

Kentucky Small Grain Variety Trials—1975

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

UNIVERSITY OF KENTUCKY • COLLEGE OF AGRICULTURE
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CONTENTS

	<i>Page</i>
Introduction	3
Experimental Methods	4
Data Collected	5
Results and Discussion	6
1975 Test Conditions	6
1974 Test Conditions	7
1973 Test Conditions	8
Recommendations for 1976	8
Winter Barley Varieties	9
Soft Red Winter Wheat Varieties	9
Winter Oat Varieties	9
Spring Oats for Kentucky	10
Certified Seed	10
List of Tables	
1. Small Grain Harvested Acreage and Yields in Kentucky— 1973-75	3
2. Planting Dates and Location of Kentucky Small Grain Evaluation Trials—1973, 1974 and 1975	5
3. Barley Performance Trials at Lexington, Ky., 1973-75	11
4. Barley Performance Trials at Princeton, Ky., 1972-75	12
5. Barley Performance Trials at Bowling Green, Ky., 1971-74	13
6. Barley Performance Trials at Murray, Ky., 1972-75	13
7. Wheat Performance Trials at Lexington, Ky., 1973-75	14
8. Wheat Performance Trials at Princeton, Ky., 1972-75	15
9. Wheat Performance Trials at Bowling Green, Ky., 1972-74	16
10. Wheat Performance Trials at Murray, Ky., 1973-75	17
11. Uniform Eastern Soft Red Winter Wheat Nursery at Lexington, Ky., 1975	18
12. Uniform Eastern Soft Red Winter Wheat Nursery at Princeton, Ky., 1975	19
13. Winter Oat Performance Trials at Lexington, Ky., 1971-75	20
14. Winter Oat Performance Trials at Princeton, Ky., 1971-75	21
15. Winter Oat Performance Trials at Bowling Green, 1971-75	22
16. Winter Oat Performance Trials at Murray, Ky., 1973 and 1975	23
17. Spring Oat Performance Trials at Lexington, Ky., 1975	23
18. Characteristics of Recommended and Certified Small Grain Varieties	24

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In 1975, Kentucky farmers harvested fewer acres of small grain than in 1974. Wheat acreage was down 15%, barley acreage decreased 21% and oat acreage remained unchanged (Table 1).

Table 1.—Small Grain Harvested Acreage and Yields in Kentucky, 1973-75.¹

	1975		1974		1973	
	1,000 A Yield		1,000 A Yield		1,000 A Yield	
	Harvest	Bu/A	Harvest	Bu/A	Harvest	Bu/A
Wheat	352	34	390	32	164	33
Oats	10	41	10	37	12	42
Barley	34	37	48	38	55	35
Rye	4	25	3	21	2	23
	<u>400</u>		<u>478</u>		<u>233</u>	

^{1/} From Kentucky Crop and livestock Reporting Service, Louisville, Ky.

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 four locations (Fig. 1) in the state (Lexington, Bowling Green, Princeton, 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.



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

<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

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 two harvested center rows of the four plots. Planting dates of all trials for the past 3 years are listed in Table 2.

Performance data were collected at Murray, Bowling Green, Princeton and Lexington. In some instances, uncontrollable factors—such as excessive rainfall, high winds, hail—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 give a more accurate picture of varietal performance than do annual data.

Table 2.—Planting Dates and Location of Kentucky Small Grain Evaluation Trials, 1973-75.

Location	Harvest year		
	1975	1974	1973
Lexington	10 Oct 74	12 Oct 73	12 Oct 72
Princeton	23 Oct 74	24 Oct 73	10 Oct 72
Murray	15 Oct 74	23 Oct 73	5 Oct 72
Bowling Green	28 Oct 74	22 Oct 73	16 Oct 72

DATA COLLECTED

It is important to consider characteristics in addition to 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 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.

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.

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 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.

Data from the Uniform Eastern Soft Red Winter Wheat Nursery (UESRWWN) (Table 11, 12) have been included to indicate what other states in the soft Red Winter Wheat growing region are considering for release for commercial production. This nursery is grown in 16 states to provide an indication of an area of adaptation and, also, includes two varieties from private companies.

Kentucky Seed Improvement Association is increasing the seed of two varieties, Doublecrop and Purdue 6559B5-6-6-6-1, included in this nursery. These two varieties could possibly be released to the farmers of Kentucky for the 1977 fall planting season if they prove to be better than what is presently grown.

Because of the way the nursery was planted and designed, comparison between the wheat yield trial and UESRWWN cannot be made directly. Doublecrop and Purdue 6559B5-6-6-6-1 should be compared with Abe, Arthur 71 and Oasis in the UESRWWN and not directly with varieties in the wheat yield trial.

1974 TEST CONDITIONS

Fall weather conditions in 1973 were nearly ideal for seeding the 1974 small grain crop. The winter season was relatively mild, resulting in very little winter-killing. The mild fall and winter were very favorable for the spread of several small grain diseases. The

severity of these diseases resulted in a slight yield loss in some areas and almost complete crop failure in other areas.

