Kentucky Small Grain Variety Trials–1978

By W. E. Vian, V. C. Finkner and C. R. Tutt

UNIVERSITY OF KENTUCKY • COLLEGE OF AGRICULTURE
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CONTENTS

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The 1977-78 small grain production was less than that produced in the past several years (Table 1). Several factors played an important part in this reduction. Some factors were the poor economic outlook for small grain, the poor planting conditions in the fall and government programs requiring reduced acreage. The severe winter reduced the stand of much of the planted grain; therefore, some was not harvested.

Table 1.—Small Grain Harvested Acreage and Yields in Kentucky 1976-78.[1]

	1978 Indicatied		1977		1976	
CROP	1,000A Harvest	Yield Bu/A	1,000A Harvest	Yield Bu/A	1,000A Harvest	Yield Bu/A
Wheat	195	35.0	274	37.0	330	31.0
Oats	8	42.0	9	35.0	10	35.0
Barley	24	42.0	25	46.0	23	37.0
Rye	5	25.0	4	27.0	3	20.0

1/ August 10, 1978 From Crop Production, ESCS, USDA, Washington, D. C.

The objective of the Kentucky small grain variety trials is to evaluate varieties of barley, wheat and oats that are commercially available or may soon be available to Kentucky farmers. New varieties are continually being developed by agricultural experiment stations and commercial firms. Annual evaluation of small grain varieties and selections provides seedsmen, farmers, and other agricultural workers with current information to help them select the varieties best adapted to their locality and individual requirements.

Since weather, soil and other environmental factors will alter varietal performance from one location to another, tests are grown in six locations (Fig. 1) in the state (Lexington, Bowling Green,

Fig. 1.—Testing locations of Kentucky small grain variety trials.

Location	*Cooperator*
1. Murray—	Mr. Joe Pat Carraway
2. Princeton—	West Kentucky Substation
3. Bowling Green—	Western Kentucky University Agriculture Department
4. Lexington—	Kentucky Agricultural Experiment Station
5. Elkton—	Mr. Robert Yoder
6. Elizabethtown—	Mr. Allen Baugh

Elkton, Princeton, Elizabethtown, and Murray). Recommendations are revised each year because of the availability of new varieties, improvements in production practices, and continually changing disease and insect hazards.

EXPERIMENTAL METHODS

The plots were planted with a specially built four-row seeder. Each plot consisted of four rows spaced one foot apart and trimmed to 10 feet in length. Each variety was grown in four replications, and the data presented are the average response from the four harvested rows of the four plots except for barley, for which only the two center rows were harvested. Planting dates of all trials for the past 3 years are listed in Table 2.

In some instances, uncontrollable factors such as excessive rainfall, winter killing, high winds, hail, grazing cattle, etc.,

adversely affected an experiment so that the results were judged unreliable. When this occurred, results are not given for that location and year. Data averaged over a period of years gives a more accurate picture of varietal performance than does annual data.

Table 2.—Planting Dates and Location of Kentucky Small Grain Evaluation Trials 1976-78.

	LOCATION and HARVEST YEAR																	
	Lexington			Princeton			Murray			Bowling Green			Elkton			Elizabethtown		
CROP	1978	1977	1976	1978	1977	1976	1978	1977	1976	1978	1977	1976	1978	1977		1977	1978	
Wheat	10-25	10-26	10-22	10-17	10-18	10-24	10-31	10-29	10-15	10-19	11-5	10-28	10-19	11-4		10-21	10-21	
Barley	10-18	10-14	10-15	10-17	10-18	10-24	10-31	10-29	10-15	10-19	11-5	10-28	10-19	11-4		-	-	
Winter Oats	10-20	10-8	10-7	10-17	10-18	10-24	10-31	10-29	10-15	10-19	11-5	10-28	10-19	11-4		-	-	
Spring Oats	3-30	3-17	3-26	-	-	-	-	-	-	-	-	-	-	-		-	-	

The 1978 tests at Lexington, Princeton and Bowling Green were planted on land not cropped the previous year. The test at Murray was planted after soybeans. The test at Elkton was planted after corn silage. The test at Elizabethtown was planted after corn for grain.

DATA COLLECTED

It is important to consider characteristics in addition to grain yield when selecting a variety.

Grain yield was taken by cutting all four rows with a self-propelled combine. The grain yield for barley at all locations except Lexington was taken by cutting the two center rows of each plot and threshing the grain with a stationary plot thresher. The weights of each plot were recorded in grams and converted to bushels per acre.

Test weight, or the weight of a bushel of grain, is a measure of the quality of grain. The higher the test weight, the higher the quality and market value, unless the grain has been down-graded because of another quality factor.

Lodging was recorded as the percentage of the total plants lying on the ground or leaning at a 45-degree angle from the vertical when the grain was mature. The term "maturity" as used in this report refers to the date the grain was ready to be combine harvested.

Plant height is reported as the number of inches from the ground to the tip of the upright grain head.

Survival was recorded as the percentage of plants estimated

to have survived the winter. This is a measure of winterhardiness and is an important factor to consider when selecting a variety.

Heading date is reported as the date when 50% of the heads had emerged from the plants in each plot. This is a measure of maturity and is important when selecting a variety for use in a double-cropping system.

Percent protein reported on a whole seed basis was measured by the Udy dye binding or near-infrared technique. Concurrent consideration of percent protein and yield should be made. The most desirable combination would be highest yield and highest percent protein, but this rarely occurs. High protein content is often a result of low yield and poor grain filling seed (shriveling). Nitrogen fertilization can affect protein content of the grain.

Grams per thousand seeds is a measure of seed size and seed quality. Planting rates can be adjusted by knowing seed size. Poor quality grain is usually low in weight per thousand seeds.

Disease and insect data are reported as relative amounts that occurred on the varieties at the time the readings were made. Disease and insect problems are often different in different years.

RESULTS AND DISCUSSION

Since genetic expression of a variety is greatly influenced by environmental conditions, it is best to have several years' data from which to draw conclusions. Performance of a variety tested for only one year should not be compared with a 3-year average of another variety, since it is possible that results in one of the other years were extremely good or poor and, thus, not comparable.

The yield of a variety is relative and should be compared with the yields of the other varieties in the same experiment and at the same location. Small differences in yield of only a few bushels per acre between two varieties from an individual test should not be interpreted to indicate the superiority of one variety over another. However, if one variety consistently out-yields another over a period of several years, the chances are that the differences are real.

Lodging data are very difficult to interpret. A high-yielding variety should not necessarily be down-graded because of a high percentage of lodging for a given year and at a given location. Local weather conditions, such as wind and rain, may cause a variety to lodge much more than it normally does. Variety trials normally have a greater degree of lodging than do farmer fields. It should also be emphasized that a report that a variety was 50% lodged does not imply that only 50% of the grain could be harvested. With good equipment, it may be expected that almost all of the grain could be saved. Lodging data for a period of years should receive more consideration than annual lodging data since they will give a more accurate picture of varietal performance.

1978 TEST CONDITIONS

The fall planting period was marked by a number of rains that reduced the acres planted by many small grain farmers. An early snow fall on the Thanksgiving weekend stopped most all small grain growth. The remainder of November and the rest of the winter months were cold. Below zero temperatures were reported in December and January with snow depths of 15 to 20 inches over most of the state. February was the coldest February on Weather Service records. Below seasonal temperatures were recorded in March and April.

