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CANEBRAKE

Agricultural Experiment Station,

UNIONTOWN, - - ALABAMA.

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**Bulletin No. 14, - March, 1892**

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☞ COTTON. ☞

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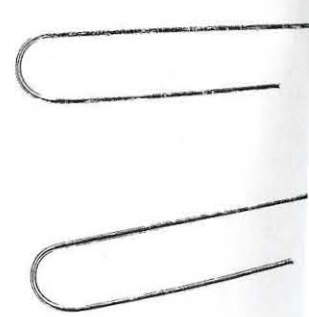
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## COTTON EXPERIMENTS.

W. H. NEWMAN.

(a) *Acre No. 1. Drained.*—2,000 lbs. of green cotton seed in the drill and bedded on early in January, 1891; planted April 10th. Yield 1,236 pounds seed cotton.

(a) *Acre No 1. Undrained.*—Manured and planted as acre No. 1 drained. Yield 1,250 pounds seed cotton.

(b) *Acre No. 2. Drained.*—No manure; planted April 10th. Yield 992 pounds seed cotton.

(b) *Acre No. 2. Undrained.*—No manure. Yield 1,284 pounds seed cotton.

(c) *Acre No 3. Drained.*—400 pounds cotton seed meal in drill; planted April 13th. Yield 1,412 pounds seed cotton.

(c) *Acre No 3. Undrained.*—Manured and planted as acre No. 3 drained. Yield 1,288 pounds seed cotton.

(d) *Acre No 4. Drained.*—200 pounds cotton seed meal in drill; planted April 13th. Yield 1,504 pounds seed cotton.

(e) *Acre No 4. Drained.*—200 pounds cotton seed meal in drill at time of planting; 200 pounds broadcast in middles June 23rd; planted April 13th. Yield 1,416 pounds seed cotton.

(f) *Acre No 6. Undrained.*—Seeded to melilotus two years; cost \$3.25; planted April 9th. Yield 1,495.68 pounds seed cotton.

(g) *Acre No 7. Undrained.*—Seeded to peas two years; cost \$7.00; planted April 9th. Yield 1,328.40 pounds seed cotton.

(h) *Acre No. 8. Undrained.*—Broadcasted with 18 tons of stable manure October, 1889; bedded to five feet rows; planted April 9th. Yield 1,375 pounds seed cotton.

(i) *Acre No. 9. Drained.*—Checked four by four one stalk to hill. Land rich garden spot; planted April 3rd. Yield 2,375 pounds seed cotton.

The following is clipped from Bulletin No. 11 on cotton, and gives the notes on the preparation, planting and cultivation of the plots in 1890:

EXPERIMENTS WITH GREEN COTTON SEED AND COTTON SEED MEAL ON COTTON.

Acres No. 1, 2, 3, drained and undrained land were on "shell ridge" land and had grown a crop of wheat and peas the previous season. The land was flushed in November and bedded in December, 1889. The green seed were applied in deep furrow and bedded on in December. The meal was applied in drill at the time of planting.

Acres 4 and 5 were lower down on the ridge where the "shell ridge" blended with the "black slough" bottom, and had been in oats and peas the previous season. The seed were planted April 7th, but the meal was not well mixed with the soil and killed them on acres 3, drained and undrained, and No. 4 and 5 drained land. They were replanted on April 23, and made a quick, rapid growth, and were chopped at the time acres 1 and 2 were. The late planted made a much larger weed, but was late, and the frost killed a heavy crop of bolls.

The plats on undrained land lay lower down on the ridge, and suffered from standing water that under-drainage would have carried off. Acres No. 1, where the seed were applied, were naturally well drained and did not suffer from standing water.

The increased yield by the application of a ton of seed on



the undrained land was  $156\frac{1}{2}$  pounds of lint cotton, which paid for the cost of the seed and the cost of application. The increased yield on the drained was only  $40\frac{1}{2}$  pounds. The undrained land was naturally stronger and well surface drained. The increased yield by the application of the cotton seed meal did not pay. A ton of seed per acre is not practicable on a large area. Forty bushels per acre is quite a large application. Unless crushed, the seed should be applied very early so that they will be well decomposed by the time of planting. It is better to open water furrow and apply seed and bed on them, than to sow broadcast.

PEA VINES AND MELILOTUS. ACRES 6 AND 7.

