

Kentucky Small Grain Variety Trials—1973

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Agricultural Experiment Station • Department of Agronomy
Lexington • Progress Report 213



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TESTING LOCATIONS OF THE KENTUCKY SMALL GRAIN VARIETY TRIALS— 1973



<i>Location</i>	<i>Cooperator</i>
1. Murray	Murray State University Agriculture Department
2. Princeton	West Kentucky Substation
3. Bowling Green	Western Kentucky University Agriculture Department
4. Lexington	Kentucky Agricultural Experiment Station

Acknowledgment is made to John Byars, of the Department of Agronomy, and the University of Kentucky Computing Center, for assistance in summarizing the results reported in this progress report and to Harold Vaught, Area Agronomy Specialist, for his assistance in collecting field data at Bowling Green.

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Small grains are an important agronomic crop in Kentucky, both in respect to acreage and in dollar value contributed to Kentucky agricultural income. Two important factors responsible for the increased emphasis on small grain in recent years are the increased utilization of double-cropping and the demand for more feed grain which has been reflected by increased prices.

Total small grain acreage harvested for grain was down sharply from 328,000 acres in 1972 to 252,000 in 1973. This decrease in acreage can be attributed to the extremely wet conditions which prevailed in the fall of 1972. Many acres intended for small grain were never planted.

TEST OBJECTIVES

Purpose 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. Continued testing and evaluation of small grain varieties and selections are essential if farmers, seedsmen and other agricultural workers are to be provided 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 four locations in the state (Lexington, Bowling Green, Princeton, and Murray) as shown on page 3.

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

1973 CROP CONDITIONS

Most small grains were seeded later than normal in the fall because of the wet weather and, as a result, went through the winter with very little or no vegetative growth. The cool wet weather which persisted in the spring of 1973 delayed growth and was conducive to fungus and virus diseases in some areas which caused considerable damage. A late spring freeze in April also inflicted considerable damage on barley, particularly in the western part of the state where the plants were already headed out.

PERFORMANCE DATA

As previously mentioned, performance data were collected at Murray, Bowling Green, Princeton, and Lexington. In some instances uncontrollable factors, such as excessive rainfall, high winds, damage by birds, adversely affected an experiment so that the data were judged unreliable and do not reflect actual varietal performance. When this occurred, results are not given for that location and year. Data are also presented for a period of years, since this gives a more accurate picture of varietal performance than do annual data.

EXPERIMENTAL METHODS

Each experimental plot consisted of four rows 1 foot apart and 13 feet long. Each variety was grown in four plots placed at random over the test area, and the results presented in the table are the average response of the four plots. The plots were planted with a specially built four-row seeder, and the data were taken from a 10-foot section of the two center rows of each plot.

DATA COLLECTED

It is important to consider characteristics other than grain yield when selecting a variety.

Grain yield 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 downgraded 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 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 winterhardness and is an important factor to consider when selecting a variety.

Heading date was reported 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.

RESULTS AND DISCUSSION

The performance of varieties in the 1973 trials and in trials of the previous 3 years is presented by crop and location in tabular form. 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 that has been tested for only one year should not be compared against 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 and should be considered important.

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 heavy wind and rain, may cause a variety to lodge much more than it normally does. It should also be emphasized that a report that a variety was 50% lodged does not imply, however, 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.

The 1973 performance data are presented in Tables 1 to 12.

Table 1.—Results of Barley Performance Trials at Lexington, Ky.