The winter killing of fall seeded small grains was severe, resulting in the complete loss of some barley and oat fields. A similar winter killing occurred in the nursery with a nearly complete loss of the barley and oat nurseries at Lexington and a 15% reduction in stand of the more winter hardy varieties of wheat. The nurseries at other locations had winter killing but not as severe as the Lexington location. The yield of the varieties will be closely correlated to winter survival.

Many small grain diseases were observed but the severity was not any greater than normal except for Scab (Fusarium spp.) on wheat. "Doublecrop" had the most severe infection. Cereal leaf beetle infestation in the Lexington nurseries was the heaviest ever observed.

1977 TEST CONDITIONS

The fall moisture conditions were limiting the first half of October. The latter half of October turned cool and some precipitation occurred. The cool October temperatures continued into the fall, never increasing enough to stimulate much fall growth. If the small grains were late planted, they possibly did not emerge until spring. The extremely cold temperatures generally coincided with good snow cover on the ground except for a few days in the latter part of December. The spring growing season started with near normal soil moisture but then April, May and June were droughty in some areas of the state.

The good ground snow cover prevented a lot of winter-killing of wheat and barley. Winter-killing in oats was severe. The disease picture was very mild or limited to localized areas. New strains of powdery mildew are increasing, causing the "Arthur-type" wheat to be less resistant to powdery mildew.

1976 TEST CONDITIONS

The fall weather conditions were near ideal for planting small grain. The temperature was cool but periods of dry weather allowed the small grain to be planted. Precipitation for the winter months totaled near normal with less than the usual amount of snow cover. Temperatures averaged above normal for every month except January. February was the warmest February in the last 75 years, averaging 7-9° above normal. March had cold temperatures in the latter half of the month. Freezes occurred the last of April and the first part of May. The yields of some varieties were reduced as much as 50% at Lexington and Princeton and a lesser amount at Murray and Bowling Green. Farmer fields varied in the amount of damage depending on the developmental stage of the plants and the temperature in local areas. The damage ranged from 0% to 100% with 18% statewide average yield reduction (Kentucky Crop and Livestock Reporting Service, Louisville, Ky.). An unusually dry May resulted in reduced plant heights in many parts of the state.

1975 TEST CONDITIONS

Weather conditions in 1974 were good for fall seeding of the small grain crop. Winter temperatures were mild with above-average temperatures, which resulted in very little winter killing of small grain. The crop made slow growth in the spring owing to a prolonged period of cool wet weather which extended through April. Some loss from flooding occurred in the spring because of heavy rainfall. Hard winds and heavy rains about June 15 resulted in severe lodging in several areas. Hail occurred at Bowling Green which destroyed the wheat and barley variety trials.

Small grain yields were better at all test locations, equalling and usually exceeding the 1973 and 1974 averages. A heavy weed infestation occurred at Lexington, reducing the yields. Winter killing was not observed at any location. The variety trials were not infested so heavily with Barley Yellow Dwarf Virus or Wheat Spindle Streak Mosaic Virus as in the previous two years. The susceptible wheat varieties indicated severe infestation of *Septoria* Glume Blotch. The resistance (low grade) of Abe, Arthur, Arthur 71 and Oasis was apparent. Scald was observed on some barley varieties.

SMALL GRAIN VARIETIES FOR 1979

Varieties eligible for certification include (1) varieties that may have potential for Kentucky and (2) older varieties that are still acceptable for production in Kentucky. A summary of the characteristics of the small grain varieties is presented in Table 22.

WINTER BARLEY VARIETIES

Winter barleys are less winter-hardy than winter wheat but more hardy than winter oats. The degree of winterhardiness, straw strength and maturity are important characteristics when choosing a variety. Varietal performance data are presented in Tables 3-8. Varieties now commonly grown are Barsoy, Monroe and Volbar. Newer varieties that show promise are Pike, Perry and Surry (see characteristics in Table 21).

SOFT RED WINTER WHEAT VARIETIES

Kentucky's climate and soils are well suited for the production of high quality soft red winter wheat. No one variety has all the desirable characteristics; each has certain advantages. Yielding ability, straw strength, height, earliness, grain quality and disease resistance are important in choosing a variety. Wheat is an excellent feed grain for livestock. Varietal performance is presented in Tables 9-14. Commonly grown varieties are Arthur, Arthur 71, Abe, Oasis, Beau, Doublecrop, Sullivan and Coker 747.

WINTER OAT VARIETIES

Winter oats are the least winter-hardy of the winter grains. Early seeding, good fertilization practices and planting on well-drained soil are recommended to minimize winter killing. Most winter oats are susceptible to the crown rusts so the variety must be selected in respect to maturity, lodging resistance and yielding ability. Winter oats are excellent also for fall grazing and silage. Performance of the winter oat varieties is presented in Tables 15-19. Varieties now commonly grown are Coker 66-22, Compact, Dubois, Norline and Walken. No released varieties appear superior to the ones commonly grown.

SPRING OAT VARIETIES

The only small grain suitable for spring seeding by farmers in Kentucky is spring oats. Spring oats are used mainly for hay or silage and as a companion crop for grasses and legumes. Grain and forage yields of spring oats are lower than those of the winter oat varieties when yields of winter oats are not severely reduced from winter killing or disease. Two spring oat varieties (Otee and Jaycee) are commonly grown because of their higher level of resistance to Barley Yellow Dwarf Virus (oat red leaf) (Table 20).

CERTIFIED SEED

Planting certified seed is one of the first steps in insuring a good small grain crop. The extra cost of certified seed is justified in view of the high quality of seed obtained. Certified seed is seed which has been grown in such a way as to insure the genetic identity and purity of a variety. Certified seed also helps to maintain freedom from weed and other crop seed and, in some cases, freedom from disease. The Kentucky Agricultural Experiment Station recommends that Kentucky-certified seed be used whenever possible for growing commercial crops of small grains.

