	8	50.1	5	40.6	4	24.3	13	41.9
Jubilar	41.2	4	32.0	8	45.4	4	49.8	6	38.4	9	22.1	15	41.6
Bolal	38.3	9	30.0	11	44.6	6	51.3	2	40.8	3	34.7	5	41.3
Favorit	40.2	6	32.3	6	41.7	9	48.2	8	39.9	6	37.0	4	40.7
Burgas 2	37.3	12	32.3	6	44.6	5	47.4	9	37.9	11	34.7	6	40.1
Lerma Rojo 64	39.1	7	35.1	1	38.7	14	49.0	7	34.6	13	--	-	39.4
Dwarf Bezostaya	36.2	14	31.4	9	41.0	11	44.6	11	40.6	5	28.4	11	39.0
Blueboy	36.9	13	31.4	9	41.0	12	43.8	12	38.0	10	29.9	10	38.4
Sanja	38.3	10	29.3	12	40.0	13	43.6	13	39.1	8	31.1	7	38.3
Demar 4	38.7	8	29.1	13	42.6	7	45.1	10	33.7	15	28.2	12	38.1
Atlas 66	37.3	11	28.9	14	41.3	10	41.1	14	37.2	12	30.5	9	37.4
Blueboy II	33.8	15	28.0	15	33.8	16	37.3	16	34.1	14	31.1	7	33.5
Likafen	31.0	16	26.9	16	35.2	15	40.4	15	31.6	16	24.0	14	33.2
Mean	39.1		31.4		42.1		46.5		38.5		31.3		39.7
L.S.D. of cultivar means (.05)	5.7		4.3		6.5		3.4		9.1		3.2		2.6
Coefficient of variation (%)	3.9		7.1		5.4		2.4		14.2		4.3		7.5

a) Nebraska is not included in the overall means and analysis.

Table 79. Two-year means and rankings of plant height (cm) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975.

Cultivar	Kabul, Afghanistan		Balcarce, Argentina		Bordenave, Argentina		Vienna, Austria		Tolbukhin, Bulgaria		Temuco, Chile		Cambridge, England		Martonvasar, Hungary	
	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank
Dwarf Bezostaya	65	1	83	1	57	1	66	1	61	1	73	1	73	1	68	1
Sanja	67	2	91	3	68	2	75	2	79	2	76	2	80	2	79	2
Burgas 2	80	3	103	9	76	6	82	3	87	4	94	3	92	3	88	3
Demar 4	90	6	108	12	81	10	87	4	92	5	96	4	93	4	91	4
Likafen	88	4	98	5	72	3	93	6	85	3	109	8	95	5	99	6
Lerma Rojo 64	90	5	95	4	86	14	93	6	94	8	104	6	95	6	95	5
Bezostaya 1	95	8	107	10	77	7	90	5	93	6	105	7	105	9	101	7
Aurora	94	7	109	13	80	9	94	8	93	7	109	8	99	7	103	8
Favorit	99	12	107	10	82	11	95	9	98	13	103	5	103	8	106	13
Manella	97	9	110	14	73	5	97	11	98	12	114	12	106	11	105	12
Blueboy	98	11	88	2	83	12	101	13	97	10	113	11	108	13	105	11
Blueboy II	98	10	103	7	84	13	96	10	96	9	111	10	108	14	103	9
Kavkaz	102	14	114	15	79	8	97	11	102	14	116	14	107	12	105	10
Jubilar	100	13	103	7	73	4	102	14	97	11	114	12	105	10	108	15
Bolal	105	15	98	6	86	15	105	15	107	16	118	15	116	15	107	14
Atlas 66	115	16	120	16	92	16	106	16	106	15	129	16	123	16	112	16
Mean	92.7		102.2		78.1		92.4		92.8		105.2		100.3		98.3	
L.S.D. of cultivar means (.05)	11.6		22.5		9.9		4.2		7.8		9.6		7.9		11.6	
Coefficient of variation (%)	5.8		1.4		7.0		4.1		2.7		6.7		5.6		4.3	

Table 79. Two-year means and rankings of plant height (cm) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Continued.

Cultivar	Szeged, Hungary		Simla, India		Hamadan, Iran		Sulaimaniya, Iraq		Milano, Italy		Morioka[a] Iwate, Japan		Suwon, Korea		Wageningen, The Netherlands	
	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank
Dwarf Bezostaya	70	1	55	1	63	1	64	1	71	1	77	2	64	1	74	1
Sanja	76	2	65	2	65	2	65	2	80	2	73	1	78	2	85	2
Burgas 2	83	3	75	4	72	3	74	3	88	3	92	4	90	3	90	3
Demar 4	88	4	85	8	78	5	89	10	96	6	91	3	93	4	102	5
Likafen	99	7	78	5	79	6	86	7	103	8	97	5	98	6	104	6
Lerma Rojo 64	103	10	95	15	82	9	99	14	96	5	--	-	94	5	101	4
Bezostaya 1	97	5	79	7	84	11	84	6	100	7	108	7	106	11	110	10
Aurora	99	6	85	9	81	8	83	5	103	9	106	6	104	9	105	7
Favorit	99	7	87	12	83	10	96	11	92	4	109	8	103	8	107	8
Manella	100	9	72	3	74	4	82	4	106	10	111	11	102	7	109	9
Blueboy	105	13	85	10	81	7	97	13	109	13	120	14	106	12	113	13
Blueboy II	104	12	90	13	84	11	96	11	106	10	120	13	105	10	116	14
Kavkaz	104	11	87	11	90	14	88	9	110	14	114	12	109	13	113	12
Jubilar	110	14	78	6	90	15	87	8	113	15	110	10	115	15	110	10
Bolal	111	15	92	14	88	13	104	15	106	10	123	15	109	14	119	15
Atlas 66	119	16	103	16	97	16	107	16	123	16	109	8	119	16	126	16
Mean	97.9		82.0		80.6		87.4		100.0		104.0		99.6		105.2	
L.S.D. of cultivar means (.05)	12.5		9.4		9.5		13.3		7.2		7.6		8.4		10.1	
Coefficient of variation (%)	3.2		8.6		6.2		6.4		4.6		3.0		3.7		3.7	

a) These sites are not included in the overall means and analysis.

Table 79. Two-year means and rankings of plant height (cm) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Continued.