Variety	Acre	Lodging	Plant	Survival	Date
	Yield		Height		
	Bu.	%	In.	%	
<u>Three-year Average 1970, 1971 and 1973</u>					
Barsoy	89.6	25.8	34.8	99.2	4-27
Dayton	61.4	42.5	37.8	74.2	5-9
Harrison	82.5	20.0	39.2	98.8	5-6
Jefferson	71.3	27.5	40.7	99.6	5-11
Knob	69.3	42.5	32.3	90.4	5-1
Lakeland	78.8	10.8	37.9	99.2	5-13
McNair 601	65.4	32.5	35.2	85.9	5-9
Paoli	71.4	43.3	32.6	98.3	5-10
Schuyler	80.4	40.0	36.8	98.4	5-12
<u>Two-year Average 1971 and 1973</u>					
Barsoy	79.4	12.5	34.9	98.8	4-28
Dayton	63.2	32.5	39.8	61.3	5-4
Harrison	87.3	0.0	40.5	98.2	5-7
Jefferson	75.9	12.5	42.7	99.4	5-7
Keowee	74.3	11.3	37.0	76.3	5-8
Knob	73.4	22.5	33.6	85.7	5-2
Lakeland	88.2	0.0	39.2	98.8	5-10
McNair 601	70.8	15.0	35.7	78.8	5-2
Paoli	75.2	37.5	34.0	97.5	5-3
Schuyler	80.5	27.5	37.3	97.5	5-13
<u>1973 Results</u>					
Barsoy	55.5	17.5	30.8	100.0	4-25
Dayton	46.0	40.0	33.8	100.0	4-27
Harrison	56.2	0.0	34.5	97.5	5-1
Jefferson	47.7	0.0	37.3	100.0	5-2
Keowee	51.3	5.0	32.0	100.0	5-2
Knob	46.8	37.5	29.8	95.0	4-26
Lakeland	57.1	0.0	34.8	97.5	5-5
McNair 601	54.1	22.5	32.8	100.0	4-26
Paoli	47.3	30.0	30.0	95.0	4-29
Schuyler	51.2	25.0	33.0	97.5	5-9

Table 2.—Results of Barley Performance Trials at Princeton, Ky.

Variety	Acre Yield Bu.	Test Weight Lb./Bu.	Lodging %	Plant Height In.	Survival %	Date Headed
<u>Three-year Average 1971-73</u>						
Barsoy	47.4	47.4	5.0	30.7	94.2	4-21
Dayton	30.3	41.9	27.5	33.8	87.5	5-5
Harrison	56.7	47.6	6.3	38.1	99.2	5-4
Jefferson	58.9	43.7	7.9	39.1	98.3	5-5
Keowee	42.9	45.6	33.3	34.6	96.7	5-4
Knob	54.0	41.8	29.6	32.3	96.7	4-30
Lakeland	58.2	46.2	7.9	37.4	98.8	5-5
McNair 601	48.0	42.9	22.9	33.5	91.7	4-30
Paoli	56.1	45.1	19.2	31.8	98.3	4-30
Schuyler	48.8	40.1	26.3	35.3	99.6	5-8
<u>Two-year Average 1972-73</u>						
Barsoy	34.6	44.8	0.0	28.1	98.8	4-20
Dayton	16.3	40.2	0.0	30.9	83.1	5-7
Harrison	44.4	44.6	0.0	36.5	100.0	5-3
Jefferson	43.8	40.1	0.0	37.0	100.0	5-3
Keowee	34.6	42.5	0.0	32.1	95.0	5-2
Knob	44.4	39.0	0.0	30.4	95.0	4-27
Lakeland	53.8	45.7	0.0	35.9	100.0	5-2
McNair 601	40.3	41.1	0.0	31.9	90.0	4-27
Paoli	47.4	43.7	0.0	30.3	100.0	4-27
Schuyler	46.7	40.3	0.0	33.4	100.0	5-6
<u>1973 Results</u>						
Barsoy	24.9	43.5	0.0	29.5	100.0	4-20
Dayton	11.0	--	0.0	30.5	100.0	5-16
Harrison	42.3	43.6	0.0	36.0	100.0	5-6
Jefferson	41.7	38.5	0.0	36.3	100.0	5-7
Keowee	31.2	40.7	0.0	33.5	100.0	5-3
Knob	34.8	36.6	0.0	30.8	100.0	4-27
Lakeland	56.4	46.9	0.0	37.0	100.0	5-3
McNair 601	35.1	41.7	0.0	32.0	100.0	4-26
Paoli	41.6	42.5	0.0	31.0	100.0	4-29
Schuyler	34.8	40.2	0.0	33.3	100.0	5-7

Table 3.—Results of Barley Performance Trials at Bowling Green, Ky.

