

Table 22.—Characteristics of Wheat Varieties.

| Variety     | U.S. Protected Variety | Origin               | Date of Release | Straw Strength | WHEAT           |            |                        | Winter Hardiness | Hessian Fly | Poodyery Mildew | Leaf Rust | Supercilia Leaf Blotch |
|-------------|------------------------|----------------------|-----------------|----------------|-----------------|------------|------------------------|------------------|-------------|-----------------|-----------|------------------------|
|             |                        |                      |                 |                | Relative Height | Maturity   | Supercilia Leaf Blotch |                  |             |                 |           |                        |
| Abe         | Yes                    | Indiana              | 1972            | Very Good      | Medium          | Early      | Excellent              | Excellent        | Good        | Good            | Fair      |                        |
| Arthur      | No                     | Indiana              | 1968            | Good           | Medium          | Early      | Excellent              | Good             | Good        | Good            | Fair      |                        |
| Arthur 71   | Yes                    | Indiana              | 1971            | Good           | Medium          | Early      | Excellent              | Excellent        | Good        | Good            | Fair      |                        |
| Beau        | Yes                    | Indiana              | 1975            | Excellent      | Medium          | Early      | Excellent              | Excellent        | Good        | Good            | Fair      |                        |
| Doublecrop  | No                     | Arkansas             | 1973            | Good           | Medium          | Very Early | Excellent              | Good             | Good        | Very Good       | Fair      |                        |
| Davis       | Yes                    | Indiana              | 1973            | Good           | Medium          | Early      | Excellent              | Excellent        | Good        | Good            | Good      |                        |
| *Sullivan   | Yes                    | Indiana              | 1977            | Good           | Medium          | Early      | Excellent              | Excellent        | Good        | Good            | Good      |                        |
| Coker 747   | Yes                    | Coker seed<br>Igreed |                 | Good           | Medium          | Early      | Very Good              | -                | V Good      | -               | Fair      |                        |
| McHair 1813 | Yes                    | McHair seed          |                 | Good           | Medium          | Early      | Fair                   | -                | V Good      | -               | Fair      |                        |

\*Available for planting in 1979.

# Kentucky Small Grain Variety Trials—1978

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

UNIVERSITY OF KENTUCKY • COLLEGE OF AGRICULTURE  
Agricultural Experiment Station • Department of Agronomy  
Lexington • Progress Report 240



## CONTENTS

|                                           | <i>Page</i> |
|-------------------------------------------|-------------|
| Introduction . . . . .                    | 3           |
| Experimental Methods . . . . .            | 4           |
| Data Collected . . . . .                  | 5           |
| Results and Discussion . . . . .          | 6           |
| 1978 Test Conditions . . . . .            | 7           |
| 1977 Test Conditions . . . . .            | 8           |
| 1976 Test Conditions . . . . .            | 8           |
| 1975 Test Conditions . . . . .            | 9           |
| Small Grain Varieties for 1979 . . . . .  | 9           |
| Winter Barley Varieties . . . . .         | 10          |
| Soft Red Winter Wheat Varieties . . . . . | 10          |
| Winter Oat Varieties . . . . .            | 10          |
| Spring Oat Varieties . . . . .            | 10          |
| Certified Seed . . . . .                  | 11          |

### List of Tables

|                                                                                               |    |
|-----------------------------------------------------------------------------------------------|----|
| 1. Small Grain Harvested Acreage and Yields in Kentucky—<br>1976-78 . . . . .                 | 3  |
| 2. Planting Dates and Location of Kentucky Small Grain<br>Evaluation Trials—1976-78 . . . . . | 5  |
| 3. Barley Performance Trials at Lexington, Ky., 1975-78 . . . . .                             | 12 |
| 4. Barley Performance Trials at Princeton, Ky., 1975-78 . . . . .                             | 13 |
| 5. Barley Performance Trials at Bowling Green, Ky., 1974-78 . . . . .                         | 14 |
| 6. Barley Performance Trials at Murray, Ky., 1975-78 . . . . .                                | 15 |
| 7. Barley Performance Trials at Elkton, Ky., 1977-78 . . . . .                                | 16 |
| 8. Disease Ratings on Barley Varieties Tested in 1978 . . . . .                               | 17 |
| 9. Wheat Performance Trials at Lexington, Ky., 1976-78 . . . . .                              | 17 |
| 10. Wheat Performance Trials at Princeton, Ky., 1976-78 . . . . .                             | 19 |
| 11. Wheat Performance Trials at Bowling Green, Ky., 1976-78 . . . . .                         | 20 |
| 12. Wheat Performance Trials at Murray, Ky., 1976-78 . . . . .                                | 22 |
| 13. Wheat Performance Trials at Elkton, Ky., 1977-78 . . . . .                                | 23 |
| 14. Wheat Performance Trials at Elizabethtown, Ky., 1977-78 . . . . .                         | 24 |
| 15. Winter Oat Performance Trials at Lexington, Ky., 1975-78 . . . . .                        | 25 |
| 16. Winter Oat Performance Trials at Princeton, Ky., 1975-78 . . . . .                        | 26 |
| 17. Winter Oat Performance Trials at Bowling Green, Ky., 1975-78 . . . . .                    | 27 |
| 18. Winter Oat Performance Trials at Murray, Ky., 1977-78 . . . . .                           | 28 |
| 19. Winter Oat Performance Trials at Elkton, Ky., 1977-78 . . . . .                           | 29 |
| 20. Spring Oat Performance Trials at Lexington, Ky., 1976-78 . . . . .                        | 30 |
| 21. Characteristics of Barley and Oat Varieties Tested in 1978 . . . . .                      | 31 |
| 22. Characteristics of Wheat Varieties . . . . .                                              | 32 |

