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SMALL GRAIN VARIETY TESTS IN ALABAMA, 1945 - 1947*

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During the 1946-47 season, the Alabama Agricultural Experiment Station tested a number of small grain varieties at 14 locations in the State. Yields of the varieties tested in 1947 are presented in Table 1. The test at the Gulf Coast Substation, Fairhope, was a failure. Tables 2, 3, and 4 give the yields of the varieties tested during 1945-1947. The sources from which seed of the various varieties were obtained are listed on page 6.

When selecting a variety of small grain to grow in a particular location, the results obtained nearest that location should be studied.

During the past 2 years, Sanett wheat has produced more than any other wheat tested at practically every location. In the northern part of the State, Calhoun barley has produced more than any other barley tested. These two relatively new varieties should be planted at least on a trial basis where barley and wheat are grown.

Recently a new oat disease, known as Helminthosporium, has caused considerable damage to oats in many parts of the country. Damage from this disease was less severe in Alabama during the past season than in some of the neighboring states. This disease practically destroyed the oat crop in certain parts of Florida, and reduced the yield by as much as 50 per cent in other sections.

Helminthosporium may attack the oat plant at any stage or growth. It may cause seedlings to die, the leaves on the plants that survive are streaked with an orange to brownish color and die before the head is well filled. The disease may also attack the stems at the nodes, causing them to turn dark and break over. When an infected plant is pulled up, the roots appear brown and dead. The disease is carried on the seed and in the soil.

None of the commonly grown, best adapted varieties are resistant to Helminthosporium. According to the Department of Botany and Plant Pathology, Alabama Agricultural Experiment Station, the best remedy known at present is to thoroughly clean all seed that are to be planted. Cleaning removes diseased kernels, and chaff. After the seed have been cleaned, they are treated with New Improved Ceresan at the rate of 1/2 ounce per bushel. New Improved Ceresan is much superior to formaldehyde, since it kills the spores carried on the seed and also sterilizes a small area of soil around the planted seed. The cleaned and treated seed should be planted on an area on which oats were not grown the past season.

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* These tests were conducted in cooperation with J. T. Williamson, H. R. Benford, J. W. Richardson, F. E. Bertram, J. P. Wilson, S. E. Gissendanner, Fred Stewart, J. F. Segrest, Jr. Fred Schultz, Jr., E. L. Mayton, W. W. Cotney, and Otto Brown, on the Substations and Experiment Fields of Alabama.

