
Bulletin No. 34.

January, 1892.

Agricultural Experiment Station


—OF THE—

AGRICULTURAL AND MECHANICAL COLLEGE,

AUBURN, : : ALABAMA.

CO-OPERATIVE SOIL-TEST EXPERIMENTS

FOR 1891.

 The Bulletins of this Station will be sent free to any citizen of the State on application to the Agricultural Experiment Station, Auburn, Ala.

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CO-OPERATIVE SOIL-TEST EXPERIMENTS,
 (FOR 1891.)

Experiments on the adaptation of fertilizers to the soils of different sections of the State were made, under uniform directions issued by the Experiment Station, by the following persons in the counties named. Full directions in regard to the applications of the fertilizers, the methods of cultivation, etc., were published in Bulletins Nos. 12 and 23.

The fertilizers were carefully analyzed, mixed, weighed, placed in bags and numbered, according to the plot on which each was to be used, at the Experiment Station, and then shipped with freight prepaid, to the experimenter :

NAMES.	POST-OFFICE.	COUNTY.
Aday, L. C. Rev.....	Newburgh	Franklin.
Beasley, E. J.....	Red Level	Covington.
Brown, D. L.....	Randolph	Bibb.
Bishop, M. A.....	Madison.....	Madison.
Bradley, F. W.....	Walker Springs.....	Clarke.
Brannon, J. M.....	Seale.....	Russell.
Compton, G. W.....	Dixon's Mills.....	Marengo.
Cross, R. H.....	Letohatchie	Lowndes.
Davis, E. M., Maj.....	Prattville.....	Autauga.
Davidson, J. A.....	Yantley Creek.....	Choctaw.
Dick, R. M.....	Attalla.....	Etowah.
Deer, John F.....	Monroeville	Monroe.
Ewing, R. T.....	Centre.....	Cherokee.
Ellison, J. M.....	Creek Stand.....	Macon.
Gordon, John, Dr.....	Healing Springs.....	Washington.
Goodwyn, A. T.....	Robinson Springs.....	Elmore.
Hobdy, J. M.....	Louisville.....	Barbour.
Hall, S. M.....	Hackleburgh	Marion.
Hall, Wm. B.....	Lowndesboro.....	Lowndes.
Inzer, J. T.....	Eden.....	St. Clair.
Johnson, Uriah.....	Trinity Station.....	Morgan.
Killebrew, J. C.....	Newton.....	Dale.
Kennedy, J. M.....	Oak Lone.....	Clay.
Logan, J. A.....	Clanton.....	Chilton.

NAMES.	POST-OFFICE.	COUNTY.
Miller, W. H.	Union.	Greene.
Martin, Wm.	Greensboro.	Hale.
Mize, J. W.	Remlap	Blount.
Melton, W. B.	Davis' Creek.	Fayette.
Manning, W. S.	Oxford.	Calhoun.
Newman, W. H.	Uniontown.	Perry.
Newman, C. L.	Athens.	Limestone.
Oliver, J. P.	Dadeville.	Tallapoosa.
Ott, J. C.	Florence	Lauderdale.
Pitts, J. W.	Cresswell Station	Shelby.
Porter, J. M. T.	Georgiana	Butler.
Pruitt, S. A.	Chesser	Pike
Radney, J. H.	Roanoke	Randolph.
Stroud, Z. T.	Aberfoil	Bullock.
Snuggs, T. A.	Holly Pond.	Cullman.
Sellers, W. H.	Geneva.	Geneva.
White, W. L.	Hattan.	Lawrence.
Gillis, Dan, jr	Abbeville	Henry.

Special experiments were made by—

Cory, A. F	Mulberry.	Autauga.
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No reports were received at the date of issuing this Bulletin, from the following co-operative experimenters to whom fertilizers were sent:

NAMES.	POST-OFFICE.	COUNTY.
J. A. Davidson	Yantley Creek	Choctaw.
J. F. Deer	Monroeville	Monroe.
S. M. Hall.	Hackleburgh.	Marion.
Experiment Station.	Uniontown.	Perry.
Experiment Station.	Athens	Limestone.
J. C. Ott	Florence	Lauderdale*.

* Report lost.

Cost of Fertilizers Applied per Acre.

In order that the experimenters and other farmers may better understand the inquiry made upon the different plots, the cost of the different materials used is given in the statement which follows. The calculations are made upon the cost laid down at Auburn. The local freights upon the packages re-shipped to the depots of the experimenters would produce a

false impression, since the average local rate of freight charged upon the amount sent to each experimenter from Auburn to their depots exceeds five dollars per ton. Shipped in quantity, the freight to the various depots of the experimenters would average little more than that from the factories to Auburn. Again, in estimating profits resulting from the use of the different fertilizers, it will be more convenient to have a common standard of comparison.

Quantity and Cost per Acre of Fertilizers used by Co-operative Soil Test Experimenters, 1891.

Plot 1.	96 lbs. Nitrate Soda	\$	2 13
2.	240 lbs. Acid Phosphate		1 98
3.	64 lbs. Muriate Potash		1 44
4.	No manure.		
5.	{ 96 lbs. Nitrate Soda	\$	2 13
	{ 64 lbs. Muriate Potash		1 44
			3 57
6.	{ 96 lbs. Nitrate Soda		2 13
	{ 240 lbs. Acid Phosphate		1 98
			4 11
7.	{ 64 lbs. Muriate Potash		1 44
	{ 240 lbs. Acid Phosphate		1 98
			3 42
8.	No manure.		
9.	{ 96 lbs. Nitrate Soda		2 13
	{ 240 lbs. Acid Phosphate		1 98
	{ 64 lbs. Muriate Potash		1 44
			5 55
10.	240 lbs. Floats		1 88
11.	{ 240 lbs. Floats		1 88
	{ 96 lbs. Nitrate Soda		2 13
			4 01
12.	No manure.		
13.	848 lbs. Green Cotton seed @ 45c. per cwt.....		3 81
14.	{ 848 lbs. Green Cotton seed, " "		3 81
	{ 240 lbs. Floats		1 88
			5 69
15.	4,240 lbs. Stable manure, @ \$1 per 1,000 lbs.....		4 24
16.	{ 240 lbs. Acid Phosphate		1 98
	{ 240 lbs. Cotton Seed Meal		2 60
			4 58

The following table shows quantity of potash, phosphoric acid, nitrogen (and its equivalent of ammonia) contained in the different fertilizers used per acre, as determined by Prof. N. T. Lupton, State Chemist :

Plot No.	NAMES OF FERTILIZERS.	Lbs. Potash.	Lbs. phosphoric Acid Available.	Lbs. Phosphoric Acid Insoluble.	Lbs. Nitrogen.	Lbs. equivalent to Ammonia.
1	96 lbs. Nitrate Soda				14.58	17.70
2	240 lbs. Acid Phosphate.....		35.96	6.07		
3	64 lbs. Muriate Potash.....	33.47				
4	No manure.....					
5	{ 96 lbs. Nitrate Soda, 64 lbs. Muriate Potash.....	33.47			14.58	17.70
6	{ 96 lbs. Nitrate Soda..... 240 lbs. Acid Phosphate.....		35.96	6.07	14.58	17.70
7	{ 64 lbs. Muriate Potash, 240 lbs. Acid Phosphate.....	33.47	35.96	6.07		
8	No manure.....					
9	{ 96 lbs. Nitrate Soda, 240 lbs. Acid Phosphate 64 lbs. Muriate Potash.....	33.47	35.96	6.07	14.58	17.70
10	240 lbs. Floats.....		20.08	46.84		
11	{ 240 lbs. Floats, 96 lbs. Nitrate Soda.....		20.08	46.84	14.58	17.70
12	No manure.....					
13	848 lbs. Green Cotton Seed.....	10.6		10.17	21.2	25.74
14	{ 848 lbs. Green Cotton Seed, 240 lbs. Floats	10.6	20.08	57.01	21.2	25.74
15	4,240 lbs. Stable Manure	28.40		13.14	26.71	32.43
16	{ 240 lbs. Acid Phosphate..... 240 lbs. Cotton Seed Meal.....	4.20	35.96	13.27	16.80	20.35

Nitrogen, Potash and Intercultural Experiments.

