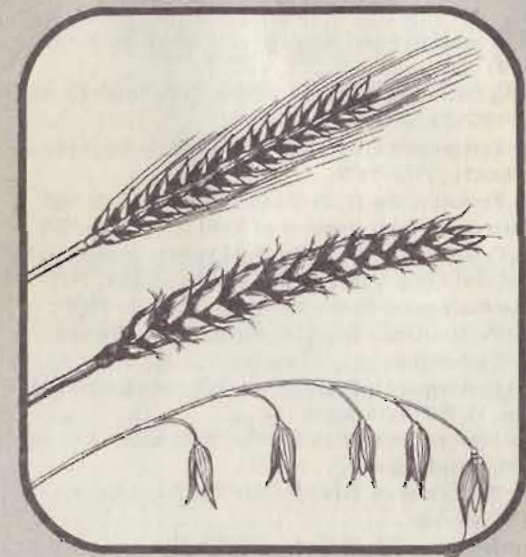


# Kentucky Small Grain Variety Trials—1979

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## Kentucky Small Grain Variety Trials 1979

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The 1979 fall planting period was marked by good planting conditions and an excellent economic outlook for the crop. The number of acres of small grains planted in the commonwealth increased over last year's reduced acreage (Table 1) to the average for the last several years. The yield from the wheat acreage was one bu/A less than the record yield of 40.0 bu/A recorded for the 1971 crop.

**Table 1.—Small Grain Harvested Acreage and Yields in Kentucky 1977-79.<sup>1/</sup>**

CROP	1979		1978		1977	
	1,000A Harvest	Yield Bu/A	1,000A Harvest	Yield Bu/A	1,000A Harvest	Yield Bu/A
Wheat	290	39.0	195	35.0	274	37.0
Oats	7	41.0	7	42.0	9	35.0
Barley	23	52.0	23	43.0	25	46.0
Rye	4	25.0	4	27.0	4	27.0

<sup>1/</sup> August 10, 1979 From Crop Production, ESCS, USDA, Washington, D.C.

Small grain performance tests were conducted in six of the seven agro-climatic regions of Kentucky (Fig. 1). Agricultural areas within each region are considered to have similar soil types and climatic conditions. Each region having a substantial acreage of a small grain commodity will have a trial conducted in that region for that commodity.





Figure 1.—Agro-climatic regions of Kentucky small grain variety trials.

Region	Testing Location	Cooperator
1. Purchase	Murray	Mr. Joe Pat Carraway
2. Western Coal Field	Princeton	West Kentucky Substation
3. Ohio Valley	Henderson	Mr. Walter Gooch
4. Bluegrass	Lexington	Kentucky Agricultural Experiment Station
5. Southern Tier	Elkton	Mr. Joe Miller
6. North Central	Elizabethtown	Mr. Allen Baugh

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, Henderson, Elkton, Princeton, Elizabethtown, and Murray). Suggested varieties 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 multi-row cone seeder. Each plot consisted of four or six rows to form a plot four feet wide, which was later trimmed to 10 feet in length. Each variety was grown in four replications, and the per plot data presented are the average response from the four replications of 40 square feet harvested with a small plot combine. 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 Locations of Kentucky Small Grain Evaluation Trials 1979-77.

CROP	LOCATION AND HARVEST YEAR <sup>1/</sup>																	
	Lexington			Princeton			Murray			Henderson			Elkton			Elizabethtown		
	1979	1978	1977	1979	1978	1977	1979	1978	1977	1979	1978	1977	1979	1978	1977	1979	1978	1977
Wheat	10-10	10-25	10-26	10-17	10-17	10-18	10-12	10-31	10-29	10-16	-	-	10-23	10-19	11-4	10-20	10-21	10-21
Barley	10-18	10-18	10-14	10-10	10-17	10-18	10-12	10-31	10-29	-	-	-	10-23	10-19	11-4	10-20	-	-
Winter Oats	10-6	10-20	10-8	10-6	10-17	10-18	10-12	10-31	10-29	-	-	-	10-23	10-19	11-4	-	-	-
Spring Oats	3-22	3-30	3-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

<sup>1/</sup>The 1979 tests at Lexington, Princeton, and Henderson 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 other characteristics in addition to grain yield when selecting a variety.

Grain yield of most plots was taken by cutting all rows with a self-propelled combine. The grain yields for barley and oats at Lexington and barley at Elizabethtown were taken by cutting each plot and threshing the grain with a Vogel type 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 the 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* was recorded as the number of centimeters from the ground to the tip of the upright grain head, and converted to inches.

*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 also 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. Yield of grain should also be considered when evaluating protein content. The most desirable combination would be highest yield and highest percent protein. However, this combination rarely occurs. High protein content is often a result of low yield and poor grain filling seed (shriveling). Nitrogen fertilization can increase 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 variety reported to be 50% lodged does not imply that only 50% of the grain could be harvested. With good equipment, almost all of the grain can often 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.

## 1979 TEST CONDITIONS

In contrast to the 1977 fall seeding weather, the 1978 fall seeding weather was near ideal. The first half of October was wet, but the latter half of October and the first half of November were mostly warm and dry, allowing good development of the small grains. The second half of November was cooler and wetter than normal. December had mild temperatures with above normal precipitation causing floods. Only a trace of snow occurred in December. January was colder and wetter than normal, averaging



almost 9 degrees below normal, making it the fifth coldest January on record. February was also colder and wetter than normal, with temperatures about 8 degrees below normal and one inch plus of precipitation above normal. December through February was the seventh coldest winter on record.

March was about 6 degrees above normal with three inches below normal precipitation. Cool wet conditions prevailed through April and May, causing the spring of 1979 to be the latest on record. Precipitation and temperature averaged above normal for the month of June. The greater than normal winter rainfall kept soils in a high moisture condition and resulted in more plant heaving damage than usual. This was true for all small grains, but was especially severe in barley. The plant heaving and colder than normal winter temperatures resulted in severe winter killing of barley and oats in some areas of the state. Winter killing of wheat was only slight (less than 5%) but the wet spring caused some localized water damage areas. Many wheat diseases occurred, but wheat spindle streak mosaic virus was the most severe infection recorded since 1974. Scab on wheat and barley was frequently observed in many fields.

The prevalence of the cereal leaf beetle continues to increase. Most plants in the spring oat test at Lexington had their flag leaves destroyed by beetle feeding.

### 1978 TEST CONDITIONS

The fall planting period was marked by rainy, wet soil conditions which reduced the acres planted by many small grain farmers. An early snowfall on Thanksgiving weekend stopped almost all fall 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.

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 our small grain breeding nursery at Lexington, with a nearly complete loss of barley and oats and even a 15%

reduction in stand of the more winter-hardy varieties of wheat. The nurseries at other locations had winter killing, but it was not as severe as that at Lexington. The reported yield of the varieties closely correlates 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. The variety Doublecrop had the most severe infection. Cereal leaf beetle infestation in the Lexington nurseries was the heaviest ever observed.

### 1977 TEST CONDITIONS

Dry soil conditions limited planting during the first half of October. The latter half of October turned cool and some precipitation occurred. Cool temperatures continued throughout the fall, resulting in very little fall growth. Many late-planted small grains did not emerge until spring. Extremely cold winter 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 April, May and June were droughty in some areas of the state.

The good snow cover prevented a lot of winter killing of wheat and barley, although winter killing of oats was severe. Disease incidence was very mild or limited to localized areas. However, new strains of powdery mildew were observed, causing the "Arthur-type" wheat to be less resistant.