Cultivar	Warsaw, Poland		Fundulea, Romania		Bethlehem, Republic of South Africa		Svalof, Sweden		Zurich, Switzerland		Erzurum, Turkey		Eskisehir, Turkey		Davis, California U.S.A.	
	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank
Dwarf Bezostaya	76	1	64	1	49	1	64	1	71	1	52	2	60	1	77	1
Sanja	78	2	77	2	51	2	64	1	74	2	48	1	63	2	89	2
Burgas 2	89	4	86	3	57	3	72	2	88	3	59	4	81	4	97	4
Demar 4	95	5	89	4	63	4	77	4	96	5	62	5	78	3	107	5
Likafen	103	9	93	5	70	9	85	9	101	6	65	6	85	5	109	6
Lerma Rojo 64	87	3	96	8	80	15	77	4	94	4	73	13	87	7	95	3
Bezostaya 1	98	6	94	6	68	5	85	9	103	7	73	15	93	10	116	10
Aurora	102	8	95	7	69	8	82	6	104	9	67	8	91	8	112	7
Favorit	99	7	102	9	69	7	83	7	104	8	73	14	92	9	114	8
Manella	108	10	103	11	76	13	93	14	108	11	57	3	86	6	114	9
Blueboy	115	16	103	13	71	10	85	9	109	12	69	10	97	13	118	12
Blueboy II	110	12	103	11	69	6	84	8	109	12	71	11	93	11	121	13
Kavkaz	108	11	102	9	74	12	88	12	108	10	67	7	96	12	118	11
Jubilar	114	14	110	14	85	16	93	14	113	14	67	8	99	14	124	14
Bolal	115	15	116	15	72	11	90	13	116	15	71	12	105	15	126	15
Atlas 66	113	13	117	16	79	14	93	14	124	16	84	16	110	16	142	16
Mean	100.4		96.8		68.8		82.1		101.3		66.0		88.6		111.1	
L.S.D. of cultivar means (.05)	8.3		8.1		8.8		5.6		5.6		9.9		5.6		5.7	
Coefficient of variation (%)	4.1		4.1		3.3		3.9		3.7		5.8		4.6		3.8	

Table 79. Two-year means and rankings of plant height (cm) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Concluded.

Cultivar	Ithaca,[a] New York U.S.A.		Rowan County,[a] North Carolina U.S.A.		Stillwater,[a] Oklahoma U.S.A.		Monsheim, West Germany		Weihenstephan, West Germany		Novi Sad, Yugoslavia		Zagreb, Yugoslavia		Cultivar mean over 27 locations
	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank	cm	rank	cm
Dwarf Bezostaya	63	1	68	1	53	1	49	1	68	1	64	1	66	1	65.4
Sanja	67	2	71	2	60	2	62	2	75	2	73	2	75	2	72.6
Burgas 2	78	3	79	3	69	5	67	3	80	3	81	3	88	3	82.2
Demar 4	87	5	88	4	66	3	74	6	89	5	86	5	92	4	88.0
Likafen	81	4	88	5	71	6	69	4	96	8	85	4	94	6	90.4
Lerma Rojo 64	--	-	--	-	--	-	79	13	88	4	90	8	93	5	91.0
Bezostaya 1	88	6	89	6	68	4	75	7	97	9	89	7	95	7	93.3
Aurora	92	9	98	12	72	7	73	5	94	7	94	13	97	9	93.4
Favorit	92	10	95	10	72	8	75	7	94	6	90	10	96	8	94.4
Manella	90	8	93	9	76	11	78	12	100	10	86	6	100	11	94.6
Blueboy	96	11	92	7	77	13	79	13	102	13	90	9	100	10	97.3
Blueboy II	89	7	92	7	79	15	77	10	105	14	91	11	100	12	97.5
Kavkaz	101	13	98	11	76	12	78	11	102	11	92	12	105	14	98.4
Jubilar	101	12	101	14	75	10	77	9	102	11	94	14	108	16	99.7
Bolal	108	15	100	13	78	14	80	15	107	15	100	15	103	13	102.7
Atlas 66	107	14	110	15	73	9	86	16	119	16	100	15	108	15	110.0
Mean	89.4		90.4		70.9		73.5		94.7		87.9		94.8		91.9
L.S.D. of cultivar means (.05)	12.5		11.1		8.8		4.5		4.5		8.0		6.2		2.6
Coefficient of variation (%)	3.6		5.0		4.3		3.8		3.6		5.6		3.5		4.7

a) These sites are not included in the overall means and analysis.

Table 80. Two-year means and rankings of lodging (%) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975.

Cultivar	Temuco, Chile		Martonvasar, Hungary		Milano, Italy		Morioka[a] Iwate, Japan		Suwon, Korea		Wageningen, The Netherlands		Warsaw, Poland		Fundulea, Romania	
	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank
Dwarf Bezostaya	1	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
Burgas 2	8	2	0	1	3	2	0	1	3	3	0	1	0	1	0	1
Demar 4	14	6	1	3	8	3	0	1	0	1	0	1	0	1	0	1
Sanja	11	3	13	5	18	4	0	1	35	7	0	1	0	1	0	1
Likafen	13	5	21	7	19	6	0	1	10	4	0	1	6	8	0	1
Aurora	20	8	2	4	24	7	0	1	47	12	0	1	1	5	0	1
Jubilar	14	6	24	10	38	9	1	10	38	9	0	1	7	9	0	1
Kavkaz	25	12	16	6	19	5	0	1	46	11	0	1	2	6	0	1
Manella	11	3	33	12	67	11	3	12	42	10	1	9	5	7	2	10
Bezostaya 1	30	13	24	9	29	8	0	1	29	5	3	10	12	10	1	9
Blueboy	23	9	23	8	63	10	11	13	36	8	3	10	18	11	11	11
Blueboy II	24	10	27	11	81	15	1	10	60	15	10	12	28	12	18	12
Favorit	24	10	52	13	78	13	16	14	64	16	19	13	49	14	24	13
Lerma Rojo 64	35	15	65	15	76	12	-	-	34	6	54	14	37	13	43	14
Atlas 66	46	16	59	14	80	14	0	1	51	14	69	15	64	15	64	15
Bolal	31	14	77	16	93	16	49	15	48	13	79	16	89	16	80	16
Mean	20.5		27.2		43.4		5.4		33.9		14.8		19.8		15.1	
L.S.D. of cultivar means (.05)	15.6		39.9		34.1		27.9		71.2		21.8		30.9		33.4	
Coefficient of variation (%)	32.7		56.2		46.4		93.8		56.9		65.7		77.0		73.3	

a) Sites in Japan and Turkey are not included in the overall means and analysis.

Table 80. Two-year means and rankings of lodging (%) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Concluded.