Small grain variety trial yields in 1974 were very low at the Princeton, Murray, and Bowling Green test locations. The variety trials at Princeton and Murray were badly infested with Barley Yellow Dwarf Virus, and the test at Bowling Green was also infested to a lesser extent. This disease infected all three crops: wheat, oats, and barley. Another disease, Scald, was very severe on barley at Princeton and Murray. The wheat varieties at Princeton and Murray were infected with *Septoria* Leaf Blotch, *Septoria* Glume Blotch, and a new disease in Kentucky identified as Wheat Spindle Streak Mosaic Virus. Good yields were obtained at the Lexington location where little disease damage was noted.

1973 TEST CONDITIONS

Most small grains were seeded later than normal in the fall of 1972 because of the wet weather and, as a result, they went through the winter with little vegetative growth. The cool wet weather which persisted in the spring of 1973 delayed growth and was conducive to fungus and virus diseases which, at some locations, caused considerable damage. A freeze in April also inflicted considerable damage on barley, particularly in the western part of the state where the plants were already headed. Barley Yellow Dwarf Virus was quite severe on barley at the Princeton location. Wheat Spindle Streak Mosaic Virus caused considerable yield reduction in wheat at Princeton.

RECOMMENDATIONS FOR 1976

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 eligible for certification 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 18. 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. Varietal performance data are presented in Tables 3-6.

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 7-12.

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. Performance of the winter oat varieties is presented in Tables 13-17.

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 lower than those of the recommended winter oats varieties when yields of winter oats are not severely reduced from winterkilling or disease. Two spring oat varieties (Otee and Jaycee) are recommended for Kentucky by the Kentucky Agricultural Experiment Station because of their higher level of resistance to Barley Yellow Dwarf Virus.

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., 1973-75.

Variety	Yield Bu/A	Test	Lodging	Plant	Survival	Date
		Weight Lbs/Bu	%	Height In.	%	Headed
Three-year Average 1973-75						
Barsoy	50.1	—	30.0	33.3	—	—
Dayton	44.8	—	25.0	37.2	—	—
Harrison	49.7	—	4.2	36.7	—	—
Keowee	54.9	—	30.0	36.0	—	—
Knob	42.6	—	25.0	33.1	—	—
Lakeland	53.5	—	24.2	36.7	—	—
McNair 601	49.8	—	31.7	35.2	—	—
Paoli	48.5	—	35.0	32.9	—	—
Two-year Average 1974-75						
Barsoy	47.4	44.2	36.3	35.0	—	—
Dayton	44.2	40.9	17.5	39.5	—	—
Harrison	46.4	45.7	6.3	38.2	—	—
Keowee	56.7	45.6	42.5	38.7	—	—
Knob	40.6	42.5	33.8	35.3	—	—
Lakeland	51.7	44.2	36.3	38.0	—	—
McNair 601	47.6	42.0	36.3	36.8	—	—
Paoli	49.2	43.9	37.5	34.8	—	—
1975 Results						
Barsoy	49.6	44.4	72.5	35.5	100.0	4-28
Dayton	45.0	41.0	35.0	39.5	100.0	5-3
Harrison	50.7	45.9	12.5	39.3	100.0	5-7
Kanby	49.1	44.4	95.0	40.0	100.0	5-8
Keowee	60.5	45.8	85.0	38.3	100.0	5-6
Knob	47.8	42.5	67.5	36.8	100.0	5-5
Lakeland	53.2	44.6	72.5	39.8	100.0	5-9
McNair 601	54.0	41.8	72.5	38.3	100.0	5-5
Paoli	49.8	43.9	75.0	36.0	100.0	5-5
Volbar	68.7	45.7	82.5	41.8	100.0	5-6

Table 4.—Barley Performance Trials at Princeton, Ky., 1972-75.

Variety	Yield Bu/A	Test		Plant		Date Headed
		Weight Lbs/Bu	Lodging %	Height In.	Survival %	
	1973-75	Three-year Average 1972, 1973 and 1975*				
Barsoy	27.5	43.9	33.3	30.1	99.2	4-22
Dayton	22.7	38.9 ^{1/}	31.3	33.3	88.7	—
Harrison	37.6	44.3	32.1	36.9	100.0	5-4
Keowee	35.2	42.5	33.3	33.7	96.7	5-3
Knob	27.6	38.4	30.4	30.9	96.7	4-29
Lakeland	43.2	44.4	31.7	35.9	100.0	5-4
McNair 601	28.8	39.8	28.8	32.3	93.3	4-29
Paoli	39.6	42.7	33.0	31.7	100.0	4-29
	1974-75	Two-year Average 1973 and 1975*				
Barsoy	28.8	42.9	50.0	31.8	100.0	4-24
Dayton	28.5	—	46.9	34.3	100.0	—
Harrison	35.3	43.7	48.2	36.9	100.0	5-7
Keowee	37.2	41.6	50.0	35.2	100.0	5-5
Knob	24.0	37.0	45.7	31.4	100.0	4-30
Lakeland	36.6	44.3	47.5	36.5	100.0	5-6
McNair 601	25.7	39.4	43.2	32.5	100.0	4-29
Paoli	38.6	41.6	49.4	32.8	100.0	5-1
		1975 Results				
Barsoy	50.0	42.2	100.0	34.0	100.0	4-27
Dayton	43.9	36.3	93.8	38.0	100.0	5-2
Harrison	45.8	43.7	96.3	37.8	100.0	5-7
Kanby	42.2	39.6	100.0	38.8	100.0	5-6
Keowee	48.7	42.4	100.0	36.8	100.0	5-6
Knob	38.0	37.3	91.3	32.0	100.0	5-3
Lakeland	47.3	41.7	95.0	36.0	100.0	5-8
McNair 601	40.1	37.1	86.3	33.0	100.0	5-2
Paoli	48.9	40.6	98.8	34.5	100.0	5-3
Volbar	76.3	43.0	93.8	40.8	100.0	5-4

