

1990 Kentucky Small Grain Variety Trials

Progress Report 330



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1990 Kentucky Small Grain Variety Trials

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In 1990, Kentucky farmers harvested 18.5 million bushels of soft red winter wheat produced on 500,000 acres. The average yield of 37 bu/a was down 29% from 1989. Barley production was down 41% from 1989 levels.

Table 1.—Small Grain Harvested Acreage and Yields in Kentucky, 1988-1990.*

Crop	1990		1989		1988	
	Harvest 1000 A	Yield Bu/A	Harvest 1000 A	Yield Bu/A	Harvest 1000 A	Yield Bu/A
Wheat	500	37	450	50	380	54
Barley	13	52	17	67	14	77

*July 1, 1990, Kentucky Crop and Livestock Reporting Service.

NOTE: Oat and rye data no longer available.

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

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The objective of the Kentucky small grain variety trials is to evaluate varieties of barley and wheat that are commercially available or may soon be available to Kentucky farmers. New varieties are continually being developed by agricultural experiment stations

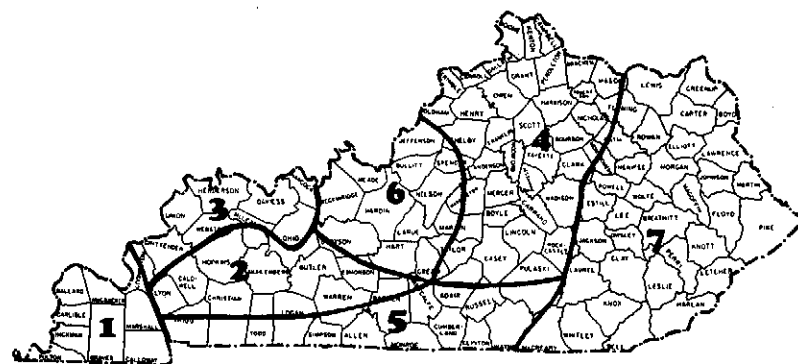


Figure 1.—Agro-climatic regions of Kentucky small grain variety trials.

Region	1990 Location	Cooperator	Crop Tested
1 Purchase	Bardwell	Roger Hobbs	Wheat
2 Western Coal Field	Princeton (Sandstone soil)	Research and Education Center	Barley, Wheat
3 Ohio Valley	Dixon	J.A. Tapp	Wheat
4 Bluegrass	Lexington	Kentucky Agricultural Experiment Station	Barley, Wheat
5 Southern Tier	Bowling Green Princeton (Limestone soil)	James Reynolds Research and Education Center	Barley, Wheat Barley, Wheat
6 North Central	Brandenburg	Jerry Hardesty	Wheat

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

EXPERIMENTAL METHODS

The plots were planted with a specially built multi-row cone seeder. Each plot consisted of six rows to form a plot 4 feet wide, which was later trimmed to 10 feet in length. Each variety was grown in four replications, and the data presented are the average response from the four replications of 40 square feet harvested with a small plot combine. Planting dates of all trials for the past 3 years are listed in Table 2.

In some instances, uncontrollable factors—such as excessive rainfall, winter killing, high winds, hail, grazing cattle, etc.—adversely affected an experiment so that the results were judged unreliable. When this occurred, results are not given for that location and year. Data averaged over a period of years gives a more accurate picture of varietal performance than does annual data.

DATA COLLECTED

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

Grain yield of plots was taken by cutting all rows with a self-propelled combine. The weights of each plot were recorded in grams and converted to bushels per acre.

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

Table 2.—Region, Location, Preceding crop and Planting Dates of Kentucky Small Grain Trials, 1988-1990.

Region	Location	Preceding Crop	Crop	Planting Date		
				1990	1989	1988
Purchase	Clinton Bardwell	1988	Corn	10/26	10/20	10/13
		1989	Fallow			
		1990	Corn			
Western Coal Field	Princeton (Sandstone soil)	Fallow	Barley	10/27	10/13	10/14
			Wheat	10/27	10/13	10/14
Ohio Valley	Dixon	1988	Corn	10/28	10/14	10/16
		1989	Tobacco			
		1990	Corn			
Bluegrass	Lexington	Fallow	Barley	10/13	10/7	10/14
			Wheat	10/13	10/11	10/14
Southern Tier	Franklin	1988	Corn	11/1	10/19	10/12
		Barley				
		Wheat				
	Bowling Green	1989	Corn	11/1	10/19	10/12
		1990	Corn			
	Princeton (Limestone soil)	Fallow	Barley	10/27	10/12	10/15
			Wheat	10/27	10/12	10/15
North Central	Brandenburg	1988-90	Corn	10/30	10/17	10/19

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

Plant height was recorded as the number of 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 also a measure of maturity and is important when selecting a variety for use in a double-cropping system.

Disease and insect data are reported as relative amounts that occurred on the varieties at the time the readings were made. Thus, differences in varietal ratings may reflect factors such as maturity, as well as genetic differences in disease resistance.

RESULTS AND DISCUSSION

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

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

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

1990 TEST CONDITIONS

Dry weather in early October allowed some early planting of small grains. A rainy period in the middle of the month, however, delayed planting of much of the wheat and barley crops. Record low temperatures were observed in December, but little winterkill was noted.

Mild January temperatures prompted unusually early growth, so that the stage of the wheat crop was approximately two weeks ahead of normal. These conditions made the wheat crop vulnerable to late March and early April freezes. Yield potential was reduced considerably by freeze damage; early maturing varieties suffered the most damage.

Cool wet weather in May was accompanied by heavy disease pressure. Wheat spindle streak mosaic virus, powdery mildew and glume blotch were observed at all locations. Yields and test weights in the wheat trial at the Princeton (limestone) location were significantly reduced by glume blotch. Significant levels of scald and net blotch were noted in the barley tests.

1989 TEST CONDITIONS

Warm, dry weather in October allowed for timely planting of much of the small grains crop. Rainfall in November was well above normal for most of the state, hindering late planting of wheat following soybean harvest. Temperatures during December were slightly above normal, and well above normal in January. In February, rainfall averaged 4 to 10 inches above normal over the state. There were some fields lost to standing water, and nitrogen deficits were evident in many small grain fields during this period.

The mild winter was believed to contribute to fairly heavy Hessian fly infestation that was evident at certain locations in the spring. Wet weather continued through the spring across much of the state, resulting in significant levels of powdery mildew, leaf rust, and glume blotch.

Harvest of barley and wheat was delayed by heavy rains, and considerable sprout damage was reported. Test weights were significantly reduced by sprout damage and weathering at the Southern Tier (Bowling Green) and Ohio Valley locations.

1988 TEST CONDITIONS

The fall of 1987 was characterized by very dry conditions and reduced soil moisture. Delayed germination resulted in spotty stands in some fields across the state.

Temperatures were mild through the late fall and much of the winter, and little winterkill was observed. Some damage from frost heaving in late February was reported in the central part of the state.

A warm, dry spring resulted in little fungal disease pressure, although considerable powdery mildew was observed in the Bluegrass region. Wheat spindle streak mosaic virus was once again in evidence, although yield losses from this disease were probably minimal. Another viral disease, wheat streak mosaic virus (WSMV), was observed in Kentucky in 1988. In certain instances, entire fields were devastated by this disease and had to be discarded.

The dry weather that persisted through the harvest period resulted in the highest yields and test weights on record.

SMALL GRAIN VARIETIES FOR 1991

Varieties eligible for certification include (1) varieties that may have potential for Kentucky and (2) older varieties that are still acceptable for production in Kentucky. The characteristics of the small grain varieties are summarized in Tables 3 and 11.

Soft Red Winter Wheat Varieties

Kentucky's climate and soils are well suited for the production of high quality soft red winter wheat. No single variety has all the desirable characteristics, but each has certain advantages. Yielding ability, straw strength, height, earliness, grain quality, and disease resistance are important in choosing a variety. Varietal performance is presented in Tables 4-9.

Winter Barley Varieties

Winter barleys are less winterhardy than winter wheat but more hardy than winter oats. The degree of winterhardiness, straw

strength, and maturity are important characteristics when choosing a variety. Varietal performance data are presented in Tables 12-14A.