In addition to the co-operative experiments already mentioned, Mr. A. F. Cory, Mulberry, Autauga county, an Alumnus of the A. & M. College, conducted some special nitrogen, potash and intercultural experiments.

EXPERIMENTS MADE BY REV. L. C. ADAY,

NEWBURGH, FRANKLIN COUNTY.

Soil, Red Cedar Land—Sub-Soil, Red Clay.

Average yield of unmanured plots 611 pounds per acre. By adding the yield of plots 4, 8 and 12, and dividing the amount by 3, we have 611 pounds average yield per acre of unmanured plots, which serves as a basis for comparison for this as well as the following experiments. It is interesting to note the effects of different fertilizers upon the maturity of the cotton plant in this experiment, which can be seen from dates of picking. Mr. Aday cultivated this crop throughout with heel scrape. The general indications from the results are, that the soil needs nitrogen, phosphoric acid and potash. By reference to plot number 9, a complete fertilizer, the largest yield is observed, except in plot number 15, stable manure, which contains phosphoric acid and potash to a certain extent, in combination with nitrogen. The yield in plot No. 14, green cotton seed and floats, is very marked.

The following tabulated statement is the result of Mr. Aday's experiment:

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking. Sept. 10th.	Lbs. cotton, 2nd picking Oct. 3rd.	Lbs. cotton, 3d picking. Oct. 22nd.	Lbs. cotton, 4th picking. Nov. 16th.	Total yield per plot.	Total yield per Acre.
1	6 lbs nitrate soda...	96 lbs nitrate soda	2	24	14	4	44	704
2	15 lbs acid phosphate	240 lbs acid phosph	3	33	10	2	48	768
3	4 lbs muriate potash.	64 lbs muriate pot.	2	29	16½	8	55½	888
4	No manure.	No manure ...	2	22	16	6	46	736
5	{ 6 lbs nitrate soda	96 lbs nitrate soda	1½	24	16	9	50½	808
	{ 4 lbs mur'te potash	64 lbs muriate pot.						
6	{ 6 lbs nitrate soda.	96 lbs nitrate soda	6½	38	10	4	58½	936
	{ 15 lbs acid phosph.	240 lbs acid phosph.						
7	{ 4 lbs muriate pota.	64 lbs muriate pot.	4	40	9	4	57	912
	{ 15 " acid phosph.	240 lbs acid phosh						
8	No manure.	No manure.	2	18	8	6	34	544
9	{ 6 lbs nitrate soda	96 lbs nitrate soda	6½	46	12	5	69½	1112
	{ 15 " acid phosph.	240 lbs acid phosph.						
	{ 4 lbs muriate pota.	64 lbs muriate pot.						
10	15 lbs. Floats.	240 lbs Floats....	5	35	10	6	56	896
11	{ 15 lbs Floats ...	240 lbs Floats ...	6	39	10	4	59	944
	{ 6 lbs nitrate soda	96 " nitrate soda						
12	No manure.	No manure.	2½	22	5	4	33½	553
13	53 lbs green cotton S	848 lbs. G. C. seed	6	34	14	6	60	916
14	{ 53 lbs G. Cot. seed	848 lbs green C. S.	5	36	20	10	71	1136
	{ 15 lbs Floats..	240 lbs Floats ...						
15	265 lbs stable manure	4240 lbs stable ma.	4	42	24	13	43	1328
16	{ 15 lbs acid phosph.	240 lbs acid phos	5	36	18	6	35	1040
	{ 15 " cotton S. meal	240 " C. seed meal						

EXPERIMENT MADE BY MR. E. J. BEASELY,

RED LEVEL, COVINGTON COUNTY.

Soil, Red—Sub-soil, Clay.

Average yield of unmanured plots, 325 pounds per acre. Mr Beasley reports that he cultivated his cotton according to instructions in Bulletin No. 12, which contains directions for all experimenters alike. The indications are, from the following statement, that phosphoric acid is the principle element needed in this soil.

By observing the yield of each unmanured plot, it will be seen that there is a want of uniformity in the soil of this test acre.

No. Plot.	Lbs. Fertilizer per Plot.	Lbs. Fertilizer per Acre.	Lbs. Cotton, 1st picking. Sept. 15th.	Lbs. Cotton, 2nd picking Oct. 10th.	Lbs. Cotton, 3rd picking. Nov. 10th.	Lbs. Cotton, 4th picking. Nov. 20th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	2	4	5	5	16	256
2	15 lbs acid phosphate	240 " acid phosph.	18	12	6	5	41	656
3	4 lbs muriate potash.	64 " muriate pot	4	8	5	4	21	336
4	No manure.	No manure	2	6	4	3	15	240
5	{ 6 lbs nitrate soda	96 lbs nitrate soda	4	8	6	5	23	368
	{ 4 " muriate pota	64 lbs mur. potash						
6	{ 6 " nitrate soda	96 " nitrate soda	20	16	7	8	51	816
	{ 15 " acid phosph.	240 " A. phosphate						
7	{ 4 lbs muriate pota.	64 " muriate pota.	20	16	8	8	52	832
	{ 15 " acid phosph.	240 " acid phosph.						
8	No manure.	No manure.	6	8	6	5	25	400
	{ 6 lbs nitrate soda.	96 lbs nitrate soda						
9	{ 4 " muriate pota	64 " muriate pot	26	16	8	8	58	928
	{ 15 " acid phosph.	240 " acid phosph.						
10	{ 15 lbs Floats.	240 lbs Floats	16	18	7	6	47	752
	{ 6 " nitrate soda.	96 " nitrate soda						
11	No manure.	No manure.	4	6	6	5	21	336
12	{ 53 lbs green cotton S.	348 lbs green C. S	24	20	8	8	60	960
	{ 15 lbs green C. S	84 lbs green C. S.						
13	{ 15 lbs Floats ...	240 lbs Float ...	36	18	6	5	65	1040
	{ 265 lbs stable manur	4240 " stable man.						
14	{ 15 " acid phosph.	240 " acid phosph	26	12	8	5	51	813
	{ 15 " cotton seed M.	240 cotton seed M						
15	No manure.	No manure.	42	12	2	1	57	912

EXPERIMENT MADE BY MR. D. L. BROWN,

RANDOLPH, BIBB COUNTY.

Soil, Sandy—Sub-soil, Clay.

Average yield of unmanured plots 517 pounds per acre. In this experiment Mr. Brown reports that the cotton did not come up until the 27th May, on account of drought, and that plot number 2 was over flowed, and damaged from a very heavy rain. Hence no conclusion will be drawn as to comparison.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizer per Acre.	Lbs. Cotton, 1st picking, Oct. 15th.	Lbs. Cotton, 2nd picking, Nov. 14th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	10	18	28	448
2	15 lbs acid phosphate	240 lbs acid phosphate	8	12	20	320
3	4 lbs muriate potash	64 " muriate potash	10	16	26	416
4	No manure	No manure	10	17	27	432
5	{ 6 lbs nitrate soda	96 lbs nitrate soda	10	18	28	448
	{ 4 " muriate potash	64 " muriate potash				
6	{ 6 lbs nitrate soda	96 " nitrate soda	30	24	54	864
	{ 15 " acid phosphate	240 lbs acid phosphate				
7	{ 4 lbs muriate potash	64 " muriate potash	18	24	42	672
	{ 15 lbs acid phosphate	240 " acid phosphate				
8	No manure	No manure	12	20	32	512
9	{ 6 lbs nitrate soda	96 lbs nitrate soda	24	20	44	704
	{ 4 " muriate potash	64 " muriate potash				
10	{ 15 " acid phosphate	240 " acid phosphate	14	24	38	608
	{ 15 lbs Floats	240 " Floats				
11	{ 6 " nitrate soda	96 " nitrate soda	16	30	46	736
	{ No manure	No manure				
12	No manure	No manure	10	28	38	608
13	53 lbs green cotton seed	848 lbs green cotton seed	20	18	38	608
14	{ 53 lbs green cotton seed	848 " green cotton seed	26	22	48	768
	{ 15 " Floats	240 " Floats				
15	265 lbs stable manure	4240 lbs stable manure	18	28	46	736
16	{ 15 lbs acid phosphate	240 lbs acid phosphate	30	22	52	832
	{ 15 lbs cotton seed meal	240 " cotton seed meal				

EXPERIMENT MADE BY MR. M. A. BISHOP,

MADISON, MADISON COUNTY.