^{1/} 1972 and 1975 Average

* All 1974 data except yield are omitted from 2 and 3-year averages because severe disease problems made it impossible to obtain reliable data.

Table 5.—Barley Performance Trials at Bowling Green, Ky., 1971-74.

Variety	1974	Three-year Average 1971-73*					Date Headed
	Yield Bu/A	Test		Plant		Survival %	
		Yield Bu/A	Weight Lbs/Bu.	Lodging %	Height In.		
Barsoy	16.7	43.4	46.4	20.8	29.0	100.0	4-19
Dayton	21.2	34.4	43.0	15.0	31.3	100.0	4-25
Harrison	36.5	44.3	45.4	0.0	32.7	100.0	5-1
Keowee	16.9	39.4	45.2	17.5	31.1	100.0	4-30
Knob	21.2	41.4	42.3	15.0	29.3	100.0	4-25
Lakeland	16.5	36.6	44.0	10.8	32.2	100.0	5-2
McNair 601	20.1	43.4	43.6	8.3	30.1	100.0	4-26
Paoli	30.5	40.9	44.5	10.8	27.1	100.0	4-26
Schuyler	16.3	39.7	43.7	3.3	28.8	100.0	5-5

* 1974 data omitted for 3-year average because of severe disease.

^{1/}The 1975 test was destroyed by hail.

Table 6.—Barley Performance Trials at Murray, Ky., 1972-75.

Variety	Yield Bu/A	Test		Plant		Date Headed
		Weight Lbs/Bu	Lodging %	Height In.	Survival %	
	1973-75	Three-year Average 1972, 1973 and 1975*				
Barsoy	27.6	43.4	2.5	24.8	97.5	4-17
Dayton	26.7	39.8	0.8	26.4	92.3	4-24
Harrison	22.2	45.4	0.0	25.8	97.9	5-1
Keowee	23.8	45.5	0.6	25.7	97.9	5-1
Knob	29.2	41.5	0.0	24.0	99.2	4-26
Lakeland	31.7	43.3	0.0	27.3	99.2	4-30
McNair 601	27.0	42.8	0.0	25.6	97.9	4-26
Paoli	25.3	41.5	5.0	23.7	99.2	4-27
	1974-75	Two-year Average 1973 and 1975*				
Barsoy	33.6	42.8 ^{1/}	7.5	27.8	100.0	4-18
Dayton	32.7	37.6	2.5	28.4	100.0	4-25
Harrison	25.2	43.3 ^{1/}	0.0	26.9	100.0	5-2
Keowee	31.6	44.1 ^{1/}	1.9	26.7	100.0	5-2
Knob	34.0	41.5	0.0	26.3	100.0	4-27
Lakeland	32.5	43.1	0.0	28.4	100.0	5-2
McNair 601	25.7	43.4	0.0	27.2	100.0	4-29
Paoli	31.4	42.0 ^{1/}	15.0	25.8	100.0	4-29
	1975 Results					
Barsoy	48.0	42.8	15.0	31.3	100.0	4-20
Dayton	44.6	37.5	5.0	30.3	100.0	4-27
Harrison	36.2	43.3	0.0	29.5	100.0	5-3
Kanby	46.6	43.0	7.5	32.0	100.0	5-3
Keowee	49.9	44.1	3.8	31.3	100.0	5-2
Knob	41.2	40.4	0.0	28.0	100.0	4-29
Lakeland	38.5	43.4	0.0	31.0	100.0	5-4
McNair 601	38.4	41.0	0.0	28.5	100.0	4-30
Paoli	41.8	42.0	5.0	30.3	100.0	4-29
Volbar	79.6	43.6	0.0	38.5	100.0	4-30

^{1/} 1975 Test weights

* All 1974 data except yield are omitted from 2- and 3-year averages because severe disease problems made it impossible to obtain reliable data.

Table 7.—Wheat Performance Trials at Lexington, Ky., 1973-75.