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Table 3.—Barley Performance Trials at Lexington, KY., 1975-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Date Headed	g/1000 Seeds	Whole Seed % Protein	Winter Survival
	Bu/A	Lbs/Bu	%	In.				%
			1978 Results					
Barsoy	11	50.8	00	24	5-18	35.6	14.3	08
Boone	04	----	00	26	5-27	37.2	14.8	05
Clayton	00	----	--	--	----	----	----	00
Henry	26	45.8	00	28	5-27	36.6	10.5	22
Kanby	36	51.5	00	34	5-24	37.6	10.9	55
Kentucky 1	40	52.4	00	39	5-28	38.4	9.0	52
Knob	19	46.8	00	28	5-24	37.2	13.2	20
Maury	33	47.6	00	30	5-28	38.4	11.1	25
Monroe	34	47.4	00	28	5-30	35.6	10.4	28
Perry	37	51.2	00	34	5-24	39.0	11.9	50
Pike	23	50.5	00	24	5-20	36.4	12.6	35
Post	23	51.0	00	27	6-1	38.1	11.9	16
Surry	23	46.2	00	29	5-24	35.4	11.5	18
Volbar	00	----	--	--	----	----	----	00
			Two-year Average 1976-77					
Barsoy	67	52.0	0	32	4-23	34.3	11.5	(1)
Henry	79	47.2	11	34	5-1	36.7	9.8	
Kanby	73	48.5	2	35	5-4	32.8	10.4	
Kentucky 1	72	49.0	6	43	5-6	31.6	10.0	
Knob	72	47.2	11	33	4-27	32.0	10.8	
Maury	83	46.1	15	35	5-2	32.3	10.0	
Monroe	81	45.7	12	34	5-5	32.2	9.6	
Pike	71	50.3	0	29	4-23	34.7	11.0	
Surry	79	47.1	3	35	4-27	34.1	10.0	
Volbar	93	48.4	2	39	5-1	37.6	10.0	
			Three-year Average 1975-77					
Barsoy	62	49.5	24	33	4-24	29.5	12.0	(1)
Henry	74	46.2	30	35	5-2	33.0	10.3	
Kanby	65	47.2	33	37	5-5	29.1	10.9	
Knob	64	45.6	30	34	4-29	27.9	11.7	
Maury	75	45.1	28	36	5-4	29.0	10.4	
Monroe	75	44.3	28	35	5-6	29.0	9.9	
Surry	74	45.5	27	37	4-29	30.6	10.4	
Volbar	85	47.5	29	40	5-2	34.4	10.0	

1/ All varieties had 100% survival.

Table 4.—Barley Performance Trials at Princeton, KY., 1975-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Date Headed	g/1000 Seeds	Whole Seed % Protein	Winter Survival
	Bu/A	Lbs/Bu	%	In.				%
				1978 Results				
Barsoy	13	45.6	00	25	5-9	30.6	14.3	15
Boone	05	----	00	24	5-22	30.5	14.7	06
Clayton	02	----	00	22	5-23	31.6	14.8	01
Henry	18	44.8	00	24	5-22	32.5	13.5	26
Kanby	22	44.5	00	26	5-20	36.1	13.7	36
Kentucky 1	31	43.6	00	34	5-24	34.3	13.8	44
Knob	13	44.7	00	23	5-18	32.8	15.1	21
Maury	17	43.1	00	22	5-28	34.2	14.1	12
Monroe	11	40.4	00	22	5-28	30.9	13.6	15
Perry	27	46.7	00	27	5-18	33.8	12.4	46
Pike	20	44.8	00	23	5-10	31.3	14.5	36
Post	12	45.6	00	23	5-27	34.8	14.2	06
Surry	07	44.6	00	23	5-21	30.9	14.0	08
Volbar	02	----	00	--	----	36.3	14.0	01
				Two-year Average 1976-77			1977 only	
Barsoy	57	46.9	44	36	4-16	27.9	13.0	(1)
Henry	70	43.3	74	38	4-26	32.2	12.8	
Kanby	36	41.7	96	38	4-29	28.6	14.8	
Kentucky 1	23	36.8	100	37	5-4	27.6	16.0	
Knob	52	42.7	70	36	4-24	28.4	14.7	
Maury	70	40.8	77	37	5-1	29.1	13.2	
Monroe	65	39.3	79	38	5-2	31.3	13.5	
Pike	55	45.5	61	34	4-18	28.2	13.8	
Surry	65	43.0	89	40	4-24	30.0	13.2	
Volbar	60	39.4	87	43	4-26	33.4	14.2	
				Three-year Average 1975-77				
Barsoy	54	46.1	64	35	4-20			(1)
Harrison	49	43.5	88	39	5-2			
Henry	73	43.0	68	38	4-29	NO DATA	NO DATA	
Kanby	38	41.4	97	38	5-1			
Knob	47	41.8	78	35	4-27			
Maury	69	40.6	82	38	5-3			
Monroe	69	39.2	85	38	5-3			
Surry	65	42.6	93	39	4-26			
Volbar	61	40.0	90	42	4-29			

1/ All varieties had 100% survival.

Table 5.—Barley Performance Trials at Bowling Green, KY., 1974-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Date Headed	g/1000 Seeds	Whole Seed % Protein	Winter Survival
	Bu/A	Lbs/Bu	%	In.				%
				1978 Results				
Barsoy		Plots were grazed non-uniformly				31.2	11.2	58
Boone		by cattle at various dates and				24.5	10.9	64
Clayton		yield, test weight, lodging,				26.2	12.4	26
Henry		plant height and date headed				29.2	10.3	65
Kanby		data are not reported.				28.6	10.4	70
Kentucky 1						29.0	09.9	81
Knob						28.6	12.4	76
Maury						28.4	12.0	76
Monroe						27.7	11.0	58
Perry						31.8	10.1	75
Pike						31.9	10.3	74
Post						29.2	11.0	41
Surry						28.1	11.2	51
Volbar						33.8	10.6	15
				1976 Results [1]				
Barsoy	55	43.6	0	33	4-13	22.5	11.6	100
Henry	53	41.9	0	32	4-24	26.2	12.2	100
Kanby	48	42.2	5	36	4-30	25.1	10.6	100
Kentucky 1	34	42.4	85	38	5-3	26.1	9.9	100
Knob	43	41.9	0	31	4-21	23.6	10.8	100
Monroe	52	41.1	0	34	4-28	25.4	11.4	100
Pike	49	41.6	0	27	4-17	23.1	10.3	100
Surry	58	42.4	0	34	4-20	25.5	12.0	100
Volbar	73	42.5	0	41	4-24	30.2	9.8	100
				Two-year Average 1974 and 1976 [1]				
Barsoy	38	42.4	39	32	4-13	NO DATA	NO DATA	100
Knob	36	41.1	3	30	4-22			100

[1] The 1977 trial at Bowling Green was destroyed by standing water.
The 1975 trial at Bowling Green was destroyed by hail.

Table 6.—Barley Performance Trials at Murray, KY., 1975-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Date Headed	g/1000 Seeds	Whole Seed % Protein	Winter Survival
	Bu/A	Lbs/Bu	%	In.				%
				1978 Results				
Barsoy	14	48.2	00	27	4-30	34.2	10.3	26
Boone	25	44.4	00	28	5-12	30.6	09.6	30
Clayton	16	46.2	00	28	5-16	33.7	11.0	24
Henry	28	48.0	00	31	5-14	38.5	07.8	39
Kanby	18	----	00	32	5-15	35.0	09.0	68
Kentucky 1	18	51.6	00	37	5-17	37.1	08.3	53
Knob	25	47.0	00	31	5-10	34.6	09.2	47
Maury	29	48.0	00	31	5-17	37.0	08.2	45
Monroe	24	45.2	00	27	5-18	35.4	07.9	50
Perry	26	51.4	00	31	5-12	36.8	10.7	47
Pike	22	49.2	00	29	4-30	37.4	08.6	53
Post	19	49.6	00	34	5-17	34.6	10.4	41
Surry	26	47.4	00	31	5-12	36.2	08.0	32
Volbar	26	47.8	00	38	5-15	39.7	07.1	22
				Two-year Average 1976-77			1977 only	
Barsoy	51	46.6	38	31	4-15	29.2	13.9	81
Henry	68	46.4	3	34	4-25	33.0	10.9	83
Kanby	43	43.2	9	35	4-28	29.4	12.8	89
Kentucky 1	26	41.0	49	39	5-1	27.8	15.3	78
Knob	59	43.6	23	31	4-22	29.8	12.6	81
Maury	71	43.7	20	36	4-28	----	11.9	90
Monroe	59	39.6	34	33	4-30	27.9	12.6	88
Pike	52	45.7	49	29	4-16	29.7	13.1	83
Surry	70	43.8	6	33	4-21	30.5	12.1	86
Volbar	63	43.0	34	38	4-24	34.2	13.0	84
				Three-year Average 1975-77				
Barsoy	50	46.0	30	31	4-16			88
Henry	63	45.5	2	33	4-28			88
Kanby	44	43.2	9	34	4-29	NO DATA	NO DATA	93
Knob	53	43.1	15	30	4-24			88
Maury	68	43.2	13	35	4-30			93
Monroe	61	39.6	23	32	5-1			92
Surry	66	43.1	4	33	4-23			90
Volbar	69	43.1	23	38	4-26			90