### SMALL GRAIN VARIETIES FOR 1980

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. The characteristics of the small grain varieties are summarized in Tables 17 and 18.

#### WINTER BARLEY VARIETIES

Winter barleys are less winterhardy 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 3-6. Varieties now commonly grown are Barsoy, Monroe and Volbar. Newer varieties that show promise are Pike, Perry and Surry (see characteristics in Table 17).

#### **SOFT RED WINTER WHEAT VARIETIES**

Kentucky's climate and soils are well suited for the production of high quality soft red winter wheat. No single variety has all the desirable characteristics, but each has certain advantages. Yielding ability, straw strength, height, earliness, grain quality and disease resistance are important in choosing a variety. Varietal performance is presented in Tables 7-12. Varieties and other characteristics are listed in Table 18.

#### **WINTER OAT VARIETIES**

Winter oats are the least winterhardy of the winter grains. Early seeding, good fertilization practices, and planting on well-drained soils are recommended to minimize winter killing. Winter oats are also excellent for grazing and silage. Performance of the winter oat varieties is presented in Tables 13-15. 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 16).

#### **CERTIFIED SEED**

Planting certified seed is one of the first steps in ensuring 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 ensure 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.

*Acknowledgement is made to the University of Kentucky Computing Center for assistance in summarizing some of the results reported in this progress report; to County Agricultural Agents Ted Howard, Marvin Davidson, William Hendrick, and Jack Snyder for assistance in locating test sites and collecting data; and to Dr. Richard Stuckey for his assistance in disease identification and evaluation for the varieties at all test locations.*

**Table 3.—Barley Performance Trials for the Purchase Region of Kentucky, 1977-79**

Variety	Yield Bu/A			% Protein Whole Grain		
	1979	1978	1977	1979	1978	1977
	Murray	Murray	Murray	Murray	Murray	Murray
Barsoy		14	57		10.3	13.9
Boone		25	--		9.6	--
Clayton		16	--		11.0	--
Henry		28	87		7.8	10.9
Ky. 1		18	30		8.3	15.3
Knob		25	71		9.2	12.6
Maury		29	80		8.2	11.9
Monroe		24	76		7.9	12.6
Perry		26	67		10.7	13.3
Pike		22	67		8.6	13.1
Surry		26	84		8.0	12.1
Volbar		26	78		7.1	13.0

Variety	Test Weight Lbs/Bu			Grams/1000 Seed		
	1979	1978	1977	1979	1978	1977
	Murray	Murray	Murray	Murray	Murray	Murray
Barsoy		48.2	46.8		34.2	35.2
Boone		44.4	--		30.6	--
Clayton		46.2	--		33.7	--
Henry		48.0	46.3		38.5	39.2
Ky. 1		51.6	40.0		37.1	29.7
Knob		47.0	43.0		34.6	33.5
Maury		48.0	43.1		37.0	33.9
Monroe		45.2	38.2		35.4	30.0
Perry		51.4	43.6		36.8	34.5
Pike		49.2	45.7		37.4	35.8
Surry		47.4	43.3		36.2	35.3
Volbar		47.8	42.8		39.7	37.2

Variety	% Survival			Date Headed		
	1979	1978	1977	1979	1978	1977
	Murray	Murray	Murray	Murray	Murray	Murray
Barsoy		26	86		4/30	4/21
Boone		30	--		5/12	--
Clayton		24	--		5/16	--
Henry		39	91		5/14	4/29
Ky. 1		53	100		5/17	5/4
Knob		47	90		5/10	4/26
Maury		45	95		5/17	5/3
Monroe		50	99		5/18	5/4
Perry		47	100		5/12	4/27
Pike		53	96		4/30	4/20
Surry		32	90		5/12	4/28
Volbar		22	91		5/15	4/28

**Table 3.—(continued)**

Variety	Height Ins.			% Lodged		
	1979	1978	1977	1979	1978	1977
	Murray	Murray	Murray	Murray	Murray	Murray
Barsoy		27	32		0	75
Boone		28	--		0	--
Clayton		28	--		0	--
Henry		31	38		0	05
Ky. 1		37	43		0	99
Knob		31	36		0	46
Maury		31	39		0	40
Monroe		27	39		0	69
Perry		31	39		0	21
Pike		29	32		0	98
Surry		31	38		0	11
Volbar		38	42		0	68

**Table 4.—Barley Performance Trials for the Southern Tier and Western Coal Fields Regions of Kentucky, 1977-1979<sup>1</sup>**

Variety	Yield Bu/A						% Protein Whole Grain					
	1979		1978		1977		1979		1978		1977	
	P	E	P	E	P	E	P	E	P	E	P	E
Barsoy	41	33	13	46	64	32	10.5	10.8	14.3	14.0	13.3	12.9
Boone	26	24	05	42	--	--	11.5	11.4	14.7	12.4	-----	-----
Clayton	34	26	02	07	--	--	11.4	11.0	14.8	14.2	-----	-----
Henry	58	35	18	78	77	53	9.0	9.4	13.5	11.0	13.0	12.9
Ky. 1	63	58	31	29	20	24	9.3	8.6	13.8	14.1	16.1	15.9
Knob	51	32	13	59	58	39	10.1	10.1	15.1	14.1	14.6	14.4
Maury	57	45	17	70	78	50	10.4	9.6	14.1	12.8	13.2	14.6
Monroe	51	40	11	77	64	36	9.5	9.0	13.6	11.6	13.7	13.8
Perry	69	44	27	54	57	43	9.7	9.3	12.4	13.6	14.9	15.0
Pike	43	31	20	53	67	38	10.8	10.3	14.5	13.2	13.7	15.2
Surry	47	46	07	80	76	43	9.7	9.3	14.0	10.8	12.3	14.3
Volbar	71	56	02	13	65	53	8.9	8.5	14.0	12.0	14.2	13.7

Variety	Test Weight Lbs/Bu						Grams/1000 Seeds					
	1979		1978		1977		1979		1978		1977	
	P	E	P	E	P	E	P	E	P	E	P	E
Barsoy	47.8	48.0	45.6	46.4	48.5	41.8	29.1	30.8	30.6	35.0	37.2	32.4
Boone	44.0	44.8	-----	43.3	-----	-----	26.6	30.9	30.5	31.6	-----	-----
Clayton	41.8	44.6	-----	-----	-----	-----	26.5	29.5	31.6	36.0	-----	-----
Henry	46.3	45.3	44.8	43.3	43.2	40.0	35.0	33.8	32.5	37.2	37.3	35.4
Ky. 1	48.8	48.1	43.6	43.3	35.8	39.8	34.8	35.4	36.1	31.6	31.5	30.8
Knob	46.0	44.6	44.7	42.7	43.0	42.3	32.9	30.4	32.8	33.0	33.6	33.2
Maury	45.0	45.7	43.1	42.1	40.8	37.7	30.2	33.0	34.2	32.0	33.0	29.5
Monroe	43.9	44.7	40.4	41.5	38.3	35.3	30.5	31.9	30.9	31.1	30.5	28.5
Perry	50.1	49.0	46.7	46.0	44.9	40.5	33.6	32.5	33.8	33.6	34.8	33.1
Pike	46.6	47.1	44.8	43.6	47.5	43.0	28.4	29.3	31.3	32.2	36.8	34.8
Surry	44.1	44.2	44.6	42.3	43.2	37.8	29.9	29.5	30.9	35.1	34.9	31.8
Volbar	46.7	44.1	-----	47.2	39.2	37.6	39.8	39.4	36.3	37.8	37.2	36.8