Variety	Acre Yield Bu.	Test Weight Lb./Bu.	Lodging %	Plant Height In.	Survival %	Date Headed
<u>Three-year Average 1971-73</u>						
Barsoy	43.4	46.4	20.8	29.0	100.0	4-19
Dayton	34.4	43.0	15.0	31.3	100.0	4-25
Harrison	44.3	45.4	0.0	32.7	100.0	5-1
Jefferson	48.8	44.5	0.0	34.8	100.0	4-30
Keowee	39.4	45.2	17.5	31.1	100.0	4-30
Knob	41.4	42.3	15.0	29.3	100.0	4-25
Lakeland	36.6	44.0	10.8	32.2	100.0	5-2
McNair 601	43.4	43.6	8.3	30.1	100.0	4-26
Paoli	40.9	44.5	10.8	27.1	100.0	4-26
Schuyler	39.7	43.7	3.3	28.8	100.0	5-5
<u>Two-year Average 1972-73</u>						
Barsoy	47.9	44.7	28.8	29.0	100.0	4-17
Dayton	36.7	39.4	8.8	31.6	100.0	4-23
Harrison	53.0	46.2	0.0	35.0	100.0	4-29
Jefferson	55.6	44.4	0.0	36.4	100.0	4-28
Keowee	39.8	42.7	26.3	32.4	100.0	4-29
Knob	44.7	41.6	13.8	30.4	100.0	4-24
Lakeland	40.6	42.3	16.3	33.3	100.0	4-29
McNair 601	47.2	42.3	12.5	31.1	100.0	4-24
Paoli	44.9	44.6	16.3	28.9	100.0	4-24
Schuyler	41.4	41.6	5.0	30.9	100.0	5-4
<u>1973 Results</u>						
Barsoy	52.4	46.2	57.5	34.3	100.0	4-16
Dayton	34.3	38.2	17.5	37.0	100.0	4-22
Harrison	50.4	47.1	0.0	37.0	100.0	4-28
Jefferson	64.5	44.4	0.0	39.3	100.0	4-27
Keowee	39.0	43.1	47.5	36.0	100.0	4-28
Knob	40.6	42.1	27.5	32.5	100.0	4-22
Lakeland	34.2	41.7	32.5	35.0	100.0	4-29
McNair 601	48.0	43.1	25.0	34.5	100.0	4-23
Paoli	52.3	45.3	32.5	32.8	100.0	4-23
Schuyler	44.4	40.6	10.0	34.5	100.0	5-2

Table 4.—Results of Barley Performance Trials at Murray, Ky.

Variety	Acre		Lodging	Plant		Date
	Yield	Test Weight		Height	Survival	
	Bu	Lb/Bu	%	In.	%	Headed
<u>Three-year Average 1969, 1970 and 1972</u>						
Barsoy	41.7	47.6	0.0	23.5	87.9	4-17
Dayton	46.1	45.8	0.0	28.4	88.3	4-23
Harrison	36.0	47.5	0.0	28.1	95.0	4-30
Jefferson	39.5	44.0	0.0	31.9	93.8	4-28
Knob	43.0	44.5	0.0	26.5	94.2	4-25
Lakeland	40.4	45.8	0.0	28.2	93.8	4-30
Paoli	37.8	45.5	0.0	23.8	95.4	4-27
Schuyler	30.5	44.6	0.0	22.9	92.9	5-5
<u>Two-year Average 1970 and 1972</u>						
Barsoy	44.6	47.4	0.0	23.6	81.9	4-16
Dayton	44.7	45.4	0.0	28.9	82.5	4-22
Harrison	40.9	47.0	0.0	28.0	92.5	4-28
Jefferson	42.2	43.3	0.0	31.3	90.6	4-27
Knob	45.3	44.2	0.0	26.4	91.3	4-24
Lakeland	44.5	45.4	0.0	28.4	90.6	4-29
McNair 601	56.5	43.1	0.0	28.1	92.5	4-20
Paoli	40.4	44.7	0.0	23.5	93.1	4-25
Schuyler	29.0	44.2	0.0	23.8	89.4	5-4

Table 5.—Results of Wheat Performance Trials at Lexington, Ky.