Cultivar	Svalof, Sweden		Zurich, Switzerland		Eskisehir,[a] Turkey		Davis, California U.S.A.		Monsheim, West Germany		Weihenstephan, West Germany		Novi Sad, Yugoslavia		Zagreb, Yugoslavia		Cultivar mean over 14 locations
	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%
Dwarf Bezostaya	4	3	3	1	0	1	0	1	0	1	1	1	1	1	1	1	0.8
Burgas 2	1	2	3	3	0	1	0	1	0	1	6	4	8	3	1	1	2.3
Demar 4	6	4	3	1	0	1	1	6	0	1	1	1	15	5	15	6	4.5
Sanja	0	1	16	10	0	1	0	1	0	1	4	3	9	4	6	3	8.0
Likafen	23	7	3	3	0	1	0	1	0	1	14	8	4	2	28	8	10.0
Aurora	10	5	5	6	0	1	6	9	0	1	10	7	19	6	13	5	11.2
Jubilar	34	13	3	3	0	1	0	1	0	1	6	4	25	8	10	4	14.2
Kavkaz	19	6	6	7	0	1	17	11	0	1	15	9	25	7	29	9	15.6
Manella	36	14	8	8	0	1	2	7	0	1	20	10	58	11	22	7	21.7
Bezostaya 1	33	11	23	12	0	1	24	12	1	12	9	6	58	11	51	12	23.3
Blueboy	31	10	14	9	4	13	4	8	0	10	25	13	53	10	33	10	24.0
Blueboy II	44	15	22	11	1	11	9	10	0	10	21	12	29	9	38	11	29.3
Favorit	33	12	60	14	1	12	28	13	20	14	33	14	96	14	84	13	47.4
Lerma Rojo 64	24	8	53	13	9	14	54	16	14	13	20	10	97	15	95	15	49.9
Atlas 66	24	8	77	16	29	16	41	14	51	15	53	15	90	13	92	14	61.4
Bolal	48	16	77	15	10	15	48	15	83	16	59	16	99	16	98	16	72.0
Mean	23.0		23.4		3.3		14.6		10.7		18.5		42.6		38.4		24.7
L.S.D. of cultivar means (.05)	31.5		23.6		19.0		59.4		18.9		28.3		21.7		32.0		11.8
Coefficient of variation (%)	37.1		74.1		175.4		76.4		90.7		70.1		35.7		40.0		56.5

a) Sites in Japan and Turkey are not included in the overall means and analysis.

Table 81. Two-year means and rankings of winter survival (%) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975.

Cultivar	Kabul, Afghanistan		Morioka Iwate, Japan		Suwon, Korea		Wageningen, The Netherlands		Warsaw, Poland		Ithaca, New York U.S.A.		Zagreb, Yugoslavia		Cultivar mean over 7 locations
	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%
Kavkaz	86	4	96	1	100	1	94	6	84	12	85	1	98	13	91.8
Bezostaya 1	87	3	95	2	98	5	95	1	86	8	81	9	98	13	91.4
Burgas 2	79	9	91	3	100	3	91	8	88	3	81	10	98	15	89.6
Aurora	70	12	89	5	100	1	94	4	86	5	81	8	99	2	88.5
Dwarf Bezostaya	72	10	91	4	95	7	95	1	79	14	82	5	98	16	87.4
Favorit	81	8	83	6	88	11	91	8	90	2	79	12	99	5	87.3
Bolal	85	5	71	7	96	6	91	8	82	13	84	3	99	9	86.8
Blueboy II	90	1	64	9	91	8	90	12	86	5	82	7	99	12	85.9
Manella	84	6	71	8	81	15	95	1	86	5	82	6	99	10	85.2
Blueboy	89	2	47	10	89	10	91	7	87	4	82	4	99	11	83.4
Demar 4	81	7	29	12	83	14	90	12	92	1	85	2	99	2	79.8
Jubilar	70	11	31	11	91	8	94	4	85	10	77	13	99	2	78.1
Likafen	57	16	21	13	99	4	91	8	86	8	76	14	99	7	75.6
Sanja	65	15	20	14	86	12	90	12	84	11	79	11	99	7	74.8
Atlas 66	69	13	3	15	86	12	90	12	74	15	67	15	99	5	69.8
Lerma Rojo 64	65	14	0	16	44	16	88	16	48	16	2	16	100	1	49.6
Mean	76.8		56.2		89.2		91.8		82.8		75.3		98.8		81.6
L.S.D. of cultivar means (.05)	29.8		16.1		18.7		1.7		28.4		8.3		1.4		14.8
Coefficient of variation (%)	18.2		13.9		6.5		1.6		7.4		6.8		1.1		8.8

Table 82. Two-year means and rankings of days to flowering (days from Jan. 1) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975.

Cultivar	Kabul, Afghanistan		Balcarce, Argentina		Bordenave, Argentina		Vienna, Austria		Tolbukhin, Bulgaria		Martonvasar, Hungary		Szeged, Hungary	
	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank
Lerma Rojo 64	137	1	271	1	284	1	136	1	138	1	144	1	137	1
Sanja	141	5	292	2	293	3	141	2	144	2	146	2	141	3
Bolal	140	2	293	3	294	4	144	5	146	5	147	3	141	2
Favorit	140	3	295	5	296	7	143	3	144	2	147	4	142	4
Demar 4	140	4	299	8	295	5	143	4	145	4	149	5	143	6
Blueboy II	142	7	296	6	296	6	147	9	149	7	149	7	144	9
Blueboy	142	7	294	4	300	10	146	6	149	8	149	6	144	8
Bezostaya 1	142	6	301	10	299	9	146	6	149	8	149	8	143	5
Atlas 66	144	10	299	8	300	11	148	10	150	11	150	12	143	7
Burgas 2	145	11	296	6	297	8	148	10	147	6	150	10	145	11
Dwarf Bezostaya	143	9	303	11	301	12	146	8	149	8	150	10	144	10
Aurora	145	12	305	12	292	2	149	12	151	12	149	9	147	12
Likafen	146	13	306	13	302	13	150	13	153	13	152	13	148	13
Kavkaz	148	14	307	14	307	14	151	14	153	13	153	14	149	14
Manella	150	15	316	15	310	15	151	15	155	15	153	15	149	14
Jubilar	157	16	321	16	314	16	157	16	159	16	158	16	154	16
Mean	143.8		299.5		298.7		146.6		148.5		149.6		144.6	
L.S.D. of cultivar means (.05)	5.9		5.9		11.2		2.0		4.2		2.1		2.7	
Coefficient of variation (%)	2.4		0.4		3.1		0.7		0.0		0.6		0.4	

Table 82. Two-year means and rankings of days to flowering (days from Jan. 1) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Continued.