Table 7.—Barley Performance Trials at Elkton, KY., 1977-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Date Headed	g/1000 Seeds	Whole Seed % Protein	Winter Survival
	Bu/A	Lbs/Bu	%	In.				%
			1978 Results					
Barsoy	46	46.4	48	33	4-30	35.0	14.0	65
Boone	42	43.3	60	32	5-10	31.6	12.4	29
Clayton	07	----	00	31	5-12	36.0	14.2	06
Henry	78	43.3	28	41	5-9	37.2	11.0	89
Kanby	41	43.9	71	40	5-10	32.6	13.2	91
Kentucky 1	29	43.3	100	41	5-14	31.6	14.1	95
Knob	59	42.7	06	34	5-6	33.0	14.1	72
Maury	70	42.1	32	37	5-11	32.0	12.8	92
Monroe	77	41.5	39	38	5-13	31.1	11.6	90
Perry	54	46.0	55	37	5-8	33.6	13.6	92
Pike	53	43.6	75	34	5-3	32.2	13.2	86
Post	70	47.4	22	38	5-14	32.7	11.1	44
Surry	80	42.3	12	41	5-7	35.1	10.8	58
Volbar	13	47.2	03	39	5-13	37.8	12.0	04
			1977 Results					
Barsoy	32	41.8	100	33		32.4	12.9	29
Henry	53	40.0	100	39		35.4	12.9	43
Kanby	27	38.2	98	39		31.3	14.7	84
Kentucky 1	24	39.8	100	42		30.8	15.9	81
Knob	39	42.3	95	37	NO DATA	33.2	14.4	53
Maury	50	37.7	100	40		29.5	14.6	50
Monroe	36	35.3	100	38		28.5	13.8	56
Perry	43	40.5	78	41		33.1	15.0	84
Pike	38	43.0	99	33		34.8	15.2	76
Post	33	36.7	100	38		28.8	15.3	66
Surry	43	37.8	100	38		31.8	14.3	45
Volbar	53	37.6	98	45		36.8	13.7	44

Table 8.—Disease Ratings on Barley Varieties Tested in 1978.

Variety	Disease					
	H. sativum (Barley Spot Blotch)		R. secalis (Barley Scald)		H. gramineum (Barley Stripe)	
	Resistance Rating		Resistance Rating		Present	
	1978	1977	1978	1977	1978	1977
Barsoy	Good	Good	Poor	Poor	no	no
Boone	Poor	----	Poor	----	no	--
Clayton	Good	----	Good	----	no	--
Henry	Fair	Poor	Good	Fair	no	yes
Kanby	Fair	Poor	Poor	Fair	yes	yes
Kentucky 1	Fair	Poor	Poor	Poor	no	yes
Knob	Fair	Fair	Poor	Poor	no	no
Maury	Poor	Fair	Fair	Good	no	no
Monroe	Poor	Fair	Good	Fair	no	yes
Perry	Good	Poor	Good	Good	no	no
Pike	Poor	Poor	Poor	Poor	no	no
Post	Good	Good	Fair	Fair	yes	no
Surry	Poor	Poor	Good	Good	no	yes
Volbar	Fair	Poor	Fair	Good	no	yes

1/ Barley Yellow Dwarf Virus, mildew, and leaf rust were not evident in 1977 or 1978. Barley smuts can be controlled by planting disease-free seed so no smut data were collected.

Table 9.—Wheat Performance Trials at Lexington, KY., 1976-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Survival	Date Headed
	bu/A	lb/bu	%	in.	%	
	1978 Results					
Abe	44	58.7	0	37	90	5-22
Arthur	43	58.9	0.5	38	91	5-22
Arthur 71 1/	31	57.5	0	31	30	5-26
Beau	40	59.0	0	37	93	5-23
Centurk 2/	59	60.1	8.7	42	98	5-24
Coker 68-15	31	57.5	0	32	38	5-27
Coker 747	40	59.2	0	32	79	5-24
Delta Queen	37	56.7	1.2	35	86	5-27
Doublecrop	40	60.3	0	34	74	5-19
Funks W-504 3/	50	59.4	3.2	38	92	5-21
McNair 1003	46	56.3	0	33	75	5-24
McNair 1813	17	56.2	0	32	13	5-26
McNair 4823	37	58.6	0	32	79	5-28
Oasis	38	58.6	0	36	78	5-24
Pioneer S-78	45	58.0	0	32	83	5-25
Pioneer S-76	46	58.7	0	33	91	5-24
Roland	41	56.6	1.2	33	73	5-24
Ruler	59	58.9	0.7	37	96	5-27
Sullivan	36	59.1	0	37	79	5-23

(continued)

Table 9.—(continued)

Variety	Yield	Test Weight	Lodging	Plant Height	Survival	Date Headed
	bu/A	lb/bu	%	in.	%	
Two-year Average 1977-78						
Abe	49	58.3	0.0	37	80	5-16
Arthur	45	58.9	0.7	37	75	5-15
Arthur 71 1/	38	58.9	0.0	34	38	5-18
Beau	45	59.2	0.0	35	72	5-17
Centurk 2/	53	59.6	5.0	40	90	5-19
Coker 68-15	38	58.2	0.0	31	58	5-19
Coker 747	44	58.9	0.7	32	74	5-17
Doublecrop	42	59.9	0.0	35	76	5-12
Funks W-504 3/	49	59.2	1.9	38	80	5-15
McNair 1003	53	54.9	0.7	34	74	5-17
McNair 1813	33	57.6	1.0	32	30	5-18
McNair 4823	38	57.7	0.4	31	63	5-22
Oasis	44	59.4	0.0	37	73	5-18
Ruler	53	59.0	0.4	35	78	5-23
Sullivan	40	59.5	0.0	37	74	5-16
Three-year Average 1976-78						
Abe	41	58.2	0.0	34	81	5-14
Arthur	40	58.8	0.5	35	79	5-15
Arthur 71 1/	34	58.8	0.0	33	56	5-16
Beau	41	59.3	0.0	33	73	5-16
Coker 68-15	36	58.5	0.0	31	68	5-18
Coker 747	41	59.0	0.5	31	79	5-16
Doublecrop	35	59.9	0.0	33	79	5-12
Funks W-504 3/	41	59.3	1.2	36	81	5-16
McNair 1003	46	54.9	0.5	32	79	5-12
McNair 1813	30	57.6	0.6	32	45	5-17
McNair 4823	38	58.1	0.3	31	73	5-17
Oasis	39	59.2	0.0	35	80	5-20
Ruler	48	59.0	0.3	35	83	5-21

1/ The germination of the seed lot planted in 1978 was approximately 60%.