Variety	Acre		Lodging	Plant		Date
	Yield	Test Weight		Height	Survival	
	Bu.	Lb./Bu	%	In.	%	Headed
<u>Three-year Average 1971-73</u>						
Arthur	58.6	59.0	24.6	41.8	98.3	5-11
Arthur 71	58.2	59.3	28.8	40.5	96.7	5-13
Benhur	45.7	58.3	9.6	43.6	94.2	5-13
Blueboy	46.0	53.1	16.3	42.7	79.2	5-17
Knox 62	38.7	59.4	41.7	44.7	83.3	5-14
Lewis	41.5	56.9	27.5	43.8	86.7	5-14
McNair 4823	53.3	57.7	3.8	38.1	88.3	5-17
Monon	45.4	58.1	30.8	43.3	87.5	5-14
Triumph	44.3	59.6	36.3	43.8	94.2	5-13
<u>Two-year Average 1972-73</u>						
Abe	53.0	58.2	6.9	37.6	96.3	5-11
Arthur	56.0	58.1	4.4	39.8	97.5	5-11
Arthur 71	54.5	58.6	8.1	38.4	95.0	5-11
Benhur	40.6	54.9	4.4	41.9	91.3	5-12
Blueboy	38.2	53.2	0.6	42.1	68.8	5-15
Blueboy II	38.4	53.1	8.8	40.5	66.3	5-15
Coker 68-15	24.2	56.9	1.9	32.4	47.5	5-14
Knox 62	35.9	58.4	17.5	43.0	75.0	5-13
Lewis	35.7	54.0	8.8	42.3	80.0	5-13
McNair 701	27.9	54.5	6.3	36.1	49.4	5-13
McNair 4823	44.8	54.9	4.4	37.0	82.5	5-16
Monon	39.6	56.1	5.0	41.1	81.3	5-13
Oasis	48.7	57.5	11.3	39.4	86.3	5-12
Triumph	41.5	58.3	13.1	42.5	91.3	5-11
<u>1973 Results</u>						
Abe	57.2	58.3	1.3	37.0	92.5	5-9
Arthur	49.5	57.9	7.5	37.0	95.0	5-8
Arthur 71	52.0	58.5	3.8	37.0	90.0	5-9
Benhur	33.3	53.1	8.8	38.8	92.5	5-9
Blueboy	45.6	53.8	1.3	40.3	95.0	5-10
Blueboy II	38.9	51.5	17.5	40.0	82.5	5-10
Coker 68-15	37.5	56.1	3.8	32.0	90.0	5-8
Fredrick	36.9	54.5	12.5	44.0	87.5	5-19
Knox 62	27.1	57.6	35.0	40.0	75.0	5-9
Lewis	27.6	50.8	17.5	38.3	77.5	5-9
McNair 701	43.6	54.2	12.5	35.8	90.0	5-8
McNair 1587	45.2	52.8	7.5	34.3	95.0	5-10
McNair 4823	42.7	53.2	8.8	36.3	90.0	5-13
Monon	34.1	54.3	10.0	36.5	80.0	5-9
Oasis	39.4	56.6	11.3	38.5	72.5	5-10
Pennington 6-23	41.1	55.5	12.5	40.0	87.5	5-9
Sturdy	21.9	57.4	17.5	31.0	90.0	5-8
Triumph	28.9	57.4	18.8	38.0	82.5	5-8

Table 6.—Results of Wheat Performance Trials at Princeton, Ky.

