CANEBRAKE

Agricultural Experiment Station,

Uniontown, Alabama.

BULLETIN NO. 4. - - APRIL, 1889.

SUBJECTS.

EXPERIMENTS WITH COTTON.
METEOROLOGY.

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EXPERIMENTS WITH COTTON, 1888.

BY W. H. NEWMAN.

The tabulated statement of results given in the pages which follow are presented without comment other than explanatory notes. The effects of manures and different methods of treating plants under cultivation are perplexing, in that under the most careful and accurate experimentation conflicting results are obtained without any discoverable cause for such conflict. It will require a series of experments conducted sufficiently long to secure average results before any reliable conclusions can be drawn. In a soil so susceptible to meteorological influences only a tiro in experiment work would venture either conclusions or predictions from the results of only one or two years of experimentation. Some of the results are simply inexplicable. For instance, in Table No. 2, plats 8 and 9, we find no increase of lint resulting from an application of half a ton of compost per acre, while 500 pounds of the same compost in an adjacent plat gives an increase of 60 pounds lint, 225 pounds C. S. meal 255 pounds, and 225 pounds acid phosphate 180 pounds.

Again, in the results shown in Table No. 1, cotton seed meal applied at the rate of 200 pounds per acre gives an increase of only 62.5 pounds lint and 200 pounds of acid phosphate only 18¾ pounds, while the combination of these two gives 112½ pounds, and the same combination with 200 pounds kainit added yields only 56½ pounds, or a small fraction over half as much.

These inconsistencies are mentioned to show how unwise it would be to draw conclusions from the results of a single year's work, and yet we need not despair of learning much of value from the results of a series of years.

TABLE NO. 1.—PLANTED APRIL 2, 1888. SOIL—Red Prairie Hill.

Plot.	FERTILIZERS PER ACRE.	DRAINED LAND. Weight of seed cotton per acre	Weight of seed per acre.	Weight of lint per acre.	% of Lint.	Gain by use of fertilizers.	Gain by drainage.	Plots.	UNDRAINED. Weight of seed cotton per acre.	Weight of seed per acre.	Weight of lint per acre.	% of Lint.	Gain by use of fertilizers.
1	200 lbs. acid phos. and 200 lbs. c. s. meal.....	1056¼	675	325	30.76	112½	10	1	1046¼	675	315	30 10	135
2	200 lbs. acid phos.—200 lbs. c. s. m.—200 lb kainit.	875	568¾	268¾	30.71	56¼	32½	2	810	517½	236¼	29.16	56¼
3	200 lbs. acid phos. and 200 lbs. kainit.....	768¾	500	231¼	30.08	18¾	51¼	3	585	405	180	30.76	.....
4	200 lbs. acid phos.....	762¼	500	231¼	30.33	18¾	17½	4	686½	427½	213¾	31.13	33¾
5	No manure.....	706¼	456½	212½	30.08	.....	32¼	5	618¾	382½	180	29.09	.....
6	200 lbs. cotton seed meal	931¼	612¼	275	28.45	62.50	61¼	6	720	450	213¾	29.67	33¾

TABLE NO. 2.—PLANTED APRIL 3, 1888.

SOIL—Dark ridge, between sloughs.

Plats.		Weight of seed cotton per acre	Weight of seed per acre.	Weight of lint per acre.	% of Lint.	Gain by use of fertilizers.
1	225 lbs. acid phos.....	1455	990	420	28.86	180
2	225 lbs. cotton seed meal.....	1665	1125	495	29.72	255
3	225 lbs. c. s. meal, and 225 lbs. kainit.....	1260	810	360	28.57	120
4	225 lbs. Webb's Compound	1080	705	300	27.77	60
5	225 lbs. crushed cotton seed.....	825	510	240	29.09	.....
6	500 lbs stable manure	945	585	270	28.57	30
7	500 lbs. compost	1050	675	300	28.57	60
8	1000 lbs. compost	870	540	240	27 58	...
9	No manure.....	885	570	240	27 11	....

COTTON FOLLOWING PEA VINES.

Planted April 3d, 1888.

Plats.		Weight of seed cotton per acre	Weight of seed per acre.	Weight of lint per acre.	% of Lint.
1	Vines left on land.....	1100	734	328	29 81
2	Vines cut for hay.....	1152	766	346	30.05

This is the first instance in which the land from which the vines were cut has produced more than where they were left to rot upon the land.

TABLE NO 3.—PLANTED APRIL 3, 1888.

SOIL—Black Slough Bottom.

	DATE OF TOPPING.	Weight of seed cotton per acre	Weight of seed per acre.	Weight of lint per acre.	% of Lint.
1	Not topped	885	570	240	27.11
2	Topped June 18th	900	555	255	28.38
3	Topped June 25th	990	630	285	28.78
4	Topped July 5th	1035	660	285	27.54
5	Topped July 15th	1095	690	300	27.39
	DIFERENT DISTANCES IN THE DRILL.				
	4 feet x 1	1216	808	360	29.60
	4 feet x 2	936	608	272	29.06
	4 feet x 3	760	496	216	28.42
	4 feet x 4	880	584	256	29.09

TABLE NO. 4.—PLANTED APRIL 4, 1888.

SOIL—Black Slough Bottom.

Plats.	METHODS OF PREPARATION.	Weight of seed cotton per acre	Weight of seed per acre.	Weight of lint per acre.	% of Lint.
1	Land flushed and planted on flat bed; cultivated shallow.	980	686	280	28 36
2	Land flushed and planted on flat beds; cultivated deep.	672	490	168	25.
3	Planted on high bed and cultivated shallow	1232	854	350	28.40
4	Planted on high bed and cultivated deep	1386	924	392	28 21
5	Bedded on the unbroken centre	1176	826	336	27 72
6	Centre furrow opened and bedded on the furrow.	1134	784	322	28 39

TABLE NO. 5.

PLANTED APRIL 4, 1888—Soil Black Slough Bottom.

Plat.	INTERCULTURAL FERTILIZATION.	Weight of seed cotton per acre	Weight of seed per acre.	Weight of lint per acre.	% of Lint.
1	No fertilizer used	1148	808	322	28 04
2	Barred off & 200 lbs. c. s. meal applied in furrow	1106	770	308	27.84
3	200 lbs. c. s. meal applied at third plowing, in water furrow	1134	808	322	28.39
4	200 lbs. c. s. meal sowed broad cast at third plowing.	1162	812	336	28.05

METEOROLOGY.

METEOROLOGICAL REPORT FOR JANUARY, 1889.

Monthly mean	49.37
Maximum	66
Minimum	26
Monthly range	40
Relative humidity	79.48
Total precipitation	5.07 inches.
No. of cloudy days	18
No. of fair days	7
No. of clear days	6
No. of rainy days	11
Prevailing wind	E.

REPORT FOR FEBRUARY, 1889.

Monthly mean	49.28
Maximum	79
Minimum	24
Monthly range	55
Relative humidity	79.94
Total precipitation	2.06
No. of cloudy days	17
No. of fair days	3
No. of clear days	8
No. of rainy days	5
Prevailing wind	N. W.

REPORT FOR MARCH, 1889.

Monthly mean	58.40
Maximum	81
Minimum	30
Monthly range	51
Relative humidity	76.50
Total precipitation	2.43 inches.
No. of cloudy days	12
No. of fair days	9
No. of clear days	10
No of rainy days	6
Prevailing wind	N. W.