2/ Hard red winter wheat.

3/ Funks W-504 will be marketed in the future as North American Plant Breeders W-504 (NAPB W-504).

Table 10.—Wheat Performance Trials at Princeton, KY., 1976-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Survival	Date Headed
	bu/A	lb/bu	%	in.	%	
1978 Results						
Abe	30	60.0	0	29	84	5-14
Arthur	27	60.7	0	31	66	5-15
Arthur 71 1/	9	56.0	0	24	7	5-22
Beau	29	60.7	0	31	66	5-16
Centurk 2/	33	61.1	0	36	89	5-19
Coker 68-15	7	58.0	0	23	6	5-25
Coker 747	25	60.3	0	24	51	5-19
Delta Queen	29	59.5	0	31	68	5-20
Doublecrop	27	59.9	0	31	74	5-8
Funks W-504 3/	30	59.3	0	35	64	5-15
McNair 1003	37	56.7	0	33	55	5-19
McNair 1813	14	55.7	0	28	29	5-19
McNair 4823	17	57.5	0	26	53	5-25
Oasis	19	56.9	0	31	40	5-21
Pioneer S-78	29	60.7	0	29	65	5-21
Pioneer S-76	33	60.2	0	32	88	5-19
Roland	33	59.0	0	29	79	5-18
Ruler	35	57.4	0	35	89	5-21
Sullivan	19	57.7	0	29	54	5-17
Two-year Average 1977-78						
Abe	43	59.1	12.5	34	92	5-8
Arthur	41	60.1	3.7	36	83	5-8
Arthur 71 1/	31	56.5	13.1	32	53	5-12
Beau	43	60.2	1.2	35	83	5-9
Centurk 2/	38	60.0	46.2	39	94	5-13
Coker 68-15	29	57.2	0.6	29	53	5-13
Coker 747	39	59.3	21.9	30	76	5-10
Funks W-504 3/	44	58.9	12.5	38	82	5-8
Doublecrop	43	59.3	11.2	29	87	5-1
McNair 1003	55	55.9	16.2	36	78	5-10
McNair 1813	32	55.6	1.9	34	64	5-10
McNair 4823	38	56.6	0.6	32	76	5-16
Oasis	39	57.2	16.9	36	70	5-11
Ruler	39	56.7	40.6	39	94	5-15
Sullivan	58	57.7	2.5	34	77	5-9

(continued)

Table 10.—(continued)

Variety	Yield	Test Weight	Lodging	Plant Height	Survival	Date Headed
	bu/A	lb/bu	%	in.	%	
			Three-year Average 1976-78			
Abe	35	58.2	8.3	36	95	5-2
Arthur	35	59.2	2.5	37	89	5-2
Arthur 71 1/	28	56.2	8.7	35	69	5-5
Beau	35	59.5	0.8	36	89	5-4
Coker 68-15	30	56.7	0.4	33	69	5-6
Coker 747	36	58.8	14.7	34	84	5-5
Doublecrop	43	58.3	7.5	37	91	4-26
Funks W-504 3/	38	58.3	8.3	39	88	5-2
McNair 1003	46	54.7	10.8	37	85	5-5
McNair 1813	25	----	1.2	36	76	5-4
McNair 4823	39	56.1	0.4	34	84	5-13
Oasis	33	56.5	11.2	38	80	5-5
Ruler	34	56.2	27.1	41	96	5-10

1/ The germination of the seed lot planted in 1978 was approximately 60%.

2/ Hard red winter wheat.

3/ Funks W-504 will be marketed in the future as North American Plant Breeders W-504 (NAPB W-504).

Table 11.—Wheat Performance Trials at Bowling Green, KY., 1976-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Survival	Date Headed
	bu/A		%	in.	%	
			1978 Results			
Abe	35	55.5	0	34	95	5-12
Arthur	41	56.6	0	36	93	5-12
Arthur 71 1/	20	55.4	0	34	43	5-15
Beau	42	56.5	0	36	89	5-13
Centurk 2/	42	56.3	0	41	96	5-17
Coker 68-15	19	55.9	0	28	34	5-17
Coker 747	42	57.4	0	31	86	5-14
Delta Queen	32	55.1	0	33	93	5-17
Doublecrop	30	55.7	0	38	94	5-6
McNair 1003	37	51.3	0	35	81	5-14
McNair 1813	27	54.6	0	36	60	5-14
McNair 4823	31	56.3	0	31	85	5-18
Oasis	25	55.4	0	33	89	5-14
Pioneer S-78	41	56.2	0	34	96	5-17
Pioneer S-76	42	56.8	0	34	93	5-16
Roland	40	54.1	0	34	96	5-15
Ruler	33	56.0	0	37	94	5-19
Sullivan	37	55.8	0	35	94	5-12

(continued)

Table 11.—(continued)

Variety	Yield	Test Weight	Lodging	Plant Height	Survival	Date Headed
	bu/A		%	in.	%	
Two-year Average 1977-78						
Abe	42	56.1	0	33	86	5-9
Arthur	44	57.4	0	37	81	5-9
Arthur 71 1/	35	56.1	0	35	53	5-11
Beau	47	57.4	0	35	91	5-10
Centurk 2/	40	56.8	18.7	41	96	5-14
Coker 68-15	34	56.7	0	30	61	5-11
Coker 747	44	58.1	0	36	87	5-10
Doublecrop	36	56.8	0	35	91	5-4
McNair 1003	42	52.3	0	35	72	5-11
McNair 1813	33	55.4	0	35	58	5-10
McNair 4823	38	57.0	0	33	84	5-15
Oasis	38	56.2	0	37	80	5-11
Ruler	40	56.9	0	38	89	5-16
Sullivan	41	56.9	0	35	88	5-8
Three-year Average 1976-78						
Abe	41	55.9	0	34	90	5-4
Arthur	43	57.1	0	37	87	5-4
Arthur 71 1/	36	55.8	0	36	68	5-5
Beau	44	57.1	0	35	94	5-5
Coker 68-15	34	56.1	0	33	74	5-6
Coker 747	41	57.1	0	25	91	5-5
Doublecrop	38	56.7	0	36	94	4-29
McNair 1003	40	52.1	0	35	81	5-6
McNair 1813	33	55.2	0	36	72	5-4
McNair 4823	35	56.6	0	33	90	5-12
Oasis	38	56.2	0	36	87	5-5
Ruler	37	56.7	0	38	93	5-12

1/ The germination of the seed lot planted in 1978 was approximately 60%.

2/ Hard red winter wheat.

3/ Funks W-504 will be marketed in the future as North American Plant Breeders W-504 (NAPB W-504).