Variety	Acre Yield Bu.	Test Weight Lb./Bu.	Lodging %	Plant Height In.	Survival %	Date Headed
<u>Three-year Average 1971-73</u>						
Arthur	46.8	59.8	6.3	37.0	100.0	5-6
Arthur 71	38.1	59.8	3.3	35.5	100.0	5-6
Benhur	32.2	57.9	4.6	40.1	100.0	5-6
Blueboy	38.2	52.1	2.1	38.7	100.0	5-9
Knox 62	33.2	59.4	38.3	40.8	100.0	5-7
Lewis	37.0	57.4	9.6	40.7	100.0	5-7
McNair 4823	41.2	57.0	0.0	35.2	100.0	5-15
Monon	34.2	57.4	28.3	40.1	100.0	5-5
Triumph	33.1	59.5	42.1	41.8	100.0	5-6
<u>Two-year Average 1972-73</u>						
Abe	38.3	59.6	0.0	32.5	100.0	5-3
Arthur	38.3	59.4	1.3	34.5	100.0	5-3
Arthur 71	30.7	59.0	3.8	33.1	100.0	5-4
Benhur	22.1	57.1	6.9	38.5	100.0	5-4
Blueboy	25.4	52.1	3.1	36.5	100.0	5-7
Blueboy II	28.7	53.5	7.5	37.9	100.0	5-6
Coker 68-15	21.8	56.2	0.0	29.5	100.0	5-6
Knox 62	24.0	58.3	36.3	38.8	100.0	5-5
Lewis	28.3	56.8	0.0	39.3	100.0	5-5
McNair 701	28.5	52.9	10.0	32.6	100.0	5-2
McNair 4823	36.2	56.9	0.0	34.3	100.0	5-14
Monon	26.8	55.7	18.8	38.4	100.0	5-3
Oasis	34.6	58.5	1.9	36.3	100.0	5-5
Triumph	26.2	59.8	38.1	39.5	100.0	5-4
<u>1973 Results</u>						
Abe	38.5	58.9	0.0	30.5	100.0	5-4
Arthur	37.2	58.2	2.5	31.3	100.0	5-4
Arthur 71	29.6	58.0	5.0	30.3	100.0	5-6
Benhur	21.8	54.3	3.8	37.3	100.0	5-6
Blueboy	26.2	48.9	6.3	35.5	100.0	5-8
Blueboy II	29.1	49.5	15.0	36.0	100.0	5-9
Coker 68-15	21.8	56.2	0.0	29.5	100.0	5-6
Fredrick	37.2	53.8	0.0	47.0	100.0	5-19
Knox 62	27.1	56.0	3.8	37.8	100.0	5-7
Lewis	29.5	54.7	0.0	37.5	100.0	5-8
McNair 701	28.4	50.8	20.0	32.3	100.0	5-5
McNair 1587	18.6	--	0.0	28.3	100.0	5-4
McNair 4823	34.8	53.4	0.0	33.0	100.0	5-16
Monon	26.3	51.9	13.8	36.5	100.0	5-4
Oasis	37.1	57.4	0.0	35.5	100.0	5-9
Pennington 6-23	23.5	53.7	0.0	36.5	100.0	5-7
Sturdy	18.2	53.8	0.0	28.3	100.0	5-5
Triumph	29.6	58.7	10.0	39.3	100.0	5-7

Table 7.—Results of Wheat Performance Trials at Bowling Green, Ky.

Variety	Acre Yield Bu.	Test Weight Lb./Bu.	Lodging %	Plant Height In.	Survival %	Date Headed
<u>Three-year Average 1971-73</u>						
Arthur	38.8	58.8	0.0	36.7	100.0	5-1
Arthur 71	41.8	59.4	0.0	35.2	100.0	5-2
Benhur	34.2	58.2	1.7	39.3	100.0	5-1
Blueboy	30.3	56.8	0.0	37.8	100.0	5-6
Knox 62	34.7	59.2	7.9	41.3	100.0	5-1
Lewis	35.2	57.5	1.7	39.9	100.0	5-3
McNair 4823	33.6	58.9	0.0	34.8	100.0	5-10
Monon	33.6	56.7	1.7	40.0	100.0	5-1
Triumph	30.9	58.5	3.3	40.4	100.0	5-1
<u>Two-year Average 1972-73</u>						
Abe	48.9	59.0	1.3	36.0	100.0	4-28
Arthur	43.1	58.5	0.0	38.5	100.0	4-28
Arthur 71	45.8	59.6	0.0	37.4	100.0	4-28
Benhur	38.2	58.1	2.5	41.8	100.0	4-27
Blueboy	30.6	53.4	0.0	39.5	100.0	5-4
Blueboy II	41.7	55.5	1.3	41.0	100.0	5-3
Coker 68-15	32.8	59.8	1.3	35.0	100.0	4-27
Knox 62	33.9	58.2	11.9	41.6	100.0	4-28
Lewis	38.4	57.4	2.5	42.6	100.0	4-30
McNair 701	37.5	55.5	10.0	33.8	100.0	4-26
McNair 4823	34.4	57.9	0.0	36.5	100.0	5-9
Monon	35.0	56.8	2.5	41.5	100.0	4-28
Oasis	43.4	59.5	0.0	37.3	100.0	4-30
Triumph	31.2	57.9	5.0	42.3	100.0	4-28
<u>1973 Results</u>						
Abe	46.3	56.4	0.0	36.5	100.0	4-28
Arthur	37.0	56.5	0.0	40.0	100.0	4-29
Arthur 71	45.4	57.0	0.0	37.5	100.0	4-28
Benhur	37.3	56.0	0.0	43.3	100.0	4-27
Blueboy	31.8	50.7	0.0	43.0	100.0	5-2
Blueboy II	43.6	53.0	0.0	42.8	100.0	5-2
Coker 68-15	33.3	58.0	0.0	36.8	100.0	4-26
Fredrick	37.4	55.2	0.0	48.0	100.0	5-12
Knox 62	32.2	56.1	0.0	43.0	100.0	4-28
Lewis	36.4	54.9	0.0	43.5	100.0	4-29
McNair 701	37.3	53.9	0.0	35.8	100.0	4-26
McNair 1587	29.7	52.4	0.0	36.5	100.0	4-26
McNair 4823	34.7	54.5	0.0	39.3	100.0	5-9
Monon	31.3	53.2	0.0	41.5	100.0	4-28
Oasis	43.5	57.5	0.0	38.5	100.0	5-1
Pennington 6-23	36.6	54.5	0.0	41.8	100.0	4-26
Sturdy	25.6	50.6	0.0	35.0	100.0	5-2
Triumph	20.8	55.0	0.0	42.0	100.0	4-28