CERTIFIED SEED

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

Table 3.—Characteristics of Wheat Varieties Tested in 1990.

VARIETY	PROTECTED ³	SOURCE	RELEASE DATE	YIELD (BU/A)	TEST WEIGHT (LB/BU)	LODGING (%)	PLANT HEIGHT (IN.)	SURVIVAL (%)	HEADING DATE
2548	YES	PIONEER HI BRED INT.	1989	51.1	55.9	2.1	32.8	100.0	07MAY90
COKER 833	YES	NEW NORTHRUP KING	1984	48.2	57.8	11.1	37.4	99.8	12MAY90
FFR 568	YES	SOUTHERN STATES CO-OP	1990	48.1	55.9	7.7	36.8	100.0	09MAY90
COKER 9803	YES	NEW NORTHRUP KING	1990	47.8	59.3	15.7	31.1	99.8	06MAY90
COKER 9024	YES	NEW NORTHRUP KING	1990	47.6	57.1	24.3	38.2	99.8	10MAY90
HOWELL	YES	ILLINOIS	1990	47.2	59.3	1.6	39.0	99.5	11MAY90
COKER 9323	YES	NEW NORTHRUP KING	1986	46.0	55.5	12.7	32.7	99.5	08MAY90
COKER 9733	YES	NEW NORTHRUP KING	1986	46.0	54.6	21.1	38.1	100.0	10MAY90
ABI 85-81	YES	AGRIPRO BIOSCIENCES INC.	1990	46.0	53.3	18.9	34.1	100.0	05MAY90
CARDINAL	YES	OHIO	1986	45.8	54.6	8.0	38.3	100.0	10MAY90
COKER 9877	YES	NEW NORTHRUP KING	1986	45.5	56.7	3.0	37.5	99.6	13MAY90
FFR 374	YES	SOUTHERN STATES CO-OP	1990	44.4	52.5	5.9	31.9	99.8	07MAY90
WHEELER	NO	VIRGINIA	1980	44.3	58.2	3.2	37.6	99.1	09MAY90
CLARK	YES	INDIANA	1988	43.7	53.3	3.6	34.4	99.8	02MAY90
TYLER	NO	VIRGINIA	1980	43.5	55.4	11.1	38.8	99.8	09MAY90
2555	YES	PIONEER HI BRED INT.	1987	42.4	54.1	9.8	34.2	99.6	05MAY90
MASSEY	NO	VIRGINIA	1981	41.8	56.4	18.0	36.7	99.5	08MAY90
FFR 525	YES	SOUTHERN STATES CO-OP	1989	41.3	56.8	30.7	33.1	99.5	06MAY90
ADDER	YES	INDIANA	1985	41.2	54.0	3.6	32.5	99.6	08MAY90
FLA 302	YES	FLORIDA	1983	41.1	54.4	4.5	35.8	99.8	11MAY90
COKER 916	YES	NEW NORTHRUP KING	1982	41.1	54.1	8.2	31.6	97.0	04MAY90
SALUDA	NO	VIRGINIA	1983	40.4	56.8	20.4	31.8	99.5	07MAY90
SCOTTY	NO	ILLINOIS	1982	39.4	54.8	10.5	35.2	99.8	09MAY90
FFR 544	YES	SOUTHERN STATES CO-OP	1989	38.2	52.3	4.6	34.2	100.0	05MAY90
COKER 9766	YES	NEW NORTHRUP KING	1987	38.2	54.9	24.5	34.1	98.9	12MAY90
HANCOCK	YES	AGRIPRO BIOSCIENCES INC.	1988	37.9	56.6	13.8	32.8	99.6	09MAY90
BECKER	YES	OHIO	1985	37.4	53.5	0.5	33.1	99.8	08MAY90
ARTHUR	NO	INDIANA	1968	37.0	56.8	13.0	35.9	99.6	05MAY90
CALDWELL	YES	INDIANA	1980	36.2	53.0	3.0	36.0	99.1	07MAY90
COMPTON	YES	INDIANA	1984	36.0	56.1	10.5	34.1	99.3	09MAY90
DYNASTY	YES	OHIO	1987	34.9	52.4	6.3	35.9	99.5	07MAY90
CHEROKEE	YES	AGRIPRO BIOSCIENCES INC.	1990	34.4	52.8	4.3	36.0	99.5	05MAY90
LINCOLN	YES	AGRIPRO BIOSCIENCES INC.	1986	33.4	51.2	12.9	34.5	99.6	04MAY90
TWAIN	YES	AGRIPRO BIOSCIENCES INC.	1986	33.4	56.0	8.0	35.9	99.5	05MAY90
DOUBLECROP	NO	ARKANSAS	1975	33.2	56.4	12.9	34.9	99.1	01MAY90

CV = 12.7 % 1
LSD(0.05) = 2.88 BU/A 2

- 1 The CV is a measure of experimental error. The lower the CV the more reliable the results.
- 2 The LSD (Least Significant Difference) is the minimum difference required for two varieties to be significantly different from one another.
- 3 "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.

Table 4.—Wheat Performance Trials for Purchase Region, 1988-1990.