Table 12.—Wheat Performance Trials at Murray, KY., 1976-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Survival	Date Headed
	bu/A	lb/bu	%	in.	%	
1978 Results						
Abe	49	57.3	0	34	88	5-11
Arthur	41	57.8	0	36	75	5-10
Arthur 71 1/	26	57.5	0	34	20	5-17
Beau	47	59.2	0	35	68	5-12
Centurk 2/	40	57.8	0	41	79	5-16
Coker 68-15	28	57.5	0	31	13	5-16
Coker 747	44	58.6	0	32	50	5-15
Delta Queen	42	57.7	0	33	64	5-17
Doublecrop	40	57.0	0	35	63	5-7
McNair 1003	38	53.6	0	35	44	5-14
McNair 1813	30	55.4	0	32	35	5-12
McNair 4823	29	55.5	0	31	43	5-21
Oasis	39	58.6	0	36	51	5-14
Pioneer S-78	41	57.2	0	33	68	5-16
Pioneer S-76	32	57.4	0	31	49	5-15
Roland	43	55.3	0	32	70	5-14
Ruler	37	56.7	0	38	51	5-20
Sullivan	34	57.6	0	32	60	5-12
Two-year Average 1977-78						
Abe	54	58.1	0	36	94	5-5
Arthur	49	58.5	0	38	88	5-4
Arthur 71 1/	41	58.4	0	36	60	5-8
Beau	52	59.7	0	37	84	5-6
Centurk 2/	38	57.6	33.7	41	89	5-11
Coker 68-15	44	57.9	11.2	33	56	5-8
Coker 747	51	59.2	1.2	33	75	5-8
Doublecrop	46	57.8	0	36	81	4-30
McNair 1003	54	54.1	1.2	36	72	5-8
McNair 1813	45	56.1	1.4	35	68	5-4
McNair 4823	32	54.5	0	34	71	5-14
Oasis	46	59.0	1.2	37	76	5-8
Ruler	39	56.0	0	40	76	5-15
Sullivan	46	58.3	0	35	80	5-5
Three-year Average 1976-78						
Abe	53	58.0	0	35	90	4-29
Arthur	49	58.3	0	37	86	4-28
Arthur 71 1/	43	58.2	0	35	68	5-1
Beau	47	59.5	0	36	83	5-1
Coker 68-15	41	57.7	7.5	34	66	5-2
Coker 747	49	58.8	0.8	33	79	5-2
Doublecrop	47	57.6	0	36	82	4-24
McNair 1003	49	54.0	0.8	36	74	5-1
McNair 1813	43	56.4	0.9	35	72	4-27
McNair 4823	31	55.1	0	34	75	5-11
Oasis	45	58.9	.8	36	79	5-2
Ruler	35	56.5	0	39	78	5-11

1/ The germination of the seed lot planted in 1978 was approximately 60%.

2/ Hard red winter wheat.

3/ Funks W-504 will be marketed in the future as North American Plant Breeders W-504 (NAPB W-504).

Table 13.—Wheat Performance Trials at Elkton, KY., 1977-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Survival	Date Headed
	bu/A	lb/bu	%	in.	%	
1978 Results						
Abe	37	54.7	20.0	35	100	5-8
Arthur	44	56.1	6.2	38	99	5-8
Arthur 71 1/	42	55.2	7.5	38	66	5-10
Beau	48	56.6	0	39	98	5-10
Centurk 2/	41	53.2	75.0	39	100	5-13
Coker 68-15	15	54.2	0	29	14	5-17
Coker 747	58	56.8	0	35	91	5-11
Delta Queen	28	52.9	7.5	34	40	5-18
Doublecrop	26	54.1	0	38	96	5-3
McNair 1003	50	51.9	0	36	73	5-12
McNair 1813	9	53.6	0	33	4	5-16
McNair 4823	41	54.9	0	37	76	5-19
Oasis	40	59.7	27.5	38	95	5-9
Pioneer S-78	47	55.5	5.0	34	93	5-13
Pioneer S-76	47	54.9	0	35	95	5-14
Roland	43	51.9	10.0	35	100	5-10
Ruler	36	54.8	0	39	100	5-19
Sullivan	39	55.2	27.5	37	96	5-8
Two-year Average 1977-78						
Abe	44	55.1	51.9	37	100	
Arthur	46	56.3	41.2	40	99	
Arthur 71 1/	42	55.5	51.2	39	83	
Beau	48	56.8	14.4	39	99	
Centurk 2/	37	53.3	86.9	40	100	
Coker 68-15	36	54.5	37.5	33	57	
Coker 747	53	56.9	38.1	36	96	
Doublecrop	35	54.6	29.4	38	98	
McNair 1003	56	51.6	25.0	38	86	
McNair 1813	24	53.6	47.0	35	52	
McNair 4823	42	53.9	16.9	37	88	
Oasis	43	54.7	47.5	39	98	
Ruler	36	54.8	24.4	39	100	
Sullivan	36	55.6	57.5	40	98	

1/ The germination of the seed lot planted in 1978 was approximately 60%.

2/ Hard red winter wheat.

3/ Funks W-504 will be marketed in the future as North American Plant Breeders W-504 (NAPB W-504).

Table 14.—Wheat Performance Trials at Elizabethtown, KY., 1977-78.[1]

Variety	Yield	Test Weight	Lodging	Plant Height	Survival	Date Headed
	bu/A	lb/bu	%	in.	%	
1978 Results						
Abe	33	57.7	0	DATA NOT TAKEN	61	DATA NOT TAKEN
Arthur	29	58.4	0.2		84	
Arthur 71 2/	14	53.4	0		60	
Beau	28	58.4	0		70	
Centurk 3/	33	56.8	2.7		50	
Coker 68-15	12	54.3	0		45	
Coker 747	31	58.5	0		88	
Delta Queen	25	53.0	0.2		71	
Doublecrop	27	60.0	0		80	
McNair 1003	31	52.8	0		46	
McNair 1813	13	54.0	0		53	
McNair 4823	20	54.0	0		40	
Oasis	25	56.3	0		71	
Pioneer S-78	32	56.9	0		66	
Pioneer S-76	42	58.9	0.2		58	
Roland	30	55.6	0		50	
Ruler	32	54.7	0		58	
Sullivan	24	57.6	0		64	
Two-year Average 1977-78						
Abe	47	57.5				
Arthur	42	57.6				
Arthur 71 1/	35	55.8		DATA NOT TAKEN		
Beau	41	58.2				
Doublecrop	32	58.0				
Oasis	41	56.8				

1/ The 1977 nursery was planted and harvested using farm equipment. The plots were one-quarter acre in size and replicated three times.

2/ The germination of the seed lot planted in 1978 was approximately 60%.

3/ Hard red winter wheat.