Variety	Test		Lodging %	Plant	Survival %	Date Headed
	Yield Bu/A	Weight Lbs/Bu.		Height In.		
Three-year Average 1973-75						
Abe	52.3	58.6	4.0	37.0	-	-
Arthur	50.3	58.7	3.0	39.6	-	-
Arthur 71	48.8	57.9	16.5	39.1	-	-
Blueboy II	38.3	51.2	7.6	39.3	-	-
Coker 68-15	38.4	53.9	2.4	33.4	-	-
Fredrick	43.2	55.4	9.1	45.4	-	-
Knox 62	31.6	55.4	54.4	42.9	-	-
Lewis	37.7	55.2	11.5	42.0	-	-
McNair 1587	44.3	52.6	3.0	35.8	-	-
McNair 4823	47.6	55.2	3.5	37.6	-	-
McNair 701	40.0	52.9	15.9	36.9	-	-
Oasis	43.3	57.8	10.0	38.9	-	-
Two-year Average 1974-75						
Abe	50.3	58.7	5.1	37.1	-	-
Arthur	50.8	59.3	0.0	41.0	-	-
Arthur 71	46.7	57.5	25.0	40.2	-	-
Blueboy II	37.9	51.0	1.0	38.8	-	-
Coker 68-15	38.9	52.8	1.7	34.1	-	-
Fredrick	47.3	56.0	6.8	46.1	-	-
Knox 62	34.5	54.6	67.3	45.8	-	-
Lewis	45.8	56.9	7.5	43.8	-	-
McNair 1587	43.6	52.3	0.0	36.6	-	-
McNair 4823	50.9	56.8	0.0	38.9	-	-
McNair 701	37.6	51.9	18.2	37.5	-	-
Oasis	45.8	58.5	9.2	39.2	-	-
1975 Results						
Abe	51.2	58.9	6.3	42.6	100.0	5-16
Arthur	51.7	60.0	0.0	44.4	100.0	5-14
Arthur 71	50.6	57.9	37.5	45.3	100.0	5-14
Blueboy II	39.6	50.1	0.0	43.6	100.0	5-17
Coker 68-15	38.4	51.6	0.0	35.7	100.0	5-14
Coker 73-18	35.2	54.2	0.0	32.5	100.0	5-12
Coker 74-27	45.5	54.3	48.8	38.8	100.0	5-15
Coker 74-23	44.5	55.2	0.0	33.1	100.0	5-12
Fredrick	44.4	55.5	9.0	49.1	100.0	5-22
Funk W-504	34.9	53.6	22.5	43.4	100.0	5-13
Knox 62	30.0	53.9	89.8	48.6	100.0	5-16
Lewis	45.4	57.3	8.8	47.6	100.0	5-15
McNair 1583	45.9	52.4	0.0	40.7	100.0	5-17
McNair 3002	42.1	48.7	0.0	37.7	100.0	5-18
McNair 3001	37.1	52.1	0.0	40.7	100.0	5-16
McNair 4823	50.0	56.0	0.0	40.5	100.0	5-20
McNair 701	41.0	51.7	24.5	41.5	100.0	5-16
Oasis	49.5	59.0	13.8	42.8	100.0	5-15

Table 8.—Wheat Performance Trials at Princeton, Ky., 1972-75.

Variety	Yield Bu/A	Test	Lodging	Plant	Survival	Date
		Weight Lbs/Bu.	%	Height In.	%	Headed
	1973-75	Three-year Average 1972, 1973 and 1975*				
Abe	34.7	58.5	6.3	34.3	100.0	5-5
Arthur	31.1	58.1	16.3	36.5	100.0	5-5
Arthur 71	26.4	58.1	16.7	34.8	100.0	5-6
Blueboy II	25.3	51.9	6.3	39.4	100.0	5-7
Coker 68-15	28.9	56.3	19.2	31.3	100.0	5-6
Fredrick	30.7	-	-	-	100.0	-
Knox 62	20.1	56.4	51.3	40.2	100.0	5-7
Lewis	22.6	55.7	28.3	40.9	100.0	5-6
McNair 1587	14.6	-	-	-	100.0	-
McNair 4823	28.3	55.4	6.3	34.7	100.0	5-12
McNair 701	25.5	48.8	30.0	34.7	100.0	5-4
Oasis	31.4	57.8	9.6	37.8	100.0	5-7
	1974-75	Two-year Average 1973 and 1975*				
Abe	32.7	57.7	9.4	34.8	100.0	5-7
Arthur	28.0	56.9	24.4	35.9	100.0	5-9
Arthur 71	24.7	57.2	23.8	34.3	100.0	5-8
Blueboy II	23.4	49.2	9.4	39.2	100.0	5-10
Coker 68-15	24.6	54.6	28.8	32.3	100.0	5-8
Fredrick	27.5	54.0	0.0	46.0	100.0	5-19
Knox 62	16.6	54.3	42.6	40.4	100.0	5-8
Lewis	19.1	54.1	42.5	40.8	100.0	5-8
McNair 1587	13.1	-	26.3	31.9	100.0	-
McNair 4823	25.1	52.9	9.4	34.3	100.0	5-17
McNair 701	24.0	45.8	45.0	35.6	100.0	5-6
Oasis	28.6	57.0	12.5	38.2	100.0	5-10
		1975 Results				
Abe	38.8	56.4	18.8	39.0	100.0	5-9
Arthur	37.8	55.6	46.3	40.5	100.0	5-9
Arthur 71	32.8	56.3	42.5	38.3	100.0	5-9
Blueboy II	38.5	48.8	3.8	42.3	100.0	5-10
Coker 68-15	38.3	56.6	57.5	35.0	100.0	5-7
Coker 73-18	27.6	55.9	68.8	31.5	100.0	5-1
Coker 74-27	32.4	52.0	88.8	34.5	100.0	5-9
Coker 74-23	37.7	57.0	61.3	31.0	100.0	5-5
Fredrick	32.5	54.2	0.0	45.0	100.0	5-18
Funk W-504	19.5	53.4	92.5	42.8	100.0	5-7
Knox 62	23.4	52.6	81.3	43.0	100.0	5-10
Lewis	30.3	53.5	85.0	44.0	100.0	5-8
McNair 1587	18.8	46.2	52.5	35.5	100.0	5-8
McNair 302	21.8	43.3	1.3	38.5	100.0	5-14
McNair 3001	29.3	45.4	37.5	37.3	100.0	5-10
McNair 4823	25.3	52.4	18.8	35.5	100.0	5-17
McNair 701	40.0	40.7	70.0	38.8	100.0	5-7
Oasis	36.1	56.5	25.0	40.8	100.0	5-10

