

Results of the KENTUCKY SMALL GRAIN YIELD TRIALS - 1956

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YOUR EXPERIMENT STATION RECOMMENDS

FOR THE 1956-57 SEASON

Winter Oats:	DUBOIS, ATLANTIC, and FORKEDEER
Winter Barley:	KENBAR and DAYTON
Winter Wheat:	KNOX, VIGO and DUAL (Seed supplies of Dual not readily available for 1956 planting)
Winter Rye:	BALBO
Spring Oats:	ANDREW and MO. 0205
Seed Source:	Kentucky Certified Seed

RESULTS OF THE 1955-56 TRIALS

In 1955-56, 36 varieties of winter oats, 36 of winter wheat and 36 of winter barley were tested at 3 locations in Kentucky. These locations were the Experiment Station Farm, Lexington; the Pennyrile Grain Improvement Association Field located on the Mr. W. G. Duncan, III, farm near Hopkinsville and the farm of Mr. Henry Wink near Owensboro. In addition 7 varieties of winter barley, 8 of winter wheat and 7 of winter oats were tested in combine trials at the Experiment Substation at Princeton. Twenty-six varieties of spring oats were tested at Lexington. No rye tests were conducted by the Experiment Station in 1955-56.

These tests include varieties being grown in Kentucky and neighboring states, older varieties which have been produced commercially in Kentucky and other states and experimental varieties not yet named developed by Kentucky and neighboring states. In this report only named varieties will be considered.

RESULTS OF THE KENTUCKY SMALL GRAIN VARIETY TRIALS, 1956

Verne C. Finkner and Randolph Richards

KNOW YOUR VARIETIES

No one variety is superior in all respects to all other varieties. Different farming systems require contrasting characteristics in varieties. Know your varieties and choose the variety which suits your needs the best. Below is a table listing some of the important characteristics of the recommended varieties. All of the recommended varieties have been tested in Kentucky in comparison with other varieties and are considered as good as or better than other varieties. Except in unusual cases, Kentucky certified seed is available for recommended varieties.

Character	Variety							
	Winter Wheat		Winter Barley		Winter Oats			
	Knox	Vigo	Dual	Kenbar	Dayton	Atlantic	Dubois	Forkeddeer
Winterhardness	good	very good	very good	good	good	good	very good	good
Earliness	very early	late	medium	very early	very early	early	medium	medium
Straw Strength	good	good	very good	good	good	medium	good	medium
Plant Height	short	tall	medium	medium	medium	medium	short	medium
Hessian fly	susceptible	susceptible	resistant	-----	-----	-----	-----	-----
Loose smut	susceptible	resistant	susceptible	medium	medium	resistant	resistant	susceptible
Leaf Rust	resistant	medium	medium	-----	-----	-----	-----	-----
Weight/Bu.	high	high	medium	medium	medium	high	very high	high
Yield	high	medium	very high	high	high	high	very high	high
Grain quality	very good	very good	good	good	good	good	very good	good

WINTER WHEAT

All varieties included in the test had a relative good yield. Conditions in general were favorable for wheat at all test locations. The varieties Clarkan, Saline, Trumbull and Thorne are older varieties which under favorable conditions still produce good yields. Each has certain characteristics, however, which make it less desirable than the now recommended varieties. The varieties American Banner and Genesee are white wheat varieties which yield well but are not readily accepted at Kentucky soft red winter wheat markets. The varieties Lucus from Ohio, Vermillion and Dual from Indiana, and Ky. 50-9929 from Kentucky are new varieties. Seed supplies of Dual, Vermillion and Ky. 50-9929 are being built up rapidly and may be available in 1957. For planting in 1956 seed supplies of Knox and Vigo should be plentiful and both have been good varieties under Kentucky conditions.

Winter Wheat Varieties
Yield in Bushels per Acre 1956

Variety	Lexing- ton	Hopkins- ville	Owens- boro	Prince- ton	State Av.
Clarkan	33.4	42.8	32.6	40.6	37.4
Saline	35.2	39.5	43.7	----	39.5
Trumbull	34.3	24.7	36.8	----	31.9
Lucus	36.8	34.8	40.9	36.6	37.3
Amer. Banner	30.0	40.8	36.4	----	35.7
Genesee	36.3	42.9	39.7	----	39.6
KY. 50-9929	34.7	49.1	40.9	42.5	41.8
DUAL	32.7	43.4	40.7	42.5	39.8
KNOX	32.9	41.3	46.7	36.0	39.2
VERMILLION	35.8	39.7	38.5	37.9	38.0
Thorne	34.0	44.2	45.2	40.6	41.0
Vigo	28.6	43.4	38.8	39.0	37.4
Test Average	33.7	40.6	40.1	39.5	

(Recommended varieties are capitalized)

WINTER BARLEY

The season for the most part was ideal at all locations except Lexington where cold weather caught some varieties at a susceptible time. This is shown by the yield of Dayton. Dayton was near the top at other locations but was seriously damaged by cold weather at Lexington. The varieties Kearney, Mo. B-400, Dicktoo, Reno, Ward and Olympia are varieties that are not well adapted to Kentucky and have been lower yielding. They also are very weak strawed under Kentucky conditions. The most outstanding variety was Kenate recently named by Canada. This variety is a re-selection made from a Kentucky strain selected at the same time Kenbar was. The variety was superior this year, but will need additional testing. The varieties Mo. B-475 from Missouri and Decatur from Indiana were named and released by those states in 1955. They appear to have no particular advantages over the recommended varieties Kenbar and Dayton. For a complete description of Dayton see back of cover page.