Table 15.—Winter Oat Performance Trials at Lexington, KY., 1975-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Date Headed	g/1000 Seeds	Whole Seed % Protein	Winter Survival
	Bu/A	Lbs/Bu	%	In.				%
1978 Results								
Coker 66-22	All varieties had severe winterkill					28.0	11.5	Trace
Coker 70-16	at Lexington					28.0	10.7	Trace
Coker 76-30						27.8	11.3	Trace
Compact						21.4	12.5	Trace
Cumberland						----	----	Zero
Dubois						26.2	11.2	Trace
Ky. 67-695						24.0	11.3	Trace
Norline						30.4	12.2	Trace
Pennlan						25.4	11.2	Trace
Pennwin						27.8	10.4	Trace
Walken						21.4	11.0	Trace
Windsor						29.6	10.8	Trace
Two-year Average 1976-77								
Coker 66-22	79	35.2	7	29	5-11	32.0	16.8	73
Coker 70-16	88	36.1	21	27	5-12	26.9	15.2	84
Compact	63	35.2	0	23	5-18	23.8	18.6	60
Cumberland	67	33.9	0	27	5-17	34.2	16.2	59
Dubois	68	35.4	9	30	5-15	28.4	18.2	76
Ky. 67-695	83	36.3	2	29	5-16	27.3	16.6	88
Norline	73	34.8	0	31	5-20	31.8	18.7	71
Pennlan	75	35.5	0	27	5-14	28.4	16.0	51
Walken	* Seed of Walken had poor germination and data considered unreliable.							
Windsor	81	35.1	10	28	5-9	31.4	17.3	66
Three-year Average 1975-77								
Coker 66-22	76	35.0	41	32	5-13	27.8	16.8	82
Coker 70-16	86	35.2	50	30	5-13	24.0	15.4	89
Compact	62	34.5	36	26	5-20	21.5	18.7	73
Dubois	67	35.1	42	33	5-17	25.5	18.2	84
Norline	69	34.1	36	33	5-21	28.1	18.6	81
Pennlan	75	35.2	36	31	5-15	25.0	16.1	68
Walken	* Seed of Walken had poor germination and data considered unreliable.							

Table 16.—Winter Oat Performance Trials at Princeton, KY., 1975-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Date Headed	g/1000 Seeds	Whole Seed % Protein	Winter Survival
	Bu/A	Lbs/Bu	%	In.				%
				1978 Results				
Coker 66-22	40	30.9	00	30	5-26	35.3	12.5	15
Coker 70-16	26	31.1	00	27	5-27	29.4	11.4	16
Coker 76-30	38	31.3	00	30	5-24	31.7	10.8	29
Compact	65	33.2	00	25	5-28	27.2	12.2	42
Cumberland	22	27.6	00	27	5-30	33.6	12.0	09
Dubois	36	31.6	00	34	5-26	29.8	11.8	26
Ky. 67-695	55	31.2	00	32	5-24	28.8	12.6	56
Norline	54	32.4	00	34	5-28	30.8	12.8	34
Pennlan	42	32.0	00	29	5-24	27.2	10.7	30
Pennwin	47	31.0	00	32	5-28	30.6	10.7	32
Walken	44	31.8	00	32	6-6	26.0	12.5	35
Windsor	39	29.7	00	33	5-23	28.5	12.2	35
				Two-year Average 1975-76[1/]				
Coker 66-22	44	28.0	75	44	5-9			84
Coker 70-16	46	29.6	68	41	5-10			74
Compact	39	28.6	50	36	5-19	NO DATA	NO DATA	94
Dubois	27	29.2	54	38	5-15			91
Norline	25	27.0	66	43	5-18			90
Pennlan	41	30.3	51	41	5-10			64
Walken	27	27.1	54	42	5-24			96

[1/] The 1977 test at Princeton winterkilled.

Table 17.—Winter Oat Performance Trials at Bowling Green, KY., 1975-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Date Headed	g/1000 Seeds	Whole Seed % Protein	Winter Survival
	Bu/A	Lbs/Bu	%	In.				%
1978 Results								
Coker 66-22		Plots were grazed and only				23.6	11.4	44
Coker 70-16		data shown were obtained.				20.0	10.4	31
Coker 76-30						22.0	10.1	30
Compact						20.0	12.2	75
Cumberland						24.4	13.1	36
Dubois						21.2	11.0	51
Ky 67-695						20.6	12.4	82
Norline						25.6	12.8	45
Pennlan						19.8	10.4	22
Pennwin						23.8	12.7	59
Walken						18.4	12.1	72
Windsor						19.8	12.2	25
Two-year Average 1975-76								
Coker 66-22	47	27.1	50	34	5-5			93
Coker 70-16	42	28.7	50	31	5-6			88
Compact	44	29.7	50	30	5-18	NO DATA	NO DATA	94
Dubois	40	31.4	50	36	5-13			90
Norline	44	30.2	50	36	5-18			90
Pennlan	41	29.1	50	32	5-7			80
Walken	56	30.3	40	38	5-22			98
Three-year Average 1974-76								
Coker 66-22	45	28.4	65	36	5-6			95
Coker 70-16	41	29.9	66	33	5-6			92
Compact	45	29.8	59	31	5-16	NO DATA	NO DATA	96
Dubois	34	30.7	58	37	5-13			93
Norline	41	30.7	58	38	5-17			93
Pennlan	40	30.4	54	34	5-6			87
Walken	50	29.8	38	39	5-22			99

1/ The 1977 test at Bowling Green was destroyed by standing water.

Table 18.—Winter Oat Performance Trials at Murray, KY., 1977-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Date Headed	g/1000 Seeds	Whole Seed % Protein	Winter Survival
	Bu/A	Lbs/Bu	%	In.				%
				1978 Results				
Coker 66-22	74	33.6	00	33	5-20	27.1	10.2	42
Coker 70-16	64	35.2	64	30	5-18	23.7	8.4	34
Coker 76-30	58	35.8	38	31	5-17	25.0	8.7	32
Compact	60	34.1	00	26	5-27	21.1	10.9	30
Cumberland	59	30.2	00	32	5-25	28.5	9.8	10
Dubois	64	34.5	08	37	5-20	26.3	10.4	23
Ky 67-695	42	29.0	00	33	5-24	23.7	11.3	25
Norline	57	32.5	00	37	5-27	25.9	11.1	18
Pennlan	96	35.8	45	30	5-17	23.4	8.0	23
Pennwin	70	33.8	02	35	5-28	25.5	8.7	25
Walken	68	32.6	02	36	6-2	19.7	9.8	38
Windsor	43	32.2	10	33	5-25	25.5	10.2	15
				1977 Results				
Coker 66-22	51	38.1	73	38	----	31.8	17.6	38
Coker 70-16	72	30.8	46	38	5-7	27.0	20.0	58
Coker 76-30	77	32.9	66	38	5-8	27.0	17.4	68
Compact	46	31.5	45	35	----	23.5	22.3	35
Cumberland	37	28.0	0	6	5-13	33.5	16.3	26
Dubois	40	29.4	30	39	----	28.0	20.1	35
Ky 67-695	73	29.6	13	38	5-12	27.6	19.4	65
Norline	49	29.9	15	42	5-14	29.7	22.7	43
Pennlan	37	30.4	28	38	----	27.2	18.4	20
Pennwin	37	28.1	18	36	----	25.3	19.3	26
Walken	* Seed of Walken had poor germination and data considered unreliable.							
Windsor	65	39.7	66	36	5-7	27.5	18.8	53