Table 4.—(continued)

Variety	% Survival						Date Headed						
	1979		1978		1977		1979		1978		1977		
	P	E	P	E	BC	P	E	P	E	P	E		
Barsoy	89	49	15	65	58	100	29	4/26	4/26	5/09	4/30	4/20	--
Boone	74	34	06	29	64	---	---	5/08	5/09	5/22	5/10	---	---
Clayton	91	35	01	06	26	---	---	5/09	5/08	5/23	5/12	---	---
Henry	92	60	26	89	65	100	43	5/06	5/07	5/22	5/09	4/30	--
Ky. 1	100	70	44	95	81	100	81	5/12	5/12	5/24	5/14	5/06	--
Knob	92	51	21	72	76	100	53	5/03	5/04	5/18	5/06	4/28	--
Maury	96	69	12	92	76	100	50	5/07	5/09	5/28	5/11	5/04	--
Monroe	96	66	15	90	58	100	56	5/11	5/11	5/28	5/13	5/06	--
Perry	99	66	46	92	75	100	84	5/04	5/06	5/18	5/08	4/28	--
Pike	95	61	36	86	74	100	76	4/29	5/01	5/10	5/03	4/21	--
Surry	96	64	08	58	51	100	45	5/04	5/06	5/21	5/14	4/29	--
Volbar	94	51	01	04	15	100	44	5/05	5/08	---	5/13	4/30	--

Variety	Height Ins.						% Lodged					
	1979		1978		1977		1979		1978		1977	
	P	E	P	E	P	E	P	E	P	E	P	E
Barsoy	32	33	25	33	33	33	33	01	0	48	60	100
Boone	31	32	24	32	---	---	33	00	0	60	---	---
Clayton	36	33	22	31	---	---	38	03	0	00	---	---
Henry	39	34	24	41	39	39	00	00	0	28	70	100
Ky. 1	47	41	34	41	39	42	43	20	0	100	100	100
Knob	36	33	23	34	35	37	00	00	0	06	93	95
Maury	39	33	22	37	39	40	03	00	0	32	64	100
Monroe	37	31	22	38	39	38	01	00	0	39	80	100
Perry	37	34	27	37	38	41	00	00	0	55	69	78
Pike	32	30	23	34	34	33	53	00	0	75	96	99
Surry	37	36	23	41	41	38	05	00	0	12	81	100
Volbar	42	40	---	39	43	45	01	00	0	03	98	98

1/ P = Princeton, Ky. E = Elkton, Ky. BC = Bowling Green, KY

Table 5.—Barley Performance Trials for the Eastern, Bluegrass, North Central and Ohio Valley Regions of Kentucky, 1977-1979<sup>1</sup>

Variety	Yield Bu/A				% Protein Whole Grain				
	1979		1978		1979		1978		1977
	Lex	E-town	Lex	Lex	Lex	E-town	Lex	Lex	Lex
Barsoy	21	40	11	70	13.2	9.5	14.3	11.6	
Boone	04	32	04	---	12.6	11.2	14.8	---	
Clayton	16	38	00	---	11.2	10.9	---	---	
Henry	37	47	26	76	9.8	9.2	10.5	10.5	
Ky. 1	56	59	40	74	8.4	7.8	9.0	10.8	
Knob	32	38	19	76	10.9	10.6	13.2	11.8	
Maury	54	51	33	85	9.5	9.5	11.1	10.8	
Monroe	46	50	34	84	8.9	8.6	10.4	9.9	
Perry	41	50	37	84	9.7	9.2	11.9	10.5	
Pike	27	38	23	76	10.7	9.4	12.6	10.7	
Surry	52	47	23	85	9.4	9.4	11.5	10.0	
Volbar	53	79	00	93	9.3	7.9	---	10.1	

Table 5.—(continued)

Variety	Test Weight Lbs/Bu			Grams/1000 Seed				
	1979		1978	1977	1979		1978	1977
	Lex	E-town	Lex	Lex	Lex	E-town	Lex	Lex
Barsoy	49.2	48.2	50.8	52.9	35.0	32.0	35.6	36.8
Boone	---	46.0	---	---	32.7	29.8	37.2	---
Clayton	44.8	44.1	---	---	29.2	28.8	---	---
Henry	45.7	45.8	45.8	45.5	38.0	34.0	36.6	36.1
Ky. 1	46.9	48.0	52.4	47.5	38.0	35.7	38.4	30.9
Knob	45.5	46.0	46.8	45.9	36.0	31.8	37.2	31.2
Maury	45.7	45.5	47.6	44.7	37.1	31.4	38.4	31.9
Monroe	44.6	43.0	47.4	42.7	36.3	32.1	35.6	31.3
Perry	47.8	48.9	51.2	49.7	37.7	32.8	39.0	32.5
Pike	47.7	46.6	50.5	50.8	35.3	31.2	36.4	35.9
Surry	44.9	45.2	46.2	46.8	35.1	31.1	35.4	34.7
Volbar	45.4	44.3	---	47.3	41.8	40.7	---	38.5

Variety	% Survival				Date Headed				
	1979		1978		1979		1978		1977
	Lex	E-town	Lex	Lex	Lex	E-town	Lex	Lex	
Barsoy	28	82	08	100	5/6	4/26	5/18	4/29	
Boone	08	60	05	100	5/12	5/9	5/27	---	
Clayton	22	80	00	---	5/10	5/8	---	---	
Henry	32	90	22	---	5/10	5/7	5/27	5/8	
Ky. 1	65	98	52	100	5/14	5/12	5/28	5/9	
Knob	50	88	20	100	5/8	5/4	5/24	5/2	
Maury	58	85	25	100	5/11	5/9	5/28	5/7	
Monroe	60	85	28	100	5/12	5/11	5/30	5/9	
Perry	45	85	50	100	5/9	5/6	5/24	5/3	
Pike	45	90	35	100	5/6	5/1	5/20	4/28	
Surry	60	82	18	100	5/8	5/6	5/24	5/3	
Volbar	52	88	00	100	5/10	5/8	---	5/4	

Variety	Height ins.				% Lodged				
	1979		1978		1979		1978		1977
	Lex	E-town	Lex	Lex	Lex	E-town	Lex	Lex	
Barsoy	29	33	24	31	0	0	0	0	
Boone	27	32	26	---	0	0	0	---	
Clayton	31	35	---	---	0	0	0	---	
Henry	34	36	28	33	0	0	0	21	
Ky. 1	41	43	39	44	0	0	0	13	
Knob	33	33	28	33	0	0	0	23	
Maury	36	35	30	39	0	0	0	30	
Monroe	33	36	28	35	0	0	0	24	
Perry	33	35	34	36	0	0	0	0	
Pike	32	31	24	30	0	0	0	0	
Surry	35	35	29	35	0	0	0	5	
Volbar	36	40	---	40	0	0	0	4	

1/ Lex = Lexington, KY. E-town = Elizabethtown, KY.



Table 6.—Disease Ratings on Barley Varieties Tested in 1979<sup>1</sup>

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	Good	Good	Good	no	yes
Volbar	Fair	Poor	Fair	Good	no	yes

<sup>1/</sup> Barley Yellow Dwarf Virus, mildew, and leaf rust were not evident in 1977, 1978, or 1979. Barley smuts can be controlled by planting disease-free seed so no smut data were collected. Additional data were not collected in 1979.