Acres 6 and 7 had been in melilotus and peas, respectively, two years. The cost of seeding to melilotus was \$3.25, and to peas \$7.00, or 3.50 each season. The land was in very impoverished condition when seeded to these crops. The acres were flushed in December, 1889, and bedded in January, 1890. A heavy crop of melilotus came up, but was very easily killed by the first plowing and hoeing. The acre in the melilotus produced 11.48 pounds more seed cotton per acre than the acre in peas. The appearance of the cotton on the melilotus land was very sickly, and it remained smaller and yellow until the latter part of June, when it commenced to grow rapidly and made a better growth than the acre that was in peas. Peas will give the best returns for one season, and melilotus for two, for the cost of seeding to peas for two seasons is double that of melilotus.

STABLE MANURE. ACRE NO. 8.

One acre of "black slough" bottom, that had been in corn, was flushed in October, and eighteen tons of stable manure was applied broadcast the latter part of the month, and the land bedded to five foot rows in November. The

manure was about two-thirds saw-dust, and cost from \$1.00 to \$1.50 per ton, including the hauling. The saw-dust probably prevented profitable effect of the stable manure. The acre produced 448 pounds of lint, and plots just across the slough produced 495 and 489½ pounds lint without manure. Stable manure has generally given good returns, when supplied in sufficient quantities, for several years. It is claimed by many that stable manure gives the best results the second year on prairie lands ; if so, the fact will be determined this season on corn and cotton, so far as one season's test will prove.

ACRE No. 9, CHECKED FOUR BY FOUR FEET.

This acre had been used as a garden for four years, and during that time had received heavy applications of commercial fertilizers, green cotton seed and stable manure, and in 1890, 400 pounds of cotton seed meal broadcast, before bedding.

The land was a mixture of red prairie and white lime rock, and was not suited for a garden.

The land was flushed in the fall of 1889, and bedded in February, 1890, to four foot rows.

The seed were planted March 29th. A scooter furrow was run across the beds every four feet, and the seed dropped in the opening.

The hills were thinned to one stalk. The cotton made a very rank growth, and a large number of bolls rotted on account of the thick foliage, and a great many were killed by frost.

The acre produced 631 pounds of lint cotton.

The variety of cotton was Improved Peterkin, and was late in maturing, the last picking being made in December.

RECAPITULATION.  
Experiment with Cotton.

	Total Seed Cotton 1890.	Total Seed Cotton 1891.
1 (a) Drained. 2,000 lbs. green cotton seed .....	1518	1236
1 (a) Undrained. 2,000 lbs. green cotton seed. ...	1736½	1250
2 (b) Drained. No manure .....	1355	992
2 (b) Undrained. No manure .....	1212	1284
3 (c) Drained. 400 lbs. C. S. Meal .....	1456	1412
3 (c) Undrained. 400 lbs. C. S. Meal .....	749	1288
4 (d) Drained. 200 lbs. C. S. Meal .....	1390	1504
5 (e) Drained. 200 lbs. in drill before planting and 200 broadcast in middles, June 23rd, 1891.	1181	1416
6 Melilotus two years. Cost \$3.25 .....	1607 2	1495.68
7 Peas two years Cost \$7 00 .....	1602 28	1328.40
8 18 tons stable manure in 1890 .....	1326.5	1375
9 Checked 4 x 4 one stalk in hill. Land rich garden spot .....	1857	2375

Owing to the very wet weather the plots could not be allowed before bedding. A deep furrow was run in the old water furrow and the land bedded in this furrow. Each plot was planted and cultivated and harvested the same as in 1890.

The increased yield on some of the undrained plots was due to the dry season. In 1890 the water stood for a week, at times, in the water furrow during the growing season.

Acre No. 9 was planted in Peterkin, in 1890, and in Drake's Cluster, Peerless, Peterkin, and Truit in 1891.

The following is the yield of each variety in lint, per acre :

Drake's Cluster,	744 lbs.
Peerless,	792 "
Peterkin,	840 "
Truit,	592 "

The stable manure on acre No. 8 did not increase the yield, the second year, but 48½ lbs. of seed cotton. It is



generally supposed that stable manure gives the best returns the second year.

The weed was not as large this season in any of the plots as last season, but were more prolific. In 1890 a great many bolls were killed by the frost and rotted from being shaded by the large weed. This season they were not damaged by the frost or too dense a growth.

The cotton on the melilotus acre, grew off well from the start, and did not have that sickly, yellow appearance that it had the first season up to June. Its appearance was similar to the acre in peas and the adjacent plots fertilized with C. S. Meal.

