

Kentucky Small Grain Variety Trials—1974

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TESTING LOCATIONS OF THE KENTUCKY SMALL GRAIN VARIETY TRIALS— 1974

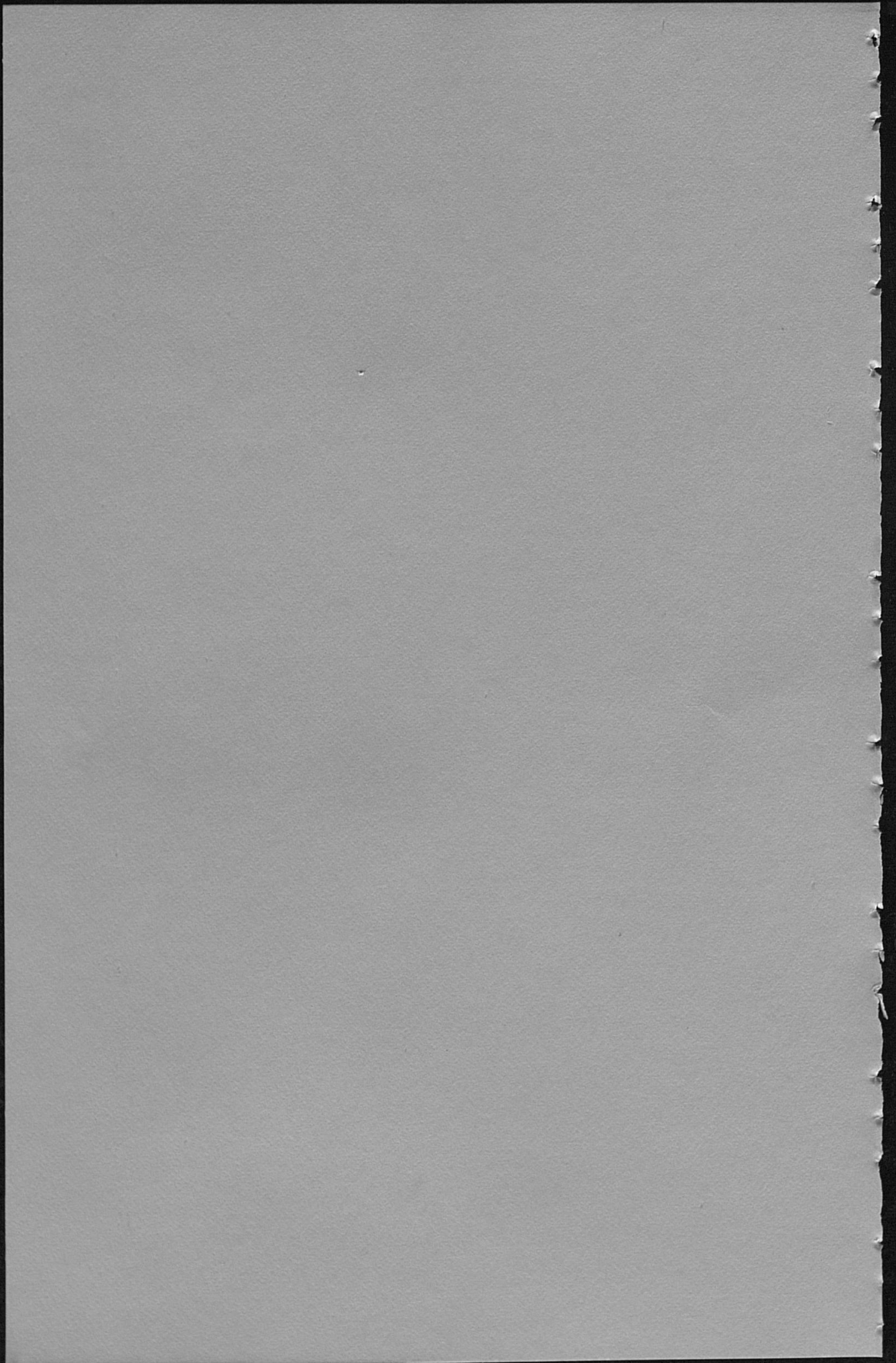


Location

Cooperator

- | | |
|------------------|---|
| 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 |

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Small grains are becoming increasingly important to Kentucky agriculture, both in respect to acreage and in dollar value contributed to Kentucky agricultural income.