Cultivar	Simla, India		Hamadan, Iran		Karaj, Iran		Sulaimaniya, Iraq		Milano, Italy		Morioka Iwate,[a] Japan		Suwon, Korea	
	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank
Lerma Rojo 64	87	1	149	4	128	1	113	1	127	1	--	-	137	1
Sanja	110	6	149	6	132	2	127	6	134	2	160	5	142	2
Bolal	109	2	149	4	134	3	124	2	135	3	157	1	144	4
Favorit	110	4	148	2	134	3	128	7	135	4	158	3	143	3
Demar 4	110	3	149	3	136	7	124	3	135	5	161	8	145	5
Blueboy II	111	7	149	7	134	3	127	5	137	6	160	6	145	6
Blueboy	112	9	150	8	137	8	126	4	138	8	161	10	146	7
Bezostaya 1	111	8	150	11	137	10	128	8	137	6	157	1	151	11
Atlas 66	110	5	150	9	136	6	129	9	140	12	164	12	147	9
Burgas 2	114	12	151	12	137	8	134	13	138	8	160	6	146	8
Dwarf Bezostaya	113	10	150	10	138	11	135	14	138	10	159	4	147	10
Aurora	113	11	152	13	138	11	134	12	139	11	161	9	153	15
Likafen	114	13	148	1	142	14	133	10	143	14	165	13	151	11
Kavkaz	117	14	156	14	141	13	133	11	141	13	163	11	151	13
Manella	123	15	158	15	145	15	139	15	144	15	167	14	153	14
Jubilar	125	16	161	16	149	16	145	16	147	16	171	15	155	16
Mean	111.9		151.1		137.0		129.8		138.0		161.6		147.2	
L.S.D. of cultivar means (.05)	4.1		4.7		4.6		7.8		3.4		1.6		5.1	
Coefficient of variation (%)	1.8		1.9		0.1		2.8		1.1		0.4		2.7	

a) These sites are not included in the overall means and analysis.

Table 82. Two-year means and rankings of days to flowering (days from Jan. 1) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Continued.

Cultivar	Toluca, Mexico		Wageningen, The Netherlands		Warsaw, Poland		Fundulea, Romania		Bethlehem, Republic of South Africa		Svalof, Sweden		Zurich, Switzerland	
	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank
Lerma Rojo 64	120	1	149	1	154	1	141	1	272	1	158	1	150	1
Sanja	148	3	153	4	156	4	145	4	285	4	163	3	152	2
Bolal	149	4	155	6	157	5	145	2	283	2	163	4	155	5
Favorit	149	4	153	3	155	2	145	2	287	5	163	2	154	3
Demar 4	157	12	152	2	155	3	146	5	290	10	164	5	155	4
Blueboy II	147	2	156	8	162	11	147	6	285	3	167	7	161	10
Blueboy	150	7	156	8	161	10	148	8	289	7	167	10	162	12
Bezostaya 1	154	9	155	5	159	6	147	6	289	7	166	7	157	6
Atlas 66	149	6	157	10	159	6	149	10	289	9	165	6	160	9
Burgas 2	153	8	159	12	160	9	149	10	289	6	168	11	159	8
Dwarf Bezostaya	157	11	155	6	160	8	148	9	291	11	167	9	159	7
Aurora	160	13	159	13	162	12	149	10	292	12	169	13	162	11
Likafen	154	10	158	11	162	13	151	13	292	13	168	11	163	13
Kavkaz	169	14	160	14	165	14	152	14	295	14	171	16	164	14
Manella	180	15	162	15	165	15	153	15	302	15	169	14	165	15
Jubilar	180	15	164	16	166	16	156	16	308	16	170	15	171	16
Mean	154.7		156.4		159.7		148.0		289.9		166.3		159.2	
L.S.D. of cultivar means (.05)	4.7		5.0		3.4		2.2		5.5		1.9		3.5	
Coefficient of variation (%)	1.7		1.2		0.6		0.0		0.3		0.2		1.0	

Table 82. Two-year means and rankings of days to flowering (days from Jan. 1) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Concluded.

Cultivar	Erzurum, Turkey		Eskisehir,[a] Turkey		Stillwater,[a] Oklahoma U.S.A.		Monsheim, West Germany		Weihenstephan, West Germany		Novi Sad, Yugoslavia		Zagreb,[b] Yugoslavia		Cultivar mean over 23 locations
	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1
Lerma Rojo 64	171	1	139	1	--	-	136	1	144	1	138	1	141	1	157.9
Sanja	173	3	143	3	115	1	143	2	150	2	141	2	143	2	164.7
Bolal	174	4	142	2	117	2	145	5	152	5	141	4	145	3	165.4
Favorit	173	2	143	4	118	5	145	4	151	4	141	2	145	3	165.6
Demar 4	174	4	144	5	118	3	144	3	151	3	142	5	145	5	166.6
Blueboy II	176	9	147	9	119	7	149	10	155	10	144	8	147	8	167.9
Blueboy	176	9	148	10	118	6	149	8	154	7	144	8	148	10	168.4
Bezostaya 1	174	6	146	7	121	8	149	11	155	9	142	6	146	6	168.6
Atlas 66	175	7	148	12	124	13	147	6	154	6	145	11	148	11	168.8
Burgas 2	175	8	145	6	118	4	149	9	154	8	144	8	147	9	169.1
Dwarf Bezostaya	176	11	146	8	121	9	148	7	157	11	143	7	146	7	169.7
Aurora	176	11	148	10	123	10	151	12	158	12	145	11	148	11	171.0
Likafen	177	13	149	14	124	11	151	13	158	13	146	14	152	14	171.9
Kavkaz	178	14	149	15	124	12	152	15	160	14	146	13	149	13	173.9
Manella	181	15	149	13	127	14	151	14	160	15	148	15	153	15	176.4
Jubilar	184	16	156	16	133	15	155	16	165	16	152	16	157	16	180.3
Mean	175.6		146.2		121.4		147.6		154.8		143.6		147.3		169.1
L.S.D. of cultivar means (.05)	2.0		5.0		2.6		2.1		3.2		2.0		2.0		1.9
Coefficient of variation (%)	0.6		1.1		0.6		1.1		0.4		0.4		0.4		1.6

a) These sites are not included in the overall means and analysis.

b) Two replications only; omitted from overall means and analysis.

Table 83. Two-year means and rankings of days to ripening (days from Jan. 1) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975.