### List of Figures

|                                                                       |   |
|-----------------------------------------------------------------------|---|
| 1. Testing Locations of Kentucky Small Grain Variety Trials . . . . . | 4 |
|-----------------------------------------------------------------------|---|

## Kentucky Small Grain Variety Trials 1978

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

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

Table 1.—Small Grain Harvested Acreage and Yields in Kentucky 1976-78.<sup>1</sup>

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

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

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

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

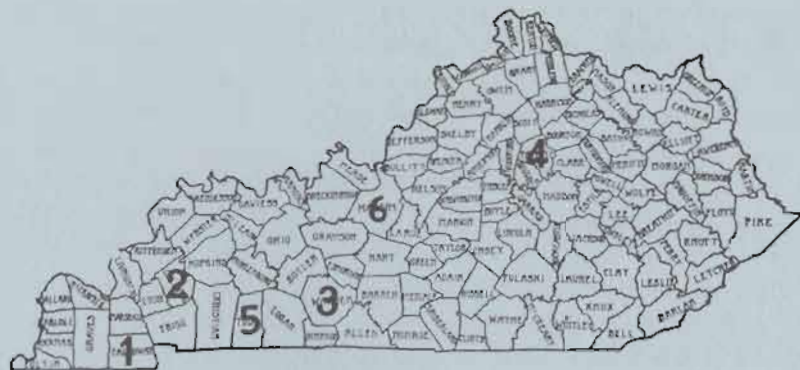


Fig. 1.—Testing locations of Kentucky small grain variety trials.

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

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

### EXPERIMENTAL METHODS

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

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

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

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

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

<sup>1</sup>The 1978 tests at Lexington, Princeton and Bowling Green were planted on land not cropped the previous year. The test at Murray was planted after soybeans. The test at Elkton was planted after corn atlage. The test at Elizabethtown was planted after corn for grain.

### DATA COLLECTED

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

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

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

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

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

*Survival* was recorded as the percentage of plants estimated

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

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

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

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

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

## RESULTS AND DISCUSSION

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

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

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

## 1978 TEST CONDITIONS

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

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

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

## 1977 TEST CONDITIONS

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

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

## 1976 TEST CONDITIONS

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

## 1975 TEST CONDITIONS

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

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

## SMALL GRAIN VARIETIES FOR 1979

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

### WINTER BARLEY VARIETIES

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

## SOFT RED WINTER WHEAT VARIETIES

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

## WINTER OAT VARIETIES

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

## SPRING OAT VARIETIES

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

## CERTIFIED SEED

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

*Acknowledgement is made to John Byars, of the Department of Agronomy, and to the University of Kentucky Computing Center, for assistance in summarizing the results reported in this progress report; and Harold Vaught, Extension Area Agronomy Specialist, for his assistance in collecting field data at Bowling Green; County Agents Ted Howard, Marvin Davidson and Jack Snyder for assistance in locating test sites; and Dr. Richard Stuckey for his assistance in disease identification and evaluation for the varieties at all test locations.*

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

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

1/ All varieties had 100% survival.