Soil, Clay Loam—Sub-soil, Stiff Clay.

Average yield of unmanured plots, 312 pounds per acre. Mr. Bishop in his report says, owing to drought he did not get a stand of cotton until the 5th of June.

The seasons were perfect from the time the cotton came up until July 27th, after which time no rain fell for three months. The unfertilized plots did not make an average crop on account of the late date of its coming up, fully 10 per cent. of the bolls being destroyed by frost.

Mr. Bishop calls especial attention to the fact, that the use of fertilizers is necessary to hasten the maturity of the crop. Cultivation was thorough. The slight increase in plot number 4 is explained by the removal of rocks and chunks piled on it the previous year. This ground has been in cultivation since 1857.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking .Sept. 21st.	Lbs. cotton, 2nd picking Oct 15th.	Lbs. cotton, 3rd picking. Nov. 20th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	10	14	8	32	512
2	15 " acid phosphate	240 " acid phosph.	8	12	8	28	448
3	4 " muriate potash	64 " muriate pot.	8	16	10	34	544
4	No manure	No manure	6	16	22	352	
5	{ 6 lbs nitrate soda	96 lbs nitr'te soda	10	12	6	28	448
	{ 4 " muriate potash	64 " muriate pot.					
6	{ 6 " nitrate soda	96 " nitrate soda	18	20	12	50	800
	{ 15 " acid phosphate	240 " acid phosph.					
7	{ 4 " muriate potash	64 " muriate pot.	16	14	10	40	640
	{ 15 " acid phosphate	240 " acid phosph					
8	No manure	No manure	7	11	18	288	
9	{ 6 lbs nitrate soda	96 lbs nitrate soda	19	17	14	50	800
	{ 4 " muriate potash	64 " muriate pot.					
	{ 15 " acid phosphate	240 " acid phosph					
10	15 " Floats	240 " Floats	6	14	10	30	450
11	{ 15 " Floats	240 " Floats	11	13	14	38	608
	{ 6 " nitrate soda	296 " nitrate soda					
12	No manure	No manure	7½	11	18½	296	
13	53 lbs green cotton seed	848 lbs green C. S.	16	10	26	416	
14	{ 53 " green cotton seed	848 " green C. S.	6	18	8	32	512
	{ 15 " Floats	240 " Floats					
15	265 " stable manure	4240 " stable m'nu.	16	20	8	44	704
16	{ 15 " acid phosphate	240 " acid phosph	15	11	8	34	544
	{ 15 " cotton seed meal	240 " cotton S. M.					

EXPERIMENT MADE BY MR. T. W. BRADLEY,

WALKER SPRINGS, CLARKE COUNTY.

Soil, Sandy—Sub soil, Clay.

Average yield per acre of unmanured plots 384 pounds. From Mr. Bradley's report, it will be seen that this test acre is not of even fertility as is shown by comparing unmanured plots 4, 8 and 12, among themselves. By noticing the yield from use of fertilizers applied singly, and in combination, it is evident that this soil is lacking in all three main elements of plant food, while acid phosphate is needed most of any. As a rule, plants are not fastidious from what source they obtain nitrogen, yet by comparing plot 6—acid phosphate and nitrate soda—with plot 16—acid phosphate and cotton seed meal—the influence of nitrogen in the cotton seed meal in plot 16 seems to be effectual in giving better results.

By comparing plot 11, nitrate soda and floats, with plot 14, cotton seed and floats, the results are in favor of plot 14. These are not positive conclusions, but in this experiment the indications are as above stated. This land was never fertilized, and the following tabulated statement shows the results of Mr. Bradley's experiment :

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking, Sept. 10th	Lbs. cotton, 2nd picking Oct. 1st.	Lbs cotton, 3rd picking Oct 15th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	8	29	6	33	528
2	15 " acid phosphate	240 " acid phosph	16	35	4½	55½	888
3	4 " muriate potash	64 " muriate pot.	4	18	4	26	416
4	No manure.	No manure	6	21	4	31	496
5	{ 6 lbs nitrate soda.	96 lbs nitrate soda.	32	20	4½	56½	904
	{ 4 " muriate potash	64 " muriate pota.					
6	{ 6 " nitrate soda.	96 " nitrate soda.	4	37	4	45	720
	{ 15 " acid phosphate.	240 " acid phosph.					
7	{ 4 " muriate potash.	64 " muriate pota.	28	25	4½	57½	920
	{ 15 " acid phosphate	240 " acid phosph					
8	No manure	No manure	4	12	3	19	304
9	{ 6 lbs nitrate soda	96 lbs nitrate soda.	16	37	6	59	944
	{ 4 " muriate potash	64 " muriate pot.					
	{ 15 " acid phosphate.	240 " acid phosph.					
10	{ 15 " Floats.	240 lbs Floats.	24	24	4	52	832
	{ 15 " Floats.	240 " Floats.					
11	{ 6 " nitrate soda.	96 " nitrate soda	12	27	4½	43½	696
12	No manure.	No manure.	4	14	4	22	352
13	53 lbs green cotton seed	848 lbs green C. S.	36	24	6	66	1056
14	{ 53 " green cotton seed.	848 " green C. S.	14	40	2½	56½	904
	{ 15 " Floats.	240 " Floats.					
15	265 " stable manue.	4240 " stable m'nu.	30	25	3	58	928
16	{ 15 " acid phosphate.	240 " acid phosph	28	34	8	70	1120
	{ 15 " cotton seed meal.	240 " cotton S. M.					

EXPERIMENT MADE BY MR. J. M. BRANNON,

SEALE, RUSSELL COUNTY.

Soil, Sandy—Subsoil, Clay.

Average yield of unmanured plots 504 pounds per are. Mr. Brannon says the land on which this test was made has been in cultivation for forty years, and is known as "poor sandy land." For the last twenty years it has been slightly fertilized each year with cotton seed.

In securing a stand of cotton, no trouble was experienced and the cultivation was thorough.

From this report the indications are that a complete fertilizer is needed as is shown in plot No. 9, which contains the three leading elements of plant food. No benefit is derived from the use of floats; but the results from acid phosphate and cotton seed meal in plot No. 16, as compared with stable manure in plot No. 15, are very decided.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking, Sept. 19th.	Lbs. cotton, 2nd picking, Oct. 15.	Lbs. cotton, 3d picking, Nov. 5.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	20	14	3	37	592
2	15 " acid phosphate	240 " acid phosph.	27	12	4	43	688
3	4 " muriate potash	64 " muriate pot.	20	10	3	33	528
4	No manure.	No manure.	15	9	2½	26½	424
5	{ 6 lbs nitrate soda	96 lbs nitrate soda	23	14	3	40	640
	{ 4 " muriate potash	64 " muri'te pota					
	{ 6 " nitrate soda	96 " nitrate soda.					
6	{ 15 " acid phosphate	240 " acid phosph.	29	4	1	34	544
	{ 4 " muriate potash	64 " muriate pot.					
7	{ 15 " acid phosphate	240 " acid phosph.	34	9	3½	46½	744
	{ No manure.	No manure					
8	{ 6 lbs nitrate soda	96 lbs nitrate soda	25	5	3	33	528
	{ 4 " muriate potash	64 " muri'te pot					
	{ 15 " acid phosphate	240 " acid phosph					
9	{ 15 " Floats	240 " Floats	44	15½	5	64½	1032
10	{ 15 " Floats	240 " Floats	21	2¼	½	23¾	380
11	{ 6 " nitrate soda	96 " nitrate soda.	31½	4½	2	38	608
12	No manure	No manure	25	9	1	35	560
13	53 lbs green cotton seed	848 lbs green C. S.	34	5	2	41	656
14	{ 53 " green cotton seed	848 " green cot. S	28	5	1½	34½	552
	{ 15 " Floats	240 " Floats					
15	265 " stable manure	4240 " stable man.	29	2¾	1	42¾	684
16	{ 15 " acid phosphate	240 " acid phosph.	46	3	1	50	800
	{ 15 " cotton seed meal.	240 " cotton S. M.					