Winter Barley Varieties
Yield in Bushels per Acre 1956

Variety	Lexing- ton	Hopkins- ville	Owens- boro	Prince- ton	State Av.
Kearney	47.6	37.6	45.8	----	43.7
Mo. B-400	61.1	53.1	46.7	----	53.6
Mo. B-475	65.0	59.0	54.2	50.8	57.2
Dicktoo	54.0	35.8	47.7	----	45.8
Reno	54.4	51.4	48.0	----	51.3
Ward	54.7	51.9	52.6	----	53.1
Hudson	50.2	65.5	55.6	56.6	57.0
DAYTON	43.3	69.8	60.8	59.8	58.4
Kenate	74.3	71.0	59.1	----	67.8
KENBAR	63.4	67.9	51.7	58.8	60.4
Kentucky 1	54.6	60.0	56.9	50.9	55.6
Olympia	38.6	51.4	52.6	----	47.5
Decatur	57.3	54.3	51.9	----	54.5
Test Average	55.3	56.1	52.6	55.4	

(Recommended varieties are capitalized)

WINTER OATS

The winter oat varieties were injured rather severely by cold weather at Lexington and some damage at Owensboro. The variety LeConte from Tennessee performed better this year than in previous years. In the past LeConte has not been considered winter hardy enough for Kentucky. The variety Lee is an old variety commonly grown previous to modern breeding and testing programs. It is inferior to the recommended varieties. The varieties Wintok and Fulwin are older varieties with superior winterhardness but weak straw makes them inferior as commercial varieties. The varieties Coy, Mustang, and Cimarron are more recent varieties but often are not winter hardy enough for Kentucky. The variety Bronco was named and released by the Texas Agricultural Experiment Station in 1956. This variety has been tested for a period of years in Kentucky and thought to be superior. Seed supplies are being increased and this variety may be available in future years.

For planting in 1956 the varieties Dubois, Atlantic and Forkeddeer are recommended. These varieties have been among the highest yielding and are superior in other agronomic characteristics. Kentucky certified seed of these varieties are available.

Winter Oat Varieties
Yield in Bushels per Acre 1956

Variety	Lexington	Hopkinsville	Owensboro	Princeton	State Av.
LeConte	54.2	68.7	70.6	78.5	68.0
DUBOIS	43.8	70.0	67.7	82.0	65.9
Bronco	61.0	68.8	60.1	71.1	65.2
Lee	30.6	72.3	49.9	----	50.9
Mustang	25.2	79.2	59.1	88.7	63.0
Coy	45.0	61.5	55.4	----	54.0
Cimarron	42.1	54.4	65.4	----	54.0
Wintok	46.1	69.4	75.2	----	63.6
FORKEDEER	50.6	77.4	56.1	76.9	65.2
ATLANTIC	37.6	78.6	57.0	76.0	62.3
Fulwin	36.8	60.3	45.4	69.8	53.1
Test Average	43.0	69.1	60.2	77.6	

(Recommended varieties are capitalized)

SPRING OATS

Variety	Yield in Bu/A Lexington, 1956
MO. 0205	30.8
Columbia	23.6
Nemaha	19.4
Clintland	26.2
Clinton 59	22.9
Kanota	26.3
ANDREW	31.7
Dupree	26.0
Osage	16.3
Newton	27.9
Cherokee	25.4

Recommended varieties are capitalized.

As has been true for the the last few years none of the older varieties such as Columbia, Nemaha, Clinton 59, Kanota and Cherokee have been as high as yielding as the recommended varieties Mo. 0205 and Andrew. The newer oat varieties such as Clintland, Dupree and Newton do not appear to be any better in Kentucky than the recommended varieties. The variety Osage is susceptible to the disease Victoria blight, showing that spring oat varieties that are susceptible to this disease are unsatisfactory.

WINTER RYE

Variety yield trials were not conducted on rye varieties in 1956. Previous data have shown no variety to be superior to Balbo as a winter cover crop and early spring grazing for livestock. The variety Tetra-Petkus has been slightly superior in grain yield but has been about two weeks later than Balbo in providing spring grazing.

Since rye is a cross pollinated crop and Tetra Petkus has twice as many chromosomes as Balbo every precaution should be taken to avoid planting these varieties adjacent to each other. Detailed studies have shown that adjacent planting reduces the yield of both varieties and also seed resulting from crossing of these two varieties produces inferior plants and seed yields in succeeding years.

DAYTON WINTER BARLEY

Dayton winter barley was named and released by the Ohio Agricultural Experiment Station in 1955. Seed was purchased by the Kentucky Agricultural Experiment Station in 1954. This seed was increased by Kentucky Seed Stocks, Inc. during the 1954-55 season. The resulting seed was then released to Kentucky Certified Seed growers for further increase during the 1955-56 season. Limited quantities of certified seed should be available to Kentucky farmers this year and quantities should meet the demand in 1957.

Dayton originated as a selection from Composite Cross X, C. I. 6625. The exact parentage of Dayton is unknown since 18 parent varieties made up the composite cross. These varieties were Polish, Admire, Winter Club, Marnobarb, Kentucky 11, Tennessee Winter, Harlan Hybrid, Olympia, Smooth Awn 203, Mo. Early Beardless, Tenn. Winter 52, Parla, Han River Nakano Wase, Black Russian, Wisconsin Winter, Tenn. 6 and Abate.

Dayton has performed in Kentucky very similarly to Kenbar, with the exception that it has been slightly better in most respects and inferior in none. Below are listed comparative agronomic data of Dayton and Kenbar in Kentucky.

<u>Characteristic</u>	<u>Dayton</u>	<u>Kenbar</u>
Yield, Bu/A	52.1	48.8
Weight/Bu. lbs/bu.	45.7	45.4
% lodged	21.2	28.4
Date headed (April)	28	30
Height (Inches)	34	33

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