In 1974, Kentucky farmers harvested 390,000 acres of wheat, 48,000 acres of barley and 10,000 acres of oats for a total of 448,000 acres of small grain. This was a sharp increase over the 252,000 acres harvested in 1973.

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.

1974 CROP CONDITIONS

The fall weather conditions were nearly ideal for seeding the 1974 small grain crop. The winter season was relatively mild,

resulting in very little winter-killing. However, 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.

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, and 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 winterhardiness 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

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 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 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 har-

vested. 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.

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

Because of the very complex disease situation, the 1974 variety trial results should be examined and interpreted very carefully. Only the yields are reported in this publication since the other data collected were judged to be unreliable. The other varietal characteristics reported in the tables are for previous years and where possible are the average of the three previous years.

The yields reported for 1974 do not reflect the true potentials of the varieties but give only an indication of the severity of the disease problem in 1974 and of the varietal performance under those adverse conditions.

The performance of varieties in the 1974 trials and for previous years is presented by crop and location in tabular form in Tables 1 to 12.

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

| Variety | Three-Year Average 1971, 1972 and 1973 | | | | | |
|------------|--|-------|--------------|-----------------|---------------|----------------|
| | 1974 | Yield | Lodg- ing | Plant Height | Sur- vival | Date Headed |
| | Yield | | | | | |
| Bu/A | Bu/A | % | In. | % | | |
| Barsoy | 45.2 | 89.6 | 25.8 | 34.8 | 99.2 | 4-27 |
| Dayton | 43.4 | 61.4 | 42.5 | 37.8 | 74.2 | 5-9 |
| Harrison | 42.2 | 82.5 | 20.0 | 39.2 | 98.8 | 5-6 |
| Jefferson | 34.3 | 71.3 | 27.5 | 40.7 | 99.6 | 5-11 |
| Knob | 33.3 | 69.3 | 42.5 | 32.3 | 90.4 | 5-1 |
| Lakeland | 50.1 | 78.8 | 10.8 | 37.9 | 99.2 | 5-13 |
| McNair 601 | 41.3 | 65.4 | 32.5 | 35.2 | 85.9 | 5-9 |
| Paoli | 48.6 | 71.4 | 43.3 | 32.6 | 98.3 | 5-10 |
| Schuyler | 56.4 | 80.4 | 40.0 | 36.8 | 98.4 | 5-12 |

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

| Variety | Three-year Average 1971, 1972 and 1973 | | | | | | |
|------------|--|-------|----------------|--------------|-----------------|---------------|----------------|
| | 1974 | Yield | Test Weight | Lodg- ing | Plant Height | Sur- vival | Date Headed |
| | Yield | | | | | | |
| Bu/A | Bu/A | Lb/Bu | % | In. | % | | |
| Barsoy | 7.7 | 47.4 | 47.4 | 5.0 | 30.7 | 94.2 | 4-21 |
| Dayton | 13.0 | 30.3 | 41.9 | 27.5 | 33.8 | 87.5 | 5-5 |
| Harrison | 24.8 | 56.7 | 47.6 | 6.3 | 38.1 | 99.2 | 5-4 |
| Jefferson | 27.6 | 58.9 | 43.7 | 7.9 | 39.1 | 98.3 | 5-5 |
| Keowee | 25.8 | 42.9 | 45.6 | 33.3 | 34.6 | 96.7 | 5-4 |
| Knob | 10.0 | 54.0 | 41.8 | 29.6 | 32.3 | 96.7 | 4-30 |
| Lakeland | 25.8 | 58.2 | 46.2 | 7.9 | 37.4 | 98.8 | 5-5 |
| McNair 601 | 11.3 | 48.0 | 42.9 | 22.9 | 33.5 | 91.7 | 4-30 |
| Paoli | 28.4 | 56.1 | 45.1 | 19.2 | 31.8 | 98.3 | 4-30 |
| Schuyler | 6.4 | 48.8 | 40.1 | 26.3 | 35.3 | 99.6 | 5-8 |