EXPERIMENT MADE BY MR. G. W. COMPTON,
DIXON'S MILLS, MARENGO COUNTY,
Soil, Dark Sandy—Sub-soil, Clay.

Average yield of unmanured plots 665 pounds per acre. Mr. Compton says that he has been cultivating this land for the last twenty years, manuring lightly each year with green cotton seed. The seasons being so unfavorable for seed to germinate that he did not get a stand at the proper time and the consequence was had to plant over, and did not secure a stand until June 1st.

After June 1st every thing was propitious to the growth of the plant until September 11th, after which time no rain fell until November 9th, which dry spell materially affected its maturity on account of the lateness of getting a stand. The yield from acid phosphate alone in plot 2, is very striking in this experiment, and in combination with nitrate soda on plot 6, the results are nearly as great as in plot 9 where a complete fertilizer was used. Attention is called to the increased yield of floats in plot No. 10, over acid phosphate in plot No. 2, and in combination with green cotton seed in No. 14, the yield is greater than in plot No. 9, a complete fertilizer. The indications are that this soil is deficient in phosphoric acid. The land on which this experiment was conducted, was cleared 60 years ago.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking, Sept. 25.	Lbs. cotton, 2nd picking, Oct. 9.	Lbs. cotton, 3d picking, Oct. 24th.	Lbs. cotton, 4th picking, Nov. 9th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda.	96 lbs nitrate soda	12	19	8	6	45	720
2	15 " acid phosphate	240 " acid phosph.	18	22½	6	4½	51	816
3	4 " muriate potash	64 " muriate pot.	8	14	8	7	37	592
4	No manure.	No manure.	9	14½	10	7	40½	648
5	{ 6 lbs nitrate soda	96 lbs nitrate soda	8½	15½	8½	9½	42	672
	{ 4 " muriate potash	64 " muriate pota.						
6	{ 6 " nitrate soda.	96 " nitrate soda	21	23½	8½	5½	58½	936
	{ 15 " acid phosph'te	240 " acid phosph						
7	{ 4 " muriate potas.	64 " mur'te p'ash.	14	22½	9½	5	51	816
	{ 15 " acid phosphat'	240 " acid phosph.						
8	No manure.	No manure.	9	14½	7½	6½	37½	568
9	{ 6 lbs nitraie soda	96 lbs nitr'te soda	19½	22½	10½	8	60½	968
	{ 4 " muriale potas'	64 " muriate pot.						
	{ 15 " acid phosph	240 " acid phosph.						
10	{ 15 " Floats	240 " Floats.	14½	21	10	8	53½	866
11	{ 15 " Floats	240 " Floats	16	22	12½	7	57½	920
	{ 6 " nitrate soda.	96 " nitrate soda.						
12	No manure.	No manure.	9½	14	11	8	42½	680
13	53 lbs green cotton S	848 lbs green C. S.	20	24	9	6½	59½	952
14	{ 53 lbs green C. seed	848 " green C. S.	23½	23	10½	4½	61½	984
	{ 15 " Floats	240 " Floats.						
15	265 " stable m'ure.	4246 " stable m'nre	23½	22	8½	5	59	944
16	{ 15 " acid phosph.	240 " acid phosph.	20½	16½	8	4	49	784
	{ 15 " C. seed meal	240 " cotton S. M.						

EXPERIMENT MADE BY MR. R. H. CROSS,

LETOHATCHIE, LOWNDES COUNTY.

Soil, Sandy Loam—Sub-soil, Yellow Clay.

Average yield of unmanured plots, 352 pounds per acre. The uniform fertility of this experiment acre is about as good as is usually found.

By comparing the yield from plots 1, 2 and 3, with the average yield of unmanured plots 4, 8 and 12, it will be seen that the increased yield from plots 1 and 3, is greater than from plot 2. In plots 5, 6 and 7 where the elements are in combination, the yield in plot 5, is less than in 6 and 7, while in plot 9, a complete fertilizer, the increase over the average of unmanured plots is 384 pounds.

Plot 10, floats alone, gives an increase over no manure of 80 lbs., while in combination with nitrate soda, in plot 11, the increased yield is 288 pounds, and with green cotton seed in plot 14, the increased yield is 336 pounds. This experiment would indicate that floats can be used with satisfactory results on the soil selected by Mr. Cross. By referring to plot 15, stable manure, it will be observed that there is a falling-off in yield, while in plot 16, acid phosphate and cotton seed meal, the yield is very satisfactory.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking. Sept. 16.	Lbs cotton, 2nd picking. Sept. 28	Lbs. cotton, 3rd picking. Oct. 14.	Lbs. cotton, 4th picking. Nov. 17.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	9	13	6	7	35	560
2	15 " acid phosphate	240 " acid phosph.	10	12	7	5	34	544
3	4 " muriate potash.	64 " muriate pot	13	14	6	4	37	592
4	No manure	No manure. . . .	8	10	3	2	23	368
5	{ 6 lbs nitrate soda	96 lbs nitrate soda	11	14	6	8	39	624
	{ 4 " muriate p'ash.	64 " muriate pot.						
	{ 6 " nitrate soda	96 " nitrate soda.						
6	{ 15 " acid phosph.	240 " acid phosph.	14	16	9	3	42	672
7	{ 4 " muriate pota.	64 " muriate pot.	10	12	13	7	42	672
	{ 15 " acid phosph.	240 " acid phosph.						
8	No manure.	No manure	4	6	8	3	21	336
9	{ 6 lbs nitrate	96 lbs nitrate soda	15	18	10	3	46	736
	{ 4 " muriate pota	64 " muriate pot.						
	{ 15 " acid phosph	240 " acid phosph.						
10	15 " Floats	240 " Floats	7	9	6	5	27	432
11	{ 15 " Floats	240 " Floats	9	12	11	8	40	640
	{ 6 " nitrate soda	96 " nitrate soda.						
12	No manure	No manure	7	9	4	2	22	352
13	53 lbs green cotton S.	848 lbs green C. S.	15	17	13	9	54	864
14	{ 53 " " " seed.	848 " green C. S.	16	13	10	4	43	688
	{ 15 " Floats	240 " Floats						
15	265 " stable manure	4240 " stable m'nre	12	7	6	2	27	432
16	{ 15 " acid phosph.	240 " acid phosph.	16	20	14	6	56	896
	{ 15 " cotton S. meal	240 " cotton S. M.						

EXPERIMENT BY Maj. E. M. DAVIS,

PRATTVILLE, AUTAUGA COUNTY.

Soil, Sandy Loam—Sub-Soil, Red Clay.

Average yield per acre of unmanured plots 695 lbs. Mr. Davis says in his report, that nitrogen is the element most needed in his soil, which is the general indication from results of his experiment. While the increased yield in plot 9, a complete fertilizer, is 135 lbs. over plot 1, nitrate soda, yet in comparison with plot 13, green cotton seed, and plot 15, stable manure, the results point to nitrogen as the chief element lacking. By comparing unmanured plots 4, 8 and 12, with each other, an increase is noticed in each successive one. For instance, the difference in yield between plots 4 and 8, is 30 lbs., and between 4 and 12, 75 lbs., indicating an unevenness in the fertility of this acre. If this be a fact, the increased yield from use of floats in plot 10, over acid phosphate in plot 2, is accounted for. The foregoing being true, the increase of plots 11, 14 and 16 is also explained. Further experiment, however, is necessary to establish a conclusion. Too much care cannot be exercised in selecting soil of uniform productiveness for experiment.