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

| Variety                    | Yield | Test Weight | Lodging | Plant Height | Date Headed | g/1000 Seeds | Whole Seed % Protein | Winter Survival |
|----------------------------|-------|-------------|---------|--------------|-------------|--------------|----------------------|-----------------|
|                            | Bu/A  | Lbs/Bu      | %       | In.          |             |              |                      | %               |
| 1978 Results               |       |             |         |              |             |              |                      |                 |
| Barsoy                     | 13    | 45.6        | 00      | 25           | 5-9         | 30.6         | 14.3                 | 15              |
| Boone                      | 05    | ----        | 00      | 24           | 5-22        | 30.5         | 14.7                 | 06              |
| Clayton                    | 02    | ----        | 00      | 22           | 5-23        | 31.6         | 14.8                 | 01              |
| Henry                      | 18    | 44.8        | 00      | 24           | 5-22        | 32.5         | 13.5                 | 26              |
| Kanby                      | 22    | 44.5        | 00      | 26           | 5-20        | 36.1         | 13.7                 | 36              |
| Kentucky 1                 | 31    | 43.6        | 00      | 34           | 5-24        | 34.3         | 13.8                 | 44              |
| Knob                       | 13    | 44.7        | 00      | 23           | 5-18        | 32.8         | 15.1                 | 21              |
| Maury                      | 17    | 43.1        | 00      | 22           | 5-28        | 34.2         | 14.1                 | 12              |
| Monroe                     | 11    | 40.4        | 00      | 22           | 5-28        | 30.9         | 13.6                 | 15              |
| Perry                      | 27    | 46.7        | 00      | 27           | 5-18        | 33.8         | 12.4                 | 46              |
| Pike                       | 20    | 44.8        | 00      | 23           | 5-10        | 31.3         | 14.5                 | 36              |
| Post                       | 12    | 45.6        | 00      | 23           | 5-27        | 34.8         | 14.2                 | 06              |
| Surry                      | 07    | 44.6        | 00      | 23           | 5-21        | 30.9         | 14.0                 | 08              |
| Volbar                     | 02    | ----        | 00      | ---          | ----        | 36.3         | 14.0                 | 01              |
| Two-year Average 1976-77   |       |             |         |              |             |              |                      |                 |
| Barsoy                     | 57    | 46.9        | 44      | 36           | 4-16        | 27.9         | 13.0                 | (1)             |
| Henry                      | 70    | 43.3        | 74      | 38           | 4-26        | 32.2         | 12.8                 |                 |
| Kanby                      | 36    | 41.7        | 96      | 38           | 4-29        | 28.6         | 14.8                 |                 |
| Kentucky 1                 | 23    | 36.8        | 100     | 37           | 5-4         | 27.6         | 16.0                 |                 |
| Knob                       | 52    | 42.7        | 70      | 36           | 4-24        | 28.4         | 14.7                 |                 |
| Maury                      | 70    | 40.8        | 77      | 37           | 5-1         | 29.1         | 13.2                 |                 |
| Monroe                     | 65    | 39.3        | 79      | 38           | 5-2         | 31.3         | 13.5                 |                 |
| Pike                       | 55    | 45.5        | 61      | 34           | 4-18        | 28.2         | 13.8                 |                 |
| Surry                      | 65    | 43.0        | 89      | 40           | 4-24        | 30.0         | 13.2                 |                 |
| Volbar                     | 60    | 39.4        | 87      | 43           | 4-26        | 33.4         | 14.2                 |                 |
| Three-year Average 1975-77 |       |             |         |              |             |              |                      |                 |
| Barsoy                     | 54    | 46.1        | 64      | 35           | 4-20        |              |                      | (1)             |
| Harrison                   | 49    | 43.5        | 88      | 39           | 5-2         |              |                      |                 |
| Henry                      | 73    | 43.0        | 68      | 38           | 4-29        |              |                      |                 |
| Kanby                      | 38    | 41.4        | 97      | 38           | 5-1         |              |                      |                 |
| Knob                       | 47    | 41.8        | 78      | 35           | 4-27        |              |                      |                 |
| Maury                      | 69    | 40.6        | 82      | 38           | 5-3         |              |                      |                 |
| Monroe                     | 69    | 39.2        | 85      | 38           | 5-3         |              |                      |                 |
| Surry                      | 65    | 42.6        | 93      | 39           | 4-26        |              |                      |                 |
| Volbar                     | 61    | 40.0        | 90      | 42           | 4-29        |              |                      |                 |

1/ All varieties had 100% survival.

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

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

<sup>1/</sup> The 1977 trial at Bowling Green was destroyed by standing water.  
The 1975 trial at Bowling Green was destroyed by hail.

