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YIELD RESULTS OF SMALL GRAIN VARIETY TRIALS IN KENTUCKY, 1954

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

The fall of 1953 was extremely dry and uneven stands of small grains were general. Yield results from the Princeton Substation and from Owensboro are not reported because of the extreme variability in stands.

The winter was mild and very little winterkilling occurred even 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 some sterility in winter barley. Hot and dry weather matured the crop quickly, and early maturing varieties yielded relatively higher than normal. Conditions for harvest were ideal, and the quality of the crop was good.

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

Rye Varieties - Lexington
(*Recommended variety.)

Variety	Yield in Bushels per Acre		
	1954	1953	Two Year Av.
Balbo*	44.9	45.8	45.4
Tetra Petkus	57.9	49.4	53.6
von Rumker	54.5	55.8	55.2

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 yield as well as other agronomic characteristics but have been tested only a short period of time under limited conditions. More testing is needed before a definite recommendation should be made.

Winter Wheat Varieties - Lexington
(*Recommended varieties)

Variety	Yield in Bushels per Acre				
	1954	1953	1952	Three Year Av.	Two Year Av.
American Banner	47.0	41.9	35.4	41.4	44.4
Clarkan*	45.6	34.0	39.3	39.6	39.8
Currells R47	37.1	33.2	37.9	36.0	35.2
Genesee	53.5	47.4	36.2	45.7	50.4
Knox	48.1	35.4	---		41.8
Pawnee	22.6	32.1	---		27.4
Pennoll	36.5	43.0	40.9	40.1	39.8
Purcam	38.3	35.4	45.9	39.8	36.8
Royal	32.3	36.8	---		34.6
Saline	40.4	40.8	41.9	41.0	42.6
Seneca	41.0	38.3	---		39.6
Thorne*	39.9	38.2	44.8	40.9	39.0
Triumph	28.1	35.9	---		32.0
Trumbull	42.9	36.8	39.6	39.7	39.8
Vigo*	33.6	35.4	42.5	37.1	34.5

The recommended varieties for Central and Northern Kentucky are Clarkan, Thorne, and Vigo.

The recommended varieties are superior to the older varieties, American Banner, Currells R47, and Trumbull, in many agronomic characters as well as generally superior in yield.

The hard red winter wheat varieties, such as Pawnee and Triumph, 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 Purcam, Royal, Saline, Seneca, and Knox, are satisfactory but at the present time offer no great advantages over the recommended varieties.

Winter Wheat Varieties - Hopkinsville
(*Recommended varieties for Western Kentucky)

Variety	Yield in Bushels per Acre				
	1954	1953	1952	Three Year Av.	Two Year Av.
Clarkan*	26.8	27.5	39.7	31.3	27.2
Currells R47	27.0	28.3	41.5	32.2	27.6
Knox	32.4			---	---
Pawnee	20.1	27.6			23.8
Pennoll	19.0	31.1			25.1
Purcam	26.0	27.2	37.8	30.3	26.6
Royal	17.7	31.3			24.5
Seneca	24.9	29.9			27.4
Thorne	23.8	31.2	31.6	28.8	27.5
Triumph	25.4	28.4			26.9
Vigo*	25.7	25.4	35.4	28.8	25.6

The recommended varieties were as good as other varieties in yield and are superior to the older varieties in other agronomic characteristics.

The variety Triumph (sometimes called Oklahoma) is not recommended for southern Kentucky. It has been fair in yield but is of poor quality when grown under Kentucky conditions.

The variety Knox was outstanding in 1954. It is a new, early, soft red winter wheat of good quality from Indiana. It shows a great deal of promise for this area but needs additional testing before a definite recommendation should be made. Farmers who want an early wheat and are now producing Triumph should consider Knox as a possible replacement

Winter Barley Varieties - Lexington
(*Recommended varieties)

Variety	Yield in Bushels per Acre			
	1954	1953	1952	Three Year Av.
Hudson	67.5	61.3	54.2	60.9
Jackson 1	30.5	51.5	43.0	41.6
Kearney	35.5	32.5	48.0	38.6
Kenbar*	52.3	66.6	62.6	60.4
Kentucky 1*	40.1	49.5	60.0	49.8
Mo. B-400	44.7	52.0	50.6	49.1
Reno	26.7	43.4	49.9	40.0

The recommended varieties for Central and Northern Kentucky are Kenbar and Kentucky #1. 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 Jackson 1, Kearney, Mo. B-400, Reno, Brier, Wong, Ward, Pueblo, Dicktoo, etc., have been inferior under Kentucky conditions.