#### VARIETIES.

Table No. 1 gives the yield of the varieties in seed cotton, lint, and the per cent. of lint for 1890 and 1891.

A perfect stand was not obtained until late in May, on account of dry weather. Some of the plots came up well, soon after planting, to almost a perfect stand and was the cause of some of the varieties producing so much greater yield than the others. Each plot was thinned to the same number of stalks in June, and received similar cultivation. The land was first fallowed and then bedded, the same as the previous season.

Drake's Cluster, King's Improved and Peerless were the first to open and yielded more seed cotton the first picking.

Peterkin, Hawkins Improved, and Cherry's Clusters produced the largest yield of lint, and Truit, Peerless, and Welborn's the least. Peterkin and Peerless are the most desirable varieties.



TABLE No. 1.

VARIETIES.	1890.			1891.		
	Seed Cotton Per Acre.	Lint.	% Lint.	Seed Cotton Per Acre.	Lint.	% Lint.
1 Barnet .....	1144	352	30.6	1440	93.465	93.33
2 Brazer's Peterkin .....	920	312	33.9	1233	74.433	12.35
3 Cherry's Cluster .....	1132	328	28.9	1575	475	20.30
4 Drake's Cluster .....				1292	81.420	32.48
5 Hawkin's Imp .....	1330	390	29.3	1620	93.479	06.29
6 Jones' Imp .....	1276	372	29.1	1437	18.465	93.32
7 King's Imp .....	1256	372	29.5	1391	24.459	37.33
8 Okra .....	1368	424	30.6	1200	93.406	87.33
9 Peerless .....	1698	520	30.6	1200.93	360	93.30
10 Peterkin .....	1470	472	32.1	1404	37.485	62.34
11 Rameses .....	1284	376	29.2	1458	43.406	87.29
12 Texas Storm and Drouth Proof....	1412	448	31.7	1530	62.452	81.31
13 Truit .....				1043	43.354	37.33
14 Wellborn's .....	1248	360	28.8	1391	25.393	75.28
15 Zellnar .....	1427	403	28.2	1194.37	400	31.33

## FERTILIZERS, "BLACK SLOUGH" LANDS.

Table No. 2 gives the results of the fertilizer experiments in 1890 and 1891. Nitrate of soda gave the greatest yield and Floats the least in 1891.

The increased yield would not pay for the cost of the fertilizer.

Sulphate Ammonia, gave the greatest in 1890 and Floats the least.

These results verify the conclusions for the first five years, viz: That commercial fertilizers are not profitably used upon this class of soil.

TABLE NO. 2.

FERTILIZERS 1890.		FERTILIZERS 1891.		Seed Cotton, 1890.	Seed Cotton, 1891.
1	90 lbs sul. ammonia ..	1	96 lbs nitrate soda. ....	1792 $\frac{1}{2}$	1440
2	195 lbs dis. bone black ..	2	240 lbs acid phosphate...	1743 $\frac{3}{4}$	1384
3	150 lbs kainit .....	3	64 lbs muriate potash...	1518 $\frac{3}{4}$	1208
4	No manure. ....	4	No manure .....	1702 $\frac{1}{2}$	1400
5	{ 90 lbs sul. ammonia, 150 lbs kainit	5	{ 96 lbs nitrate soda, 64 lbs muriate potash	1676 $\frac{1}{4}$	1296
6	{ 90 lbs sul ammonia, 195 lbs dis. bone black	6	{ 96 lbs nitrate soda, 240 lbs acid phosphate.	1758 $\frac{3}{4}$	1360
7	{ 150 lbs kainit, 195 lbs dis. bone black	7	{ 64 lbs muriate potash, 240 lbs acid phosphate	1548 $\frac{3}{4}$	1248
8	No manure.....	8	No manure. ....	1653 $\frac{3}{4}$	1176
9	{ 90 lbs sul. ammonia, 150 lbs kainit, 195 lbs dis. bone black	9	{ 96 lbs nitrate soda, 64 lbs muriate potash, 240 lbs acid phosphate.	1713 $\frac{3}{4}$	1256
10	300 lbs floats .....	10	240 lbs floats. ....	1391 $\frac{1}{4}$	1120
11	{ 300 lbs floats, 90 lbs sul. ammonia ..	11	{ 96 lbs nitrate soda, 240 lbs floats. ....	1608 $\frac{3}{4}$	1312