VARIETY	-- YIELD (BU/AC) --				TEST WT (LB/BU)				--- PCT LODGED ---				PLANT HEIGHT (IN)				-- PCT SURVIVAL --				HEADING DATE			
	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN
TYLER	48	61	72	60	55.6	55.1	56.4	55.7	0	0	0	0	38	38	41	39	100	98	100	99	07MAY	06MAY	08MAY	06MAY
CARDINAL	46	64	73	61	56.0	52.7	55.9	54.9	0	0	0	0	38	37	42	39	100	100	100	100	08MAY	06MAY	08MAY	07MAY
COKER 833	42	51	76	56	57.2	53.8	56.7	55.9	0	0	6	2	35	36	41	37	100	100	100	100	11MAY	06MAY	08MAY	08MAY
FFR 568	42	.	.	42	58.2	.	.	58.2	0	.	.	0	35	.	.	35	100	.	.	100	07MAY	.	.	07MAY
MASSEY	41	46	69	52	58.2	55.3	56.9	56.8	0	0	0	0	36	35	41	37	100	100	100	100	08MAY	03MAY	03MAY	05MAY
COKER 9024	41	.	.	41	57.6	.	.	57.6	0	.	.	0	34	.	.	34	100	.	.	100	09MAY	.	.	09MAY
HOWELL	41	61	.	51	59.2	57.0	.	58.1	0	0	.	0	36	39	.	38	100	100	.	100	10MAY	07MAY	.	08MAY
FFR 374	40	.	.	40	50.4	.	.	50.4	0	.	.	0	29	.	.	29	100	.	.	100	05MAY	.	.	05MAY
CLARK	40	58	65	54	53.6	54.6	58.7	55.6	0	0	0	0	29	34	40	34	100	100	100	100	01MAY	01MAY	02MAY	01MAY
COKER 9877	40	41	80	54	56.8	53.4	59.0	56.4	0	0	0	0	35	34	39	36	100	85	100	95	12MAY	07MAY	06MAY	08MAY
ABI 85-81	40	.	.	40	55.8	.	.	55.8	0	.	.	0	30	.	.	30	100	.	.	100	05MAY	.	.	05MAY
2548	37	54	.	46	55.6	54.2	.	54.9	0	0	.	0	30	31	.	31	100	98	.	99	08MAY	04MAY	.	06MAY
COKER 9803	36	.	.	36	58.4	.	.	58.4	0	.	.	0	28	.	.	28	100	.	.	100	06MAY	.	.	06MAY
FFR 544	35	57	.	46	51.2	54.8	.	53.0	0	0	.	0	32	35	.	34	100	100	.	100	04MAY	03MAY	.	03MAY
BECKER	35	63	84	61	53.6	54.3	57.8	55.2	0	0	0	0	31	32	37	33	100	100	100	100	08MAY	06MAY	08MAY	07MAY
2555	34	63	92	63	54.6	54.1	59.8	56.2	0	0	0	0	32	34	41	36	100	100	100	100	03MAY	03MAY	03MAY	03MAY
COKER 9733	34	39	82	52	58.4	56.0	60.3	58.2	0	0	0	0	35	39	44	39	100	86	100	95	09MAY	05MAY	05MAY	06MAY
WHEELER	34	59	65	52	58.6	55.5	60.2	58.1	0	0	3	1	35	38	46	40	100	99	100	100	08MAY	05MAY	07MAY	07MAY
SALUDA	33	63	84	60	56.0	55.1	56.6	55.9	0	0	0	0	30	32	38	33	100	93	100	98	08MAY	05MAY	08MAY	07MAY
COKER 9766	33	42	74	50	56.6	53.3	55.8	55.2	0	0	0	0	31	33	39	34	100	83	100	94	11MAY	07MAY	06MAY	08MAY
CALDWELL	33	64	62	53	53.6	53.6	58.4	55.2	0	0	0	0	33	36	37	35	100	100	100	100	08MAY	05MAY	05MAY	06MAY
COKER 9323	32	34	63	43	55.2	51.6	55.9	54.2	0	0	0	0	30	31	36	32	100	86	100	95	09MAY	06MAY	04MAY	06MAY
HANCOCK	32	61	.	47	56.0	54.8	.	55.4	0	0	.	0	31	34	.	33	100	100	.	100	08MAY	06MAY	.	07MAY
FFR 525	31	62	.	46	56.0	55.1	.	55.5	0	0	.	0	31	35	.	33	100	100	.	100	07MAY	02MAY	.	04MAY
COKER 916	30	45	70	49	54.8	54.3	59.0	56.0	0	0	3	1	29	33	37	33	100	83	100	94	03MAY	02MAY	30APR	02MAY
ADDER	30	62	56	49	51.2	51.8	56.1	53.0	0	0	0	0	29	33	35	32	100	100	100	100	07MAY	06MAY	05MAY	06MAY
COMPTON	30	54	62	49	57.2	56.0	59.4	57.5	0	0	0	0	30	36	39	35	100	98	100	99	11MAY	06MAY	08MAY	08MAY
FLA 302	28	50	85	54	54.4	54.4	57.3	55.4	0	0	0	0	34	36	41	37	100	95	100	98	10MAY	05MAY	08MAY	08MAY
LINCOLN	28	41	71	47	50.4	53.9	58.9	54.4	0	0	0	0	31	35	40	35	100	100	100	100	03MAY	04MAY	07MAY	05MAY
ARTHUR	27	38	55	40	55.2	55.8	59.5	56.8	0	0	0	0	33	34	42	36	100	83	100	94	06MAY	04MAY	06MAY	05MAY
CHEROKEE	27	.	.	27	53.6	.	.	53.6	0	.	.	0	34	.	.	34	100	.	.	100	03MAY	.	.	03MAY
DYNASTY	26	62	66	51	51.2	55.0	58.8	55.0	0	0	0	0	32	36	41	36	100	100	100	100	06MAY	05MAY	07MAY	05MAY
SCOTTY	26	47	65	46	55.6	54.2	57.1	55.6	0	0	0	0	32	34	39	35	100	100	100	100	09MAY	05MAY	06MAY	07MAY
DOUBLECROP	25	50	60	45	57.2	56.4	61.2	58.3	0	0	0	0	31	35	41	36	100	100	100	100	03MAY	28APR	29APR	30APR
TWAIN	24	53	79	52	52.0	57.6	60.7	56.8	0	0	0	0	33	35	43	37	100	100	100	100	02MAY	01MAY	03MAY	02MAY
MEAN	34	53	71	49	55.3	54.6	58.2	55.8	0	0	0	0	32	35	40	35	100	96	100	99	07MAY	04MAY	05MAY	05MAY

CV = 13.84

LSD(0.05) = 6.8 BU/A

Table 5.—Wheat Performance Trials for Western Coal Field Region, 1988-1990.

VARIETY	-- YIELD (BU/AC) --				TEST WT (LB/BU)				--- PCT LOOSED ---				PLANT HEIGHT (IN)				-- PCT SURVIVAL --				HEADING DATE			
	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN
2548	61	77	.	69	58.2	55.7	.	56.9	5	0	.	3	36	35	.	36	100	100	.	100	09MAY	06MAY	.	07MAY
FFR 374	60	.	.	60	55.4	.	.	55.4	13	.	.	13	36	.	.	36	100	.	.	100	07MAY	.	.	07MAY
COKER 9877	58	74	72	68	58.4	55.4	59.4	57.7	3	30	0	11	41	39	37	39	100	99	99	99	15MAY	09MAY	09MAY	11MAY
COKER 833	56	73	69	66	60.4	54.9	59.6	58.3	29	53	0	27	41	39	38	39	100	100	100	100	14MAY	07MAY	10MAY	10MAY
COKER 9323	55	71	61	62	59.4	56.3	58.6	58.1	24	4	0	9	36	36	34	35	98	99	100	99	12MAY	05MAY	06MAY	08MAY
HOWELL	55	73	.	64	61.3	58.8	.	60.0	3	0	.	1	43	41	.	42	96	98	.	97	15MAY	13MAY	.	14MAY
ADDER	54	81	46	60	58.4	53.9	57.6	56.6	0	0	0	0	37	35	34	35	100	100	100	100	10MAY	05MAY	10MAY	08MAY
TYLER	54	81	69	68	58.2	54.5	59.6	57.4	19	0	0	6	43	42	39	41	100	100	100	100	11MAY	08MAY	10MAY	10MAY
FFR 568	54	.	.	54	58.0	.	.	58.0	3	.	.	3	41	.	.	41	100	.	.	100	11MAY	.	.	11MAY
WHEELER	53	78	62	64	59.7	56.9	61.5	59.4	0	31	0	10	40	42	41	41	100	100	100	100	11MAY	06MAY	08MAY	09MAY
ABI 85-81	52	.	.	52	57.2	.	.	57.2	15	.	.	15	37	.	.	37	100	.	.	100	08MAY	.	.	08MAY
FLA 302	52	77	70	67	56.9	54.6	59.6	57.0	8	23	0	10	39	39	39	39	100	100	100	100	12MAY	05MAY	10MAY	09MAY
CLARK	52	80	60	64	55.2	54.9	58.9	56.3	0	0	0	0	38	37	35	37	100	100	100	100	04MAY	02MAY	05MAY	03MAY
COKER 9733	52	68	65	62	61.8	57.9	61.4	60.4	33	46	0	26	41	41	41	41	100	100	100	100	11MAY	05MAY	07MAY	08MAY
HANCOCK	51	72	.	62	60.0	55.8	.	57.9	0	0	.	0	37	36	.	36	100	99	.	99	13MAY	09MAY	.	11MAY
COKER 9024	51	.	.	51	58.6	.	.	58.6	54	.	.	54	42	.	.	42	100	.	.	100	11MAY	.	.	11MAY
CARDINAL	50	73	59	61	57.6	56.7	59.5	57.9	0	0	0	0	41	40	39	40	100	99	100	100	13MAY	11MAY	11MAY	12MAY
SCOTTY	49	75	57	60	58.2	56.8	60.2	58.4	20	3	0	8	39	38	37	38	100	99	100	100	12MAY	06MAY	09MAY	09MAY
BECKER	48	85	66	66	57.0	53.2	58.4	56.2	0	0	0	0	37	36	33	35	100	100	100	100	11MAY	08MAY	11MAY	10MAY
FFR 544	48	91	.	70	57.6	54.8	.	56.2	5	6	.	6	38	38	.	38	100	100	.	100	07MAY	05MAY	.	06MAY
COKER 916	47	68	67	60	56.8	55.7	60.0	57.5	21	28	0	16	34	35	33	34	98	98	100	98	06MAY	03MAY	03MAY	04MAY
COKER 9803	47	.	.	47	60.6	.	.	60.6	80	.	.	80	33	.	.	33	100	.	.	100	04MAY	.	.	04MAY
SALUDA	47	76	62	62	60.0	55.5	62.4	59.3	50	0	0	17	36	34	34	35	99	99	100	99	11MAY	05MAY	10MAY	09MAY
FFR 525	47	69	.	58	59.0	55.4	.	57.2	84	60	.	72	38	38	.	38	98	95	.	96	08MAY	04MAY	.	06MAY
COKER 9766	45	72	67	61	58.2	54.6	58.4	57.1	46	51	0	33	37	36	36	36	100	100	100	100	13MAY	07MAY	10MAY	10MAY
MASSEY	45	67	63	58	58.0	54.6	60.7	57.8	21	44	0	22	40	39	37	39	100	100	100	100	07MAY	03MAY	07MAY	06MAY
COMPTON	43	75	57	58	59.2	57.0	60.3	58.8	8	0	0	3	39	38	35	37	100	100	100	100	12MAY	08MAY	09MAY	10MAY
2555	43	85	63	63	53.8	53.9	61.0	56.2	3	24	0	9	38	36	35	36	100	100	100	100	05MAY	03MAY	08MAY	05MAY
CALDWELL	42	71	59	58	57.2	55.2	61.0	57.8	0	8	0	3	39	37	37	38	98	95	100	98	12MAY	07MAY	08MAY	09MAY
DYNASTY	42	74	58	58	53.6	55.8	60.1	56.5	0	0	0	0	42	39	37	39	100	100	100	100	09MAY	09MAY	10MAY	09MAY
ARTHUR	40	61	49	50	58.8	57.1	61.5	59.1	30	0	0	10	39	40	39	39	100	88	100	96	07MAY	05MAY	09MAY	07MAY
CHEROKEE	39	.	.	39	54.4	.	.	54.4	3	.	.	3	40	.	.	40	100	.	.	100	05MAY	.	.	05MAY
DOUBLECROF	38	70	58	55	58.0	58.0	62.8	59.6	50	0	0	17	38	38	40	39	96	100	100	99	04MAY	30APR	30APR	02MAY
LINCOLN	37	68	66	57	54.4	55.8	60.1	56.8	9	19	0	9	39	39	38	38	100	98	100	99	06MAY	06MAY	08MAY	07MAY
TWAIN	36	77	65	60	59.0	56.7	61.5	59.1	8	3	0	3	41	39	38	39	100	100	100	100	08MAY	03MAY	05MAY	05MAY
MEAN	49	75	62	60	58.0	55.7	60.2	57.8	18	15	0	14	39	38	37	38	99	99	100	99	09MAY	06MAY	08MAY	08MAY