Table 1. Yields of Small Grains in Variety Tests at 13 Locations, 1947

Grain variety	Average yield of grain per acre													
	Belle Mina	Cross-ville	Win-field	Alex-andria	Camp Hill	Pratt-ville	Alice-ville	Au-burn	Tallas-see	Tuske-gee	Monroe-ville	Brew-ton	Head-land	1947 Av.
OATS	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.
Red Rustproof 14	66.1	62.9	91.5	75.8	77.2	56.6	39.4	59.8	67.7	56.6	45.1	28.2	57.9	60.4
Victorgrain	87.0	50.8	77.1	128.8	91.7	55.9	68.5	27.4	41.4	52.4	16.9	6.4	45.3	57.7
Nortex	65.7	60.3	83.2	81.5	75.9	55.9	39.2	44.2	50.2	49.3	33.6	28.6	41.4	54.5
DeSoto	52.5	57.8	79.4	65.9	86.0	68.5	78.2	32.3	34.0	52.6	22.6	8.8	65.9	53.6
Alber	79.3	54.8	78.6	73.7	66.0	58.3	41.7	25.2	61.2	52.9	33.6	25.6	47.1	53.3
Delta Red	63.4	60.5	68.0	52.0	72.9	59.3	29.9	37.1	71.4	39.5	47.5	33.2	48.1	52.5
Red Rustproof 43A	65.7	59.1	71.0	97.4	78.6	48.1	27.5	53.5	51.0	24.3	34.6	16.3	38.2	51.2
Stanton	46.7	44.8	75.6	102.6	86.2	40.4	56.6	38.6	42.5	36.9	35.4	14.4	40.4	50.9
Nortex 107	71.6	55.4	94.5	34.7	80.7	49.4	45.4	33.8	46.8	45.2	35.9	30.5	34.7	50.7
Florilee	66.7	37.5	69.6	90.3	84.5	39.1	64.0	44.2	45.6	44.2	13.5	5.4	53.3	50.6
Camellia	51.6	44.8	66.5	32.6	62.2	59.0	48.5	34.0	36.0	56.2	36.4	20.1	54.6	46.3
Letoria	55.3	50.4	75.6	53.2	82.6	34.5	65.0	10.2	21.6	36.1	24.1	10.1	53.2	44.0
Florida 167	75.2	38.1	62.7	75.4	54.0	65.3	37.2	8.5	60.6	31.5	11.1	1.3	42.4	43.3
Fulgrain	66.1	51.5	55.9	50.7	71.3	55.1	49.1	32.6	35.5	16.7	15.7	5.3	44.9	42.3
Traveler One	62.1	43.5	72.6	29.6	73.8	35.6	62.9	21.8	22.4	30.7	21.8	1.1	29.6	39.1
Fulghum	63.4	52.2	49.9	77.6	52.0	42.9	22.3	9.4	45.1	41.4	12.6	10.6	14.9	38.0
Taylor Fulgrain	69.3	47.5	54.4	16.3	56.2	49.6	19.4	13.6	34.5	45.9	13.7	11.4	16.3	34.4
BARLEY														
Calhoun	*	47.0	32.8	83.8	*	26.1	*	4.1	24.8	5.0	1.2	0.2	17.1	24.2
Sunrise	*	42.0	40.3	77.8	*	27.7	*	2.1	10.0	6.6	2.0	1.9	18.9	22.9
Tenn. No. 6	*	36.2	32.3	27.8	*	18.7	*	4.4	5.1	10.9	1.4	0.4	6.9	14.4
WHEAT														
Sanett	26.6	34.7	30.2	48.3	40.5	35.7	37.8	22.5	34.5	22.7	13.7	8.7	24.7	29.3
Hardired	15.5	31.0	25.4	37.7	24.0	29.6	29.5	23.1	26.6	30.5	18.9	4.9	13.3	23.8
Sanford	16.7	19.8	31.4	46.2	32.0	21.5	20.3	15.9	15.4	22.5	11.1	11.5	10.6	21.1
Alabama Bluestem	18.2	9.8	16.5	32.4	21.2	18.1	17.3	9.5	10.6	24.2	7.5	6.5	5.7	15.2
Austin	21.3	9.1	8.1	29.0	30.9	14.3	10.3	14.7	20.3	7.0	2.0	2.3	10.3	13.8

* Destroyed by birds.

Table 2. Yields of Small Grain Varieties, Northern Alabama, 3 Year Average, 1945-1947.

Grain variety	Average yield of grain, bushels per acre			
	Belle Mina	Crossville	Winfield**	Alexandria***
	Bushels	Bushels	Bushels	Bushels
OATS				
Victorgrain	83.8	50.4	61.9	93.0
Red Rustproof 14	81.1*	66.4	69.0	66.7
Florilee	84.2	58.3	50.4	76.7
Florida 167	83.5	44.9	46.8	70.2
Nortex	68.4*	65.5	60.3	70.3
Red Rustproof 43A	59.4*	60.3	51.0	84.1
Stanton	58.2*	60.9	56.2	78.2
Alber	71.1*	66.6*	51.7	
Delta Red	68.3*	61.6	56.1	52.5
Fulghum	71.0	56.1	36.5	63.7
Fulgrain	76.4	55.0	44.2	49.7
Camellia	53.9*	51.0	47.9	47.0
BARLEY				
Calhoun	66.6*	48.1*	32.6	
Sunrise	31.0	40.0	30.1	66.8
Marnobarb	49.1*	40.0	20.6*	
WHEAT				
Sanett	31.5	35.2*	27.6	
Hardired	24.7	23.9	23.7	33.8
Sanford	18.5	22.4	24.9	38.1
Alabama Bluestem	12.2	11.3	17.3	27.5

*Two-year average.
**Not planted at Winfield in 1945.
***Destroyed by hail at Alexandria in 1946.

Table 3. Yields of Small Grain Varieties, Central Alabama, 3-Year Average, 1945-1947