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

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



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

| Variety             | Yield<br>Bu/A | Test<br>Weight<br>Lbs/Bu | Lodging<br>% | Plant<br>Height<br>In. | Date<br>Headed | g/1000<br>Seeds | Whole<br>Seed %<br>Protein | Winter<br>Survival<br>% |
|---------------------|---------------|--------------------------|--------------|------------------------|----------------|-----------------|----------------------------|-------------------------|
|                     |               |                          |              |                        |                |                 |                            |                         |
| <u>1978 Results</u> |               |                          |              |                        |                |                 |                            |                         |
| Barsoy              | 46            | 46.4                     | 48           | 33                     | 4-30           | 35.0            | 14.0                       | 65                      |
| Boone               | 42            | 43.3                     | 60           | 32                     | 5-10           | 31.6            | 12.4                       | 29                      |
| Clayton             | 07            | ----                     | 00           | 31                     | 5-12           | 36.0            | 14.2                       | 06                      |
| Henry               | 78            | 43.3                     | 28           | 41                     | 5-9            | 37.2            | 11.0                       | 89                      |
| Kanby               | 41            | 43.9                     | 71           | 40                     | 5-10           | 32.6            | 13.2                       | 91                      |
| Kentucky 1          | 29            | 43.3                     | 100          | 41                     | 5-14           | 31.6            | 14.1                       | 95                      |
| Knob                | 59            | 42.7                     | 06           | 34                     | 5-6            | 33.0            | 14.1                       | 72                      |
| Maury               | 70            | 42.1                     | 32           | 37                     | 5-11           | 32.0            | 12.8                       | 92                      |
| Monroe              | 77            | 41.5                     | 39           | 38                     | 5-13           | 31.1            | 11.6                       | 90                      |
| Perry               | 54            | 46.0                     | 55           | 37                     | 5-8            | 33.6            | 13.6                       | 92                      |
| Pike                | 53            | 43.6                     | 75           | 34                     | 5-3            | 32.2            | 13.2                       | 86                      |
| Post                | 70            | 47.4                     | 22           | 38                     | 5-14           | 32.7            | 11.1                       | 44                      |
| Surry               | 80            | 42.3                     | 12           | 41                     | 5-7            | 35.1            | 10.8                       | 58                      |
| Volbar              | 13            | 47.2                     | 03           | 39                     | 5-13           | 37.8            | 12.0                       | 04                      |
| <u>1977 Results</u> |               |                          |              |                        |                |                 |                            |                         |
| Barsoy              | 32            | 41.8                     | 100          | 33                     |                | 32.4            | 12.9                       | 29                      |
| Henry               | 53            | 40.0                     | 100          | 39                     |                | 35.4            | 12.9                       | 43                      |
| Kanby               | 27            | 38.2                     | 98           | 39                     |                | 31.3            | 14.7                       | 84                      |
| Kentucky 1          | 24            | 39.8                     | 100          | 42                     |                | 30.8            | 15.9                       | 81                      |
| Knob                | 39            | 42.3                     | 95           | 37                     |                | 33.2            | 14.4                       | 53                      |
| Maury               | 50            | 37.7                     | 100          | 40                     |                | 29.5            | 14.6                       | 50                      |
| Monroe              | 36            | 35.3                     | 100          | 38                     |                | 28.5            | 13.8                       | 56                      |
| Perry               | 43            | 40.5                     | 78           | 41                     |                | 33.1            | 15.0                       | 84                      |
| Pike                | 38            | 43.0                     | 99           | 33                     |                | 34.8            | 15.2                       | 76                      |
| Post                | 33            | 36.7                     | 100          | 38                     |                | 28.8            | 15.3                       | 66                      |
| Surry               | 43            | 37.8                     | 100          | 38                     |                | 31.8            | 14.3                       | 45                      |
| Volbar              | 53            | 37.6                     | 98           | 45                     |                | 36.8            | 13.7                       | 44                      |

NO  
DATA

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

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

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

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

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

(continued)

Table 9.—(continued)

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

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

<sup>2/</sup> Hard red winter wheat.

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

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

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

(continued)

Table 10.—(continued)

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

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

<sup>2/</sup> Hard red winter wheat.