Table 8.—Results of Wheat Performance Trials at Murray, Ky.

Variety	Acre	Test	Lodging	Plant	Survival	Date
	Yield	Weight		Height		Headed
	Bu.	Lb./Bu.	%	In.	%	
<u>Two Year Average 1970 and 1973</u>						
Arthur	46.4	58.0	0.0	31.7	100.0	4-30
Benhur	45.4	56.2	0.0	36.7	100.0	5-3
Blueboy	44.3	55.9	0.0	35.7	100.0	5-5
Knox 62	39.5	58.5	0.0	39.3	100.0	4-29
Lewis	44.4	56.5	0.7	37.7	100.0	4-30
McNair 4823	35.2	57.3	0.0	31.1	100.0	5-11
Monon	41.4	56.9	1.3	37.3	100.0	4-29
Triumph	34.0	58.3	1.3	35.9	100.0	4-29
<u>1973 Results</u>						
Abe	38.0	56.2	0.0	29.0	100.0	4-28
Arthur	27.9	56.3	0.0	29.3	100.0	4-29
Arthur 71	27.9	56.0	0.0	28.8	100.0	4-29
Benhur	23.4	55.3	0.0	35.3	100.0	4-30
Blueboy	25.7	54.5	0.0	35.5	100.0	5-3
Blueboy II	23.3	54.5	0.0	36.0	100.0	5-3
Coker 68-15	17.7	55.3	0.0	28.8	100.0	4-29
Fredrick	22.1	53.3	0.0	41.8	100.0	5-14
Knox 62	24.9	57.2	0.0	38.5	100.0	4-28
Lewis	26.8	55.0	0.0	37.5	100.0	4-29
McNair 701	34.0	52.2	0.0	32.5	100.0	4-29
McNair 1587	30.2	51.2	0.0	31.5	100.0	4-29
McNair 4823	19.1	55.9	0.0	29.8	100.0	5-12
Monon	23.8	55.5	0.0	36.8	100.0	4-28
Oasis	23.1	54.8	0.0	29.3	100.0	4-30
Pennington 6-23	26.3	55.4	0.0	35.8	100.0	4-27
Sturdy	14.6	--	0.0	29.0	100.0	5-1
Triumph	18.7	57.3	0.0	35.8	100.0	4-28

Table 9.—Results of Winter Oat Performance Trials at Lexington, Ky.