Cultivar	Kabul, Afghanistan		Balcarce, Argentina		Bordenave, Argentina		Vienna, Austria		Martonvasar, Hungary		Simla, India	
	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank
Lerma Rojo 64	179	1	334	1	330	1	192	1	190	1	126	1
Bolal	182	4	341	2	335	3	193	4	191	2	137	2
Sanja	181	2	341	2	335	2	192	2	191	6	139	4
Favorit	182	3	342	4	336	4	192	3	191	3	138	3
Demar 4	183	5	347	8	339	7	193	5	192	8	141	8
Bezostaya 1	184	6	347	8	339	8	195	8	192	7	139	5
Blueboy	186	10	346	7	337	5	198	12	193	9	140	6
Blueboy II	185	9	345	6	341	10	200	14	193	9	141	9
Dwarf Bezostaya	184	7	349	11	340	9	195	7	191	3	143	12
Atlas 66	185	8	343	5	344	11	198	10	194	11	140	6
Burgas 2	187	13	347	10	339	6	193	6	191	3	142	10
Aurora	186	12	351	12	345	13	196	9	195	12	142	11
Likafen	189	14	351	13	345	12	199	13	195	14	146	14
Kavkaz	186	11	353	14	346	14	198	10	195	13	144	13
Manella	190	15	361	15	349	15	201	15	195	14	158	15
Jubilar	192	16	364	16	354	16	206	16	201	16	160	16
Mean	184.9		347.3		340.9		196.1		193.1		142.3	
L.S.D. of cultivar means (.05)	4.9		5.9		6.0		4.8		2.0		5.8	
Coefficient of variation (%)	1.4		0.1		0.9		0.9		0.7		1.3	

Table 83. Two-year means and rankings of days to ripening (days from Jan. 1) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Continued.

Cultivar	Hamadan, Iran		Karaj, Iran		Sulaimaniya, Iraq		Milano, Italy		Morioka[a] Iwate, Japan		Suwon, Korea	
	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank
Lerma Rojo 64	183	1	171	1	151	1	186	1	--	-	179	1
Bolal	184	5	175	2	157	2	186	2	198	1	180	3
Sanja	183	2	177	4	158	4	186	7	199	2	180	3
Favorit	184	3	175	2	160	7	186	7	200	5	179	2
Demar 4	184	4	178	5	157	3	186	7	199	3	180	5
Bezostaya 1	186	7	180	8	160	8	186	2	199	4	181	6
Blueboy	188	12	180	8	159	5	186	5	205	10	183	11
Blueboy II	187	8	179	6	160	6	186	11	206	13	183	9
Dwarf Bezostaya	184	6	181	12	163	12	186	2	203	7	185	14
Atlas 66	187	10	179	6	160	9	188	15	210	14	181	7
Burgas 2	187	9	181	10	163	12	186	5	203	8	182	8
Aurora	189	13	181	13	162	10	186	7	203	6	183	9
Likafen	187	10	183	14	162	11	186	11	205	11	186	15
Kavkaz	189	14	181	11	163	14	187	13	205	9	184	12
Manella	190	15	186	15	167	15	187	13	206	12	184	13
Jubilar	190	15	186	15	173	16	188	16	210	15	189	16
Mean	186.3		179.4		160.9		186.3		203.2		182.3	
L.S.D. of cultivar means (.05)	5.2		3.8		6.6		1.5		3.4		2.0	
Coefficient of variation (%)	0.8		0.2		1.6		0.5		0.4		0.8	

a) These sites are not included in the overall means and analysis.

Table 83. Two-year means and rankings of days to ripening (days from Jan. 1) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Continued.

Cultivar	Kathmandu, Nepal		Wageningen, The Netherlands		Warsaw, Poland		Fundulea, Romania		Bethlehem, Republic of South Africa		Svalof, Sweden	
	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank
Lerma Rojo 64	126	1	204	1	208	4	173	1	319	1	212	1
Bolal	138	5	205	2	206	1	175	2	328	3	213	2
Sanja	137	3	215	8	207	3	175	2	328	2	213	3
Favorit	138	4	211	4	206	1	176	4	329	4	215	4
Demar 4	140	8	217	11	208	5	177	5	337	10	215	6
Bezostaya 1	141	11	209	3	208	6	180	11	332	5	219	12
Blueboy	136	2	213	6	211	12	180	12	335	8	216	7
Blueboy II	139	6	214	7	212	13	178	6	335	6	218	9
Dwarf Bezostaya	141	9	219	15	210	10	179	7	336	9	215	5
Atlas 66	140	7	211	4	209	9	179	8	340	12	218	9
Burgas 2	142	12	216	9	208	6	179	8	335	7	221	16
Aurora	142	14	217	10	209	8	179	8	338	11	218	11
Likafen	141	9	217	11	215	15	182	13	341	14	217	8
Kavkaz	145	15	217	11	214	14	182	13	341	13	219	14
Manella	142	13	217	11	210	11	182	13	346	15	219	13
Jubilar	146	16	219	15	216	16	185	16	350	16	220	15
Mean	139.6		213.6		209.8		178.6		335.5		216.7	
L.S.D. of cultivar means (.05)	5.9		5.2		6.4		4.1		4.5		4.4	
Coefficient of variation (%)	3.0		0.3		0.8		0.1		0.3		0.3	

Table 83. Two-year means and rankings of days to ripening (days from Jan. 1) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975. Concluded.

Cultivar	Erzurum, Turkey		Eskisehir, Turkey		Stillwater,[a] Oklahoma U.S.A.		Novi Sad, Yugoslavia		Zagreb,[b] Yugoslavia		Cultivar mean over 20 locations
	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1	rank	days from Jan. 1
Lerma Rojo 64	201	1	189	1	--	-	180	1	181	1	202.0
Bolal	205	4	190	3	150	3	182	2	192	7	205.6
Sanja	203	2	190	2	148	1	183	3	189	3	206.2
Favorit	205	4	192	5	150	4	183	4	191	6	206.4
Demar 4	210	10	191	4	149	2	184	5	189	2	208.4
Bezostaya 1	207	6	196	7	153	7	184	5	192	7	208.5
Blueboy	208	8	196	8	153	8	184	7	190	5	209.2
Blueboy II	208	7	197	10	155	10	185	9	194	11	209.7
Dwarf Bezostaya	205	3	196	6	152	6	184	7	189	3	209.7
Atlas 66	208	8	197	12	158	14	186	11	194	12	209.7
Burgas 2	210	10	197	9	151	5	186	11	192	7	210.1
Aurora	212	13	197	10	154	9	185	9	192	10	211.0
Likafen	212	14	198	13	156	12	187	13	197	16	212.4
Kavkaz	211	12	198	15	156	11	187	14	196	15	212.5
Manella	214	15	198	13	157	13	188	15	196	13	214.6
Jubilar	216	16	202	16	163	15	192	16	196	13	216.6
Mean	208.5		195.2		153.5		184.7		191.7		209.5
L.S.D. of cultivar means (.05)	6.0		4.5		3.2		2.0		5.0		1.5
Coefficient of variation (%)	0.3		0.9		0.7		0.3		0.0		1.9

a) These sites are not included in the overall means and analysis.

b) Two replications only; omitted from overall means and analysis.

Table 84. Two-year means and rankings of shattering (%) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975.