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

| Variety | Three-year Average 1971, 1972 and 1973 | | | | | | |
|------------|--|-------|----------------|--------------|-----------------|---------------|----------------|
| | 1974 | Yield | Test Weight | Lodg- ing | Plant Height | Sur- vival | Date Headed |
| | Yield | | | | | | |
| Bu/A | Bu/A | Lb/Bu | % | 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 |
| Jefferson | 34.9 | 48.8 | 44.5 | 0.0 | 34.8 | 100.0 | 4-30 |
| 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 |

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

| Variety | Three-year Average 1969, 1970 and 1972 | | | | | | | |
|-----------|--|-------|--------|------|--------|-------|--------|------|
| | 1974 | Yield | | Test | Lodg- | Plant | Sur- | Date |
| | Yield | Yield | Weight | ing | Height | vival | Headed | |
| | Bu/A | Bu/A | Lb/Bu | % | In. | % | | |
| Barsoy | 19.1 | 41.7 | 47.6 | 0.0 | 23.5 | 87.9 | 4-17 | |
| Dayton | 16.8 | 46.1 | 45.8 | 0.0 | 28.4 | 88.3 | 4-23 | |
| Harrison | 14.3 | 36.0 | 47.5 | 0.0 | 28.1 | 95.0 | 4-30 | |
| Jefferson | 14.3 | 39.5 | 44.0 | 0.0 | 31.9 | 93.8 | 4-28 | |
| Knob | 19.8 | 43.0 | 44.5 | 0.0 | 26.5 | 94.2 | 4-25 | |
| Lakeland | 26.5 | 40.4 | 45.8 | 0.0 | 28.2 | 93.8 | 4-30 | |
| Paoli | 10.6 | 37.8 | 45.5 | 0.0 | 23.8 | 95.4 | 4-27 | |
| Schuyler | 8.5 | 30.5 | 44.6 | 0.0 | 22.9 | 92.9 | 5-5 | |

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

| Variety | Two-year Average 1972-1973 | | | | | | | |
|-------------|----------------------------|-------|--------|------|--------|-------|--------|------|
| | 1974 | Yield | | Test | Lodg- | Plant | Sur- | Date |
| | Yield | Yield | Weight | ing | Height | vival | Headed | |
| | Bu/A | Bu/A | Lb/Bu | % | In. | % | | |
| Abe | 46.8 | 53.0 | 58.2 | 6.9 | 37.6 | 96.3 | 5-11 | |
| Arthur | 49.1 | 56.0 | 58.1 | 4.4 | 39.8 | 97.5 | 5-11 | |
| Arthur 71 | 38.7 | 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 | 34.5 | 38.4 | 53.1 | 8.8 | 40.5 | 66.3 | 5-15 | |
| Coker 68-15 | 39.9 | 24.2 | 56.9 | 1.9 | 32.4 | 47.5 | 5-14 | |
| Fredrick | 53.2 | -- | -- | -- | -- | -- | -- | |
| Knox 62 | 43.5 | 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 | 30.8 | 27.9 | 54.5 | 6.3 | 36.1 | 49.4 | 5-13 | |
| McNair 4823 | 52.5 | 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 | 45.6 | 48.7 | 57.5 | 11.3 | 39.4 | 86.3 | 5-12 | |