* All 1974 data except yield are omitted from 2 and 3-year averages because severe disease problem made it impossible to obtain reliable data.

Table 9.—Wheat Performance Trials at Bowling Green, Ky., 1972-74.

Variety	Yield Bu/A	Test		Plant		Date Headed
		Weight Lbs/Bu.	Lodging %	Height In.	Survival %	
Three-year Average 1972-74						
Abe	45.2	57.2	9.2	35.5	100.0	4-28
Arthur	41.1	57.6	10.8	37.7	100.0	4-28
Arthur 71	41.0	58.5	14.2	37.5	100.0	4-28
Blueboy II	38.0	51.9	9.2	40.1	100.0	5-2
Coker 68-15	32.5	57.9	17.1	35.3	100.0	4-26
Knox 62	30.8	57.3	30.9	41.3	100.0	4-29
Lewis	35.6	56.2	16.7	41.7	100.0	4-30
McNair 4823	35.3	56.8	1.3	31.2	100.0	5-8
McNair 701	33.5	51.8	39.2	33.9	100.0	4-25
Oasis	40.9	58.2	3.8	36.2	100.0	4-30
Two-year Average 1973-74						
Abe	42.4	55.0	12.5	35.4	100.0	4-27
Arthur	37.1	56.1	16.3	38.0	100.0	4-29
Arthur 71	38.5	56.6	21.3	37.6	100.0	4-29
Blueboy II	37.2	48.8	12.5	40.5	100.0	5-2
Coker 68-15	32.6	56.1	24.4	36.3	100.0	4-26
Fredrick	33.4	53.7	3.1	43.8	100.0	4-24
Knox 62	28.4	55.8	34.4	41.9	100.0	4-29
Lewis	33.2	54.3	22.5	41.6	100.0	4-29
McNair 1587	25.4	50.6	13.1	35.8	100.0	4-27
McNair 4823	35.9	54.5	1.9	37.4	100.0	5-8
McNair 701	31.3	49.2	48.8	34.9	100.0	4-25
Oasis	39.7	56.6	5.6	36.3	100.0	4-30

* 1975 Trial destroyed by hail

Table 10.—Wheat Performance Trials at Murray, Ky., 1973-75.

Variety	Yield Bu/A	Test		Plant		Date Headed
		Weight Lbs/Bu.	Lodging %	Height In.	Survival %	
Two-year Average 1973, 1975*						
Abe	41.3	57.6	0.0	32.7	100.0	5-2
Arthur	35.1	57.4	0.0	33.4	100.0	5-3
Arthur 71	36.9	57.5	0.0	32.9	100.0	5-2
Blueboy II	37.7	55.0	0.0	38.3	100.0	5-6
Coker 68-15	24.2	56.5	0.0	30.8	100.0	5-3
Fredrick	29.5	56.2	0.0	44.9	100.0	5-15
Knox 62	34.7	58.0	0.0	41.0	100.0	5-2
Lewis	36.7	56.1	0.0	39.2	100.0	5-2
McNair 1587	32.3	52.8	0.0	33.3	100.0	5-2
McNair 4823	28.5	55.7	0.0	31.9	100.0	5-13
McNair 701	38.5	53.0	0.0	34.2	100.0	5-2
Oasis	35.8	56.8	0.0	33.4	100.0	5-3
1975 Results						
Abe	44.5	59.0	0.0	36.3	100.0	5-5
Arthur	42.2	58.4	0.0	37.5	100.0	5-6
Arthur 71	45.9	58.9	0.0	37.0	100.0	5-5
Blueboy II	52.1	55.5	0.0	40.5	100.0	5-9
Coker 68-15	30.7	57.7	0.0	32.8	100.0	5-6
Coker 73-18	37.4	56.6	0.0	29.8	100.0	5-4
Coker 74-27	51.2	57.5	0.0	33.0	100.0	5-5
Coker 74-23	37.5	58.0	0.0	28.8	100.0	5-4
Fredrick	36.9	59.0	0.0	48.0	100.0	5-15
Funk W-504	38.5	56.9	0.0	40.0	100.0	5-5
Knox 62	44.5	58.9	0.0	43.5	100.0	5-5
Lewis	46.5	57.1	0.0	40.8	100.0	5-5
McNair 1587	34.3	54.4	0.0	35.0	100.0	5-5
McNair 3002	33.8	53.0	0.0	35.3	100.0	5-9
McNair 3001	45.4	52.8	0.0	34.3	100.0	5-7
McNair 4823	37.9	55.5	0.0	34.0	100.0	5-13
McNair 701	42.9	53.8	0.0	35.8	100.0	5-5
Oasis	48.6	58.8	0.0	37.5	100.0	5-6

* All 1974 data except yield are omitted from 2 and 3-year averages because severe disease problems made it impossible to obtain reliable data.