Table 7.—Wheat Performance Trials for the Bluegrass Region, 1977-79, Lexington

Variety	Yield				Test Weight				Lodging			
	bu/A				lb/bu				%			
	1979	1978	1977	mean	1979	1978	1977	mean	1979	1978	1977	mean
Abe	38	44	53	45	55.1	58.7	57.9	57.2	48	0	0	16
Arthur	37	43	48	43	56.2	58.9	58.9	58.0	62	1	1	21
Arthur 71 <sup>1/</sup>	26	31	43	33	52.7	57.5	60.0	56.7	71	0	0	24
Beau	38	40	50	43	55.6	59.0	59.4	58.0	19	0	0	6
Centurk <sup>2/</sup>	26	59	48	44	46.4	60.1	59.1	55.2	91	9	0	33
Coker 68-15	46	31	45	41	54.9	57.5	58.9	57.1	3	0	0	1
Coker 762	50	44	61	52	49.5	54.7	53.9	52.7	43	0	1	15
Coker 747	29	40	48	39	49.8	59.2	58.6	55.9	60	0	2	21
Delta Queen	41	37	---	39	50.8	56.7	---	53.7	46	1	---	24
Doublecrop	39	40	45	41	60.7	60.3	59.4	60.1	18	0	0	6
McNair 1003	55	46	60	54	49.4	56.3	53.9	53.2	66	0	2	23
McNair 1813	52	17	50	40	44.8	56.2	59.0	53.3	21	0	2	8
McNair 4823	32	37	39	36	44.1	58.6	56.8	53.2	8	0	1	3
NAPB W-504	40	50	47	46	55.9	59.4	59.0	58.1	65	3	0	23
Oasis	35	38	50	41	54.2	58.6	60.2	57.7	71	0	0	24
S-76	37	46	---	41	52.0	58.7	---	55.4	6	0	---	3
S-78	41	45	---	43	50.4	58.0	---	54.2	35	0	---	18
Roland	33	41	---	37	44.6	56.6	---	50.6	16	1	---	9
Rosen	33	48	46	42	47.8	57.5	58.3	54.5	40	1	0	14
Ruler	32	59	48	46	44.8	58.9	59.1	54.3	9	1	0	3
Sullivan	36	36	44	39	54.9	59.1	59.9	58.0	52	0	0	17

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

<sup>2/</sup> Hard Red Winter Wheat

Table 7.—(continued)

Variety	Plant Height				Survival				Date Headed			
	in				%				May			
	1979	1978	1977	mean	1979	1978	1977	mean	1979	1978	1977	mean
Abe	41	37	37	38	100	90	70	87	13	22	10	15
Arthur	45	38	37	40	100	91	59	83	13	22	8	14
Arthur 71 <sup>1/</sup>	44	31	36	37	99	30	46	58	14	26	11	17
Beau	42	37	33	37	100	93	51	81	15	23	11	16
Centurk <sup>2/</sup>	41	42	39	41	100	98	83	93	17	24	15	19
Coker 68-15	39	32	31	34	100	38	79	72	12	27	10	16
Coker 762	34	30	29	31	95	68	81	81	15	28	15	19
Coker 747	38	32	33	34	100	79	70	83	14	24	10	16
Delta Queen	38	35	---	36	89	86	---	88	15	27	---	21
Doublecrop	42	34	35	37	100	74	79	84	10	19	4	11
McNair 1003	42	33	34	36	99	75	73	82	12	24	11	16
McNair 1813	41	32	32	35	90	13	48	50	12	26	9	16
McNair 4823	37	32	30	33	100	79	48	75	18	28	15	20
NAPB W-504	45	38	38	40	100	92	68	87	14	21	8	14
Oasis	44	36	38	39	100	78	68	82	14	24	11	16
S-76	39	33	---	36	100	91	---	96	15	24	---	20
S-78	35	32	---	34	99	83	---	91	16	25	---	21
Roland	39	33	---	36	100	73	---	86	15	24	---	20
Rosen	38	34	41	38	100	80	56	79	12	23	10	15
Ruler	42	37	34	38	100	96	60	85	22	27	19	23
Sullivan	44	37	36	39	99	79	70	83	14	23	9	15

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

<sup>2/</sup> Hard Red Winter Wheat

Table 8.—Wheat Performance Trials for the Western Coal Field Region, 1977-79, Princeton

Variety	Yield				Test weight				Lodging			
	bu/A				lb/bu				%			
	1979	1978	1977	mean	1979	1978	1977	mean	1979	1978	1977	mean
Abe	53	30	56	46	59.6	60.0	55.7	58.4	0	0	25	8
Arthur	42	27	55	41	60.2	60.7	57.8	59.6	0	0	8	3
Arthur 71 <sup>1/</sup>	44	9	52	35	60.3	56.0	58.6	58.3	24	0	26	17
Beau	37	29	57	41	60.7	60.7	58.5	60.0	23	0	3	9
Centurk <sup>2/</sup>	51	33	43	42	58.4	61.1	55.8	58.4	36	0	93	43
Coker 68-15	50	7	52	36	60.5	58.0	53.9	57.5	13	0	1	5
Coker 762	46	27	42	38	54.8	56.1	47.6	52.8	5	0	84	30
Coker 747	54	25	54	44	58.6	60.3	55.3	58.0	48	0	44	31
Delta Queen	36	29	—	33	57.3	59.5	—	58.4	0	0	—	0
Doublecrop	40	27	58	42	59.9	59.9	56.7	58.8	3	0	23	9
McNair 1003	48	37	72	52	55.3	56.7	52.6	54.8	8	0	33	14
McNair 1813	38	14	49	34	59.0	55.7	55.2	56.6	0	0	4	1
McNair 4823	40	17	58	38	58.6	57.5	53.2	56.4	0	0	1	0
NAPB W-504	48	30	59	45	59.5	59.3	57.3	58.7	5	0	25	10
Oasis	45	19	58	41	59.9	56.9	58.0	58.2	34	0	34	23
S-76	56	33	—	45	59.8	60.2	—	60.0	0	0	—	0
S-78	70	29	—	49	58.5	60.7	—	59.6	0	0	—	0
Roland	56	33	—	44	58.4	59.0	—	58.7	0	0	—	0
Rosen	58	26	68	51	56.8	58.7	55.2	56.9	0	0	14	5
Ruler	40	35	42	39	55.0	57.4	53.6	55.3	23	0	81	35
Sullivan	47	19	52	39	59.9	57.7	57.6	58.4	18	0	5	8

Variety	Plant Height				Survival				Date Headed			
	in				%				May			
	1979	1978	1977	mean	1979	1978	1977	mean	1979	1978	1977	mean
Abe	36	29	39	35	86	84	100	90	10	14	1	8
Arthur	38	31	41	37	84	66	100	83	10	15	4-30	8
Arthur 71 <sup>1/</sup>	39	24	40	34	85	7	100	64	11	22	1	11
Beau	37	31	38	36	86	66	100	84	13	16	2	10
Centurk <sup>2/</sup>	45	36	43	41	89	89	100	93	16	19	7	14
Coker 68-15	34	23	36	31	84	6	100	63	10	25	1	12
Coker 762	31	26	34	30	83	33	100	72	18	26	7	17
Coker 747	35	24	36	32	93	51	100	81	10	19	1	10
Delta Queen	35	31	—	33	63	68	—	65	19	20	—	20
Doublecrop	39	31	40	37	85	74	100	86	5	8	4-23	2
McNair 1003	35	33	38	36	76	55	100	77	13	19	2	11
McNair 1813	37	28	39	35	60	29	100	63	13	19	4-30	8
McNair 4823	35	26	38	33	90	53	100	81	18	25	8	17
NAPB W-504	43	35	41	40	93	64	100	85	10	15	1	9
Oasis	41	31	40	37	89	40	100	76	10	21	2	11
S-76	36	32	—	34	88	88	—	88	15	19	—	17
S-78	35	29	—	32	93	65	—	79	16	21	—	19
Roland	34	29	—	32	89	79	—	84	12	18	—	15
Rosen	36	30	46	37	84	61	100	82	11	16	1	9
Ruler	41	35	44	40	91	89	100	93	18	21	9	16
Sullivan	40	29	39	36	86	54	100	80	10	17	4-30	9