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

| Variety | Two-year Average 1972-1973 | | | | | | | |
|-------------|----------------------------|-------|--------|------|--------|-------|--------|------|
| | 1974 | Yield | | Test | Lodg- | Plant | Sur- | Date |
| | Yield | Yield | Weight | ing | Height | vival | Headed | |
| | Bu/A | Bu/A | Lb/Bu | % | In. | % | | |
| Abe | 26.6 | 38.3 | 59.6 | 0.0 | 32.5 | 100.0 | 5-3 | |
| Arthur | 18.2 | 38.3 | 59.4 | 1.3 | 34.5 | 100.0 | 5-3 | |
| Arthur 71 | 16.6 | 30.7 | 59.0 | 3.8 | 33.1 | 100.0 | 5-4 | |
| Benhur | 19.1 | 22.1 | 57.1 | 6.9 | 38.5 | 100.0 | 5-4 | |
| Blueboy | 6.0 | 25.4 | 52.1 | 3.1 | 36.5 | 100.0 | 5-7 | |
| Blueboy II | 8.3 | 28.7 | 53.5 | 7.5 | 37.9 | 100.0 | 5-6 | |
| Coker 68-15 | 10.8 | 21.8 | 56.2 | 0.0 | 29.5 | 100.0 | 5-6 | |
| Fredrick | 22.4 | -- | -- | -- | -- | -- | -- | |
| Knox 62 | 9.9 | 24.0 | 58.3 | 36.3 | 38.8 | 100.0 | 5-5 | |
| Lewis | 8.0 | 28.3 | 56.8 | 0.0 | 39.3 | 100.0 | 5-5 | |
| McNair 701 | 8.1 | 28.5 | 52.9 | 10.0 | 32.6 | 100.0 | 5-2 | |
| McNair 4823 | 24.8 | 36.2 | 56.9 | 0.0 | 34.3 | 100.0 | 5-14 | |
| Monon | 7.2 | 26.8 | 55.7 | 18.8 | 38.4 | 100.0 | 5-3 | |
| Oasis | 21.0 | 34.6 | 58.5 | 1.9 | 36.3 | 100.0 | 5-5 | |

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

| Variety | Two-year Average 1972-1973 | | | | | | | |
|-------------|----------------------------|-------|--------|------|--------|-------|--------|------|
| | 1974 | Yield | | Test | Lodg- | Plant | Sur- | Date |
| | Yield | Yield | Weight | ing | Height | vival | Headed | |
| | Bu/A | Bu/A | Lb/Bu | % | In. | % | | |
| Abe | 38.5 | 48.6 | 59.0 | 1.3 | 36.0 | 100.0 | 4-28 | |
| Arthur | 37.2 | 43.1 | 58.5 | 0.0 | 38.5 | 100.0 | 4-28 | |
| Arthur 71 | 31.5 | 45.8 | 59.6 | 0.0 | 37.4 | 100.0 | 4-28 | |
| Benhur | 28.7 | 38.2 | 58.1 | 2.5 | 41.8 | 100.0 | 4-27 | |
| Blueboy | 26.8 | 30.6 | 53.4 | 0.0 | 39.5 | 100.0 | 5-4 | |
| Blueboy II | 30.7 | 41.7 | 55.5 | 1.3 | 41.0 | 100.0 | 5-3 | |
| Coker 68-15 | 31.9 | 32.8 | 59.8 | 1.3 | 35.0 | 100.0 | 4-27 | |
| Fredrick | 29.3 | -- | -- | -- | -- | -- | -- | |
| Knox 62 | 24.6 | 33.9 | 58.2 | 11.9 | 41.6 | 100.0 | 4-28 | |
| Lewis | 30.0 | 38.4 | 57.4 | 2.5 | 42.6 | 100.0 | 4-30 | |
| McNair 701 | 25.4 | 37.5 | 55.5 | 10.0 | 33.8 | 100.0 | 4-26 | |
| McNair 4823 | 37.1 | 34.4 | 57.9 | 0.0 | 36.5 | 100.0 | 5-9 | |
| Monon | 23.7 | 35.0 | 56.8 | 2.5 | 41.5 | 100.0 | 4-28 | |
| Oasis | 39.5 | 43.4 | 59.5 | 0.0 | 37.3 | 100.0 | 4-30 | |