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

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

| Variety                 | Test          |        | Plant        |               | Survival<br>% | Date<br>Headed |
|-------------------------|---------------|--------|--------------|---------------|---------------|----------------|
|                         | Yield<br>bu/A | Weight | Lodging<br>% | Height<br>in. |               |                |
| 1978 Results            |               |        |              |               |               |                |
| Abe                     | 35            | 55.5   | 0            | 34            | 95            | 5-12           |
| Arthur                  | 41            | 56.6   | 0            | 36            | 93            | 5-12           |
| Arthur 71 <sup>1/</sup> | 20            | 55.4   | 0            | 34            | 43            | 5-15           |
| Beau                    | 42            | 56.5   | 0            | 36            | 89            | 5-13           |
| Centurk <sup>2/</sup>   | 42            | 56.3   | 0            | 41            | 96            | 5-17           |
| Coker 68-15             | 19            | 55.9   | 0            | 28            | 34            | 5-17           |
| Coker 747               | 42            | 57.4   | 0            | 31            | 86            | 5-14           |
| Delta Queen             | 32            | 55.1   | 0            | 33            | 93            | 5-17           |
| Doublecrop              | 30            | 55.7   | 0            | 38            | 94            | 5-6            |
| McNair 1003             | 37            | 51.3   | 0            | 35            | 81            | 5-14           |
| McNair 1813             | 27            | 54.6   | 0            | 36            | 60            | 5-14           |
| McNair 4823             | 31            | 56.3   | 0            | 31            | 85            | 5-18           |
| Oasis                   | 25            | 53.4   | 0            | 33            | 89            | 5-14           |
| Pioneer S-78            | 41            | 56.2   | 0            | 34            | 96            | 5-17           |
| Pioneer S-76            | 42            | 56.8   | 0            | 34            | 93            | 5-16           |
| Roland                  | 40            | 54.1   | 0            | 34            | 96            | 5-15           |
| Ruler                   | 33            | 56.0   | 0            | 37            | 94            | 5-19           |
| Sullivan                | 37            | 55.8   | 0            | 35            | 94            | 5-12           |

Table 11.—(continued)

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

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

<sup>2/</sup> Hard red winter wheat.

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

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

| Variety                           | Test          |                 | Plant        |               | Survival | Date Headed |
|-----------------------------------|---------------|-----------------|--------------|---------------|----------|-------------|
|                                   | Yield<br>bu/A | Weight<br>lb/bu | Lodging<br>% | Height<br>in. |          |             |
| <u>1978 Results</u>               |               |                 |              |               |          |             |
| Abe                               | 49            | 57.3            | 0            | 34            | 88       | 5-11        |
| Arthur                            | 41            | 57.8            | 0            | 36            | 75       | 5-10        |
| Arthur 71 <sup>1/</sup>           | 26            | 57.5            | 0            | 34            | 20       | 5-17        |
| Beau                              | 47            | 59.2            | 0            | 35            | 68       | 5-12        |
| Centurk <sup>2/</sup>             | 40            | 57.8            | 0            | 41            | 79       | 5-16        |
| Coker 68-15                       | 28            | 57.5            | 0            | 31            | 13       | 5-16        |
| Coker 747                         | 44            | 58.6            | 0            | 32            | 50       | 5-15        |
| Delta Queen                       | 42            | 57.7            | 0            | 33            | 64       | 5-17        |
| Doublecrop                        | 40            | 57.0            | 0            | 35            | 63       | 5-7         |
| McNair 1003                       | 38            | 53.6            | 0            | 35            | 44       | 5-14        |
| McNair 1813                       | 30            | 55.4            | 0            | 32            | 35       | 5-12        |
| McNair 4823                       | 29            | 55.5            | 0            | 31            | 43       | 5-21        |
| Oasis                             | 39            | 58.6            | 0            | 36            | 51       | 5-14        |
| Pioneer S-78                      | 41            | 57.2            | 0            | 33            | 68       | 5-16        |
| Pioneer S-76                      | 32            | 57.4            | 0            | 31            | 49       | 5-15        |
| Roland                            | 43            | 55.3            | 0            | 32            | 70       | 5-14        |
| Ruler                             | 37            | 56.7            | 0            | 38            | 51       | 5-20        |
| Sullivan                          | 34            | 57.6            | 0            | 32            | 60       | 5-12        |
| <u>Two-year Average 1977-78</u>   |               |                 |              |               |          |             |
| Abe                               | 54            | 58.1            | 0            | 36            | 94       | 5-5         |
| Arthur                            | 49            | 58.3            | 0            | 38            | 88       | 5-4         |
| Arthur 71 <sup>1/</sup>           | 41            | 58.4            | 0            | 36            | 60       | 5-8         |
| Beau                              | 52            | 59.7            | 0            | 37            | 84       | 5-6         |
| Centurk <sup>2/</sup>             | 38            | 57.6            | 33.7         | 41            | 89       | 5-11        |
| Coker 68-15                       | 44            | 57.9            | 11.2         | 33            | 56       | 5-8         |
| Coker 747                         | 51            | 59.2            | 1.2          | 33            | 75       | 5-8         |
| Doublecrop                        | 46            | 57.8            | 0            | 36            | 81       | 4-30        |
| McNair 1003                       | 54            | 54.1            | 1.2          | 36            | 72       | 5-8         |
| McNair 1813                       | 45            | 56.1            | 1.4          | 35            | 68       | 5-4         |
| McNair 4823                       | 32            | 54.3            | 0            | 34            | 71       | 5-14        |
| Oasis                             | 46            | 59.0            | 1.2          | 37            | 76       | 5-8         |
| Ruler                             | 39            | 56.0            | 0            | 40            | 76       | 5-15        |
| Sullivan                          | 46            | 58.3            | 0            | 35            | 80       | 5-5         |
| <u>Three-year Average 1976-78</u> |               |                 |              |               |          |             |
| Abe                               | 53            | 58.0            | 0            | 35            | 90       | 4-29        |
| Arthur                            | 49            | 58.3            | 0            | 37            | 86       | 4-28        |
| Arthur 71 <sup>1/</sup>           | 43            | 58.2            | 0            | 35            | 68       | 5-1         |
| Beau                              | 47            | 59.5            | 0            | 36            | 83       | 5-1         |
| Coker 68-15                       | 41            | 57.7            | 7.5          | 34            | 66       | 5-2         |
| Coker 747                         | 49            | 58.8            | 0.8          | 33            | 79       | 5-2         |
| Doublecrop                        | 47            | 57.6            | 0            | 36            | 82       | 4-24        |
| McNair 1003                       | 49            | 54.0            | 0.8          | 36            | 74       | 5-1         |
| McNair 1813                       | 43            | 56.4            | 0.9          | 35            | 72       | 4-27        |
| McNair 4823                       | 31            | 55.1            | 0            | 34            | 75       | 5-11        |
| Oasis                             | 45            | 58.9            | .8           | 36            | 79       | 5-2         |
| Ruler                             | 35            | 56.5            | 0            | 39            | 78       | 5-11        |