Cultivar	Kabul, Afghanistan		Bordenave, Argentina		Wageningen, The Netherlands		Warsaw, Poland		Bethlehem, Republic of South Africa		Erzurum, Turkey		Cultivar mean over 6 locations
	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%
Bezostaya 1	4	2	0	1	5	1	1	1	0	1	8	9	2.9
Manella	5	4	0	1	10	4	2	12	0	1	0	4	3.0
Blueboy	2	1	5	9	11	6	2	9	0	1	0	3	3.3
Dwarf Bezostaya	6	5	0	1	9	3	1	2	0	1	11	13	4.5
Aurora	6	5	0	1	17	13	1	8	0	1	5	7	4.9
Burgas 2	9	12	0	1	15	11	1	6	0	1	5	7	5.0
Lerma Rojo 64	8	9	0	1	11	5	2	10	0	1	13	14	5.4
Jubilar	8	9	2	8	13	8	6	14	9	13	0	1	6.1
Favorit	12	15	14	14	11	6	3	13	0	1	3	6	7.2
Atlas 66	4	2	11	12	14	10	1	3	0	1	15	15	7.4
Kavkaz	7	8	10	11	23	15	1	7	8	12	0	1	7.9
Blueboy II	6	5	14	15	8	2	7	15	12	14	1	5	8.0
Sanja	11	14	0	1	18	14	2	11	4	11	16	16	8.4
Bolal	18	16	13	13	13	8	1	5	0	1	8	9	8.6
Likafen	9	12	8	10	16	12	1	4	31	16	8	9	12.1
Demar 4	9	11	20	16	27	16	11	16	13	15	10	12	14.9
Mean	7.7		6.0		13.7		2.7		4.8		6.4		6.9
L.S.D. of cultivar means (.05)	9.7		19.6		12.2		6.4		14.5		16.2		6.5
Coefficient of variation (%)	134.6		98.7		15.0		74.4		51.8		125.3		88.2

Table 85. Two-year means and rankings of frost damage (0-9) for 16 cultivars grown in the International Winter Wheat Performance Nursery, 1974 and 1975.

Cultivar	Toluca, Mexico		Eskisehir, Turkey		Cultivar mean over 2 locations
	0-9	rank	0-9	rank	0-9
Burgas 2	1	1	3	2	2.0
Aurora	2	10	3	1	2.1
Blueboy II	2	2	3	2	2.1
Favorit	1	1	3	7	2.1
Kavkaz	1	1	3	7	2.1
Demar 4	2	2	3	4	2.1
Bezostaya 1	2	2	3	7	2.2
Dwarf Bezostaya	2	12	3	4	2.3
Blueboy	2	11	3	12	2.3
Jubilar	1	1	3	13	2.3
Atlas 66	2	12	3	7	2.3
Bolal	2	12	3	7	2.3
Likafen	2	2	4	14	2.5
Lerma Rojo 64	2	16	3	4	2.5
Manella	1	1	4	15	2.6
Sanja	2	12	4	16	2.9
Mean	1.6		3.1		2.3
L.S.D. of cultivar means (.05)	0.7		1.3		1.2
Coefficient of variation	26.6		18.5		21.7

Table 86. Milling, mixing and baking data for 7th IWWPN composited samples harvested at Lincoln, NE, USA, 1975.

Lab No.	Variety	Country	Entry No.	Agtron Reading	Flour Yield %	Mill Type	% Flour Protein DWB	% Flour Ash	MC% K BrO_3	% Abs.	Mix Time: Bake Time min	Mix Time: Mixograph Time min	Mix Time: Mixograph Tol.	Bread: Volume CC[1/]	Bread: External	Bread: Grain	Bread: Texture
A75-17914	Favorit	Romania	1	61	74.4	G-	16.25	.514	0.75	64	4 1/2	3.3	3	1050	VG	F	G
17915	Jubilar	West Germany	2	27	-	P	16.80	.709	1.50	60	4	2	2	970	P	F	P
17916	Dwarf Bezostaya	USSR	3	61	71.0	G	14.05	.516	0.25	63	5	4.5	3+	940	G+	G-	G+
17917	Manella	Netherlands	4	47	-	VP	15.05	.609	2.0	60	3 1/4	2	1	965	F	P	P
17918	Likafen	Chile	5	60	68.5	G	14.40	.548	0.5	60	7 1/2	5	4	950	G+	VG+	VG
17919	Blueboy	USA,NC	6	48	-	VP	12.85	.507	2.0	56	2 3/4	1.6	1+	875	P	F	P
17920	Bezostaya 1	USSR	7	67	74.9	G	14.75	.425	0.5	62	4 1/2	3.5	3+	940	VG	VG	VG
17921	Burgas 2	Bulgaria	8	63	71.0	F	15.60	.500	1.5	60	1 1/3	1	1-	820	F-	F	G-
17922	Demar 4	Italy	9	52	-	VP	13.35	.571	1.5	58	3 3/4	2	1+	855	F	F	F
17923	Aurora	USSR	10	66	72.0	G	15.35	.420	0	62	3	2.3	1	915	F+	G-	G-
17924	Zg5996/66	Yugoslavia	11	60	-	VP	13.95	.523	1.25	58	3 3/4	2.6	2	990	G	G+	G+
17925	Bolal	Turkey	12	71	74.0	G	12.75	.423	1.0	59	3 3/4	2	2+	875	F	G+	VG
17926	Kavkaz	USSR	13	58	72.4	G	15.85	.448	0	59	3	2.3	1	805	F-	G-	G
17927	Atlas 66	USA,NC	14	51	67.4	VP	18.05	.543	1.5	58	2	1	2+	970	G+	F-	F+
17928	Blueboy	USA,NC	15	46	71.5	VP	11.80	.577	2.0	57.5	2 1/4	1.6	1-	850	F	F	F+
17929	Talent	France	17	52	72.5	VP	12.95	.534	1.5	58	2 2/3	1.6	1	835	F-	F-	F-
17930	Kitakomi-Komugi	Japan	18	74	-	VP	12.10	.445	0.75	58	3 1/3	2.5	2	940	G-	VG	VG
17931	Kormoran	West Germany	19	32	71.0	VP	15.20	.632	0.75	57	5	3	3	980	G-	VG	VG
17932	Sentinel	USA,NE	21	74	65.4	F	15.55	.425	0.5	58	3 3/4	3	3+	955	G+	G+	G+
17933	Lely	Netherlands	22	26	70.6	F	16.95	.614	1.5	58	1 2/3	1	1	900	F-	F-	F-
17934	TRS 237	Australia	23	71	71.5	G	14.80	.409	0.75	62	3 1/2	2.5	3	1035	VG	G-	VG
17935	Biserka	Yugoslavia	24	67	-	VP	13.45	.548	1.0	60	3 3/4	2	2-	940	F+	F	F+
17936	GKF-2	Hungary	25	46	71.5	F	14.05	.625	2.0	59	2 3/4	2	2-	890	F+	G+	G+
17937	Sieve	Italy	26	32	70.4	F	17.00	.614	2.0	58	1 1/2	1	1-	765	P	F-	F-
17938	Dunav-1	Yugoslavia	27	56	72.9	G	14.95	.539	0.75	62.5	4 1/2	4	3-	825	F	VG-	VG
17939	Martonvasar	Hungary	28	62	74.9	G	15.60	.427	2.0	60	3 1/2	2.6	3-	870	F	G-	G-
17940	Maris Huntsman	England	29	32	68.6	G	15.70	.750	1.5	56	1 1/2	1	1-	760	P	P	P
17941	Maris Templar	England	30	30	64.2	F	15.85	.705	1.0	56	2 1/4	1.3	1	910	F+	F	F

Analytical = DWB

1/ Average of 2 loaves.