Table 11.—Uniform Eastern Soft Red Winter Wheat Nursery Trials at Lexington, Ky., 1975.

Variety or Pedigree	Class*	Yield Bu/A	Test Weight	Height At Ripe	Survival	Date Headed
Trumbull	1	24.3	53.5	50.6	100.0	19.8
Knox 62	1	36.3	53.9	44.7	100.0	15.3
Arthur 71	2	46.1	57.1	44.2	100.0	14.8
Abe	2	49.8	58.6	43.1	100.0	14.8
Oasis	2	43.2	56.6	43.1	100.0	16.0
Doublecrop	4	41.0	56.5	40.3	100.0	9.0
Funk W-504	3	25.5	48.6	44.7	100.0	14.8
Ruler	3	40.9	56.7	42.8	100.0	19.0
Ohio TN 1584	5	36.9	56.9	40.7	100.0	20.8
Ohio TN 1640	5	39.7	53.2	43.0	100.0	19.8
WIS 265	5	21.5	42.5	41.9	100.0	17.3
ARK 38-1	5	49.1	50.8	38.5	100.0	14.5
ARK 39-3	5	48.1	58.5	43.3	100.0	13.0
McNair 4823	2	45.3	56.7	39.2	100.0	20.0
PURD 6559B5-6-6-6-1	4	55.7	59.4	41.1	100.0	15.8
WIS H671-100-1	5	38.0	50.1	38.1	100.0	21.8
ILL 69-1751	5	44.6	57.1	43.3	100.0	14.5
ILL 70-2227	5	47.2	57.5	39.4	100.0	12.0
ILL 70-4126	5	42.3	52.6	41.9	100.0	16.0
ILL 71-5241	5	47.0	53.4	40.3	100.0	13.8
MO W8072	5	37.0	54.6	42.9	100.0	19.5
MO W8656	5	49.1	54.0	43.0	100.0	13.8
MO W8780	5	47.2	50.5	40.4	100.0	14.3
WIS X932-1	5	32.3	52.5	44.0	100.0	22.0
MEAN		41.2	54.3	42.3	100.0	16.3

* Classification

1. An old variety used as a check
2. Released variety on the recommended list
3. Released variety, not recommended
4. Released variety not yet available to the farmer
5. Experimental lines from other states

Table 12.—Uniform Eastern Soft Red Winter Wheat Nursery Trials at Princeton, Ky., 1975.

Variety or Pedigree	Class *	Yield	Test Weight	Lodging At Ripe	Height At Ripe	Survival	Date Headed
		Bu/A	Lbs/Bu	%	In.	%	
Trumbull	1	15.9	50.5	21.3	47.8	100.0	47.3
Knox 62	1	25.9	53.3	40.0	41.5	100.0	40.5
Arthur 71	2	39.1	57.7	25.0	37.8	100.0	40.8
Abe	2	41.7	57.7	11.3	36.0	100.0	40.8
Oasis	2	43.4	57.0	20.0	40.3	100.0	40.5
Doublecrop	4	42.0	59.8	28.8	35.3	100.0	33.8
Funk W-504	3	26.9	54.5	56.3	39.5	100.0	40.3
Ruler	3	31.4	54.0	8.8	40.3	100.0	46.3
Ohio TN 1584	5	23.7	53.5	25.0	40.0	100.0	49.0
Ohio TN 1640	5	24.3	46.2	41.3	39.3	100.0	49.0
WIS 265	5	13.8	43.1	88.8	34.0	100.0	45.3
Ark. 38-1	5	47.6	51.8	10.0	35.8	100.0	40.5
Ark. 39-3	5	35.6	55.4	22.5	37.8	100.0	40.0
McNair 4823	2	36.9	53.4	0.0	34.3	100.0	48.0
Purd 6559B5-6-6-6-1	4	38.3	56.7	5.0	36.0	100.0	42.3
WIS H671-100-1	5	12.6	40.8	7.5	37.0	100.0	50.3
Ill 69-1751	5	34.7	56.2	33.8	38.0	100.0	41.3
Ill 70-2227	5	33.9	53.4	0.0	34.8	100.0	39.5
Ill 70-4126	5	28.1	48.8	13.8	37.3	100.0	42.8
Ill 71-5241	5	36.7	50.9	13.8	36.5	100.0	39.0
MO W8072	5	37.5	53.9	23.8	40.0	100.0	47.0
MO W8656	5	48.2	53.0	6.3	38.8	100.0	38.0
MO W8780	5	35.3	49.2	40.0	35.0	100.0	42.5
WIS X932-1	5	16.8	45.0	52.5	41.3	100.0	51.8
MEAN		32.1	52.3	24.8	38.1	100.0	43.2

* Classification

1. An old variety used as a check
2. Released variety on the recommended list
3. Released variety, not recommended
4. Released variety not yet available to the farmer
5. Experimental lines from other states

Table 13.—Winter Oat Performance Trials at Lexington, Ky., 1971-75.