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

| Variety | 1973 Results | | | | | | | |
|-------------|--------------|-------|--------|------|--------|-------|--------|------|
| | 1974 | Yield | | Test | Lodg- | Plant | Sur- | Date |
| | Yield | Yield | Weight | ing | Height | vival | Headed | |
| | Bu/A | Bu/A | Lb/Bu | % | In. | % | | |
| Abe | 27.9 | 38.0 | 56.2 | 0.0 | 29.0 | 100.0 | 4-28 | |
| Arthur | 20.4 | 27.9 | 56.3 | 0.0 | 29.3 | 100.0 | 4-29 | |
| Arthur 71 | 22.0 | 27.9 | 56.0 | 0.0 | 28.8 | 100.0 | 4-29 | |
| Benhur | 17.3 | 23.4 | 55.3 | 0.0 | 25.3 | 100.0 | 4-30 | |
| Blueboy | 6.3 | 25.7 | 54.5 | 0.0 | 35.5 | 100.0 | 5-3 | |
| Blueboy II | 14.4 | 23.3 | 54.5 | 0.0 | 36.0 | 100.0 | 5-3 | |
| Coker 68-15 | 8.1 | 17.7 | 55.3 | 0.0 | 28.8 | 100.0 | 4-29 | |
| Fredrick | 35.0 | 22.1 | 53.3 | 0.0 | 41.8 | 100.0 | 5-14 | |
| Knox 62 | 13.0 | 24.9 | 57.2 | 0.0 | 38.5 | 100.0 | 4-28 | |
| Lewis | 20.8 | 26.8 | 55.0 | 0.0 | 37.5 | 100.0 | 4-29 | |
| McNair 701 | 8.3 | 34.0 | 52.2 | 0.0 | 32.5 | 100.0 | 4-29 | |
| McNair 1587 | 7.6 | 30.2 | 51.2 | 0.0 | 31.5 | 100.0 | 4-29 | |
| McNair 4823 | 23.5 | 19.1 | 55.9 | 0.0 | 29.8 | 100.0 | 5-12 | |
| Monon | 14.7 | 23.8 | 55.5 | 0.0 | 36.8 | 100.0 | 4-28 | |
| Oasis | 22.6 | 23.1 | 54.8 | 0.0 | 29.3 | 100.0 | 4-30 | |

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

| Variety | Two-year Average 1970-1971 | | | | | | | |
|-------------|----------------------------|-------|--------|------|--------|-------|--------|------|
| | 1974 | Yield | | Test | Lodg- | Plant | Sur- | Date |
| | Yield | Yield | Weight | ing | Height | vival | Headed | |
| | Bu/A | Bu/A | Lb/Bu | % | In. | % | | |
| Chilocco | 56.7 | -- | -- | -- | -- | -- | -- | |
| Coker 66-22 | 75.2 | 90.0 | 34.9 | 57.5 | 43.1 | 80.0 | 5-20 | |
| Coker 70-16 | 100.5 | -- | -- | -- | -- | -- | -- | |
| Compact | 64.4 | 92.3 | 34.7 | 56.3 | 35.9 | 90.6 | 5-30 | |
| Dubois | 56.4 | 75.3 | 37.8 | 57.5 | 42.8 | 82.5 | 5-25 | |
| Norline | 58.0 | 81.1 | 34.4 | 68.8 | 46.0 | 87.5 | 5-26 | |
| Pennlan | 97.8 | -- | -- | -- | -- | -- | -- | |
| Walken | 71.6 | 88.0 | 34.0 | 42.5 | 40.4 | 77.5 | 6-3 | |

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

| Variety | Two-year Average 1971 and 1973 | | | | | | Date Headed |
|-------------|--------------------------------|-------|--------|-------|--------|-------|-------------|
| | 1974 | Test | | Lodg- | Plant | Sur- | |
| | Yield | Yield | Weight | ing | Height | vival | |
| | Bu/B | Bu/A | Lb/Bu | % | In. | % | |
| Chilocco | 24.8 | -- | -- | -- | -- | -- | -- |
| Coker 66-22 | 30.0 | 77.5 | 29.6 | 64.8 | 42.4 | 76.3 | 5-13 |
| Coker 70-16 | 32.2 | -- | -- | -- | -- | -- | -- |
| Compact | 38.9 | 73.6 | 29.7 | 68.2 | 37.1 | 93.8 | 5-21 |
| Dubois | 10.0 | 59.4 | 31.0 | 53.2 | 43.7 | 77.5 | 5-17 |
| Norline | 16.1 | 54.6 | 28.4 | 87.5 | 44.7 | 88.8 | 5-19 |
| Pennlan | 25.8 | -- | -- | -- | -- | -- | -- |
| Walken | 14.3 | 80.9 | 31.0 | 10.7 | 45.7 | 96.9 | 5-26 |