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

2/ Hard Red Winter Wheat

Table 9.—Wheat Performance Trials for the Ohio Valley Region, 1977-79, Henderson

Variety	Yield bu/A	Test Weight lb/bu	Survival %	Plant Height		Date Headed May
				Survival		
				in	%	
1979	1979	1979	1979	1979	1979	
Abe	72	59.9	79	40	100	10
Arthur	73	61.0	45	41	100	10
Arthur 71	67	60.3	49	40	100	12
Beau	75	61.2	13	40	100	14
Centurk 1/	52	58.2	81	45	100	14
Cokers 68-15	77	61.5	9	39	100	9
Cokers 762	62	52.2	46	34	100	14
Cokers 747	68	59.6	70	36	100	13
Delta Queen	57	54.6	96	39	100	15
Doublecrop	64	59.8	33	39	100	3
McNair 1003	74	58.0	33	39	100	12
McNair 1813	63	59.8	14	40	100	9
McNair 4823	65	55.5	4	39	100	18
NAPB W-504	71	60.6	29	43	100	9
Oasis	68	60.4	49	42	100	11
S-76	81	59.8	10	39	100	12
S-78	77	58.6	28	38	100	14
Roland	71	57.2	38	38	100	11
Rosen	76	57.0	44	37	100	9
Ruler	64	55.9	50	46	100	18
Sullivan	66	61.0	59	42	100	8

1/ Hard Red Winter Wheat



**Table 10.—Wheat Performance Trials for the Purchase Region, 1977-79, Murray**

Variety	Yield				Test Weight				Lodging			
	bu/A				lb/bu				%			
	1979	1978	1977	mean	1979	1978	1977	mean	1979	1978	1977	mean
Abe	36	49	59	48	61.0	57.3	61.5	59.9	0	0	0	0
Arthur	25	41	57	41	59.9	57.8	61.4	59.7	0	0	0	0
Arthur 71 <sup>1/</sup>	22	26	57	35	59.6	57.5	61.7	59.6	0	0	0	0
Beau	23	47	58	42	61.1	59.2	61.8	60.7	0	0	0	0
Centurk <sup>2/</sup>	18	40	37	32	53.3	57.8	57.0	56.0	0	0	68	23
Cokers 68-15	23	28	59	37	61.2	57.5	59.4	59.3	0	0	23	8
Cokers 762	26	36	53	38	55.0	54.2	51.7	53.6	0	0	23	8
Cokers 747	22	44	58	41	60.7	58.6	61.2	60.1	0	0	3	1
Delta Queen	22	42		32	58.3	57.7		58.0	0	0		0
Doublecrop	26	40	52	39	61.4	57.0	60.9	59.7	0	0	0	0
McNair 1003	20	38	71	43	54.3	53.6	56.1	54.6	0	0	3	1
McNair 1813	16	30	57	34	58.7	55.4	58.4	57.5	0	0	3	1
McNair 4823	11	29	34	25	53.4	55.5	50.6	53.1	0	0	0	0
NAPB W-504	18		55	37	57.8		60.1	58.9	0		5	2
Oasis	30	39	52	40	60.6	58.6	60.9	60.0	0	0	3	1
S-76	16	32		24	57.3	57.4		57.3	0	0		0
S-78	23	41		32	56.8	57.2		57.0	0	0		0
Roland	26	43		34	57.2	55.3		56.2	0	0		0
Rosen	21	47	46	38	56.6	56.0	55.6	56.0	0	0	0	0
Ruler	22	37	40	33	56.7	56.7	53.3	55.5	0	0	0	0
Sullivan	26	34	59	40	60.3	57.6	61.2	59.7	0	0	0	0

Variety	Plant Height				Survival				Date Headed			
	in				%				May			
	1979	1978	1977	mean	1979	1978	1977	mean	1979	1978	1977	mean
Abe	34	34	38	35	89	88	100	92	6	11	4-29	5
Arthur	35	36	39	37	84	75	100	86	7	10	4-28	5
Arthur 71 <sup>1/</sup>	31	34	38	34	83	20	100	68	10	17	4-29	9
Beau	30	35	39	35	83	68	100	83	10	12	4-30	7
Centurk <sup>2/</sup>	39	41	40	40	93	79	100	90	12	16		11
Coker 68-15	31	31	35	32	81	13	100	65	7	16	4-29	7
Coker 762	27	31	34	30	86	33	100	73	11	22		13
Coker 747	30	32	34	32	89	30	100	80	8	15	4-30	8
Delta Queen	31	33		32	79	64		71	9	17		13
Doublecrop	36	35	36	36	86	63	100	83	1	7	4-22	4-30
McNair 1003	30	35	37	34	83	44	100	75	9	14		8
McNair 1813	30	32	37	33	84	35	100	73	10	12	4-27	6
McNair 4823	28	31	36	32	84	43	100	75	19	21		16
NAPB W-504	36		40	38	85		100	93	10		4-29	5
Oasis	34	36	37	36	81	51	100	78	10	14		9
S-76	30	31		30	81	49	65	65	14	15		15
S-78	29	33		31	76	68	72	72	12	16		14
Roland	32	32		32	85	70		78	8	14		11
Rosen	30	34	39	34	76	64	100	80	8	12	4-30	7
Ruler	37	38	42	39	88	51	100	80	19	20		16
Sullivan	34	32	37	34	79	60	100	80	9	12	4-27	6

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

<sup>2/</sup> Hard Red Winter Wheat

**Table 11.—Wheat Performance Trials for the Southern Tier Region, 1977-79, Elkton**

Variety	Yield				Test Weight				Lodging			
	bu/A				lb/bu				%			
	1979	1978	1977	mean	1979	1978	1977	mean	1979	1978	1977	mean
Abe	46	37	51	45	60.7	54.7	56.7	57.3	0	20	84	35
Arthur	49	44	49	47	60.9	56.1	57.0	58.0	0	6	76	28
Arthur 71	43	42	41	42	60.7	55.2	56.6	57.5	0	8	95	34
Beau	47	48	49	48	61.4	56.6	57.8	58.6	0	0	29	10
Centurk <sup>1/</sup>	53	41	32	42	58.7	53.2	53.7	55.2	0	75	99	58
Cokers 68-15	33	15	56	35	59.6	54.2	55.6	56.4	0	0	75	25
Cokers 762	43	34	53	43	54.0	51.6	58.1	54.5	0	0	99	33
Cokers 747	44	58	49	50	59.9	56.8	57.0	57.9	0	0	76	25
Delta Queen	50	28		39	56.9	52.9		54.9	0	8		4
Doublecrop	45	26	44	38	61.7	54.1	56.9	57.5	0	0	59	20
McNair 1003	46	50	62	53	55.6	51.9	51.3	52.9	0	0	50	17
McNair 1813	40	9	40	29	58.7	53.6	53.7	55.3	0	0	94	31
McNair 4823	38	41	42	40	56.0	54.9	50.0	53.6	0	0	34	11
NAPB W-504	44		35	39	60.7		54.4	57.5	0		94	47
Oasis	49	40	46	45	60.7	53.7	58.4	57.6	0	28	68	32
S-76	46	46		46	59.8	54.9		57.3	0	0		0
S-78	48	47		47	59.8	55.5		57.6	0	5		3
Roland	45	43		44	59.0	51.9		55.4	0	10		5
Rosen	51	43	44	46	57.9	53.7	54.3	55.3	0	14	46	20
Ruler	44	36	36	39	57.4	54.8	54.5	55.5	0	0	49	16
Sullivan	49	39	34	40	60.9	55.2	56.9	57.6	0	28	88	38