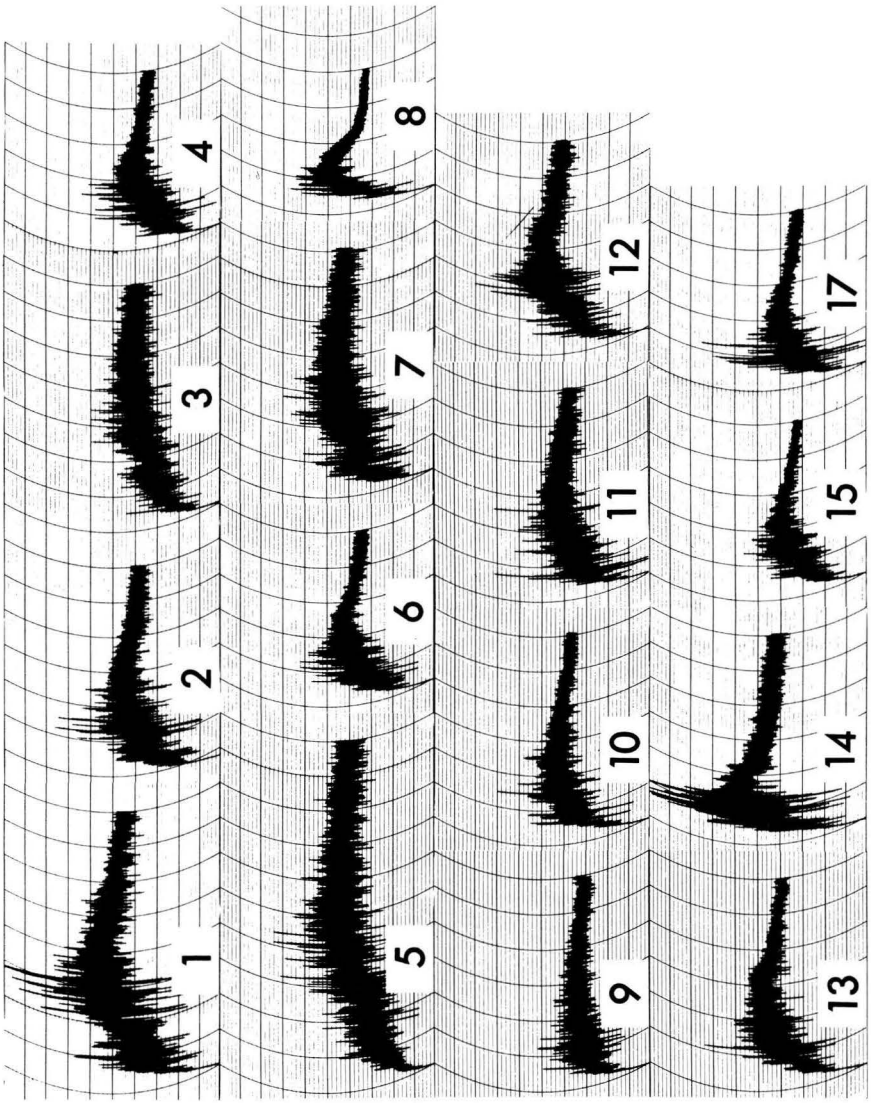

Figure 3. Mixograms for 7th IWWPN entries harvested in 1975 at Lincoln, NE, USA.

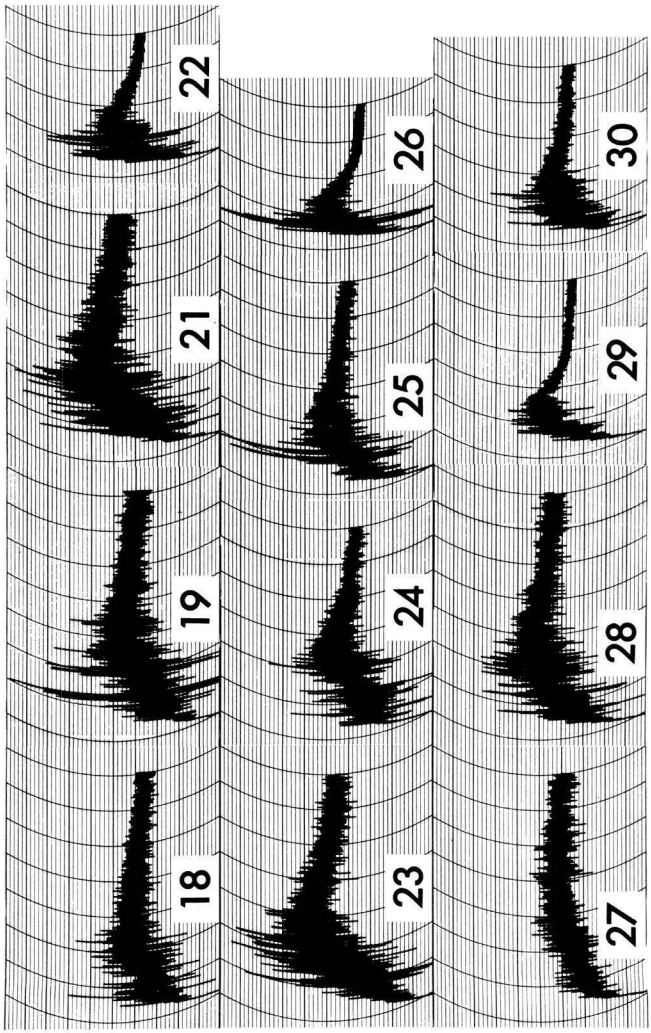

Figure 3. (Continued)