CV = 12.54

LSD(0.05) = 8.7 BU/A

Table 6.—Wheat Performance Trials for Ohio Valley Region, 1988-1990.

VARIETY	-- YIELD (BU/AC) --				TEST WT (LB/BU)				--- PCT LOOGED ---				PLANT HEIGHT (IN)				-- PCT SURVIVAL --				HEADING DATE			
	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN
2548	66	86	.	76	57.6	52.8	.	55.2	0	55	.	28	32	39	.	35	100	100	.	100	07MAY	09MAY	.	08MAY
HOWELL	64	80	.	72	60.4	54.7	.	57.5	0	63	.	31	40	46	.	43	100	100	.	100	10MAY	12MAY	.	10MAY
CARDINAL	61	70	94	75	57.6	51.3	60.8	56.6	0	40	0	13	39	45	44	43	100	100	100	100	10MAY	11MAY	09MAY	10MAY
FFR 525	59	77	.	68	57.7	53.4	.	55.5	0	59	.	29	32	42	.	37	100	100	.	100	06MAY	08MAY	.	07MAY
ABI 85-81	57	.	.	57	54.8	.	.	54.8	0	.	.	0	33	.	.	33	100	.	.	100	05MAY	.	.	05MAY
COKER 833	57	71	96	75	59.2	52.4	61.0	57.5	0	76	0	25	37	43	43	41	100	100	100	100	13MAY	11MAY	08MAY	11MAY
WHEELER	56	76	83	72	58.4	55.5	63.4	59.1	0	48	5	18	38	44	43	42	100	100	100	100	09MAY	11MAY	07MAY	09MAY
FFR 568	56	.	.	56	57.6	.	.	57.6	0	.	.	0	37	.	.	37	100	.	.	100	10MAY	.	.	10MAY
TYLER	56	59	94	70	56.8	52.2	61.1	56.7	0	20	0	7	39	45	43	42	100	100	100	100	11MAY	11MAY	08MAY	10MAY
COKER 9024	56	.	.	56	57.6	.	.	57.6	0	.	.	0	38	.	.	38	100	.	.	100	12MAY	.	.	12MAY
COKER 9803	55	.	.	55	61.3	.	.	61.3	0	.	.	0	30	.	.	30	100	.	.	100	05MAY	.	.	05MAY
HANCOCK	53	71	.	62	60.0	54.5	.	57.3	0	60	.	30	32	41	.	36	100	100	.	100	09MAY	10MAY	.	09MAY
FLA 302	52	77	95	75	57.6	51.1	61.2	56.6	0	71	0	24	36	43	40	40	100	100	100	100	08MAY	09MAY	07MAY	08MAY
2555	52	71	90	71	57.0	50.7	62.1	56.6	0	15	0	5	34	41	39	38	100	100	100	100	06MAY	07MAY	08MAY	07MAY
COKER 9323	52	74	90	72	53.6	53.3	60.3	55.7	0	41	0	14	34	40	38	37	100	100	100	100	08MAY	09MAY	05MAY	07MAY
COKER 9877	51	70	106	76	57.6	51.4	61.3	56.8	0	45	0	15	37	43	43	41	100	100	100	100	14MAY	12MAY	07MAY	11MAY
FFR 374	50	.	.	50	55.6	.	.	55.6	0	.	.	0	31	.	.	31	100	.	.	100	08MAY	.	.	08MAY
ADDER	50	69	74	64	57.6	52.2	59.0	56.3	0	36	0	12	32	39	37	36	100	100	100	100	08MAY	11MAY	08MAY	09MAY
COKER 9766	49	63	81	64	55.6	50.5	61.3	55.8	0	33	3	12	34	41	40	38	100	100	100	100	12MAY	11MAY	08MAY	10MAY
SALUDA	49	73	98	73	56.0	52.4	63.9	57.4	0	65	0	22	31	39	38	36	100	100	100	100	06MAY	11MAY	08MAY	08MAY
SCOTTY	48	72	88	69	58.9	55.2	61.2	58.4	0	45	0	15	35	42	40	39	100	100	100	100	10MAY	10MAY	08MAY	09MAY
COKER 9733	48	67	92	69	60.0	56.3	63.0	59.8	0	45	0	15	38	47	46	43	100	100	100	100	08MAY	08MAY	06MAY	07MAY
COKER 916	48	65	91	68	57.2	52.4	61.7	57.1	0	54	0	18	31	40	39	37	100	100	100	100	04MAY	04MAY	02MAY	03MAY
ARTHUR	47	58	67	58	59.0	55.0	62.4	58.8	0	8	0	3	37	45	42	41	100	100	100	100	05MAY	08MAY	06MAY	06MAY
MASSEY	47	56	91	65	58.0	51.9	61.3	57.1	0	75	0	25	36	42	42	40	100	100	100	100	09MAY	07MAY	05MAY	07MAY
BECKER	47	67	99	71	57.2	49.2	60.4	55.6	0	28	0	9	32	41	37	36	100	100	100	100	10MAY	11MAY	11MAY	11MAY
DOUBLECROP	46	71	64	61	54.4	53.8	63.2	57.1	0	34	0	11	36	44	42	41	100	100	100	100	01MAY	30APR	29APR	30APR
CHEROKEE	46	.	.	46	55.4	.	.	55.4	0	.	.	0	37	.	.	37	100	.	.	100	06MAY	.	.	06MAY
DYNASTY	45	69	69	61	60.0	54.8	62.3	59.0	0	28	0	9	36	44	40	40	100	100	100	100	08MAY	08MAY	09MAY	09MAY
CALDWELL	43	57	84	61	56.6	53.8	62.4	57.6	0	25	0	8	37	42	40	40	100	100	100	100	08MAY	11MAY	08MAY	09MAY
COMPTON	42	64	88	65	58.6	55.3	62.6	58.8	0	74	0	25	34	41	38	38	100	100	100	100	09MAY	11MAY	08MAY	09MAY
FFR 544	42	80	.	61	53.6	50.9	.	52.2	0	36	.	18	34	42	.	38	100	100	.	100	06MAY	08MAY	.	07MAY
TWAIN	40	75	96	70	55.2	53.9	63.0	57.4	0	49	0	16	35	42	42	40	100	100	100	100	06MAY	04MAY	05MAY	05MAY
CLARK	39	79	83	67	52.0	51.7	59.5	54.4	0	68	0	23	33	42	40	38	100	100	100	100	04MAY	02MAY	05MAY	04MAY
LINCOLN	34	54	79	55	50.4	52.7	61.0	54.7	0	33	0	11	34	42	39	38	100	100	100	100	05MAY	09MAY	08MAY	07MAY
MEAN	50	70	87	65	57.0	52.9	61.6	56.9	0	46	0	14	35	42	41	38	100	100	100	100	08MAY	09MAY	07MAY	07MAY