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

<sup>2/</sup> Hard red winter wheat.

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

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

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

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

<sup>2/</sup> Hard red winter wheat.

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

Table 14.—Wheat Performance Trials at Elizabethtown, KY., 1977-78.<sup>1</sup>

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

<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.

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

| Variety                           | Yield<br>Bu/A                                                         | Test<br>Weight<br>Lbs/Bu | Lodging<br>% | Plant<br>Height<br>In. | Date<br>Headed | g/1000<br>Seeds | Whole<br>Seed %<br>Protein | Winter<br>Survival<br>% |
|-----------------------------------|-----------------------------------------------------------------------|--------------------------|--------------|------------------------|----------------|-----------------|----------------------------|-------------------------|
|                                   |                                                                       |                          |              |                        |                |                 |                            |                         |
| Coker 66-22                       | All varieties had severe winterkill at Lexington                      |                          |              |                        |                | 23.0            | 11.5                       | Trace                   |
| Coker 70-16                       |                                                                       |                          |              |                        |                | 28.0            | 10.7                       | Trace                   |
| Coker 76-30                       |                                                                       |                          |              |                        |                | 27.8            | 11.3                       | Trace                   |
| Compact                           |                                                                       |                          |              |                        |                | 21.4            | 12.5                       | Trace                   |
| Cumberland                        |                                                                       |                          |              |                        |                | ---             | ---                        | Zero                    |
| Dubois                            |                                                                       |                          |              |                        |                | 26.2            | 11.2                       | Trace                   |
| Ky. 67-695                        |                                                                       |                          |              |                        |                | 24.0            | 11.3                       | Trace                   |
| Norline                           |                                                                       |                          |              |                        |                | 30.4            | 12.2                       | Trace                   |
| Pennlan                           |                                                                       |                          |              |                        |                | 25.4            | 11.2                       | Trace                   |
| Pennwin                           |                                                                       |                          |              |                        |                | 27.8            | 10.4                       | Trace                   |
| Walken                            |                                                                       |                          |              |                        |                | 21.4            | 11.0                       | Trace                   |
| Windsor                           |                                                                       |                          |              |                        |                | 29.6            | 10.8                       | Trace                   |
| <u>Two-year Average 1976-77</u>   |                                                                       |                          |              |                        |                |                 |                            |                         |
| Coker 66-22                       | 79                                                                    | 35.2                     | 7            | 29                     | 5-11           | 32.0            | 16.8                       | 73                      |
| Coker 70-16                       | 88                                                                    | 36.1                     | 21           | 27                     | 5-12           | 26.9            | 15.2                       | 84                      |
| Compact                           | 63                                                                    | 35.2                     | 0            | 23                     | 5-18           | 23.8            | 18.6                       | 60                      |
| Cumberland                        | 67                                                                    | 33.9                     | 0            | 27                     | 5-17           | 34.2            | 16.2                       | 59                      |
| Dubois                            | 68                                                                    | 35.4                     | 9            | 30                     | 5-15           | 28.4            | 18.2                       | 76                      |
| Ky. 67-695                        | 83                                                                    | 36.3                     | 2            | 29                     | 5-16           | 27.3            | 16.6                       | 88                      |
| Norline                           | 73                                                                    | 34.8                     | 0            | 31                     | 5-20           | 31.8            | 18.7                       | 71                      |
| Pennlan                           | 75                                                                    | 35.5                     | 0            | 27                     | 5-14           | 28.4            | 16.0                       | 51                      |
| Walken                            | * Seed of Walken had poor germination and data considered unreliable. |                          |              |                        |                |                 |                            |                         |
| Windsor                           | 81                                                                    | 35.1                     | 10           | 28                     | 5-9            | 31.4            | 17.3                       | 66                      |
| <u>Three-year Average 1975-77</u> |                                                                       |                          |              |                        |                |                 |                            |                         |
| Coker 66-22                       | 76                                                                    | 35.0                     | 41           | 32                     | 5-13           | 27.8            | 16.8                       | 82                      |
| Coker 70-16                       | 86                                                                    | 35.2                     | 50           | 30                     | 5-13           | 24.0            | 15.4                       | 89                      |
| Compact                           | 62                                                                    | 34.5                     | 36           | 26                     | 5-20           | 21.5            | 18.7                       | 73                      |