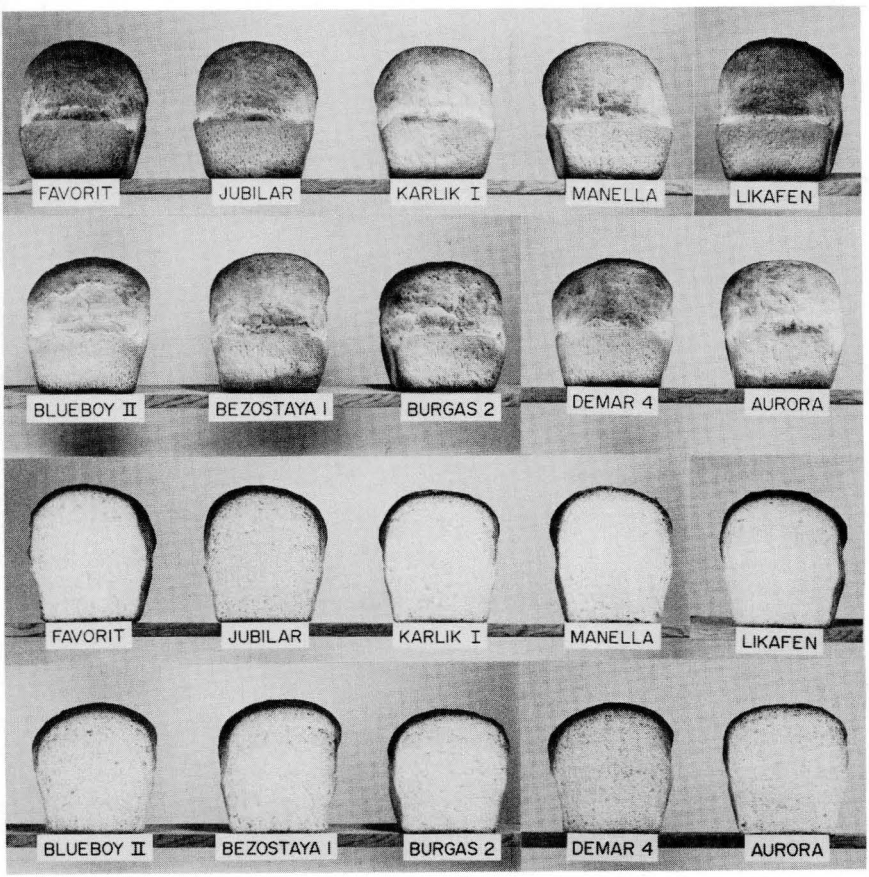

Figure 4. Bread of 7th IWWPN entries harvested in 1975 at Lincoln, NE, USA.

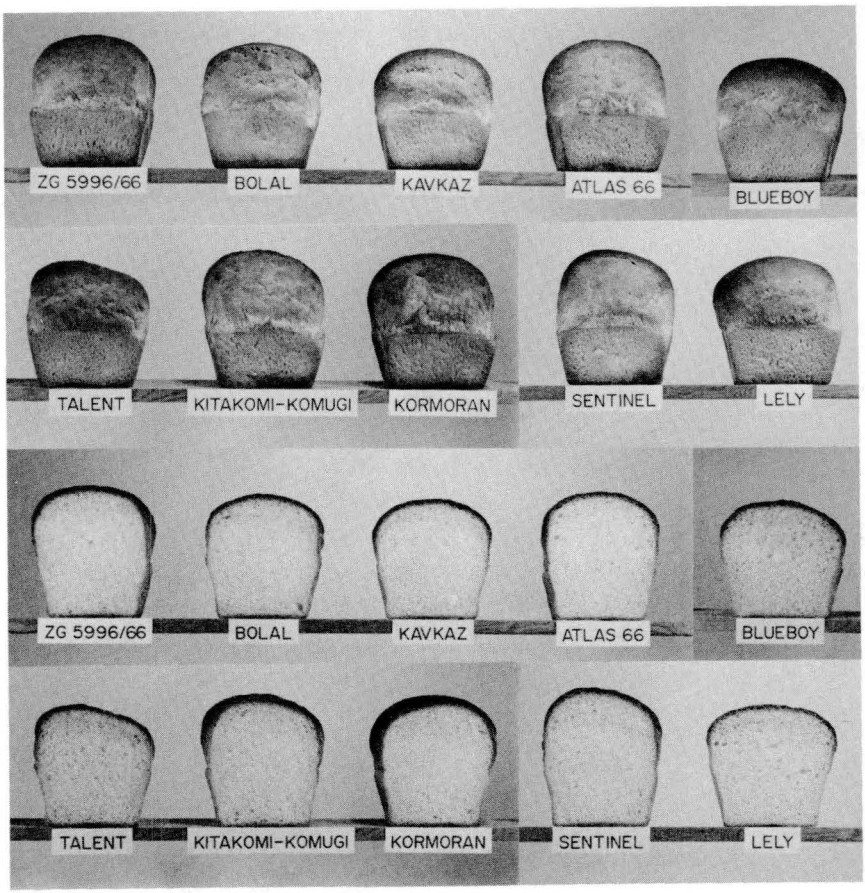

Figure 4. (Continued)

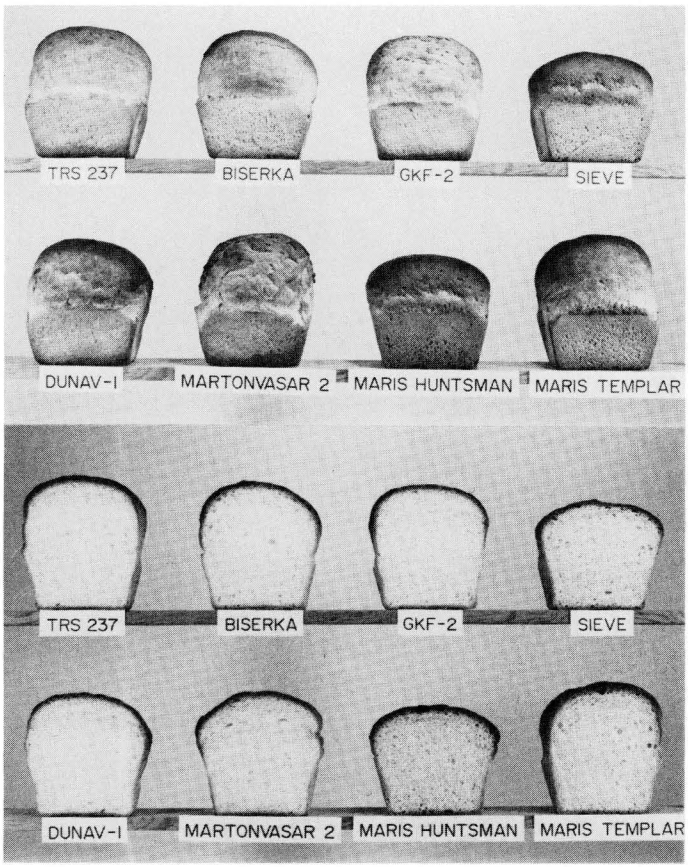

Figure 4. (Continued)

NOTES