No. Plot.	Lbs. Fertilizers Per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton. 1st picking.	Lbs cotton, 2nd picking.	Total yield per plot.	Total yield per acre.
1	6 lbs nitrate soda....	96 lbs. nitrate soda...	45	7	52	780
2	15 lbs acid phosphate. ...	240 lbs acid phosphate..	41½	3	44½	667
3	4 lbs muriate potash	64 lbs muriate potash	37	5	42	630
4	No manure.	No manure.	39	5	44	660
	{ 6 lbs nitrate soda.	96 lbs nitrate soda				
5	{ 4 lbs muriate potash ...	64 lbs muriate potash	45	10	55	825
	{ 6 lbs nitrate soda.	96 lbs nitrate soda				
6	{ 15 lbs acid phosphate..	240 lbs acid phosphate..	47	10	57	855
	{ 4 lbs muriate potash ...	64 lbs muriate potash				
7	{ 15 lbs acid phosphate..	240 lbs acid phosphate..	41	8	49	735
8	No manure.	No manure.	34	12	46	690
	{ 6 lbs nitrate soda.	96 lbs nitrate soda				
9	{ 15 lbs acid phosphate..	240 lbs acid phosphate..	51	10	61	915
	{ 4 lbs Muriate potash....	64 lbs muriate potash..				
10	15 lbs Floats	240 lbs Floats.	41½	6	47½	712½
11	{ 15 lbs Floats..	240 lbs Floats.	51	7	58	870
	{ 6 lbs nitrate soda.	96 lbs nitrate soda				
12	No manure.	No manure.	45	4	49	735
13	53 lbs green cotton seed ..	848 lbs green cotton seed	57	8	65	975
14	{ 53 lbs green cotton seed.	848 lbs green cotton seed				
	{ 15 lbs Floats.....	240 lbs Floats.	59	5	64	960
15	265 lbs stable manure. ...	4240 lbs stable manure..	61	4	65	975
16	{ 15 lbs acid phosphate..	240 lbs acid phosphate..	61	4	65	975
	{ 15 lbs cotton seed meal..	240 lbs cotton seed meal..				

EXPERIMENT MADE BY MR. R. M. DICK,

ATTALIA, ETOWAH COUNTY.

Soil, Red Loam—Sub-soil, Red Clay.

Average yield of unmanured plots 240 pounds per acre. We have in this experiment a fact noticeable in other experiments, which is, that while several elements taken separately and applied to the soil are not beneficial, and even in some instances, decrease the yield from unmanured plots, yet, when the same are combined the results are very desirable. For instance, the average yield of unmanured plots 4, 8 and 12 being 240 pounds per acre, plot No. 1, nitrate of soda alone, gives 40 pounds less than average of no manure. But in plot No. 6, in combination with acid phosphate, the increased yield over plot No. 2, acid phosphate alone, is 384 pounds.

It will be observed that plot No. 2, acid phosphate, gives an increase of 376 pounds per acre over no manure. Furthermore, by comparing plots Nos. 3, 5 and 9, where muriate potash was used, its effects were injurious rather than beneficial. While the increased yield from use of floats in plots Nos. 10, 11 and 14, is not as great as from the use of acid phosphate in plots 2 and 6, still, the result is satisfactory, taking into consideration the difference in the cost of the two fertilizers.

From the foregoing, it will be seen that phosphoric acid and nitrogen are the main elements needed in this soil.

No. Plot.	Lbs. Fertilizers per Plot	Lbs. Fertilizers per Acre,	Lbs. cotton, 1st picking Sept. 23.	Lbs. cotton, 2nd picking Oct. 5th.	Lbs. cotton, 3rd picking Oct. 23d.	Lbs. cotton, 4th picking Nov. 9th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	1½	2	6	3	12½	200
2	15 " acid phosphate	240 " acid phosph	21½	9	6	2	38½	616
3	4 " muriate potash	64 " muriate pot.	1½	3	6	3	13½	216
4	No manure.	No manure.	1½	3	6	3½	14	224
5	{ 6 lbs nitrate soda	96 lbs nitrate soda	1½	4	6½	3½	15½	248
	{ 4 " muriate pota.	64 " muriate pot						
	{ 6 " nitrate soda	96 " nitrate soda.						
6	{ 15 " acid phosph	240 " acid phosph.	36½	14	9	3	62½	1000
	{ 4 " muriate pota.	64 "muriate pota.						
7	{ 15 " acid phosph	240 " acid phosph	20	11	8½	3	42½	680
	{ 4 " muriate pota.	64 "muriate pota.						
8	No manure.	No manure.	2	3½	7	4	16½	264
9	{ 6 lbs nitrate soda	96 lbs nitrate soda	30	15	11	3½	59½	952
	{ 4 " muriate pot'ash	64 " muriate pot.						
	{ 15 " acid phosph	240 " acid phosph						
10	{ 15 " Floats	240 " Floats	6½	7½	10	5	29	464
	{ 6 " nitrate soda. . .	96 " nitrate soda.						
11	{ 15 " Floats	240 " Floats	5	6	8½	5	24½	392
	{ 6 " nitrate soda. . .	96 " nitrate soda.						
12	No manure	No manure	2	3½	6	3	14½	232
13	53 lbs green cotton S.	848 lbs green C. S.	12	8½	9	4½	34	544
14	{ 53 " " " seed	848 " green C. S.	21	13	10½	4½	49	784
	{ 15 " Floats	240 " Floats						
15	265 lbs stable manur.	4240 " stable m'ure	23	15	11	4	53	848
16	{ 15 " acid phosph	240 " acid phosph.	18	12	11½	3½	45	720
	{ 15 " cotton S. meal	240 " cotton S. M.						

EXPERIMENT MADE BY MR. R. T. EWING,
ROUND MOUNTAIN, CHEROKEE COUNTY.

Soil, Gray, Sandy, Piney Woods—Sub-soil, Yellow Sand.

Average yield unmanured plots per acre, 320 pounds. In this experiment, no perceptible benefit is seen from the application of nitrate soda in plot No. 1, and while there is shown a slight increase in plot No. 3, muriate potash, over no manure, it is no greater in this instance than occurs in the unmanured plots 4, 8 and 12. In plot No. 2, acid phosphate, there is an increased yield of 160 pounds over average of no manure. By comparing plot No. 6 with plot No. 9, it is shown that muriate potash is of no value in this combination; but in plot No. 7, combined with acid phosphate, the increased yield is 192 pounds over acid phosphate alone in plot No. 2. The increased yield from use of floats in plots 10, 11 and 14 over the average of no manure, while not as great as in some instances, is satisfactory. The best results obtained from this experiment are from plot 15, stable manure, and plot 16 cotton seed meal and acid phosphate.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking. Oct. 12.	Lbs. cotton, 2nd picking. Nov. 3.	Lbs. cotton, 3rd picking. Dec. 3.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda.	96 lbs nitrate soda....	8	8	4	20	320
2	15 " acid phosphate	240 " acid phosphate...	18	10	2	30	480
3	4 " muriate potash	64 " muriate potash...	10	8	4	22	352
4	No manure	No manure.	8	8	4	20	320
5	{ 6 lbs nitrate soda	96 lbs nitrate soda,					
	{ 4 " muriate pota	64 " muriate potash...	6	10	4	20	320
6	{ 6 " nitrate soda	96 " nitrate soda,					
	{ 15 " acid phosphat	240 " acid phosphate...	24	18	4	46	736
7	{ 4 " muriate pota.	64 " muriate potash,					
	{ 15 " acid phosphat	240 " acid phosphate...	20	18	4	42	672
8	No manure...	No manure.	4	8	4	16	256
9	{ 6 " nitrate soda.	96 " nitrate soda,					
	{ 4 " muriate pota.	64 " muriate potash,					
	{ 15 " acid phosphat.	240 " acid phosphate..	26	18	2	46	736
10	{ 15 " Floats.	240 " Floats.....	12	10	4	26	416
11	{ 15 " Floats.....	240 " Floats,					
	{ 6 " nitrate soda	96 " nitrate soda	12	14	4	30	480
12	No manue	No manure.	8	12	4	24	384
13	53 " green cot'n S.	848 " green cotton seed	16	20	2	38	608
14	{ 53 " green C. S..	848 " green cotton seed,					
	{ 15 " Floats.....	240 " Floats	16	24	4	44	704
15	265 lbs stable m'nure	4240 " stable manure ...	40	20	4	64	1024
16	{ 15 " acid phosphat	240 " acid phosphate,					
	{ 15 " cotton S. meal	240 " cotton seed meal..	22	26	4	52	832

EXPERIMENT MADE BY MR. J. M. ELLISON,

CREEK STAND, MACON COUNTY.

Soil, Sandy—Sub-soil, Sandy.