| Dubois                            | 67                                                                    | 35.1                     | 42           | 33                     | 5-17           | 25.5            | 18.2                       | 84                      |
| Norline                           | 69                                                                    | 34.1                     | 36           | 33                     | 5-21           | 28.1            | 18.6                       | 81                      |
| Pennlan                           | 75                                                                    | 35.2                     | 36           | 31                     | 5-15           | 25.0            | 16.1                       | 68                      |
| Walken                            | * Seed of Walken had poor germination and data considered unreliable. |                          |              |                        |                |                 |                            |                         |

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

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

<sup>1/</sup> The 1977 test at Princeton winterkilled.

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

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

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

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

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

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

| Variety             | Yield<br>Bu/A | Test<br>Weight<br>Lbs/Bu                                            | Lodging<br>% | Plant<br>Height<br>In. | Date<br>Headed | g/1000<br>Seeds | Whole<br>Seed %<br>Protein | Winter<br>Survival<br>% |
|---------------------|---------------|---------------------------------------------------------------------|--------------|------------------------|----------------|-----------------|----------------------------|-------------------------|
|                     |               |                                                                     |              |                        |                |                 |                            |                         |
| <u>1978 Results</u> |               |                                                                     |              |                        |                |                 |                            |                         |
| Coker 66-22         | 38            | 31.9                                                                | 00           | 28                     | 5-22           | 35.2            | 11.9                       | 20                      |
| Coker 70-16         | 31            | 33.2                                                                | 00           | 28                     | 5-22           | 30.4            | 10.4                       | 08                      |
| Coker 76-30         | 26            | 32.8                                                                | 00           | 27                     | 5-24           | 31.7            | 10.9                       | 15                      |
| Compact             | 41            | 32.5                                                                | 00           | 25                     | 5-24           | 27.6            | 13.6                       | 14                      |
| Cumberland          | 08            | ----                                                                | 00           | 29                     | 5-30           | 34.0            | 12.6                       | 01                      |
| Dubois              | 33            | 31.1                                                                | 01           | 36                     | 5-24           | 31.0            | 12.3                       | 02                      |
| Ky 67-695           | 73            | 33.8                                                                | 06           | 30                     | 5-22           | 36.0            | 12.4                       | 56                      |
| Norline             | 58            | 33.0                                                                | 06           | 33                     | 5-27           | 39.8            | 13.3                       | 18                      |
| Pennlan             | 23            | 32.6                                                                | 00           | 27                     | 5-24           | 38.6            | 10.6                       | 08                      |
| Pennwin             | 66            | 33.3                                                                | 22           | 36                     | 5-29           | 36.4            | 12.1                       | 32                      |
| Walken              | 56            | 29.4                                                                | 00           | 30                     | 5-29           | 35.6            | 12.5                       | 13                      |
| Windsor             | 05            | ----                                                                | 00           | 28                     | 5-22           | 36.5            | 12.0                       | 03                      |
| <u>1977 Results</u> |               |                                                                     |              |                        |                |                 |                            |                         |
| Coker 66-22         | 28            | 31.4                                                                | 00           | 31                     |                | 35.4            | 20.5                       | 43                      |
| Coker 70-16         | 42            | 32.5                                                                | 00           | 33                     |                | 31.1            | 19.7                       | 35                      |
| Coker 76-30         | 50            | 32.1                                                                | 00           | 35                     |                | 30.1            | 20.1                       | 50                      |
| Compact             | 31            | 29.3                                                                | 00           | 28                     |                | 23.9            | 23.1                       | 15                      |
| Cumberland          | 35            | 25.6                                                                | 00           | 33                     |                | 31.2            | 21.6                       | 33                      |
| Dubois              | 26            | 29.9                                                                | 00           | 33                     |                | 29.7            | 21.6                       | 25                      |
| Ky 67-695           | 44            | 31.2                                                                | 00           | 32                     |                | 29.6            | 20.3                       | 40                      |
| Norline             | 36            | 30.3                                                                | 00           | 36                     |                | 33.4            | 23.8                       | 43                      |
| Pennlan             | 15            | 32.6                                                                | 00           | 35                     |                | 29.2            | 19.7                       | 25                      |
| Pennwin             | 28            | 26.9                                                                | 00           | 36                     |                | 27.7            | 21.1                       | 25                      |
| Walken              | *             | Seed of Walken had poor germination and data considered unreliable. |              |                        |                |                 |                            |                         |
| Windsor             | 39            | 30.8                                                                | 00           | 31                     |                | 31.2            | 22.1                       | 45                      |