Variety	Acre	Test	Lodging	Plant	Survival	Date
	Yield	Weight		Height		Headed
	Bu.	Lb./Bu.	%	In.	%	
<u>Two-year Average 1970-71</u>						
Coker 66-22	90.0	34.9	57.5	43.1	80.0	5-20
Compact	92.3	34.7	56.3	35.9	90.6	5-30
Dubois	75.3	37.8	57.5	42.8	82.5	5-25
Ky. 63-1935	93.8	34.5	43.8	42.8	98.1	6-3
Norline	81.1	34.4	68.8	46.0	87.5	5-26
Walken	88.0	34.0	42.5	40.4	77.5	6-3

Table 10.—Results of Winter Oat Performance Trials at Princeton, Ky.

Variety	Acre	Test	Lodging	Plant	Survival	Date
	Yield	Weight		Height		Headed
	Bu.	Lb./Bu.	%	In.	%	
<u>Two-year Average 1971 and 1973</u>						
Coker 66-22	77.5	29.6	64.8	42.4	76.3	5-13
Compact	73.6	29.7	68.2	37.1	93.8	5-21
Dubois	59.4	31.0	53.2	43.7	77.5	5-17
Ky. 63-1935	67.9	28.6	3.8	45.0	91.9	5-26
Norline	54.6	28.4	87.5	44.7	88.8	5-19
Walken	80.9	31.0	10.7	45.7	96.9	5-26
<u>1973 Results</u>						
Chilocco	38.8	25.4	92.5	41.0	100.0	5-10
Coker 66-22	50.3	25.5	93.8	44.0	100.0	5-10
Compact	61.0	27.5	77.5	38.8	100.0	5-10
Dubois	42.4	28.2	98.8	44.8	100.0	5-17
Ky 63-1935	56.1	26.3	5.0	47.0	100.0	5-28
Nora	57.5	28.5	68.8	37.8	76.3	5-10
Norline	51.9	27.4	92.5	44.8	100.0	5-19
Ora	44.7	27.6	7.5	38.5	31.3	5-10
Pennlan	65.5	31.5	62.5	41.8	100.0	5-10
Walken	75.8	31.5	5.0	48.3	100.0	5-26

Table 11.—Results of Winter Oat Performance Trials at Bowling Green, Ky.

Variety	Acre	Test	Lodging	Plant	Survival	Date
	Yield	Weight		Height		
	Bu.	Lb./Bu.	%	In.	%	
<u>Two-year Average 1971-72</u>						
Coker 66-22	65.4	37.8	0.0	34.3	95.0	5-9
Compact	57.7	39.9	0.0	27.0	96.3	5-18
Dubois	47.8	37.9	0.0	34.6	93.1	5-14
Ky 63-1935	47.0	34.9	0.0	30.8	98.8	5-24
Norline	63.6	36.8	0.0	36.8	96.9	5-16
Walken	49.3	37.8	0.0	31.8	85.6	5-23

Table 12.—Results of Winter Oat Performance Trials at Murray, Ky.

Variety	Acre	Test	Lodging	Plant	Survival	Date
	Yield	Weight		Height		
	Bu.	Lb./Bu.	%	In.	%	
<u>1973 Results</u>						
Chilocco	76.5	35.5	0.0	41.5	100.0	5-3
Coker 66-22	85.8	34.4	0.0	41.3	100.0	5-3
Compact	72.0	36.8	0.0	33.5	100.0	5-12
Dubois	84.1	36.1	0.0	42.0	100.0	5-9
Ky. 63-1935	50.3	30.9	0.0	38.5	100.0	5-23
Nora	49.2	35.2	0.0	35.5	77.5	5-6
Norline	74.1	35.4	0.0	42.0	100.0	5-10
Ora	32.8	33.8	0.0	35.8	83.8	5-4
Pennlan	75.3	35.3	0.0	33.3	100.0	5-4
Walken	71.4	33.8	0.0	41.5	100.0	5-19

RECOMMENDATIONS FOR 1974

Recommended varieties are those which are superior in one or more characteristics important for the crop and have been tested by the Kentucky Agricultural Experiment Station for 3 or more years. Varieties that have been recommended for Kentucky, recently certified in another state or approved by an appropriate National Varietal Review Board, may be certified for production. The certified list will include, in addition to the recommended varieties, (1) varieties that may have potential for Kentucky and (2) older varieties that are still acceptable for production in Kentucky but are not as good as the recommended varieties.