Average yield per acre of unmanured plots 596 pounds. Mr. Ellison in making his report, writes as follows: "I can not account for No. 12 making more than Nos. 4 and 8, but I do know that I made no mistake. There can be no reason for this as I can see, there being no difference in the plots." Owing to the unevenness of this soil which is seen by comparing unmanured plots 4, 8 and 12 with each other, no conclusions will be drawn. The following tabulated statement show the result of Mr. Ellison's experiment :

No. Plot.	Lbs Fertilizers per Plot.	Lbs. Fertilizer per Acre.	Lbs. cotton, 1st picking. Aug. 19.	Lbs. cotton, 2nd picking. Aug. 25.	Lbs. cotton, 3rd picking. Sept. 8.	Lbs. cotton, 4th picking. Nov. 2.	Total yield per plot.	Total yield per Acre.
1	6 lbs nitrate soda..	96 lbs nitrate soda	12	13	17	8	50	800
2	15 " acid phosphate	240 " acid phosph.	14	21	24	10	69	1104
3	4 " muriate potash	64 " muriate pot.	7	10	13	7	37	592
4	No manure	No manure.	9	8	11	3	31	492
5	{ 6 lbs nitrate soda.	96 " nitrate soda,						
	{ 4 " muri'ate pot'sh	64 " muriate pot.	4	10	19	11	44	704
6	{ 6 " nitrate soda	96 " nitrate soda,						
	{ 15 " acid phosph.	240 " acid phosph	8	15	21	12	56	896
7	{ 4 " muriate pota.	64 " muriate pota						
	{ 15 " acid phosph	240 " acid phosph	7	10	15	7	39	624
8	No manure...	No manure..	7	8	7	3	25	400
9	{ 6 " nitrate soda	96 " nitrate soda,						
	{ 4 " muriate pota.	64 " mu iate pot.	7	14	20	10	51	816
	{ 15 " acid phosph.	240 " acid phosph.						
10	15 " Floats.	240 " Floats	14	17	15	6	52	832
11	{ 15 " Floats .	240 " Floats						
	{ 6 " nitrate soda.	96 " nitrate soda	13	19	14	12	58	928
12	No manure..	No manure	15	20	15	6	56	896
13	53 " green C. seed.	848 " green cot. S.	20	18	20	12	70	1120
14	{ 53 " " "	848 " " "						
	{ 15 " Floats	240 " Floats	15	16	13	10	54	864
15	265 " stable manure	4240 " stable m'ure	21	16	10	12	59	944
16	{ 15 " acid phosph.	240 " acid phosph						
	{ 15 " cotton seed M	240 " cotton S. M.	17	12	12	10	51	816

EXPERIMENT MADE BY DR. JOHN GORDON,

HEALING SPRINGS, WASHINGTON COUNTY.

Soil, Sandy Loam—Sub-soil, Sandy Loam.

Average yield of unmanured plots, per acre, 64 pounds. Dr. Gordon reports that this experiment was planted in Peterkin cotton and owing to unfavorable seasons, a stand was not secured until May 22d. The last two weeks of August were very hot and dry, causing the top crop to shed. He says cultivation was made strictly according to instructions. The following tabulated statement shows the results of Dr. Gordon's experiment, and especial attention is called to the increased yield from use of fertilizers, over the average of unmanured plots 4, 8 and 12, which is 64 pounds.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda.....	96 lbs nitrate soda	39½	632
15	" acid phosphate.....	240 " acid phosphate	45	720
3	4 " muriate potash.....	64 " muriate potash.....	16¼	260
4	No manure.....	No manure.....	5	80
5	{ 6 lbs nitrate soda.....	96 " nitrate soda,		
	{ 4 " muriate potash	64 " muriate potash.....	10	160
6	{ 6 " nitrate soda.....	96 " nitrate soda,		
	{ 15 " acid phosphate.....	240 " acid phosphate.....	24	384
7	{ 4 " muriate potash.....	64 " muriate potash,		
	{ 15 " acid phosphate.....	240 " acid phosphate.....	30	480
8	No manure.....	No manure	3	48
9	{ 6 " nitrate soda.....	96 " nitrate soda,		
	{ 4 " muriate potash.....	64 " muriate potash,		
	{ 15 " acid phosphate.....	240 " acid phosphate.....	40	640
10	15 " Floats	240 " Floats.	11	176
11	{ 15 " Floats	240 " Floats,		
	{ 6 " nitrate soda.....	96 " nitrate soda.....	21½	344
12	No manure.....	No manure	4	64
13	53 " green cotton seed.....	848 " green cotton seed	21½	344
14	{ 53 " green cotton seed.....	848 " green cotton seed,		
	{ 15 " Floats	240 " Floats.	23½	376
15	265 " stable manure.....	4240 " stable manure.....	47¼	756
16	{ 15 " acid phosphate	240 " acid phosphate,		
	{ 15 " cotton seed meal	240 " cotton seed meal.....	56½	904

EXPERIMENT MADE BY MR. A. T. GOODWYN,

ROBINSON'S SPRINGS, ELMORE COUNTY.

Soil, Gray Sandy—Sub-soil, Red Clay.

Average yield per acre of unmanured plots, 469 pounds. Attention is called to the uneven fertility of this acre, by comparing unmanured plots 4, 8 and 12 with each other.

Mr. Goodwyn says that the land was prepared and cultivated thoroughly, fertilizers put down March 30th, and cotton planted April 16th; stand was secured by May 1st. Worms stripped off all leaves by October 2d. Cotton was picked, in every instance, in the afternoon and carefully weighed. Seasons were better than an average. The following statement shows the result of Mr. Goodwyn's experiment :

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking, Sept. 8.	Lbs. cotton, 2nd picking Oct. 7.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda . . .	16	14	30	480
2	15 " acid phosphate	240 " acid phosphate . . .	34	12	46	736
3	4 " muriate potash	64 " muriate potash . . .	18	22	40	640
4	No manure	No manure	16	16	32	512
5	{ 6 lbs nitrate soda	96 " nitrate soda,	16	28	44	704
	{ 4 " muriate potash	64 " muriate potash . . .				
	{ 6 " nitrate soda	96 " nitrate soda				
6	{ 15 " acid phosphate	240 " acid phosphate . . .	46	22	68	1088
7	{ 4 " muriate potash	64 " muriate potash,	36	18	54	864
	{ 15 " acid phosphate	240 " acid phosphate . . .				
8	No manure	No manure	18	16	34	544
9	{ 6 lbs nitrate soda	96 " nitrate soda,	44	24	68	1088
	{ 4 " muriate potash	64 " muriate potash,				
	{ 15 " acid phosphate	240 " acid phosphate . . .				
10	15 " Floats	240 " Floats	18	10	28	448
11	{ 15 " Floats	240 " Floats	28	14	42	672
	{ 6 " nitrate soda	96 " nitrate soda				
12	No manure	No manure	14	8	22	352
13	53 " green cotton seed	848 " green cotton seed . . .	16	26	42	672
14	{ 53 " green cotton seed	848 " green cotton seed,	26	6	32	512
	{ 15 " Floats	240 " Float				
15	265 " stable manure	4240 " stable manure . . .	44	2	46	736
16	{ 15 " acid phosphate	240 " acid phosphate.	40	20	60	960
	{ 15 " cotton seed meal	240 " cotton seed meal				

EXPERIMENT MADE BY MR. J. M. HOBDY,

LOUISVILLE, BARBOUR COUNTY.

Soil, Sandy Loam—Sub-soil, Red Clay.

Average yield, no manure, 725 pounds per acre. By noticing the yield from the unmanured plots 4, 8 and 12, a lack of uniform fertility of the soil is the first thing to be readily observed. It is to be noticed furthermore, in this report, that the soil is lacking in every principle element necessary for plant food, and that no one taken separately increases the yield, but by putting two ingredients together (one of the ingredients being acid phosphate), as in plots 6 and 7, a satisfactory result is developed, compared with No. 5. In plot No. 10, floats, the increased yield over no manure is 75 pounds, which difference is not so great as between the unmanured plots 8 and 12, it being 160 pounds, and which result should not be misleading.

