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# Mississippi Agricultural Experiment Station.

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## VARIETIES OF COTTON, 1908.

BY W. R. PERKINS.

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In future the growing of good crops of cotton will depend very largely upon early maturity. The boll weevil, which will undoubtedly spread over the entire State within the next few years, usually becomes so numerous by the first of August as to preclude the possibility of making much cotton after that date. The crop will have to be made early and will generally mean no top crop.

Early maturing varieties will become an important factor in cotton growing in the presence of boll weevils. Realizing this we have taken a great deal of pains for several years in making tests of varieties and present in the following table data from the test during the present year.

## YIELD OF VARIETIES OF COTTON, 1908.

VARIETY.	First Picking,	Second Picking,	Third Picking,	Fourth Picking,	Fifth Picking,	Sixth Picking,	November 17th,	Seed Cotton Yield	Per Cent. Lint.	Lint Cotton—	Seed—	Value Lint per	Value Seed per	Total per Acre.	INCHES	Length Staple.	Number Seed	Number Bolls	Rank.	
	September 1st.	September 11th.	September 21st.	October 12th.	October 27th.	November 17th.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.
Cleveland Big Boll	15	120	75	62	29	21	3220	35.5	1143	2077	\$102.87	\$12.46	\$115.33	1	3450	53	1	3450	1	
Cook's Improved	11	89	83	62	35	30	3100	37.0	1147	1953	103.23	11.72	114.95	1	3650	54	2	3650	2	
Smith's Double Header	4	33	108	75	51	29	3000	35.0	1050	1950	94.50	11.70	106.20	1	1-16	2880	47	3	3	
Russell Big Boll	8	69	104	76	36	23	3160	31.0	979	2181	88.11	13.08	101.19	1	1-8	3250	50	4	4	
McKay's July	10	80	76	66	36	17	2850	35.0	997	1853	89.73	11.12	100.85	3/4	4420	66	5	4420	5	
Excelstor	7	84	72	57	39	14	2730	36.5	996	1734	89.64	10.40	100.04	1	4190	68	6	4190	6	
Christopher	8	73	96	53	33	18	2810	35.0	983	1827	88.47	10.96	99.43	7-8	.....	48	7	.....	7	
Berryhill's Improved	14	85	81	61	30	14	2850	34.5	980	1870	88.20	11.22	99.42	1	4920	73	8	4920	8	
Triumph	14	72	86	53	30	27	2820	34.5	973	1847	87.57	11.08	98.65	1	1-16	3240	46	9	1-16	
Moss' Improved	6	43	73	64	43	28	2570	38.5	989	1581	89.01	9.48	98.49	7-8	4560	70	10	4560	10	
Lewis' Prize	9	53	86	75	35	20	2780	35.0	973	1807	87.57	10.84	98.41	1	.....	67	11	.....	11	
Lowe's Improved	6	41	103	66	35	34	2850	33.5	954	1896	85.86	11.37	97.23	1	1-16	3000	47	12	1-16	
Peterkin	3	25	94	61	45	37	2650	35.5	941	1709	84.69	10.25	94.94	1	4450	68	13	4450	13	
Brandon	8	43	76	69	47	30	2730	33.6	917	1813	82.53	10.87	93.40	1	1-16	4240	64	14	1-16	
Neely's Improved	4	57	75	50	19	10	2610	35.0	913	1697	82.17	10.18	92.35	1	3580	80	15	3580	15	
Toole's Improved	20	52	72	54	38	26	2460	35.5	873	1587	78.57	9.52	88.09	1	5430	77	16	5430	16	
Tatum's Improved	8	74	82	55	28	22	2690	31.5	847	1843	76.23	11.06	87.29	1	3180	51	17	3180	17	
Hawkins' Improved	9	48	74	68	40	17	2560	33.0	844	1716	75.96	10.29	86.25	1	.....	65	18	.....	18	
Sugar Loaf	29	87	53	31	9	12	2210	35.5	784	1426	70.56	8.55	79.11	3/4	4480	87	19	4480	19	
Columbia	10	78	69	49	19	11	2360	29.0	684	1676	* 78.66	10.05	88.71	1	5-16	3430	58	5-16	3430	58

\* 11 1/2¢ per Lb.