CV = 10.2%
LSD (0.05) = 7.3 BU/A

Table 7.—Wheat Performance Trials for Bluegrass Region, 1988-1990.

VARIETY	-- YIELD (BU/AC) --				TEST WT (LB/BU)				--- PCT LODGED ---				PLANT HEIGHT (IN)				-- PCT SURVIVAL --				HEADING DATE			
	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN
FFR 568	46	.	.	46	57.0	.	.	57.0	11	.	.	11	36	.	.	36	100	.	.	100	16MAY	.	.	16MAY
COKER 9803	44	.	.	44	61.6	.	.	61.6	13	.	.	13	32	.	.	32	99	.	.	99	16MAY	.	.	16MAY
ABI 85-81	43	.	.	43	53.2	.	.	53.2	55	.	.	55	35	.	.	35	100	.	.	100	09MAY	.	.	09MAY
COKER 9733	42	71	57	57	59.6	58.4	62.0	60.0	25	6	0	10	40	42	35	39	100	99	93	97	19MAY	15MAY	14MAY	16MAY
COKER 9024	42	.	.	42	56.8	.	.	56.8	18	.	.	18	38	.	.	38	99	.	.	99	18MAY	.	.	18MAY
2555	41	66	63	57	56.4	54.9	60.8	57.4	5	0	0	2	35	37	32	35	98	96	90	95	16MAY	15MAY	12MAY	14MAY
2548	40	84	.	62	56.8	56.9	.	56.8	5	0	.	3	32	36	.	34	100	94	.	97	11MAY	15MAY	.	13MAY
TWAIN	39	65	69	58	59.2	57.8	61.6	59.5	23	26	0	16	36	38	36	37	96	91	94	94	15MAY	11MAY	12MAY	13MAY
WHEELER	39	55	61	51	60.0	59.0	62.3	60.4	15	34	0	16	39	42	37	39	94	94	91	93	18MAY	19MAY	15MAY	17MAY
SALUDA	38	76	69	61	59.0	57.0	63.7	59.9	36	1	0	13	32	36	32	33	98	93	89	93	12MAY	14MAY	14MAY	13MAY
COKER 833	36	58	62	52	59.2	56.4	57.2	57.6	24	48	0	24	37	38	33	36	99	96	95	97	16MAY	19MAY	16MAY	17MAY
SCOTTY	36	71	64	57	54.2	57.0	59.7	57.0	16	0	0	5	36	39	32	36	99	93	94	95	15MAY	17MAY	15MAY	16MAY
TYLER	36	66	61	54	56.8	56.7	59.6	57.7	31	0	0	10	39	43	34	39	99	88	90	92	15MAY	18MAY	15MAY	16MAY
MASSEY	35	64	59	53	56.8	56.9	60.8	58.2	48	35	0	28	36	40	35	37	96	98	89	94	15MAY	14MAY	14MAY	14MAY
BOWELL	35	78	.	57	58.8	60.2	.	59.5	9	0	.	4	38	43	.	41	100	89	.	94	14MAY	19MAY	.	17MAY
CARDINAL	35	72	66	58	54.0	57.6	59.5	57.0	50	0	0	17	37	42	35	38	100	93	88	93	14MAY	18MAY	15MAY	16MAY
COMPTON	35	64	58	53	55.2	57.8	62.0	58.3	56	0	0	19	34	38	31	34	95	93	91	93	12MAY	18MAY	15MAY	15MAY
FFR 525	35	66	.	50	58.0	56.8	.	57.4	29	3	.	16	33	39	.	36	99	88	.	93	16MAY	14MAY	.	15MAY
ADDER	35	76	53	55	51.0	57.0	55.4	54.5	15	0	0	5	33	36	31	34	98	95	84	92	14MAY	16MAY	15MAY	15MAY
LINCOLN	34	82	68	62	52.8	56.4	59.4	56.2	43	6	0	16	35	41	33	36	98	93	86	92	08MAY	13MAY	14MAY	12MAY
CLARK	34	71	66	57	54.4	56.0	60.2	56.9	23	0	0	8	35	38	33	35	99	94	95	96	08MAY	10MAY	11MAY	10MAY
CHEROKEE	34	.	.	34	53.6	.	.	53.6	14	.	.	14	37	.	.	37	96	.	.	96	15MAY	.	.	15MAY
COKER 9877	34	63	60	52	56.4	53.6	57.9	56.0	15	21	0	12	37	39	34	37	98	100	86	95	18MAY	21MAY	18MAY	19MAY
COKER 916	34	52	60	48	56.4	55.8	59.2	57.1	28	4	0	10	33	34	31	32	84	95	90	90	11MAY	10MAY	11MAY	11MAY
COKER 9323	33	62	60	52	57.6	56.2	58.9	57.6	19	25	0	15	33	37	31	33	99	96	91	95	15MAY	15MAY	13MAY	15MAY
FFR 374	33	.	.	33	52.8	.	.	52.8	10	.	.	10	32	.	.	32	99	.	.	99	16MAY	.	.	16MAY
ARTHUR	32	65	50	49	57.6	58.1	62.1	59.3	33	0	0	11	36	44	36	39	98	86	84	89	12MAY	14MAY	13MAY	13MAY
FLA 302	31	75	63	56	54.4	55.8	56.8	55.7	0	9	0	3	37	42	35	38	99	98	90	95	19MAY	15MAY	15MAY	16MAY
BECKER	31	74	62	56	52.8	56.4	56.5	55.2	1	0	0	0	33	36	28	32	99	96	88	94	12MAY	17MAY	16MAY	15MAY
DYNASTY	30	73	59	54	52.0	56.9	61.4	56.8	26	0	0	9	35	41	35	37	96	90	89	92	12MAY	18MAY	15MAY	15MAY
COKER 9766	30	67	59	52	57.6	54.9	57.6	56.7	43	33	0	25	35	37	32	35	93	89	88	90	18MAY	19MAY	16MAY	18MAY
DOUBLECROP	29	35	54	40	58.2	57.0	63.7	59.6	24	0	0	8	35	39	35	37	98	91	95	95	11MAY	08MAY	10MAY	09MAY
CALDWELL	29	64	56	50	52.0	57.3	59.8	56.4	18	0	0	6	35	40	33	36	96	88	83	89	09MAY	16MAY	14MAY	13MAY
HANCOCK	26	73	.	49	55.2	58.1	.	56.6	24	8	.	16	33	38	.	35	98	90	.	94	15MAY	16MAY	.	15MAY
FFR 544	25	83	.	54	51.2	56.5	.	53.8	6	10	.	8	32	41	.	37	100	95	.	98	10MAY	13MAY	.	12MAY
MEAN	35	68	61	52	56.0	56.9	59.9	57.1	23	9	0	13	35	39	33	36	98	93	90	94	14MAY	15MAY	14MAY	14MAY

CV = 13.24
LSD(0.05) = 6.7 BU/A

Table 8.—Wheat Performance Trials for Southern Tier Region*, 1988-1990.