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

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

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

| Variety              | Protected <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                           |
| Kanby                | No                      | Kansas         | 1973         | Excellent       | 11                              | ?                              |
| Kentucky 1           | No                      | Kentucky       | 1935         | Excellent       | 15                              | Fair                           |
| Knob                 | No                      | Kentucky       | 1969         | Good            | 9                               | Fair                           |
| Maury                | No                      | Virginia       | 1977         | Good            | 15                              | Good                           |
| Monroe               | No                      | Virginia       | 1976         | Good            | 16                              | Good                           |
| Perry                | No                      | Missouri       | 1977         | Excellent       | 9                               | Good                           |
| Pike                 | Yes                     | Indiana        | 1975         | Excellent       | 2                               | Poor                           |
| Post                 | No                      | Oklahoma       | 1976         | Fair            | 16                              | ?                              |
| Surry                | No                      | Virginia       | 1976         | Good            | 10                              | Good                           |
| Volbar               | No                      | Tennessee      | 1974         | Fair            | 14                              | Good                           |
| <u>Winter Oats</u>   |                         |                |              |                 |                                 |                                |
| Coker 66-22          | No                      | Coker Seed Co. | 1969         | Good            | 20                              | Fair                           |
| Coker 70-16          | No                      | Coker Seed Co. | 1971         | Good            | 19                              | ?                              |
| Coker 76-30          | No                      | Coker Seed Co. | 1977         | Good            | 19                              | ?                              |
| Compact              | No                      | Kentucky       | 1969         | Excellent       | 23                              | Fair                           |
| Cumberland           | No                      | Tennessee      | 1974         | Fair            | 25                              | ?                              |
| Dubois               | No                      | Indiana        | 1952         | Good            | 20                              | Fair                           |
| Ky 76-695            | Experimental            | Kentucky       | ----         | Excellent       | 20                              | Fair                           |
| Norline              | No                      | Indiana        | 1960         | Excellent       | 24                              | Fair                           |
| Pennlan              | No                      | Pennsylvania   | 1968         | Good            | 19                              | ?                              |
| Pennwin              | No                      | Pennsylvania   | 1973         | Good            | 25                              | ?                              |
| Walken               | No                      | Kentucky       | 1970         | Excellent       | 30                              | Fair                           |
| Windsor              | No                      | Virginia       | 1978         | Fair            | 20                              | ?                              |
| <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                           |
| Jaycee               | No                      | Illinois       | 1967         | Poor            | 46                              | Good                           |
| Lang                 | No                      | Illinois       | 1976         | Poor            | 45                              | Good                           |
| Mo 0205              | No                      | Missouri       | 1951         | Poor            | 48                              | Fair                           |
| Otee                 | No                      | Illinois       | 1973         | Poor            | 48                              | Good                           |

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

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