A summary of the characteristics of the recommended and certified small grain varieties is presented in Table 13. All varieties listed are eligible for certification in Kentucky, and those varieties designated by an asterisk (*) are recommended by the Kentucky Agricultural Experiment Station.

WINTER BARLEY VARIETIES

Recommended 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. Barley performs poorly on soils not well-drained. It is an excellent feed grain for livestock when fed with other grain crops. Varietal performance data are presented in Tables 1-4.

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 5-8.

Table 13.—Characteristics of Recommended and Certified Small Grain Varieties.

WHEAT										
Variety	U.S. ¹ Protected Variety	Origin	Date of Release	Straw Strength	Relative Height	Maturity	Winter Hardness	Hessian Fly	Powdery Mildew	Leaf Rust
Abe*	Yes	Indiana	1972	Excellent	Short	Early	Excellent	Excellent	Excellent	Excellent
Arthur*	No	Indiana	1968	Good	Short	Early	Excellent	Fair	Excellent	Good
Arthur 71*	Yes	Indiana	1971	Good	Short	Early	Excellent	Excellent	Excellent	Excellent
Bonbur	No	Indiana	1966	Excellent	Short	Early	Excellent	Fair	Fair	Fair
Blueboy	No	N.Carolina	1967	Excellent	Short	Medium	Very Good	Poor	Poor	Poor
Blueboy II	Yes	N.Carolina	1971	Excellent	Short	Medium	Very Good	Poor	Poor	Excellent
Knox 62	No	Indiana	1962	Good	Medium	Early	Excellent	Good	Fair	Good
McNair 4823*	Yes	McNair Seed	1972	Excellent	Short	Late	Very Good	Poor	Poor	Poor

OATS										
Variety	U.S. ¹ Protected Variety	Origin	Date of Release	Straw Strength	Relative Height	Maturity	Winter Hardness	Maturity	Winter Hardness	Winter Hardness
Coker 66-22*	No	Coker's Pedit- gree Seed Co.	1969	Excellent	Medium	Early	Medium	Early	Good	Good
Compact*	No	Kentucky	1968	Excellent	Very Short	Med.to Late	Very Short	Med.to Late	Very Good	Very Good
Eubois*	No	Indiana	1952	Good	Medium	Medium	Medium	Medium	Good	Good
Korline*	No	Indiana	1960	Good	Med.to Tall	Med.to Late	Med.to Late	Med.to Late	Very Good	Very Good
Walken*	No	Kentucky	1970	Excellent	Short	Short	Short	Late	Very Good	Very Good

BARLEY										
Variety	U.S. ¹ Protected Variety	Origin	Date of Release	Straw Strength	Relative Height	Maturity	Winter Hardness	Maturity	Winter Hardness	Winter Hardness
Barsoy*	No	Kentucky	1966	Excellent	Very Short	Very Early	Very Short	Very Early	Good	Susceptible
Harrison*	No	Indiana	1963	Excellent	Short	Med.to Late	Short	Med.to Late	Excellent	Susceptible
Jefferson	No	Indiana	1967	Excellent	Short	Med.to Late	Short	Med.to Late	Excellent	Susceptible
Knob*	No	Kentucky	1969	Good	Very Short	Early	Very Short	Early	Good	Susceptible

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.

* Recommended varieties for Kentucky.

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. 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. The performance of the winter oat varieties is presented in Tables 9-12.

SPRING OATS FOR KENTUCKY

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 substantially lower than those of the recommended winter oat varieties. For this reason and since no spring oat varieties are certified in Kentucky, specific varietal recommendations are not made by the Kentucky Agricultural Experiment Station.

Several spring oat varieties have been released by neighboring states to the north. Many of these spring oat varieties have been tested in Kentucky. However, in 1972 and 1973 severe weather conditions resulted in no data being collected. For the most recent yield data, refer to Progress Report 205, "Kentucky Small Grain Variety Trials-1972."

The most common spring oat varieties grown in Kentucky are Brave and Jaycee. An important point to remember is that winter oat varieties are *not acceptable* for spring planting. Also, spring wheat is *not* adapted to Kentucky for spring planting.

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.