VARIETY	-- YIELD (BU/AC) --				TEST WT (LB/BU)				--- PCT LODGED ---				PLANT HEIGHT (IN)				-- PCT SURVIVAL --				HEADING DATE			
	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN
HOWELL	39	76	.	58	56.0	61.2	.	58.6	0	25	.	13	42	40	.	41	100	100	.	100	11MAY	08MAY	.	09MAY
2548	37	81	.	59	49.2	57.8	.	53.5	3	20	.	11	36	32	.	34	100	100	.	100	08MAY	03MAY	.	05MAY
COKER 9323	35	71	90	65	51.2	56.9	58.5	55.5	44	40	0	28	34	35	37	35	100	98	100	99	08MAY	02MAY	07MAY	06MAY
COKER 9877	35	60	84	60	53.2	56.6	54.1	54.6	4	61	11	25	40	37	39	39	100	90	93	94	16MAY	09MAY	10MAY	12MAY
COKER 9803	35	.	.	35	53.6	.	.	53.6	18	.	.	18	34	.	.	34	100	.	.	100	07MAY	.	.	07MAY
COKER 833	35	69	76	60	55.0	56.2	55.9	55.7	25	66	8	33	39	37	40	39	100	100	100	100	14MAY	05MAY	09MAY	09MAY
CLARK	34	93	97	75	51.2	57.2	59.6	56.0	0	25	0	8	37	37	41	38	100	100	100	100	02MAY	30APR	04MAY	02MAY
COKER 9733	31	65	89	62	52.4	58.7	56.2	55.8	68	25	16	36	38	38	44	40	100	100	93	98	08MAY	02MAY	06MAY	05MAY
CARDINAL	30	91	84	68	50.8	57.3	57.1	55.1	6	0	0	2	40	41	43	41	100	100	100	100	10MAY	04MAY	11MAY	09MAY
WHEELER	30	81	68	59	53.8	58.4	59.1	57.1	8	50	43	33	38	40	44	40	100	100	93	98	10MAY	04MAY	08MAY	07MAY
FFR 525	30	66	.	48	51.2	56.8	.	54.0	75	93	.	84	35	35	.	35	100	100	.	100	06MAY	02MAY	.	04MAY
2555	30	85	107	74	48.0	56.8	60.0	54.9	61	44	0	35	35	36	41	37	100	100	85	95	05MAY	02MAY	04MAY	04MAY
COKER 916	29	69	92	63	43.0	55.9	58.9	****	6	54	3	21	34	33	37	35	98	100	93	97	07MAY	30APR	02MAY	03MAY
FFR 568	29	.	.	29	51.2	.	.	51.2	40	.	.	40	38	.	.	38	100	.	.	100	09MAY	.	.	09MAY
FLA 302	28	75	94	66	47.2	56.1	57.3	53.5	24	46	4	25	37	37	41	38	100	91	100	97	09MAY	04MAY	08MAY	07MAY
COKER 9024	28	.	.	28	55.2	.	.	55.2	68	.	.	68	40	.	.	40	100	.	.	100	10MAY	.	.	10MAY
ABI 85-81	27	.	.	27	46.8	.	.	46.8	63	.	.	63	36	.	.	36	100	.	.	100	06MAY	.	.	06MAY
SALUDA	26	71	89	62	54.4	57.5	60.2	57.4	56	31	1	30	34	33	38	35	100	100	85	95	06MAY	04MAY	08MAY	06MAY
CALDWELL	25	71	83	60	45.6	56.1	58.4	53.4	4	13	1	6	40	38	41	39	100	100	100	100	08MAY	04MAY	08MAY	07MAY
FFR 544	25	75	.	50	48.0	56.1	.	52.0	21	20	.	21	37	37	.	37	100	100	.	100	05MAY	03MAY	.	04MAY
FFR 374	25	.	.	25	46.4	.	.	46.4	19	.	.	19	32	.	.	32	100	.	.	100	08MAY	.	.	08MAY
ADDER	23	83	70	59	50.0	56.3	54.7	53.7	10	28	0	13	35	36	38	36	100	100	100	100	10MAY	03MAY	09MAY	07MAY
MASSEY	23	68	83	58	50.8	56.9	57.9	55.2	40	28	24	30	37	36	42	38	100	100	93	98	09MAY	30APR	06MAY	05MAY
HANCOCK	23	81	.	52	52.0	56.7	.	54.3	55	80	.	68	35	34	.	35	100	100	.	100	10MAY	04MAY	.	07MAY
DOUBLECROP	23	60	72	51	53.2	58.1	61.6	57.6	16	21	10	16	38	36	43	39	100	100	100	100	29APR	27APR	29APR	28APR
BECKER	21	92	90	68	50.0	55.4	56.9	54.1	3	46	0	16	36	34	38	36	100	100	100	100	09MAY	04MAY	09MAY	07MAY
DYNASTY	21	85	78	61	46.4	58.0	56.9	53.8	18	15	0	11	39	40	43	41	100	100	93	98	09MAY	04MAY	08MAY	07MAY
SCOTTY	21	75	80	59	44.0	58.0	56.8	52.9	38	45	4	29	36	37	41	38	100	100	100	100	09MAY	03MAY	07MAY	06MAY
COKER 9766	20	68	67	52	50.0	56.4	53.1	53.2	53	61	58	57	35	35	38	36	100	100	100	100	13MAY	03MAY	08MAY	08MAY
COMPTON	20	74	76	57	48.8	59.1	59.1	55.7	10	38	3	17	37	37	39	38	100	100	100	100	11MAY	04MAY	09MAY	08MAY
ARTHUR	20	67	68	52	50.8	59.0	60.0	56.6	24	10	10	15	37	39	45	40	100	100	93	98	05MAY	02MAY	07MAY	05MAY
CHEROKEE	20	.	.	20	44.8	.	.	44.8	10	.	.	10	39	.	.	39	100	.	.	100	06MAY	.	.	06MAY
TYLER	19	77	87	61	49.6	56.7	55.7	54.0	28	25	1	18	40	40	45	41	100	100	85	95	11MAY	05MAY	09MAY	08MAY
TWAIN	14	62	80	52	53.6	58.4	62.2	58.1	19	58	28	35	37	37	44	39	100	100	100	100	07MAY	30APR	05MAY	04MAY
LINCOLN	11	74	71	52	41.6	56.6	57.5	51.9	29	61	16	35	36	39	41	39	100	100	93	98	06MAY	03MAY	08MAY	06MAY
MEAN	26	75	82	54	50.2	57.3	57.8	54.1	27	39	10	28	37	37	41	38	100	99	96	99	08MAY	03MAY	07MAY	06MAY

CV = 19.54
LSD = 7.2 BU/A

*Location was Princeton, limestone soil.

Table 8A.—Wheat Performance Trials for Southern Tier Region*, 1988-1990.