Variety	Plant Height				Survival				Date Headed			
	in				%				May			
	1979	1978	1977	mean	1979	1978	1977	mean	1979	1978	1977	mean
Abe	37	35	40	37	94	100	100	98	6	8		7
Arthur	39	38	42	40	93	99	100	97	6	8		7
Arthur 71	38	38	40	39	88	66	100	85	8	10		9
Beau	37	39	40	39	93	98	100	97	9	10		10
Centurk <sup>1/</sup>	45	39	42	42	91	100	100	97	11	13		12
Cokers 68-15	34	29	36	33	84	14	100	66	8	17		13
Cokers 762	32	30	34	32	85	25	100	70	12	20		16
Cokers 747	34	35	36	35	88	91	100	93	9	11		10
Delta Queen	36	34		35	91	40		66	12	18		15
Doublecrop	39	38	38	38	91	96	100	96	2	3		3
McNair 1003	38	36	39	38	86	73	100	86	8	12		10
McNair 1813	38	33	38	36	86	4	100	64	7	16		12
McNair 4823	34	37	37	36	84	76	100	87	15	19		17
NAPB W-504	42		44	43	93		100	96	6			
Oasis	39	38	41	39	89	95	100	95	9	9		9
S-76	35	35		35	91	95		93	10	14		12
S-78	34	34		34	93	93		93	12	13		13
Roland	33	35		34	89	100		94	9	10		10
Rosen	35	35	43	38	89	98	100	95	7	9		8
Ruler	41	39	40	40	89	100	100	96	16	19		18
Sullivan	39	37	42	39	90	96	100	95	5	8		7

<sup>1/</sup> Hard Red Winter Wheat



**Table 12.—Wheat Performance Trials for the North Central Region, 1977-79, Elizabethtown<sup>1</sup>**

Variety	Yield				Test Weight				Lodging			
	bu/A				lb/bu				%			
	1979	1978	1977	mean	1979	1978	1977	mean	1979	1978	1977	mean
Abe	41	33	60	45	60.1	57.7	57.3	58.3	0	0	0	0
Arthur	40	29	54	41	60.6	58.4	56.8	58.6	0	0	0	0
Arthur 71 <sup>2/</sup>	36	14	55	35	60.6	53.5	58.1	57.4	0	0	0	0
Beau	35	28	53	38	60.8	58.4	58.0	59.0	0	0	0	0
Centurk <sup>3/</sup>	49	33	—	41	60.1	56.8	—	58.4	6	3	4	4
Cokers 68-15	42	12	—	27	61.6	54.3	—	57.9	0	0	0	0
Cokers 762	44	22	—	33	56.8	50.2	—	53.5	0	0	0	0
Cokers 747	45	31	—	38	61.0	58.5	—	59.7	0	0	0	0
Delta Queen	38	25	—	32	59.8	53.0	—	56.4	9	0	0	5
Doublecrop	38	27	37	34	60.7	60.0	56.0	58.9	0	0	0	0
McNair 1003	36	31	—	38	58.8	52.8	—	55.8	0	0	0	0
McNair 1813	45	13	—	24	61.2	54.0	—	57.6	0	0	0	0
McNair 4823	37	20	—	28	58.8	54.0	—	56.4	0	0	0	0
NAPB W-504	39	—	—	—	60.4	—	—	—	0	—	—	0
Oasis	44	25	56	42	60.7	56.3	57.3	58.1	0	0	0	0
S-76	39	42	—	41	59.7	58.9	—	59.3	0	0	0	0
S-78	41	32	—	37	58.8	56.9	—	57.8	3	0	0	2
Roland	40	30	—	35	58.4	55.6	—	57.0	0	0	0	0
Rosen	47	32	—	40	58.6	56.5	—	57.5	0	0	0	0
Ruler	52	32	—	42	57.5	54.7	—	56.1	0	0	0	0
Sullivan	37	24	—	31	60.6	57.6	—	59.1	0	0	0	0

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

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

<sup>3/</sup> Hard Red Winter Wheat

Variety	Plant Height				Survival				Date Headed			
	in				%				May			
	1979	1978	1977	mean	1979	1978	1977	mean	1979	1978	1977	mean
Abe	34	—	—	—	98	61	—	79	11	—	—	—
Arthur	34	—	—	—	88	84	—	86	12	—	—	—
Arthur 71 <sup>2/</sup>	35	—	—	—	97	60	—	79	11	—	—	—
Beau	32	—	—	—	97	70	—	84	11	—	—	—
Centurk <sup>3/</sup>	42	—	—	—	97	50	—	73	14	—	—	—
Cokers 68-15	33	—	—	—	94	45	—	70	10	—	—	—
Cokers 762	30	—	—	—	95	59	—	77	15	—	—	—
Cokers 747	34	—	—	—	97	88	—	93	11	—	—	—
Delta Queen	34	—	—	—	93	71	—	82	13	—	—	—
Doublecrop	36	—	—	—	92	80	—	86	6	—	—	—
McNair 1003	36	—	—	—	98	46	—	72	12	—	—	—
McNair 1813	36	—	—	—	98	53	—	75	10	—	—	—
McNair 4823	32	—	—	—	97	40	—	68	16	—	—	—
NAPB W-504	39	—	—	—	97	—	—	—	9	—	—	—
Oasis	37	—	—	—	99	71	—	85	12	—	—	—
S-76	32	—	—	—	98	58	—	78	12	—	—	—
S-78	31	—	—	—	98	66	—	82	12	—	—	—
Roland	33	—	—	—	97	50	—	74	11	—	—	—
Rosen	34	—	—	—	98	75	—	86	11	—	—	—
Ruler	41	—	—	—	98	58	—	78	18	—	—	—
Sullivan	35	—	—	—	97	64	—	80	11	—	—	—

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

<sup>3/</sup> The 1977 nursery was planted and harvested using farm equipment. The plots were one-quarter acre in size and replicated three times.