Grain varieties	Average yield of grain per acre					
	LaFayette**	Camp Hill*	Prattville	Aliceville	Auburn	Tuskegee
	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.
OATS						
Victorgrain	82.4	93.4	60.2	65.7	60.0	50.6
Florilee	89.6	81.4	53.8	63.4	67.7	54.1
Red Rustproof 14	73.6	74.5	59.0	47.8	66.4	61.1
Red Rustproof 43A	81.6	73.5	66.8	44.9	60.6*	51.2
Nortex	68.6	78.5	59.0	53.4	66.7	49.6
Stanton	81.6	77.2	49.6	46.8*	61.7	56.3
Delta Red	75.8	71.0	60.8	46.5	59.2	54.8
Camellia	63.9	67.1	64.3	55.9	52.6*	62.0
Fulgrain	95.4	75.8	40.3	45.6	61.9	41.2
Alber	-	68.5	66.8*	42.4*	56.0*	58.7*
Fulghum	78.8	64.0	50.8	27.7	48.2	53.6
Florida 167	-	62.3	60.6	41.2	37.5	50.4
BARLEY						
Sunrise	56.2	-	-	-	27.9	-
Marnobarb	45.0*	-	27.2*	35.1*	37.0*	15.8*
Calhoun	-	-	32.3*	-	25.3	8.9*
WHEAT						
Sanett	-	37.5	29.7*	39.8*	33.2	16.5*
Hardired	32.5*	26.3	20.2	25.5	28.5*	17.1
Sanford	27.9*	26.6	17.6	15.4*	22.6*	15.8
Alabama Bluestem	19.8*	20.9	16.3	11.8*	24.2	11.6

* Not planted at LaFayette in 1947; not planted at Camp Hill in 1945.
** Two-year average.

Table 4. Yields of Small Grain Varieties, Southern Alabama, 3-Year Average, 1945-1947

Grain Variety	Average yield of grain per acre			
	Headland	Monroeville	Brewton	Average
	Bu.	Bu.	Bu.	Bu.
OATS				
Delta Red	45.6	47.6	36.8	43.3
Camellia	51.5	40.9	35.0	42.5
Red Rustproof 14	44.9	46.2	33.0	41.4
Fulgrain	56.3	32.0	27.2	38.5
Nortex	39.8	40.9	33.4	38.0
Stanton	42.9	41.1	28.8	37.6
Victorgrain	49.5	35.9	24.2	36.5
Florilee	42.9	33.9	20.6	32.5
Red Rustproof 43A	27.2	39.0	29.3	31.8
Fulghum	21.8	37.3	28.8	29.3
Alber	59.7*	44.0*	30.1*	-
Florida 167	39.5	18.8*	21.0	-
BARLEY				
Calhoun	27.3*	14.8*	6.5*	-
Marnobarb	13.8*	-	4.4*	-
WHEAT				
Sanett	23.0*	17.1*	12.4*	-
Sanford	14.2	12.3	9.8	-
Hardired	16.2	12.8	6.6	-
Alabama Bluestem	8.3	5.6	9.1	-

* Two-year average.

Seed of the small grain varieties tested in 1947 were obtained from the following sources:

Oats

Alber	Reuter's Seed Company, New Orleans, Louisiana
Camellia	Reuter's Seed Company, New Orleans, Louisiana
Delta Red	Delta Experiment Station, Stoneville, Miss.
DeSoto	Rice Branch Experiment Station, Stuttgart, Ark.
Florida 167	Florida Experiment Station, Gainesville, Fla.
Florilee	North Florida Experiment Station, Quincy, Fla.
Fulghum	Marett Farm and Seed Company, Westminister, S. C.
Taylor Fulgrain	R. W. Taylor, Buffalo, Ala.
Fulgrain	Coker Pedigreed Seed Co., Hartsville, S. C.
Letoria	T. W. Wood and Sons, Richmond, Virginia
Nortex	R. E. Lambert and Sons, Darlington, Ala.
Nortex 107	Stoneville Pedigreed Seed Co., Stoneville, Miss.
Red Rustproof No. 14	Georgia Coastal Plain Experiment Station, Tifton, Ga.
Red Rustproof 43A	Alabama Agricultural Experiment Station, Auburn, Ala.
Stanton	Coker Pedigreed Seed Co., Hartsville, S. C.
Traveller	Rice Branch Experiment Station, Stuttgart, Ark.
Victorgrain	Coker Pedigreed Seed Co., Hartsville, S. C.

Barley

Calhoun	Marrett Farm and Seed Co., Westminister, S. C.
Sunrise	Marrett Farm and Seed Co., Westminister, S. C.
Tennessee No. 6	Cumberland Mountain Potato Company, Knoxville, Tenn.

Wheat

Alabama Bluestem	Alabama Agricultural Experiment Station, Auburn, Ala.
Austin	Texas Substation No. 6, Denton, Texas
Hardired	Coker Pedigreed Seed Company, Hartsville, S. C.
Sanett	Marrett Farm and Seed Company, Westminister, S. C.
Sanford	Hastings' Seed Company, Atlanta, Ga.