**Notes on varieties.**—The table gives the weight of seed cotton secured at each picking from the tenth-acre plots and the date of the picking. Since the different varieties were all grown on the same kind of soil, planted the same day and worked just alike these columns of figures will give a very accurate idea of the relative earliness of the different kinds.

Other columns give the total yield per acre, per cent. of lint to seed cotton, value of lint and seed per acre, length of staple, size of bolls, size of seed and rank of cotton in the test.

This data is sufficient to give a fairly satisfactory knowledge of the main points of the varieties without further comment, but we add the following as our opinion without prejudice in favor of or against any.

**Cleveland Big Boll.**—This variety has been grown in our tests for three years. It stood second in 1906, first in 1907 and first, by a small margin, in 1908. It has large bolls and good fiber which measures from 1 inch to 1 1-16 inch. The stalk is branching in growth with five or six primary limbs; the first limbs are long and begin near the ground, an essential feature in early cotton. 1350 pounds per acre had been gathered from it this year by September 11 on strong bottom land, which was 180 pounds per acre more than was gathered by that date from the next earliest variety (Sugar Loaf or King). I do not hesitate to say that pure Cleveland Big Boll is one of the best varieties for all parts of this state, whether the boll weevil be present or not.

**Cook's Improved.**—This variety has always stood at the top or very near to it in variety tests at all of the Stations. The stalk in generally branching, with fewer primary limbs than Cleveland. Long, short-jointed fruit limbs make it productive and comparatively early. The boll is medium to large and round in shape. When pure there is no better producer of lint cotton to be found, though it is too short—generally about 7-8 inch—to bring the best price in some markets.

The variety is undoubtedly suffering for lack of selection of seed, both in yielding quality and from the presence of the fungus disease known as Anthracnose or pink boll rot. This disease seems to be worse on Cook's Improved than most other varieties, and the only method so far suggested to combat it is to select seed from stalks that are not affected. Our work in selecting this cotton during the past few years indicates that the disease may be prevented by careful selection. Several of the strains of the variety grown this year were free from the disease and none were seriously affected. We recom-

mend this variety highly but are of the opinion that the seed offered for sale are very inferior as a general thing.

**Smith's Double Header. Green seed.**—This is the first time we have grown this variety. It is very promising, having very large bolls and good quality of fibre. It yields well and turns out a high per cent of lint. The fruit limbs are short and not so near the ground making it rather late in maturing.

**Russell Big Boll. Green seed.**—One of the most reliable and best varieties grown in the state. A little late in maturing, big bolls, and a heavy yielder of seed cotton though the per cent of lint is low. The quality of the fiber is first class and should bring a premium over ordinary short staple cotton. It needs to be improved in its time of maturing and in the per cent of fiber to seed.

**Sugar loaf.**—This cotton is said to be the variety from which "King" originated. It is very pure, every flower having the characteristic spot on the petals. The stalk is small, well shaped and the foliage is sparse. The bolls are very small and it matures early.

**How the Crop was grown.**—The land on which this crop was grown is a piece of first class bottom soil of a loam texture. No fertilizer of any kind was applied to it nor has there been since 1904.

One-half of the cut of land was given a good application of barn manure in 1904 and the whole then set in strawberries, blackberries, raspberries, etc. These plants remained on the soil till May, 1907 when the ground was cleaned off, plowed with a reversible disc plow and planted in cowpeas. The cowpea crop was turned under with a disc during the winter of 1907-1908. The land was cultivated with a disc harrow in March, rows laid off four and a half feet wide and bedded

The cotton was planted April 21, 1908, in one-row plots, repeating the plots seven times. The area planted to each variety was one-tenth of an acre.

A perfect stand was obtained. Most people who saw it thought the crop would have been better had it been thinner in the drill and if the rows had been wider.

The yield of cotton in the test was unusually large, and it must not be imagined by any one that it was the fine varieties of cotton planted that is responsible for the good crop. The soil and the cultivation given were vastly more important than the varieties of cotton planted.