**Table 13.—Winter Oat Performance Trials for the Purchase Region of Kentucky, 1977-1979**

Variety	Yield Bu/A			% Protein Whole Grain			% Survival			Date Headed		
	Murray			Murray			Murray			Murray		
	1979	1978	1977	1979	1978	1977	1979	1978	1977	1979	1978	1977
Coker 66-22	57	74	51	11.5	10.2	17.6	62	42	38	5/12	5/20	—
Coker 70-16	41	64	72	10.3	8.4	20.0	66	34	58	5/12	5/18	5/7
Coker 76-30	53	58	77	10.8	8.7	17.4	61	32	68	5/10	5/17	5/8
Compact	44	60	46	13.1	10.9	22.3	80	30	35	5/19	5/27	—
Cumberland	38	59	37	12.0	9.8	16.3	46	10	26	5/20	5/25	5/13
Dubois	47	64	40	12.0	10.4	20.1	69	23	35	5/19	5/20	—
Ky 67-695	56	42	73	11.7	11.3	19.4	79	25	65	5/20	5/24	5/12
Norline	66	57	49	12.0	11.1	22.7	69	18	43	5/18	5/27	5/14
Pennwin	54	70	37	10.9	8.7	19.3	71	25	26	5/18	5/28	—
Walken	63	68	—	11.6	9.8	—	77	38	—	5/24	6/2	—
Windsor	37	43	65	12.2	10.2	18.8	62	15	53	5/12	5/25	5/7

Variety	Test Weight Lbs/Bu			Grams/1000 Seed			Height Ins.			% Lodged		
	Murray			Murray			Murray			Murray		
	1979	1978	1977	1979	1978	1977	1979	1978	1977	1979	1978	1977
Coker 66-22	35.4	33.6	38.1	30.6	27.1	31.8	36	33	38	3	0	73
Coker 70-16	35.8	35.2	30.8	24.3	23.7	27.0	29	30	38	0	64	46
Coker 76-30	37.0	35.8	28.0	26.0	25.0	27.0	32	31	38	0	38	66
Compact	37.0	34.1	31.5	24.6	21.1	23.5	25	26	35	0	0	45
Cumberland	33.8	30.2	28.0	32.1	28.5	33.5	34	32	36	0	0	00
Dubois	35.9	34.5	29.4	28.0	26.3	28.0	37	37	39	0	8	30
Ky 67-695	37.3	29.0	29.6	26.2	23.7	27.6	37	33	38	0	0	13
Norline	36.3	32.5	29.9	30.1	25.9	29.7	43	37	42	0	0	15
Pennwin	35.8	33.8	28.1	28.3	25.5	25.3	38	35	36	0	2	18
Walken	36.0	32.6	—	24.2	19.7	—	37	36	—	0	2	00
Windsor	33.9	32.2	39.7	28.5	25.5	27.5	33	33	36	4	10	66

**Table 14.—Winter Oat Performance Trials for the Southern Tier and Western Coal Field Region of Kentucky, 1977-1979<sup>1</sup>**

Variety	Yield Bu/A						% Protein Whole Grain					
	1979		1978		1977		1979		1978		1977	
	Princ	Elkton	Princ	Elkton	Elkton	Princ	Elkton	Princ	Elkton	BG	Elkton	
Coker 66-22	83	48	40	38	28	9.8	9.1	12.5	11.9	11.4	20.5	
Coker 70-16	92	41	26	31	42	9.2	8.4	11.4	10.4	10.4	19.7	
Coker 76-30	90	56	38	26	50	9.1	8.5	10.8	10.9	10.1	20.1	
Compact	89	74	65	41	31	10.4	10.6	12.2	13.6	12.2	23.1	
Cumberland	84	20	22	08	35	10.2	8.7	12.0	12.6	13.1	21.6	
Dubois	102	49	36	33	26	9.9	9.4	11.8	12.3	11.0	21.6	
Ky 67-695	84	72	55	73	44	10.0	9.9	12.6	12.4	12.4	20.3	
Norline	109	66	54	58	36	10.6	10.2	12.8	13.3	12.8	23.8	
Pennwin	100	64	47	66	28	9.2	8.6	10.7	12.1	12.7	21.1	
Walken	104	55	44	56	—	10.1	9.2	12.5	12.5	12.1	—	
Windsor	91	42	39	05	39	10.2	9.6	12.2	12.0	12.2	22.1	



Table 14.—(continued)

Variety	Test Weight Lbs/Bu					Grams/1000 Seed				
	1979		1978		1977	1979		1978		1977
	Princ	Elkton	Princ	Elkton	Elkton	Princ	Elkton	Princ	Elkton	Elkton
Coker 66-22	34.6	35.6	30.9	31.9	31.4	32.1	33.6	35.3	35.2	35.4
Coker 70-16	35.8	36.2	31.1	33.2	32.5	26.6	27.0	29.4	30.4	31.1
Coker 76-30	36.2	35.8	31.3	32.8	32.1	29.4	28.5	31.7	31.7	30.1
Compact	37.0	37.9	33.2	32.5	29.3	26.9	24.8	27.2	27.6	23.9
Cumberland	34.8	36.4	27.6	—	25.6	37.2	33.4	33.6	34.0	31.2
Dubois	36.2	35.3	31.6	31.1	29.9	27.9	27.7	29.8	31.0	29.7
Ky 67-695	37.2	37.2	31.2	33.8	31.2	27.3	28.5	28.8	36.0	29.6
Norline	36.3	36.2	32.4	33.0	30.3	30.2	30.3	30.8	39.8	33.4
Pennwin	36.8	35.7	31.0	33.3	26.9	30.9	28.2	30.6	36.4	27.7
Walken	36.0	35.4	31.8	29.4	—	26.0	22.7	26.0	35.6	—
Windsor	34.5	35.2	29.7	—	30.8	30.4	30.3	28.5	36.5	31.2
76 Lex										
Comp 7										

Variety	% Survival					Date Headed				
	1979		1978		1977	1979		1978		1977
	Princ	Elkton	Princ	Elkton	BG	Princ	Elkton	Princ	Elkton	Elkton
Coker 66-22	76	28	15	20	44	43	5/13	5/14	5/26	5/22
Coker 70-16	91	18	16	08	31	35	5/12	5/15	5/27	5/22
Coker 76-30	90	22	29	15	30	50	5/11	5/14	5/24	5/24
Compact	95	74	42	14	75	15	5/20	5/17	5/28	5/24
Cumberland	66	09	09	01	36	33	5/19	5/20	5/30	5/30
Dubois	91	34	26	02	51	25	5/17	5/18	5/26	5/24
Ky 67-695	91	50	56	56	82	40	5/19	5/19	5/24	5/22
Norline	95	51	34	18	45	43	5/19	5/18	5/28	5/27
Pennwin	92	32	32	32	59	25	5/20	5/21	5/28	5/29
Walken	99	42	35	13	72	—	5/25	5/23	6/6	5/29
Windsor	85	19	35	03	25	45	5/10	5/14	5/23	5/22

Variety	Height Ins.					% Lodged				
	1979		1978		1977	1979		1978		1977
	Princ	Elkton	Princ	Elkton	Elkton	Princ	Elkton	Princ	Elkton	Elkton
Coker 66-22	43	37	30	28	31	0	0	0	0	0
Coker 70-16	37	37	27	28	33	0	0	0	0	0
Coker 76-30	41	39	30	27	35	0	0	0	0	0
Compact	34	30	25	25	28	0	0	0	0	0
Cumberland	37	35	27	29	33	8	0	0	0	0
Dubois	46	42	34	36	33	0	0	0	01	0
Ky 67-695	42	39	32	30	32	0	0	0	06	0
Norline	45	41	34	33	36	0	0	0	06	0
Pennwin	43	42	32	36	36	0	0	0	22	0
Walken	40	38	32	30	—	0	0	0	0	0
Windsor	39	35	33	28	31	0	0	0	0	0

Table 15.—Winter Oat Performance Trials for the Eastern, Bluegrass, North Central and Ohio Valley Regions of Kentucky, 1977-1979