Variety	Test		Plant		Date	
	Yield Bu/A	Weight Lbs/Bu.	Lodging %	Height In.	Survival %	Headed
Three-year Average 1971, 1974, 1975						
Coker 66-22	88.7	36.0	38.3	40.5	-	-
Compact	80.6	35.0	38.3	31.6	-	-
Dubois	75.6	36.3	40.8	41.5	-	-
Norline	70.2	34.1	47.9	41.7	-	-
Walken	81.9	34.1	33.3	37.9	-	-
Two-year Average 1974-75						
Chilocco	57.1	33.8	50.6	39.8	-	-
Coker 66-22	71.8	35.2	50.0	38.3	-	-
Coker 70-16	92.6	33.8	50.0	36.3	-	-
Compact	63.3	33.7	50.0	39.3	-	-
Dubois	58.7	35.1	50.0	39.3	-	-
Norline	56.3	33.1	50.6	37.5	-	-
Pennlan	90.3	35.0	50.6	37.5	-	-
Walken	71.3	33.4	50.0	37.7	-	-
1975 Results						
Chilocco	57.9	33.1	100.0	39.0	100.0	5-17
Coker 66-22	64.0	34.0	100.0	38.5	100.0	5-17
Coker 70-16	76.8	31.9	100.0	36.5	100.0	5-16
Compact	61.0	31.7	100.0	31.5	100.0	5-24
Dubois	63.4	34.1	100.0	38.5	100.0	5-22
Norline	53.0	31.0	100.0	36.8	100.0	5-24
Pennlan	75.4	34.1	100.0	38.0	100.0	5-16
Walken	70.8	31.2	100.0	38.2	100.0	5-26

Table 14.—Winter Oat Performance Trials at Princeton, Ky., 1971-75.

Variety	Yield Bu/A	Test		Plant		Date Headed
		Weight Lbs/Bu.	Lodging %	Height In.	Survival %	
	1973-75	Three-year Average		1971, 1973, 1975*		
Chilocco	34.7	-	-	-	-	%
Coker 66-22	45.9	28.8	76.5	42.9	84.2	5-13
Compact	46.5	28.5	78.8	37.1	95.9	5-21
Dubois	32.2	30.4	68.8	43.0	85.0	5-18
Norline	34.2	27.3	91.7	44.6	92.5	5-19
Pennlan	49.0	-	-	-	-	-
Walken	43.2	30.1	40.5	44.3	97.9	5-25
	1974-75	Two-year Average		1973 and 1975		
Chilocco	32.7	26.0	96.3	42.5	100.0	5-12
Coker 66-22	43.7	26.3	96.9	44.0	100.0	5-11
Coker 70-16	46.2	-	-	-	-	-
Compact	39.3	26.8	88.8	37.9	100.0	5-16
Dubois	27.1	28.7	99.4	43.2	100.0	5-18
Norline	25.4	26.8	96.3	44.6	100.0	5-20
Pennlan	40.7	30.5	81.3	42.3	100.0	5-11
Walken	27.0	29.9	74.2	44.9	100.0	5-25
	1975 Results					
Chilocco	40.7	26.5	100.0	44.0	100.0	5-14
Coker 66-22	57.4	27.1	100.0	44.0	100.0	5-11
Coker 70-16	60.2	28.1	100.0	41.5	100.0	5-11
Compact	39.7	26.0	100.0	37.0	100.0	5-21
Dubois	41.0	29.2	100.0	41.5	100.0	5-19
Norline	34.7	26.1	100.0	44.3	100.0	5-20
Pennlan	55.6	29.5	100.0	42.8	100.0	5-12
Walken	39.6	28.2	100.0	41.5	100.0	5-23

* All 1974 data except yield are omitted from 2 and 3-year averages because severe disease problems made it impossible to obtain reliable data.

Table 15.—Winter Oat Performance Trials at Bowling Green, Ky., 1971-75.