Winter Barley Varieties - Hopkinsville
(*Recommended varieties for western Kentucky)

Variety	Yield in Bushels per Acre			
	1954	1953	1952	Three Year Av.
Hudson	63.0	40.0	47.6	50.1
Jackson 1*	53.7	40.7	53.8	49.4
Kenbar*	56.5	48.5	48.4	51.1
Kentucky 1	66.3	44.2	53.7	54.7
Mo. B-400	52.5	42.9	52.2	49.2
Reno	59.0	41.8	67.9	56.2

The recommended varieties of winter barley for southern Kentucky are Jackson 1 and 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.

Winter Oat Varieties - Lexington
(*Recommended varieties)

Variety	Yield in Bushels per Acre			
	1954	1953	1952	Three Year Av.
Arkwin	70.3	66.4	---	---
Atlantic*	62.2	85.2	36.8	61.3
Coy	81.2	86.6	41.5	69.7
Dubois	69.2	73.2	64.1	68.8
Forkedeer*	35.2	86.0	52.2	57.7
Fulwin	38.4	65.3	60.5	54.7
LeConte	51.1	84.4	49.4	61.6
Lee	57.8	81.2	55.6	64.8
Mustang	74.8	95.8	30.3	66.9
Wintok	46.1	54.4	65.9	55.4

The recommended varieties of fall-sown oats in Kentucky are Atlantic, Forkedeer, and Fulwin. Atlantic is the stiffest strawed, while Fulwin is the most winter-hardy. The varieties Coy, LeConte, Lee, Mustang, and Wintok have been inferior to the recommended varieties in yield or winterhardiness over a longer period of years.

The newer varieties, Arkwin and Dubois, have appeared satisfactory but need additional testing before a definite recommendation can be given.

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

Variety	Yield in Bushels per Acre			
	1954	1953	1952	Three Year Av.
Appler	85.0	51.9	17.4	51.4
Arlington	63.7	59.2	24.1	49.0
Atlantic*	73.5	57.8	37.4	56.2
Delair	43.5	58.9	0.0	34.1
Dubois	88.9	57.3	---	----
DeSoto	78.5	62.1	17.9	52.8
Floriland	43.2	54.8	---	---
Forkedeer*	83.9	51.0	62.9	65.9
Fultex	77.8	50.6	34.7	54.3
Fulwin*	88.4	49.9	66.7	68.3
Letoria	72.9	64.6	17.6	51.6
LeConte	86.9	53.3	11.6	50.5
Mustang	88.9	53.5	48.3	63.8
Nortex	61.7	59.2	0.0	40.3
Seminole	53.9	---	---	---
Southland	81.3	51.9	3.3	45.5
Stanton 1	95.2	52.7	29.3	59.0
Sunland	62.9	---	---	---
Victorgrain	84.0	61.4	---	---

The recommended varieties have been superior to other varieties in this test primarily because they are more winterhardy. Many varieties yield well in years of mild winters but are not hardy enough to yield consistently high.

In addition to the recommended varieties the varieties Dubois and Mustang have performed well in this area, but it is doubtful if they are superior to the recommended varieties. None of the other varieties are considered satisfactory due to their lack of winterhardiness.

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

Variety	Yield in Bushels per Acre			
	1954	1953	1952	Three Year Av.
Andrew*	59.2	49.8	41.2	50.0
Cherokee	46.6	44.8	33.0	41.4
Clintland	51.8	---	---	---
Clinton 59	58.6	32.7	32.0	41.1
Columbia	63.4	48.1	32.0	47.8
Kanota	61.9	45.1	40.5	49.1
Mo. 0200*	57.4	46.2	48.2	50.5
Mo. 0205*	59.2	44.3	35.2	46.2
Nemaha	54.4	38.9	33.7	42.3
Osage	40.5	43.0	33.6	39.0
Seminole	47.9	---	---	---
Sunland	40.6	---	---	---

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.