

YIELD RESULTS OF SMALL GRAIN VARIETY TRIALS IN KENTUCKY, 1955

By Verne C. Finkner, J. F. Shane, and Leo A. Link

(Preliminary results)

YOUR EXPERIMENT STATION RECOMMENDS:

Dubois, Atlantic, Forkeddeer Winter Oats

Knox, Vigo, Thorne Winter Wheat

Kenbar Winter Barley

Balbo Winter Rye

Kentucky Certified Seed
Chemically Treated Seed

For Fall Planting in 1955.

AGRICULTURAL EXPERIMENT STATION
UNIVERSITY OF KENTUCKY
LEXINGTON

in cooperation with the

Agricultural Research Service U. S. D. A.
and the
Pennyrile Grain Improvement Association

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On the following pages are summarized the yield data for named varieties of wheat, barley, oats, and rye tested in 1955. Yield data for these varieties are also given for 1952, 1953, and 1954 if the varieties were tested in those years.

The winter was mild, but some winterkilling occurred in non-hardy varieties. Where fair stands were obtained in the fall, spring tillering was sufficient to thicken stands. The spring moisture supply was sufficient, and good yields were obtained where stands were adequate.

Diseases and insects were severe only in isolated cases and caused relatively little damage. Late freezes following a warm period resulted in severe yield reduction in Kenbar winter barley and Knox winter wheat. Conditions for harvest were fair and the quality of the crop was good.

Two new varieties are being recommended by the Experiment Station for farmer use in 1955. Kentucky Certified seed stocks of these varieties are available in limited quantities. It is suggested that these varieties be tried only in a portion of your acreage this year for your individual evaluation. These two varieties are described below:

Knox winter wheat: - A short-strawed, early-maturing, good quality soft red winter wheat. It has averaged about 10 inches shorter than Vigo and heads about 2 weeks earlier than Vigo. It has a good yield record in Kentucky with the exception of this year when it was severely injured by the unusually late severe freeze. The variety is winter-hardy and usually escapes the common leaf diseases because of its early maturity. It is susceptible to loose smut, but this can be controlled by using Kentucky Certified Seed. Seed-borne diseases can be controlled by chemical seed treatment. Knox was developed by the Indiana Agricultural Experiment Station and first released in 1954.

Dubois winter oats: A short-strawed, medium-maturing, smut-resistant winter oat variety with good winter-hardiness. Dubois heads a few days later than Atlantic, but ripens about the same time. According to our data, it has had a stronger straw than Atlantic or Forkeddeer. Dubois averages about 6 inches shorter than Atlantic. While Dubois is resistant to oat smut, it is always a good practice to chemically treat the seed before planting. Dubois was developed and first released by the plant breeders at the Indiana Agricultural Experiment Station.

Some other unnamed experimental strains of small grains performed outstandingly, and it is believed that additional new superior varieties will be available to Kentucky farmers in the near future.

Winter Wheat Varieties - Lexington
(*Recommended varieties)

Variety	Yield in Bushels per Acre					
	1955	1954	1953	1952	4-year Av.	3-year Av.
American Banner	29.9	47.0	41.9	35.4	38.6	39.6
Clarkan	35.8	45.6	34.0	39.3	38.7	38.4
Knox*	24.0	48.1	35.4	32.0	34.9	35.8
Thorne*	22.9	39.9	38.2	44.8	36.4	33.6
Trumbull	38.1	42.9	36.8	39.6	39.4	39.2
Vigo*	28.1	33.6	35.4	42.5	34.9	32.3
Dual	27.7	49.8	43.8	----	----	40.4
Vermillion	---	35.6	----	42.4	----	----

The recommended varieties for central and northern Kentucky are Knox, Thorne, and Vigo.

The recommended varieties are superior to the older varieties, American Banner, Clarkan and Trumbull, in strength of straw, disease resistance and other characteristics even though they show no yield advantage in these tests.

The hard red winter wheat varieties, such as Pawnee and Triumph (Oklahoma) and the white wheat varieties, such as Genesee, should not be grown in the state since Kentucky is a soft red winter wheat state.

Other varieties, such as Royal, Saline, and Seneca, are satisfactory but as yet offer no great advantages over the recommended varieties. Dual and Vermillion are new varieties released by Indiana, but seed supplies are not available this year.

Winter Wheat Varieties - Hopkinsville, Princeton
(*Recommended varieties for western Kentucky)

Variety	Yield in Bushels per Acre						
	Princeton		Hopkinsville			4-yr. Av.	3-yr. Av.
	1955	1955	1954	1953	1952		
Clarkan	30.0	33.2	26.8	27.5	39.7	31.8	29.1
Knox*	28.6	13.2	32.4	----	35.6	----	----
Thorne	26.4	31.8	23.8	31.2	31.6	29.6	28.9
Vigo*	34.8	29.4	25.7	25.4	35.4	29.0	26.8
Dual	43.0	31.9	23.8	----	----	----	----
Vermillion	----	----	39.0	----	37.7	----	----

Winter Barley Varieties - Hopkinsville, Princeton
 (*Recommended variety for western Kentucky)

Variety	Yield in Bushels per Acre					
	Princeton		Hopkinsville			
	1955	1955	1954	1953	1952	4-yr. Av.
Hudson	41.5	36.6	63.0	40.0	47.6	46.8
Kenbar*	39.2	19.9	56.5	48.5	48.4	43.3
Kentucky 1	34.9	35.4	66.3	44.2	53.7	49.9
Mo. B-400	----	25.8	52.5	42.9	52.2	43.4
Reno	----	34.8	59.0	41.8	67.9	50.9
Mo. B-475	40.1	40.0	67.0	41.6	53.4	50.5

The recommended variety of winter barley for western Kentucky is Kenbar. Kenbar has not shown as great a yield advantage in this area, but because of its stiff straw, it is generally preferred to the other varieties. Hudson also is a stiff-straw variety that is satisfactory but does not appear to be superior to Kenbar. Mo. B-475 is a new variety of which seed is not yet available.