Table 19.—Winter Oat Performance Trials at Elkton, KY., 1977-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Date Headed	g/1000 Seeds	Whole Seed % Protein	Winter Survival
	Bu/A	Lbs/Bu	%	In.				%
			1978 Results					
Coker 66-22	38	31.9	00	28	5-22	35.2	11.9	20
Coker 70-16	31	33.2	00	28	5-22	30.4	10.4	08
Coker 76-30	26	32.8	00	27	5-24	31.7	10.9	15
Compact	41	32.5	00	25	5-24	27.6	13.6	14
Cumberland	08	----	00	29	5-30	34.0	12.6	01
Dubois	33	31.1	01	36	5-24	31.0	12.3	02
Ky 67-695	73	33.8	06	30	5-22	36.0	12.4	56
Norline	58	33.0	06	33	5-27	39.8	13.3	18
Pennlan	23	32.6	00	27	5-24	38.6	10.6	08
Pennwin	66	33.3	22	36	5-29	36.4	12.1	32
Walken	56	29.4	00	30	5-29	35.6	12.5	13
Windsor	05	----	00	28	5-22	36.5	12.0	03
			1977 Results					
Coker 66-22	28	31.4	00	31		35.4	20.5	43
Coker 70-16	42	32.5	00	33		31.1	19.7	35
Coker 76-30	50	32.1	00	35		30.1	20.1	50
Compact	31	29.3	00	28	NO DATA	23.9	23.1	15
Cumberland	35	25.6	00	33		31.2	21.6	33
Dubois	26	29.9	00	33		29.7	21.6	25
Ky 67-695	44	31.2	00	32		29.6	20.3	40
Norline	36	30.3	00	36		33.4	23.8	43
Pennlan	35	32.6	00	35		29.2	19.7	25
Pennwin	28	26.9	00	36		27.7	21.1	25
Walken	*	Seed of Walken had poor germination and data considered unreliable.						
Windsor	39	30.8	00	31		31.2	22.1	45

Table 20.—Spring Oat Performance Trials at Lexington, KY., 1976-78.

Variety	Yield	Test Weight	Lodging	Plant Height	Date Headed	g/1000 Seeds	Whole Seed % Protein
	Bu/A	Lbs/Bu	%	In.			
			1978 Results				
Andrew	76	36.5	00	42	6-5	29.0	10.2
Bates	91	35.4	00	36	6-5	29.8	7.7
Clintford	69	38.2	00	34	6-5	32.7	10.2
Grundy	99	37.0	00	39	6-4	28.6	10.6
Jaycee	81	37.6	00	35	6-3	33.3	9.6
Lang	87	35.1	00	34	6-2	33.4	9.4
Mo 0205	76	36.8	00	42	6-5	26.2	7.8
Otee	83	36.0	00	35	6-5	26.5	9.6
			Two-year Average 1977-78				
Andrew	70	34.7	39	36	5-28	29.4	14.3
Clintford	72	37.2	02	31	5-30	32.9	14.4
Jaycee	84	35.8	06	32	5-28	32.2	14.4
Mo 0205	80	35.3	10	38	5-30	24.6	13.2
Otee	83	35.3	03	32	5-28	29.0	15.8
			Three-year Average 1976-78				
Andrew	59	34.0	26	35	5-29	NO DATA	NO DATA
Clintford	57	36.3	01	29	5-30		
Jaycee	73	35.1	04	30	5-28		
Mo 0205	66	34.7	06	36	5-30		
Otee	73	35.1	02	30	5-29		

Table 21.—Characteristics of Barley and Oat Varieties Tested in 1978.

Variety	Protected[1]	Origin	Release Date	Winter Survival	Relative Maturity[2]	Barley Yellow Dwarf Resistance
			Winter Barley			
Barsoy	No	Kentucky	1966	Good	0	Fair
Boone	No	N. Carolina	1976	Fair	12	?
Clayton	No	N. Carolina	----	Poor	14	?
Henry	No	Virginia	1976	Good	12	Good
Kanby	No	Kansas	1973	Excellent	11	?
Kentucky 1	No	Kentucky	1935	Excellent	15	Fair
Knob	No	Kentucky	1969	Good	9	Fair
Maury	No	Virginia	1977	Good	15	Good
Monroe	No	Virginia	1976	Good	16	Good
Perry	No	Missouri	1977	Excellent	9	Good
Pike	Yes	Indiana	1975	Excellent	2	Poor
Post	No	Oklahoma	1976	Fair	16	?
Surry	No	Virginia	1976	Good	10	Good
Volbar	No	Tennessee	1974	Fair	14	Good
			Winter Oats			
Coker 66-22	No	Coker Seed Co.	1969	Good	20	Fair
Coker 70-16	No	Coker Seed Co.	1971	Good	19	?
Coker 76-30	No	Coker Seed Co.	1977	Good	19	?
Compact	No	Kentucky	1969	Excellent	23	Fair
Cumberland	No	Tennessee	1974	Fair	25	?
Dubois	No	Indiana	1952	Good	20	Fair
Ky 76-695	Exper-imental	Kentucky	----	Excellent	20	Fair
Norline	No	Indiana	1960	Excellent	24	Fair
Pennlan	No	Pennsylvania	1968	Good	19	?
Pennwin	No	Pennsylvania	1973	Good	25	?
Walken	No	Kentucky	1970	Excellent	30	Fair
Windsor	No	Virginia	1978	Fair	20	?
			Spring Oats			
Andrew	No	Minnesota	1949	Poor	48	Poor
Bates	No	Missouri	1976	Poor	48	Good
Clintford	No	Indiana	1966	Poor	48	Poor
Grundy	No	Iowa	1971	Poor	47	Poor
Jaycee	No	Illinois	1967	Poor	46	Good
Lang	No	Illinois	1976	Poor	45	Good
Mo 0205	No	Missouri	1951	Poor	48	Fair
Otee	No	Illinois	1973	Poor	48	Good

1/ "Unauthorized propagation prohibited." Seed of these varieties must be sold by variety name only as a class of certified seed. This includes varieties for which protection has been applied and those for which protection has been granted.

2/ Number of days later in heading than Barsoy winter barley.

Table 22.—Characteristics of Wheat Varieties.

WHEAT

Variety	U.S.[1] Protected Variety	Origin	Date of Release	Straw Strength	Relative Height	Maturity	Winter Hardiness	Hessian Fly	Powdery Mildew	Leaf Rust	Septoria Leaf Blotch
Abe	Yes	Indiana	1972	Very Good	Medium	Early	Excellent	Excellent	Good	Good	Fair
Arthur	No	Indiana	1968	Good	Medium	Early	Excellent	Good	Good	Good	Fair
Arthur 71	Yes	Indiana	1971	Good	Medium	Early	Excellent	Excellent	Good	Good	Fair
Beau	Yes	Indiana	1975	Excellent	Medium	Early	Excellent	Excellent	Good	Good	Fair
Doublecrop	No	Arkansas	1975	Good	Medium	Very Early	Excellent	Good	Good	Very Good	Fair
Oasis	Yes	Indiana	1973	Good	Medium	Early	Excellent	Excellent	Good	Good	Good
*Sullivan	Yes	Indiana	1977	Good	Medium	Early	Excellent	Excellent	Good		Good
Coker 747	Yes	Coker pedigreed seed		Good	Medium	Early	Very Good	-	V Good	-	Fair
McNair 1813	Yes	McNair seed		Good	Medium	Early	Fair	-	V Good	-	Fair

*Available for planting in 1979.

12M—4-79