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

| Variety | Two-year Average 1971-1972 | | | | | | Date Headed |
|-------------|----------------------------|-------|--------|-------|--------|-------|-------------|
| | 1974 | Test | | Lodg- | Plant | Sur- | |
| | Yield | Yield | Weight | ing | Height | vival | |
| | Bu/A | Bu/A | Lb/Bu | % | In. | % | |
| Chilocco | 36.5 | -- | -- | -- | -- | -- | -- |
| Coker 66-22 | 40.5 | 65.4 | 37.8 | 0.0 | 34.3 | 95.0 | 5-9 |
| Coker 70-16 | 36.5 | -- | -- | -- | -- | -- | -- |
| Compact | 48.4 | 57.7 | 39.9 | 0.0 | 27.0 | 96.3 | 5-18 |
| Dubois | 19.9 | 47.8 | 37.9 | 0.0 | 34.7 | 93.1 | 5-14 |
| Norline | 34.7 | 63.6 | 36.8 | 0.0 | 36.8 | 96.9 | 5-16 |
| Pennlan | 39.2 | -- | -- | -- | -- | -- | -- |
| Walken | 38.8 | 49.3 | 37.8 | 0.0 | 31.8 | 85.6 | 5-23 |

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

| Variety | 1973 Results | | | | | | Date Headed |
|-------------|--------------|-------|--------|-------|--------|-------|-------------|
| | 1974 | Test | | Lodg- | Plant | Sur- | |
| | Yield | Yield | Weight | ing | Height | vival | |
| | Bu/A | Bu/A | Lb/Bu | % | In. | % | |
| Chilocco | 20.9 | 76.5 | 35.5 | 0.0 | 41.5 | 100.0 | 5-3 |
| Coker 66-22 | 41.5 | 85.8 | 34.4 | 0.0 | 41.3 | 100.0 | 5-3 |
| Coker 70-16 | 31.2 | -- | -- | -- | -- | -- | -- |
| Compact | 30.2 | 72.0 | 36.8 | 0.0 | 33.5 | 100.0 | 5-12 |
| Dubois | 15.7 | 84.1 | 36.1 | 0.0 | 42.0 | 100.0 | 5-9 |
| Norline | 21.8 | 74.1 | 35.4 | 0.0 | 42.0 | 100.0 | 5-10 |
| Pennlan | 30.2 | 75.3 | 35.3 | 0.0 | 33.3 | 100.0 | 5-4 |
| Walken | 15.1 | 71.4 | 33.8 | 0.0 | 41.5 | 100.0 | 5-19 |

RECOMMENDATIONS FOR 1975

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 Hardiness | 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 | | |
| Blueboy II | Yes | N. Carolina | 1971 | Excellent | Short | Medium | Very Good | Poor | Poor | Excellent | Poor | | |
| McNair 4823* | Yes | McNair Seed | 1972 | Excellent | Short | Late | Very Good | Poor | Poor | Poor | Poor | | |
| Oasis | Yes | Indiana | 1973 | Good | Short | Early | Excellent | Excellent | Excellent | Excellent | Good | | |
| OATS | | | | | | | | | | | | | |
| Variety | U.S. ¹ Protected Variety | Origin | Date of Release | Straw Strength | Relative Height | Maturity | Winter Hardiness | | | | | | |
| Coker 66-22* | No | Coker's Pedi- gree 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 Hardiness | 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 | | | | | |

¹Unauthorized 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 lower than those of the recommended winter oat varieties when yields of winter oats are not severely reduced from winterkilling or disease. Two spring oat varieties (Otee and Jaycee) are being recommended for Kentucky in 1975 by the Kentucky Agricultural Experiment Station. These varieties are being recommended because of their high level of resistance to Barley Yellow Dwarf Virus which is a serious problem in winter oats.

Otee has yielded slightly higher, is superior in Barley Yellow Dwarf Virus resistance, and is definitely superior in lodging resistance (particularly in after-ripening standability) of that of Jaycee. If Jaycee is grown, it should be harvested immediately after ripening to prevent serious lodging.

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.