Variety	Yield Bu/A	Test			Survival %	Date ^{1/} Headed
		Weight Lbs/Bu.	Lodging %	Height In.		
	1973-75	Three-year Average 1971, 1972, 1975 ^{2/}				
Chilocco	29.8	-	-	-	-	-
Coker 66-22	31.9	32.9	33.3	33.7	96.7	-
Compact	36.9	34.9	33.3	28.4	97.5	-
Dubois	31.8	34.6	33.3	35.6	95.4	-
Norline	36.7	33.3	33.3	36.3	97.9	-
Pennlan	41.9	-	-	-	-	-
Walken	42.9	34.3	26.6	33.7	90.4	-
	1974-75	Two-year Average 1972 and 1975 ^{2/}				
Chilocco	38.1	-	-	-	-	-
Coker 66-22	42.6	29.9	33.3	35.2	95.0	-
Coker 70-16	39.1	30.5	33.3	35.2	93.8	-
Compact	43.7	31.6	33.3	30.8	96.3	-
Dubois	34.5	33.2	33.3	38.2	93.2	-
Norline	37.1	31.2	33.3	38.4	96.9	-
Pennlan	36.4	-	-	-	-	-
Walken	41.8	31.9	26.6	36.0	85.7	-
		1975 Results				
Chilocco	39.6	26.7	100.0	34.8	100.0	5-6
Coker 66-22	44.7	23.1	100.0	32.5	100.0	5-3
Coker 70-16	40.3	24.7	100.0	31.0	100.0	5-6
Compact	39.0	25.0	100.0	31.3	100.0	5-19
Dubois	46.8	28.1	100.0	37.5	100.0	5-14
Norline	39.5	26.2	100.0	35.3	100.0	5-18
Pennlan	33.5	25.0	100.0	30.5	100.0	5-6
Walken	44.7	27.4	100.0	37.5	100.0	5-19

^{1/} Heading dates are for 1974

^{2/} All 1974 data except yield are omitted from 2- and 3-year averages because severe disease problems made it impossible to obtain reliable data.

Table 16.—Winter Oat Performance Trials at Murray, Ky., 1973 and 1975.

Variety	Test		Lodging %	Plant	Survival %	Date Headed
	Yield Bu/A	Weight Lbs/Bu.		Height In.		
Two-year Average 1973 and 1975*						
Chilocco	71.0	34.5	49.4	40.8	100.0	5-7
Coker 66-22	92.5	32.9	46.9	40.8	100.0	5-7
Compact	75.5	33.9	15.7	33.9	100.0	5-15
Dubois	80.7	34.2	15.0	41.0	100.0	5-15
Norline	74.8	34.0	34.4	40.5	100.0	5-14
Pennlan	88.0	34.4	34.4	36.2	100.0	5-7
Walken	69.3	31.8	15.0	39.9	100.0	5-21
1975 Results						
Chilocco	74.3	33.5	98.8	40.0	100.0	5-11
Coker 66-22	100.0	31.4	93.8	40.3	100.0	5-10
Coker 70-16	78.8	33.6	67.5	37.5	100.0	5-10
Compact	79.0	31.0	31.3	34.3	100.0	5-17
Dubois	77.2	32.3	30.0	40.0	100.0	5-15
Norline	75.4	32.5	68.8	39.0	100.0	5-17
Pennlan	100.6	33.5	68.8	39.0	100.0	5-10
Walken	67.1	29.8	30.0	38.3	100.0	5-23

* Barley Yellow Dwarf disease in 1974 made data unreliable.

Table 17.—Spring Oat Performance Trials at Lexington, Ky., 1975.

Variety	Test		Lodging %	Plant	Date Headed
	Yield Bu/A	Weight Lbs/Bu.		Height In.	
1975 Results					
Andrew	74.5	30.8	22.5	38.8	6-6
Clintford	61.6	31.9	0.0	31.3	6-5
Jaycee*	58.0	25.6	2.5	33.3	6-5
Otee*	56.2	27.0	0.0	33.0	6-6

* Recommended varieties because of tolerance to Barley Yellow Dwarf disease.

Table 18.—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	Septoria Leaf Blotch		
Abe*	Yes	Indiana	1972	Excellent	Short	Early	Excellent	Excellent	Excellent	Excellent	Poor		
Arthur*	No	Indiana	1968	Good	Short	Early	Excellent	Fair	Excellent	Good	Poor		
Arthur 71*	Yes	Indiana	1971	Good	Short	Early	Excellent	Excellent	Excellent	Excellent	Poor		
McNair 4823	Yes	McNair Seed	1972	Excellent	Short	Late	Very Good	Poor	Poor	Poor	Poor		
Onsis*	Yes	Indiana	1973	Good	Short	Early	Excellent	Excellent	Excellent	Excellent	Good		
WINTER OATS													
Variety	U.S. ¹ Protected Variety	Origin	Date of Release	Straw Strength	Relative Height	Maturity	Winter Hardness						
Coker 66-22*	No	Coker's Pedigree Seed Co.	1969	Excellent	Medium	Early	Good						
Compact*	No	Kentucky	1968	Excellent	Very short	Med. to Late	Very Good						
Dubois*	No	Indiana	1952	Good	Medium	Medium	Good						
Norline*	No	Indiana	1960	Good	Med. to Tall	Med. to Late	Very Good						
Walken*	No	Kentucky	1970	Excellent	Short	Late	Very Good						
BARLEY													
Variety	U.S. ¹ Protected Variety	Origin	Date of Release	Straw Strength	Relative Height	Maturity	Winter Hardness	Loose Smut					
Barsoy*	No	Kentucky	1966	Excellent	Very Short	Very Early	Good	Susceptible					
Harrison	No	Indiana	1963	Excellent	Short	Med. to Late	Excellent	Susceptible					
Knob	No	Kentucky	1969	Good	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.

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