Winter Barley Varieties - Lexington
 (*Recommended variety)

Variety	Yield in Bushels per Acre				
	1955	1954	1953	1952	4-yr. Av.
Hudson	37.4	67.5	61.3	54.2	55.1
Kearney	23.6	35.5	32.5	48.0	34.9
Kenbar*	38.5	52.3	66.6	62.6	55.0
Kentucky 1	40.5	40.1	49.5	60.0	47.5
Mo. B-400	35.7	44.7	52.0	50.6	45.8
Reno	37.4	26.7	43.4	49.9	39.4
Mo. B-475	37.3	40.0	42.3	55.7	43.8

The recommended variety for Kentucky is Kenbar. Kenbar is still the outstanding winter barley in Kentucky. The variety Hudson, recently released from New York, has been very good but not superior to Kenbar.

The varieties such as Jackson 1, Kearney, Mo. B-400, Reno, Brier, Wong, Ward, Pueblo, Dicktoo, and others have been inferior under Kentucky conditions.

Winter Oat Varieties - Hopkinsville, Princeton
 (*Recommended varieties for western Kentucky)

Variety	Yield in Bushels per acre						
	Princeton		Hopkinsville				
	1955	1955	1954	1953	1952	3-yr. Ave.	4-yr. Av.
Atlantic*	63.1	46.7	73.5	57.8	37.4	59.3	53.8
Dubois*	70.8	60.4	88.9	57.3	----	68.8	----
Desoto	----	44.5	78.5	62.1	17.9	61.6	50.8
Forkedeer*	67.8	46.4	83.9	51.0	62.9	60.4	61.0
Fulwin	58.0	41.8	88.4	49.9	66.7	60.0	61.7
Leconte	66.3	50.0	86.9	53.3	11.6	63.3	50.4
Mustang	----	34.5	88.9	53.5	48.3	58.9	56.3
Victorgrain	----	44.0	84.0	61.4	----	63.1	----

The recommended varieties have been superior to other varieties in this test primarily because they are more winter-hardy. Many varieties yield well in years of mild winters but are not hardy enough to yield consistently high (note DeSoto and LeConte).

In addition to the recommended varieties, the variety Mustang has performed well in this area, but it is doubtful if it is superior to the recommended varieties. None of the other varieties are considered satisfactory due to their lack of winter-hardiness or strength of straw.

Winter Oat Varieties - Lexington
 (*Recommended varieties)

Variety	1955	1954	Yield in Bushels per Acre		
			1953	1952	Four year Average
Atlantic*	76.7	62.2	85.2	36.8	65.2
Coy	76.4	81.2	86.6	41.5	71.4
Dubois*	80.0	69.2	73.2	64.1	71.6
Forkedeer*	78.1	35.2	86.0	52.2	62.9
Fulwin	86.7	38.4	65.3	60.5	62.7
LeConte	74.4	51.1	84.4	49.4	64.8
Lee	79.2	57.8	81.2	55.6	68.4
Mustang	65.2	74.8	95.8	30.3	66.5
Wintok	74.1	46.1	54.4	65.9	60.1
Cimarron	61.6	59.1	63.0	49.4	58.3

The recommended varieties of fall-sown oats in Kentucky are Atlantic, Forkedeer, and Dubois. The varieties Coy, LeConte, Lee, Mustang, and Wintok have been inferior to the recommended varieties in yield, winterhardiness, or strength of straw over a longer period of years.

The variety Cimarron is a new one released by Oklahoma, but does not appear to be suitable for this area.

Spring Oat Varieties - Lexington
 (*Recommended varieties for Kentucky)

Variety	1955	Yield in Bushels per Acre			4-year Average
		1954	1953	1952	
Andrew*	54.3	59.2	49.8	41.2	51.1
Cherokee	49.2	46.6	44.8	33.0	43.4
Clintland	43.5	51.8	----	----	----
Clinton 59	55.5	58.6	32.7	32.0	44.7
Columbia	61.5	63.4	48.1	32.0	51.2
Kanota	54.3	61.9	45.1	40.5	50.4
Mo. O-205*	61.0	59.2	44.3	35.2	49.9
Nemaha	45.9	54.4	38.9	33.7	43.2
Osage	8.4	40.5	43.0	33.6	31.4

The recommended varieties are superior to others in yield, strength of straw and disease resistance. The older varieties Columbia and Kanota have yielded well but have weak straw. None of the newer varieties appear to be superior to the recommended varieties.

Rye Varieties - Lexington
 (*Recommended variety.)

Variety	1955	Yield in Bushels per Acre		
		1954	1953	3-year Average
Balbo*	23.3	44.9	45.8	38.0
Tetra Petkus	23.1	57.9	49.4	43.4
von Rumker	24.4	54.5	55.8	44.9

The recommended rye variety for Kentucky is Balbo. Recent interest has been shown in the two new imported rye varieties, Tetra Petkus and von Rumker. These newer varieties appear to offer possibilities of being superior to Balbo in grain yield but not for grazing or green manure. They have been tested only a short period of time under limited conditions. More testing is needed before a definite recommendation should be made.