Assuming that the poorest yield in this test is about equal to ordinary seed, the superiority of better varieties is shown by comparing the value of this variety with that of the best. Such a comparison shows a difference of slightly more than \$35.00 per acre or about 43 per cent better. Such a per cent increase might safely be expected on any quality of soil with these two varieties.

A point that should be considered in buying seed is the danger of sometimes getting those of inferior quality. This danger is due not so much to dishonesty in the seller as the natural tendency for seed to deteriorate in quality when care is not taken to make selection, each year, of the best to use in planting. Say, Mr. A buys some pure seed of a good variety and plants them. There is certain to be some variation in the plants; there will be some very poor stalks; a lot of bad bolls, half matured and too small; and possibly some diseased cotton. If Mr. A gathers the whole crop together and then adds to this some mixing of seed at the gin, he has undoubtedly not as good seed as he started with. Let this continue two or three years and the cotton has almost "run out." Mr. A might advertise this variety as pure and granting that he had been very careful about mixing at the gin and had grown no other cotton on his farm, his seed would undoubtedly be very inferior and would be a disappointment to the purchaser.

Every small farmer, at least, should select his planting seed for the following year. If this is not practical and it will not be in all cases, arrangements could be made with some reliable man who does select to furnish seed. A plan that has been suggested by a farmer in this county and is being practiced by him, is to buy a few bushels of selected seed each year, although he may have to pay a good price for them, and to plant an area in these that will grow sufficient seed to plant his whole farm the next season. This plan seems good as a practical proposition where reliable seed can be obtained, and I would suggest that other farmers follow it. If it appears too burdensome to follow this every year, it could be practiced every second or third year with evident improvement over the present method of planting. At present the trouble will be to secure reliable seed of undoubted superior merit; but the intelligent farmers of the State should be able in a few years to meet this difficulty; and further such a practice will lead to more people selecting their own seed. The difference in yields in this test may also be slightly misleading since some of the varieties were furnished by the originators and represent the very best of the variety. It not being possible to secure all of the varieties from the

originators, a few were obtained from seedmen, the purity of which is not vouched for.

For further information on selection of seed you are referred for the present to bulletin 113 of this Station on Varieties of Cotton for 1907.

**Weather.**—The rain-fall during the growing season for the different months was as follows:

May,	6.52 in.,	well distributed.
June,	5.84 in.,	well distributed.
July,	5.02 in.,	well distributed.
Aug.	2.98 in.,	most of in 2d inst.

September, October and November, less than 1 inch.

The seasons were entirely satisfactory except that it was too dry in August and September. One or two good rains during the latter part of August and in September would have increased the crop.

**Temperature.**—The temperature was good for the cotton crop. The first day of May was the only day that was too cool. On only three other days during May was the temperature below 50 degrees.

#### Where the seed were obtained.

Cleveland Big Boll	J. R. Cleveland	Decatur, Mississippi.
Cook's Improved	J. R. Cook	Ellaville, Georgia.
Smith's Double Header		
Russell Big Boll	J. L. Thornton	Alexander City, Ala.
McKay's July	J. F. McKay	Jackson, Mississippi.
Excelsior	Excelsior Seed Farm	Cheraw, South Carolina.
Berryhill's Improved	F. M. Berryhill	Liberty, Mississippi.
Christopher	Mr. Christopher	LaGrange, Georgia.
Triumph	J. F. McKay	Jackson, Mississippi.
Moss Improved	Rev. B. D. Moss	Norway, South Carolina.
Lewis' Prize	W. B. F. Lewis	Lewiston, Louisiana.
Lowe's Improved	S. A. Lowe	Meridian, Mississippi.
Peterkin	J. A. Peterkin	Fort Mott, S. C.
Brandon	L. L. Neyland	Olio, Mississippi.
Neely's Improved	S. O. Neely	Shubuta, Mississippi.
Toole's Improved	W. W. Toole	Augusta, Georgia
Tatum's Improved	R. B. Tatum	Palmetto, Georgia.
Hawkins' Improved	B. W. Hawkins	Nona, Georgia.
Sugar Loaf	Sugar Loaf Farm	Youngsville, N. C.
Columbia	J. W. Fox	Greenville, Mississippi