VARIETY	-- YIELD (BU/AC) --				TEST WT (LB/BU)				--- PCT LODGED ---				PLANT HEIGHT (IN)				-- PCT SURVIVAL --				HEADING DATE			
	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN
COKER 9803	68	.	.	68	60.8	.	.	60.8	0	.	.	0	30	.	.	30	100	.	.	100	27APR	.	.	27APR
COKER 9323	66	61	95	74	55.8	55.0	60.4	57.1	3	0	0	1	32	30	40	34	100	100	93	98	28APR	02MAY	26APR	29APR
CLARK	65	57	95	73	57.7	52.2	60.0	56.6	3	0	0	1	34	30	40	35	100	100	100	100	25APR	28APR	28APR	27APR
ABI 85-81	65	.	.	65	54.2	.	.	54.2	0	.	.	0	34	.	.	34	100	.	.	100	28APR	.	.	28APR
2548	65	75	.	70	57.8	55.4	.	56.6	3	0	.	1	33	30	.	31	100	100	.	100	29APR	02MAY	.	30APR
COKER 833	64	79	99	81	57.6	53.1	60.8	57.2	0	0	0	0	37	33	42	37	100	100	100	100	07MAY	05MAY	02MAY	05MAY
FFR 374	62	.	.	62	54.2	.	.	54.2	0	.	.	0	31	.	.	31	100	.	.	100	28APR	.	.	28APR
LINCOLN	61	68	100	76	57.2	53.0	60.7	57.0	10	0	0	3	33	34	43	36	100	100	100	100	27APR	01MAY	04MAY	01MAY
COKER 9733	61	66	85	71	30.2	53.9	61.7	48.6	23	0	0	8	38	36	45	39	100	100	89	96	06MAY	30APR	28APR	03MAY
FFR 568	61	.	.	61	55.2	.	.	55.2	0	.	.	0	35	.	.	35	100	.	.	100	30APR	.	.	30APR
SCOTTY	61	53	103	73	57.2	55.8	60.6	57.9	0	0	0	0	35	31	42	36	100	100	100	100	01MAY	03MAY	02MAY	02MAY
FFR 544	60	82	.	71	54.4	51.4	.	52.9	0	0	.	0	34	32	.	33	100	100	.	100	28APR	01MAY	.	29APR
COKER 916	59	55	95	70	56.2	55.1	61.2	57.5	3	0	0	1	31	29	40	33	100	100	100	100	26APR	28APR	25APR	27APR
SALUDA	59	67	108	78	57.4	53.4	63.3	58.0	0	0	0	0	31	29	40	33	100	100	100	100	29APR	02MAY	01MAY	30APR
COKER 9024	59	.	.	59	57.8	.	.	57.8	31	.	.	31	38	.	.	38	100	.	.	100	02MAY	.	.	02MAY
HOWELL	59	76	.	68	62.0	58.4	.	60.2	0	0	.	0	38	38	.	38	100	100	.	100	04MAY	07MAY	.	06MAY
FFR 525	58	59	.	59	58.2	54.1	.	56.1	28	0	.	14	32	33	.	32	100	100	.	100	26APR	29APR	.	27APR
2555	58	77	107	81	56.2	52.0	61.1	56.4	0	0	0	0	33	32	41	35	100	100	100	100	26APR	30APR	30APR	29APR
CARDINAL	57	83	109	83	54.4	44.8	59.8	53.0	0	0	0	0	39	39	44	40	100	100	100	100	05MAY	04MAY	06MAY	05MAY
FLA 302	57	83	104	81	56.6	56.1	60.2	57.6	0	0	0	0	34	34	41	36	100	100	90	97	06MAY	02MAY	30APR	02MAY
ADDER	56	77	96	77	55.6	51.4	59.7	55.6	0	0	0	0	31	32	40	34	100	100	100	100	01MAY	03MAY	03MAY	03MAY
COKER 9877	56	77	93	75	58.2	51.1	59.8	56.4	0	0	0	0	36	35	41	37	100	100	89	96	07MAY	05MAY	03MAY	05MAY
COKER 9766	55	58	99	70	54.0	55.5	59.4	56.3	30	0	0	10	34	30	42	35	100	100	100	100	03MAY	02MAY	29APR	01MAY
ARTHUR	55	51	87	64	59.2	52.4	61.2	57.6	5	0	0	2	36	33	46	38	100	100	100	100	28APR	01MAY	02MAY	30APR
WHEELER	54	71	95	73	58.0	53.8	61.6	57.8	0	0	0	0	38	36	47	40	100	100	100	100	29APR	03MAY	02MAY	01MAY
TYLER	54	72	99	75	55.4	55.1	60.3	56.9	0	0	0	0	38	37	45	40	100	100	100	100	03MAY	04MAY	05MAY	04MAY
COMPTON	53	66	87	69	58.0	56.5	62.3	58.9	0	0	0	0	32	31	41	35	100	100	100	100	30APR	03MAY	04MAY	02MAY
HANCOCK	53	70	.	61	57.6	51.5	.	54.5	18	0	.	9	32	32	.	32	100	100	.	100	01MAY	03MAY	.	02MAY
MASSEY	51	62	96	70	56.8	53.7	61.5	57.3	18	0	0	6	35	33	43	37	100	100	100	100	28APR	28APR	30APR	28APR
CALDWELL	49	62	99	70	54.0	54.0	61.2	56.4	0	0	0	0	36	33	41	37	100	100	100	100	30APR	03MAY	04MAY	02MAY
BECKER	49	74	104	76	52.0	53.7	59.8	55.2	0	0	0	0	32	31	37	33	100	100	100	100	01MAY	03MAY	05MAY	02MAY
DYNASTY	48	78	95	74	53.2	56.0	60.8	56.7	0	0	0	0	35	36	41	37	100	100	100	100	02MAY	03MAY	05MAY	03MAY
TWAIN	47	70	100	73	56.8	53.9	62.5	57.7	8	0	0	3	35	33	43	37	100	100	100	100	26APR	28APR	28APR	27APR
DOUBLECROP	44	57	64	55	60.8	52.9	62.6	58.8	0	0	0	0	34	32	43	36	100	100	100	100	21APR	26APR	24APR	23APR
CHEROKEE	44	.	.	44	53.2	.	.	53.2	4	.	.	4	36	.	.	36	100	.	.	100	27APR	.	.	27APR
MEAN	57	69	97	70	55.8	53.6	60.9	56.4	5	0	0	3	34	33	42	35	100	100	98	100	30APR	02MAY	01MAY	01MAY

CV = 9.2%
LSD = 7.5 BU/A

*Location was Bowling Green.

Table 9.—Wheat Performance Trials for North Central Region, 1988-1990.

VARIETY	-- YIELD (BU/AC) --				TEST WT (LB/BU)				--- PCT LODGED ---				PLANT HEIGHT (IN)				-- PCT SURVIVAL --			
	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN
COKER 9024	57	.	.	57	56.4	.	.	56.4	0	.	.	0	38	.	.	38	100	.	.	100
COKER 9733	52	59	62	58	59.6	56.5	62.4	59.5	0	46	0	15	38	42	37	39	100	100	100	100
2548	51	73	.	62	56.0	53.8	.	54.9	0	3	.	1	31	35	.	33	100	100	.	100
MASSEY	50	66	70	62	56.4	55.3	59.9	57.2	0	10	0	3	38	40	36	38	100	100	100	100
COKER 9803	50	.	.	50	58.8	.	.	58.8	0	.	.	0	31	.	.	31	100	.	.	100
FFR 568	49	.	.	49	54.4	.	.	54.4	0	.	.	0	36	.	.	36	100	.	.	100
COKER 9323	48	59	63	57	56.0	54.9	58.0	56.3	0	23	0	8	32	35	30	32	100	100	100	100
COKER 833	47	61	79	62	56.1	53.9	59.7	56.6	0	90	0	30	38	40	36	38	100	100	100	100
COKER 9877	45	63	67	58	56.2	57.0	58.9	57.4	0	65	0	22	38	40	33	37	100	100	100	100
WHEELER	44	59	61	55	59.2	54.8	62.1	58.7	0	31	0	10	35	41	36	37	100	100	100	100
ADDER	41	68	59	56	54.0	53.1	56.2	54.4	0	0	0	0	31	35	32	33	100	100	100	100
CLARK	41	77	74	64	48.8	54.5	60.4	54.6	0	8	0	3	35	39	35	36	100	100	100	100
FFR 374	41	.	.	41	52.4	.	.	52.4	0	.	.	0	33	.	.	33	100	.	.	100
COKER 916	41	63	62	55	54.4	54.3	60.8	56.5	0	3	0	1	31	37	30	33	100	100	100	100
CARDINAL	40	76	71	62	52.0	53.3	58.3	54.5	0	4	0	1	33	41	35	37	100	100	100	100
2555	39	81	85	69	52.4	52.1	60.4	55.0	0	5	0	2	33	36	35	34	100	100	100	100
FLA 302	39	65	55	53	53.6	53.9	58.2	55.2	0	38	0	13	34	39	31	35	100	100	100	100
ABI 85-81	38	.	.	38	50.8	.	.	50.8	0	.	.	0	34	.	.	34	100	.	.	100
ARTHUR	37	62	49	49	57.2	54.1	61.1	57.5	0	16	0	5	34	42	35	37	100	100	100	100
HOWELL	37	70	.	54	57.6	57.0	.	57.3	0	0	.	0	37	42	.	39	100	100	.	100
TYLER	37	68	69	58	55.6	54.0	60.2	56.6	0	0	0	0	36	41	34	37	100	100	100	100
COKER 9766	35	65	68	56	52.4	52.9	58.4	54.6	0	28	0	9	34	35	34	34	100	100	100	100
SCOTTY	35	67	55	52	55.2	54.9	58.9	56.3	0	3	0	1	35	39	31	35	100	100	100	100
TWAIN	34	67	77	59	56.0	55.0	62.7	57.9	0	45	0	15	35	38	35	36	100	100	100	100
DYNASTY	33	74	69	59	50.4	55.1	60.5	55.3	0	3	0	1	34	40	34	36	100	100	100	100
FFR 544	32	83	.	58	50.4	53.5	.	51.9	0	0	.	0	34	38	.	36	100	100	.	100
CALDWELL	32	62	61	52	52.0	53.8	61.1	55.6	0	0	0	0	33	39	32	35	100	100	100	100
BECKER	31	76	76	61	52.0	54.7	58.2	55.0	0	16	0	5	32	36	31	33	100	100	100	100
FFR 525	30	69	.	50	57.6	54.3	.	55.9	0	56	.	28	32	36	.	34	100	100	.	100
SALUDA	30	64	58	51	54.8	54.5	61.6	57.0	0	3	0	1	30	33	29	31	100	100	100	100
CHEROKEE	30	.	.	30	54.4	.	.	54.4	0	.	.	0	35	.	.	35	100	.	.	100
COMPTON	29	57	62	49	56.0	54.9	61.8	57.6	0	28	0	9	33	37	34	35	100	100	100	100
HANCOCK	28	70	.	49	55.2	54.5	.	54.8	0	43	.	21	31	37	.	34	100	100	.	100
LINCOLN	28	69	64	54	51.6	53.7	60.3	55.2	0	55	0	18	34	40	34	36	100	100	100	100
DOUBLECROP	27	55	61	48	53.2	55.3	63.1	57.2	0	23	0	8	33	40	36	37	100	100	100	100
MEAN	39	67	66	54	54.5	54.5	60.1	55.8	0	22	0	7	34	38	33	35	100	100	100	100