This is another instance of the importance of having land of uniform fertility for conducting experiments. Mr. Hobdy says he exercised great care in making this experiment, yet, the irregularity of the soil alluded to above, as is shown by results, suggests great pains in selecting an acre of as even fertility as possible.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking Sept 7.	Lbs. cotton, 2nd picking, Sept. 20.	Lbs. cotton, 3rd picking, Oct. 3.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda . . .	96 lbs nitrate soda . .	12	14	4	30	480
2	15 " acid phosphate . . .	240 " acid phosphate .	20	16	6	42	672
3	4 " muriate potash . . .	64 " muriate potash . .	10	20	7	37	592
4	No manure	No manure	13	18	8	39	624
5	{ 6 lbs nitrate soda . . .	96 " nitrate soda . . .					
	{ 4 " muriate potash . . .	64 " muriate potash . .	10	26	6	42	672
6	{ 6 " nitrate soda . . .	96 " nitrate soda . . .					
	{ 15 " acid phosphate . . .	240 " acid phosphate . .	32	28	16	76	1216
7	{ 4 " muriate potash . . .	64 " muriate potash . .					
	{ 15 " acid phosphate . . .	240 " acid phosphate . .	29	24	10	63	1008
8	No manure	No manure	12	24	12	48	768
9	{ 6 lbs nitrate soda . . .	96 " nitrate soda . . .					
	{ 4 " muriate potash . . .	64 " muriate potash . .					
	{ 15 " acid phosphate . . .	240 " acid phosphate . .	32	30	8	70	1020
10	15 " Floats	240 " Floats	16	24	10	50	800
11	{ 15 " Floats	240 " Floats					
	{ 6 " nitrate soda . . .	96 " nitrate soda . . .	17	28	8	53	848
12	No manure	No manure	15	22	12	49	784
13	53 " green cotton S . . .	848 " green cotton s'ed .	27	26	8	61	976
14	{ 53 " green cotton S . . .	848 " " " " . . .					
	{ 15 " Floats	240 " Floats	22	22	6	50	800
15	265 " stable manure . . .	4240 " stable manure . .	31	20	6	57	912
16	{ 15 " acid phosphate . . .	240 " acid phosphate . .					
	{ 15 " cotton seed M . . .	240 " cotton seed meal . .	24	18	6	48	768

EXPERIMENT MADE BY MR. W. M. B. HALL,

LOWNESBORO, LOWNES COUNTY.

Soil, Lime Prairie. Sub-soil, Black Clay.

Average yield, no manure, 341 pounds per acre. Mr. Hall says that the land selected for this experiment has been in cultivation about 50 years, and is called old prairie. It was thoroughly prepared and cultivated. The third picking was lost by a raid from cattle breaking in, and while the yield from this picking might have been small, yet the loss of it vitiates the experiment as no accurate conclusions can be arrived at. The following tabulated statement shows the results obtained, and it indicates that the soil is deficient in all three elements of plant-food. Further investigation is necessary to come to a conclusion :

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs cotton, 1st picking, Oct.	Lbs cotton, 2nd picking, Nov.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda . . .	12	18	30	480
2	15 lbs acid phosphate . . .	240 lbs acid phosphate . .	8	22	30	480
3	4 lbs muriate potash	64 lbs muriate potash . . .	8	20	28	448
4	No manure	No manure	6	18	24	384
5	{ 6 lbs nitrate soda	96 lbs nitrate soda,	14	22	36	576
	{ 4 lbs muriate potash	64 lbs muriate potash . . .				
6	{ 6 lbs nitrate soda	96 lbs nitrate soda,	16	30	46	736
	{ 15 lbs acid phosphate	240 lbs acid phosphate . . .				
	{ 4 lbs muriate potash	64 lbs muriate potash,				
7	{ 15 lbs acid phosphate	240 lbs acid phosphate . . .	10	26	36	576
	{ 4 lbs muriate potash	64 lbs muriate potash,				
8	No manure	No manure	6	16	22	352
9	{ 6 lbs nitrate soda	96 lbs nitrate soda,	20	30	50	800
	{ 4 lbs muriate potash	64 lbs muriate potash,				
	{ 15 lbs acid phosphate	240 lbs acid phosphate . . .				
10	15 lbs Floats	240 lbs Floats	10	16	26	416
11	{ 15 lbs Floats	240 lbs Floats,	14	26	40	640
	{ 6 lbs nitrate soda	96 lbs nitrate soda				
12	No manure	No manure	4	14	18	288
13	53 lbs green cotton seed . . .	848 lbs green cotton seed . .	8	22	30	480
14	{ 53 lbs green cotton seed . . .	848 lbs green cotton seed . .	10	22	32	512
	{ 15 lbs Floats	240 lbs Floats				
15	265 lbs stable manure	4240 lbs stable manure . . .	22	58	80	280
16	{ 15 lbs acid phosphate	240 lbs acid phosphate,	20	36	56	896
	{ 15 lbs cotton seed meal	240 lbs cotton seed meal . .				

EXPERIMENT MADE BY MR. J. T. INZER,
EDEN, ST. CLAIR COUNTY.

Soil, Sandy Loam—Sub-soil, Yellow Clay.

Average yield of unmanured plots per acre, 837 lbs.

Mr. Inzer says that the land on which this experiment was made has been in cultivation five years. Owing to unfavorable seasons, a good stand of cotton was not obtained until the 10th of June.

Although the cultivation varied from instructions, yet the results show that the soil is deficient in the chief elements of plant food as is shown in plots 5, 6, 7, 8 and 9. By comparing the unmanured plots 4 and 12, it will be seen that this acre is not uniform in productiveness, yet the increased yield from floats, nitrate soda and green cotton seed, in plots 10, 11, 13 and 14 is satisfactory. However, cotton seed meal and acid phosphate in plot 16, give the best results.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking Sept. 15.	Lbs. cotton, 2nd picking. Oct. 1st.	Lbs. cotton, 3rd picking. Oct. 29th.	Lbs. cotton, 4th picking Nov. 20th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	16	24	18	6	64	1024
2	15 " acid phosphate	240 " acid phosph	24	20	14	8	66	1056
3	4 " muriate potash	64 " muriate pot.	10	20	14	12	56	896
4	No manure.	No manure.	8	14	12	14	48	768
5	{ 6 lbs nitrate soda	96 lbs nitrate soda	14	24	18	10	66	1056
	{ 4 " muriate pota.	64 " muriate pot.						
	{ 6 " nitrate soda	96 " nitrate soda.						
6	{ 15 " acid phosph	240 " acid phosph.	20	24	16	8	68	1088
7	{ 4 " muriate pota.	64 " muriate pota.						
	{ 15 " acid phosph	240 " acid phosph	24	36	14	8	82	1312
8	No manure.	No manure.						
	{ 6 lbs nitrate soda	96 lbs nitrate soda	9	16	14	14	53	848
9	{ 4 " muriate pot'sh	64 " muriate pot.						
	{ 15 " acid phosph	240 " acid phosph						
10	{ 15 " Floats	240 " Floats	28	28	18	10	84	1344
	{ 15 " Floats	240 " Floats						
11	{ 15 " Floats	240 " Floats	10	20	16	12	58	928
	{ 6 " nitrate soda.	96 " nitrate soda.						
12	No manure	No manure	14	32	18	12	76	1216
13	53 lbs green cotton S.	848 lbs green C. S.	12	14	16	14	56	896
	{ 53 " " " seed	848 " green C. S.	28	26	22	12	88	1408
14	{ 15 " Floats	240 " Floats						
15	265 lbs stable manur.	4240 " stable m'ure	28	24	24	14	90	1440
16	{ 15 " acid phosph	240 " acid phosph.	40	30	32	18	120	1920
	{ 15 " cotton S. meal	240 " cotton S. M.						

EXPERIMENT MADE BY MR. URIAH JOHNSON.

TRINITY STATION, MORGAN COUNTY.

Soil, Red Sandy Loam—Sub-soil, Red Clay.

Average yield of unmanured plots, 384 lbs. per acre. Mr. Johnson having given in his report the average yield per acre of the unmanured plots, 4, 8, and 12, placed the same amount opposite each plot, there is no data left by which the uniform fertility of this acre can be determined.