Variety	Yield Bu/A Lexington			% Protein Whole Grain Lexington			% Survival Lexington			Date Headed Lexington	
	1979	1978	1977	1979	1978	1977	1979	1978	1977	1978	1977
	Coker 66-22	30		75	12.2	11.5	17.0	42		48	5/14
Coker 70-16	18		93	11.4	10.7	15.1	30		68	5/14	5/14
Coker 76-30	32		91	11.0	11.3	15.0	48		70	5/12	5/12
Compact	43		56	12.4	12.5	19.8	72		22	5/20	5/22
Cumberland	06		58	13.2	—	17.3	12		28	5/20	5/19
Dubois	44		75	12.5	11.2	18.0	72		53	5/19	5/17
Ky 67-695	50		94	12.0	11.3	16.3	88		75	5/20	5/19
Norline	47		73	12.3	11.2	19.5	78		43	5/19	5/22
Pennwin	54		49	10.2	10.4	17.9	78		23	5/20	5/24
Walken	60		—	11.0	11.0	—	85		—	5/25	—
Windsor	15		78	11.7	10.8	18.4	35		40	5/13	5/12

Variety	Test Weight Lbs/Bu Lexington			Grams/1000 Seed Lexington			Height ins. Lexington			% Lodged Lexington	
	1979	1978	1977	1979	1978	1977	1979	1978	1977	1979	1978
	Coker 66-22	37.2		32.6	36.5	28.0	32.7	38		27	0
Coker 70-16	35.8		34.3	30.0	28.0	28.3	34		27	0	50
Coker 76-30	37.3		33.3	31.6	27.8	28.4	38		28	0	60
Compact	37.4		32.9	27.8	21.4	24.0	32		21	0	0
Cumberland	34.0		31.9	36.6	—	35.3	35		25	0	0
Dubois	37.3		33.5	31.4	26.2	30.8	41		29	0	20
Ky 67-695	37.7		34.8	30.0	24.0	29.0	36		29	0	7
Norline	37.6		32.5	33.9	30.4	35.7	39		28	0	0
Pennwin	36.8		28.8	33.3	27.8	28.5	40		27	0	0
Walken	37.4		—	27.5	21.4	—	36		—	0	0
Windsor	36.0		33.3	32.8	29.6	32.3	35		25	0	23

Table 16.—Spring Oat Performance Trials for all Regions of Kentucky, 1977-1979

Variety	Yield Bu/A Lexington			Test Weight Lbs/Bu Lexington			Date Headed Lexington		
	1979	1978	1977	1979	1978	1977	1979	1978	1977
	Andrew	74	76	65	38.5	36.5	32.9	6/2	6/5
Bates	75	91	—	38.0	35.4	—	6/1	6/5	—
Clintford	62	69	76	39.4	38.2	36.1	6/1	6/5	5/23
Grundy	68	99	—	38.9	37.0	—	6/2	6/4	—
Lang	77	87	—	35.7	35.1	—	5/31	6/2	—
Otee	65	83	83	38.0	36.0	34.6	6/1	6/5	5/21

Variety	Height ins. Lexington			% Lodged Lexington			Grams/1000 Seed Lexington		
	1979	1978	1977	1979	1978	1977	1979	1978	1977
	Andrew	45	42	31	0	0	78	30.9	29.0
Bates	38	36	—	0	0	—	29.7	29.8	—
Clintford	35	34	28	0	0	04	32.4	32.7	33.1
Grundy	37	39	—	0	0	—	28.9	28.6	—
Lang	35	34	—	0	0	—	33.9	33.4	—
Otee	36	35	28	0	0	06	26.4	26.5	24.9

Table 16.—(continued)

	% Protein Whole Seed		
	Lexington		
	1979	1978	1977
Andrew	9.9	10.2	18.4
Bates	9.3	7.7	—
Clintford	10.9	10.2	18.6
Grundy	10.3	10.6	—
Lang	9.7	9.4	—
Otee	10.4	9.6	21.9

Table 17.—Characteristics of Barley and Oat Varieties Tested in 1979

Variety	Protected <sup>1/</sup>	Origin	Release Date	Winter Survival	Relative Maturity <sup>2/</sup>	Barley Yellow Dwarf Resistance
<u>Winter Barley</u>						
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
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
Surry	No	Virginia	1976	Good	10	Good
Volbar	No	Tennessee	1974	Fair	14	Good
<u>Winter Oats</u>						
Coker 66-22	No	Coker Seed Co.	1969	Good	20	Fair
Coker 716	Yes	Coker Seed Co.	1971	Good	19	?
Coker 76-30 Exp	Yes	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	Experimental	Kentucky	—	Excellent	20	Fair
Norline	No	Indiana	1960	Excellent	24	Fair
Pennwin	No	Pennsylvania	1973	Good	25	?
Walken	No	Kentucky	1970	Excellent	30	Fair
Windsor	No	Virginia	1978	Fair	20	?
<u>Spring Oats</u>						
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
Lang	No	Illinois	1976	Poor	45	Good
Otee	No	Illinois	1973	Poor	48	Good

<sup>1/</sup> "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.

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

Table 18.—Characteristics of Wheat Varieties Tested in 1979<sup>1/</sup>

Protected Variety	Origin	Date of Release	Test Yield bu/A	Straw Strength	Relative Height in days	Maturity <sup>2/</sup> Survival	Hessian Fly	Powdery Mildew	Leaf Rust	Septoria	
											Weight lb/bu
Abe	Indiana	1972	47	58.3	V. Good	37	0	91	Excellent	Fair	Fair
Arthur	Indiana	1968	53	58.9	V. Good	38	0	88	Good	Fair	Fair
Arthur 71	Indiana	1971	38	58.1	Good	36	2	72	Excellent	Good	Good
Beau	Indiana	1976	44	59.4	Excellent	36	2	85	Excellent	Good	Fair
Century <sup>3/</sup>	Nebraska	1971	41	56.6	Fair	41	6	72	—	Fair	Fair
Coker 68-15	Coker Pedigreed Seeds	—	38	57.9	V. Good	33	3	69	—	Fair	Fair
Coker 762	Coker Pedigreed Seeds	1979	41	53.3	Good	31	7	76	—	Excellent	Fair
Coker 747	Coker Pedigreed Seeds	1978	45	58.3	Good	34	2	86	—	Fair	Fair
Delta Queen	N. Am. Plant Breeders	1979	36	56.1	V. Good	35	8	76	—	V. Good	Fair
Doublecrop	Arkansas	1975	40	59.1	V. Good	37	-5	88	Good	Poor	Fair
McNair 1003	McNair Seed Co.	1978	50	54.4	V. Good	36	2	80	Fair	Fair	Fair
McNair 1813	McNair Seed Co.	1976	35	56.2	Good	35	2	62	—	Excellent	Fair
McNair 4823	McNair Seed Co.	1974	36	54.5	Excellent	34	8	79	—	Fair	Fair
W-50A	N. Am. Plant Breeders	1974	45	58.9	Good	40	0	91	Good	Good	Fair
Oasis	Indiana	1973	43	58.5	Good	38	2	84	Excellent	Fair	Good
S76	Pioneer Hi Bred International	1976	43	57.0	Excellent	34	6	85	Good	Good	Fair
S78	Pioneer Hi Bred International	1978	46	57.3	Excellent	33	7	85	Excellent	Good	Fair
Roland	Illinois	1978	43	55.6	Excellent	34	5	85	—	Fair	Fair
Rosen	Arkansas	1979	46	56.0	V. Good	37	1	85	—	Fair	Fair
Ruler	Dhio	1975	41	55.3	V. Good	40	9	88	Good	Fair	Fair
Sullivan	Indiana	1977	40	58.7	V. Good	37	-1	85	Excellent	Fair	Good

<sup>1/</sup> State averages were calculated from the multi-year averages of individual tests in this publication.

<sup>2/</sup> Maturity, days different than Arthur, negative numbers are days earlier than Arthur.

<sup>3/</sup> Hard Red Winter Wheat