CV = 16%
LSD (0.05) = 8.9 BU/A

Table 11.—Characteristics of Barley Varieties Tested in 1990.

VARIETY	PROTECTED	SOURCE	RELEASE DATE	YIELD (BU/A)	TEST WEIGHT (LB/BU)	LODGING (%)	PLANT HEIGHT (IN.)	SURVIVAL (%)	HEADING DATE
WYSCR	NO	VIRGINIA	1985	73.3	42.7	14.2	38.4	100.0	02MAY90
SCHOCHOH	NO	KENTUCKY	1989	47.7	40.8	38.3	36.4	100.0	02MAY90
PIKE	YES	INDIANA	1975	41.4	39.0	42.5	33.7	100.0	25APR90
BARSOY	NO	KENTUCKY	1966	39.5	41.8	23.3	35.0	100.0	24APR90

Table 12.—Barley Performance Trials for Western Coal Field Region, 1988-1990.

VARIETY	-- YIELD (BU/AC) --				TEST WT (LB/BU)				--- PCT LODGED ---				PLANT HEIGHT (IN)				-- PCT SURVIVAL --				HEADING DATE			
	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN
WYSOR	65	72	95	78	42.7	43.6	46.7	44.3	10	0	0	3	38	38	37	37	100	91	94	95	06MAY	26APR	24APR	29APR
SCHOCHOH	45	86	93	75	41.3	48.0	49.0	46.1	18	0	0	6	37	36	35	36	100	93	95	96	04MAY	30APR	26APR	30APR
PIKE	35	85	102	74	39.8	45.2	50.7	45.2	60	13	0	24	33	34	31	33	100	100	100	100	26APR	21APR	20APR	22APR
BARSOY	34	83	77	64	41.4	48.0	49.3	46.2	25	16	0	14	35	36	32	34	100	93	80	91	26APR	18APR	15APR	20APR
MEAN	45	82	92	73	41.3	46.2	48.9	45.5	28	7	0	12	36	36	34	35	100	94	92	95	30APR	24APR	21APR	25APR

CV = 17.3*

LSD(0.05) = 10.6 BU/A

Table 13.—Barley Performance Trials for Bluegrass Region, 1988-1990.

VARIETY	-- YIELD (BU/AC) --				TEST WT (LB/BU)				--- PCT LODGED ---				PLANT HEIGHT (IN)				-- PCT SURVIVAL --				HEADING DATE			
	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN
WYSOR	82	100	101	95	39.4	42.0	48.8	43.4	.	45	3	24	38	42	39	39	100	98	91	96	30APR	01MAY	03MAY	01MAY
SCHOCHOH	57	84	87	76	39.7	43.0	49.1	43.9	.	85	3	44	36	38	39	38	100	100	93	98	01MAY	01MAY	05MAY	02MAY
PIKE	49	71	89	70	35.8	44.0	51.3	43.7	.	95	4	49	34	36	37	35	100	99	94	98	26APR	28APR	29APR	28APR
BARSOY	40	71	86	66	36.7	44.0	53.2	44.6	.	86	1	44	34	38	38	36	100	100	91	97	25APR	26APR	25APR	25APR
MEAN	57	81	91	77	37.9	43.3	50.6	43.9	.	78	3	40	35	38	38	37	100	99	92	97	28APR	29APR	30APR	29APR

CV = 12.1*

LSD(0.05) = 8.74 BU/A

Table 14.—Barley Performance Trials for Southern Region*, 1988-1990.

VARIETY	-- YIELD (BU/AC) --				TEST WT (LB/BU)				--- PCT LODGED ---				PLANT HEIGHT (IN)				-- PCT SURVIVAL --				HEADING DATE			
	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN
WYSOR	50	133	98	93	42.5	43.8	46.3	44.2	33	0	69	34	37	38	42	39	100	100	100	100	06MAY	21APR	26APR	28APR
PIKE	32	126	99	86	35.3	47.6	40.6	41.2	35	10	43	29	34	33	38	35	100	100	100	100	27APR	18APR	24APR	23APR
BARSOY	28	119	90	79	40.8	49.5	42.5	44.3	43	0	84	42	36	35	39	36	100	100	100	100	27APR	17APR	19APR	21APR
SCHOCHOH	26	137	93	85	36.4	47.9	41.8	42.0	83	0	85	56	35	35	39	36	100	100	100	100	06MAY	22APR	27APR	28APR
MEAN	34	129	95	86	38.7	47.2	42.8	42.9	48	3	70	40	35	35	39	37	100	100	100	100	01MAY	19APR	24APR	25APR

CV = 19.0%
LSD(0.05) = 9.2 BU/A

*Location was Princeton, limestone soil.

Table 14A.—Barley Performance Trials for Southern Tier Region*, 1988-1990.

VARIETY	-- YIELD (BU/AC) --				TEST WT (LB/BU)				--- PCT LODGED ---				PLANT HEIGHT (IN)				-- PCT SURVIVAL --				HEADING DATE			
	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN	1990	1989	1988	MEAN
WYSOR	95	124	99	106	46.1	42.2	46.4	44.9	0	0	0	0	41	35	36	37	100	100	100	100	27APR	25APR	20APR	24APR
SCHOCHOH	63	124	107	98	45.7	47.3	50.2	47.7	15	0	0	5	38	34	39	37	100	100	100	100	27APR	23APR	23APR	24APR
BARSOY	56	113	104	91	48.2	44.9	52.0	48.4	3	0	0	1	36	34	37	35	100	100	100	100	19APR	13APR	11APR	14APR
PIKE	49	101	122	91	45.0	45.4	50.4	46.9	33	0	0	11	34	30	35	33	100	100	100	100	20APR	18APR	18APR	18APR
MEAN	66	116	108	97	46.2	44.9	49.7	47.0	13	0	0	4	37	33	37	36	100	100	100	100	23APR	20APR	18APR	20APR

CV = 64.0%
LSD(0.05) = 12.3 BU/A

*Location was Bowling Green