Mr. Johnson writes that he did not get a stand of cotton until June 6th, on account of drought, and consequently thinks his crop not so good as it would have been, had the seed come up in due time. From the results of this experiment, the leading element needed in this soil is phosphoric acid. The average yield of unmanured plots, 4, 8 and 12, being 384 lbs. per acre, the increased yield on plot 2, acid phosphate is 416 lbs. over no manure. And it will be further noticed, that while acid phosphate in combination with nitrate soda as in plot 6, or with muriate potash in plot 7, gives satisfactory results, yet the yield proportionately is not so great as from the use of acid phosphate alone. By comparing plot 9, a complete fertilizer, with plots 6 and 7, it will be seen that the additional use of nitrate soda has added nothing to the increased yield over plot 7, whereas plot 16, cotton seed meal and acid phosphate, has given the best results in this experiment.

If the fertility of this acre be uniform, the increased yield from the use of floats in plots 10, 11 and 14, points to a lack of phosphoric acid in this soil, which in combination with nitrogen as in plots 11 and 14, shows an increased yield. The nitrogen in plot 11 being more readily available as plant food, is not retained in the soil as in green cotton seed in plot 14, which may explain the difference in these two plots. As a rule, plants are not fastidious from what source nitrogen comes, just so its supply is sufficient.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizer per Acre.	Lbs. Cotton, 1st picking, Dec. 1st.	Lbs. Cotton, 2nd picking, Dec. 25th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	10	26	36	576
2	15 lbs acid phosphate	240 lbs acid phosphate	20	30	50	800
3	4 lbs muriate potash	64 " muriate potash	8	20	28	448
4	No manure	No manure	10	14	24	384
5	{ 6 lbs nitrate soda	96 lbs nitrate soda	8	20	28	448
	{ 4 " muriate potash	64 " muriate potash				
6	{ 6 lbs nitrate soda	96 " nitrate soda	28	24	52	832
	{ 15 " acid phosphate	240 lbs acid phosphate				
7	{ 4 lbs muriate potash	64 " muriate potash	28	32	60	960
	{ 15 lbs acid phosphate	240 " acid phosphate				
8	No manure	No manure	10	14	24	384
9	{ 6 lbs nitrate soda	96 lbs nitrate soda	34	26	60	960
	{ 4 " muriate potash	64 " muriate potash				
	{ 15 " acid phosphate	240 " acid phosphate				
10	15 lbs Floats	240 " Floats	24	22	46	736
11	{ 15 lbs Floats	240 " Floats	26	26	52	832
	{ 6 " nitrate soda	96 " nitrate soda				
12	No manure	No manure	12	12	24	384
13	53 lbs green cotton seed	848 lbs green cotton seed	38	20	58	928
14	{ 53 lbs green cotton seed	848 " green cotton seed	42	24	66	1056
	{ 15 " Floats	240 " Floats				
15	265 lbs stable manure	4240 lbs stable manure	44	24	68	1088
16	{ 15 lbs acid phosphate	240 lbs acid phosphate	52	24	76	1216
	{ 15 lbs cotton seed meal	240 " cotton seed meal				

EXPERIMENT MADE BY MR. J. C. KILLEBREW,
 NEWTON, DALE COUNTY.

Soil, Sandy Loam—Sub-soil, Red Clay.

Average yield of unmanured plots per acre, 464 lbs. Mr. Killebrew says in his report that the land from which this experiment acre was selected has been in cultivation 15 years, is very poor, and even after lying out for the past 2 years, vegetation was very scant. He says he is satisfied that his land needs more nitrogen than is found in standard fertilizers, which are the indications from this report. In plot No. 1, nitrate soda, there is an increased yield of 80 lbs. per acre over average of no manure. In plot 2 acid phosphate, the yield is the same as no manure. In plot 3, muriate potash, the yield is 176 lbs. less than average of no manure. Plot 5, a combination of nitrate soda and muriate potash, gives a striking increase over average of no manure, while plot 6, nitrate soda and phosphate and plot 7 muriate potash and phosphate show a very small increase over no manure. In plot 9, the three elements, show about the same results as in plot 5, where nitrate soda and muriate potash are used; but by comparing plot 5 with plot 16, the indications are, that acid phosphate in combination with cotton seed meal gives satisfactory results. By reference to plot No. 10, floats, the yield is 64 lbs. per acre less than the average of no manure, while in plots 11 and 14, by the addition of nitrogen, the yield is increased 144 lbs. per acre over no manure. In plot 15, stable manure, the best results are obtained, which also indicate the need of nitrogen in this soil.

Attention is called to the uniform fertility of this experiment acre.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking Sept. 10th.	Lbs. cotton, 2nd picking Oct. 1st.	Lbs. cotton, 3d picking Oct. 26th	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	10	16	8	34	544
2	15 " acid phosphate	240 " acid phosph.	9	13	7	29	464
3	4 " muriate potash	64 " muriate pot.	6	7	5	18	288
4	No manure.	No manure.	8	12	9	29	464
5	{ 6 lbs nitrate soda	96 lbs nitrate soda	16 $\frac{3}{4}$	23	13	52 $\frac{3}{4}$	844
	{ 4 " muriate potash	64 " muriate pota					
	{ 6 " nitrate soda	96 " nitrate soda.					
6	{ 15 " acid phosphate	240 " acid phosph.	13	14	10	37	592
	{ 4 " muriate potash	64 " muriate pot.					
7	{ 15 " acid phosphate	240 " acid phosph.	10	17	9	36	576
	{ 4 " muriate potash	64 " muriate pot.					
8	No manure.	No manure	8	9	11	28	448
9	{ 6 lbs nitrate soda	96 lbs nitrate soda	13	26	14	53	848
	{ 4 " muriate potash	64 " muriate pot					
	{ 15 " acid phosphate	240 " acid phosph					
10	15 " Floats	240 " Floats	9	7	9	25	400
11	{ 15 " Floats	240 " Floats	11	17	10	28	608
	{ 6 " nitrate soda	96 " nitrate soda.					
12	No manure	No manure	6	13	11	30	480
13	53 lbs green cotton seed	848 lbs green C S.	11	13	14	38	608
14	{ 53 " green cotton seed	848 " green cot. S	10	13	15	38	608
	{ 15 " Floats	240 " Floats					
15	265 " stable manure	4240 " stable man.	17	25	20	62	992
16	{ 15 " acid phosphate	240 " acid phosph.	13	23	18	54	864
	{ 15 " cotton seed meal.	240 " cotton S. M					

EXPERIMENT MADE BY MR. J. M. KENNEDY,

OAK LONE, CLAY COUNTY.

Soil, Red—Sub-soil Red, Stiff Magnetic Iron.

Average yield of unmanured plots per acre, 389 lbs. Attention is called to the irregular fertility of this acre—plot 4 yielding 256 lbs. per acre, plot 8 400 lbs. and plot 12, 512 lbs., the average being 389 lbs. without manure. Mr. Kennedy says: "Owing to very unpropitious seasons, this experiment is not as satisfactory as it would have been, had the seasons been favorable. Cotton was planted April 19th—came up June 19th and was not put to a stand until July 10th."

The indications are that plot No. 9, a complete fertilizer, gives the best results in this experiment, as the soil seems deficient in all the chief elements of plant food, though the increased yield from acid phosphate and nitrate soda in plot 6, and acid phosphate and muriate potash in plot 7, is very satisfactory. In plot 10, floats alone, an increased yield is shown, notwithstanding the lack of uniform fertility of the soil and by the addition of nitrogen as in plot 11, the increase yield is still further advanced. Attention is directed to the following falling off of stable manure in plot 15, and when plot 16, acid phosphate and cotton seed meal is compared with plot 9, the results are not so good as from a complete fertilizer in No. 9.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking, Oct. 9.	Lbs. cotton, 2nd picking, Oct. 25.	Lbs. cotton, 3d picking, Nov. 9th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda . .	3	8	6	17	272
2	15 " acid phosphate	240 " acid phosph. . .	7	14	9	30	480
3	4 " muriate potash	64 " muriate pot. . . .	3	6	8	17	272
4	No manure	No manure	3	7	6	16	256
5	6 lbs nitrate soda	96 lbs nitrate soda . .					
	4 " muriate potash	64 " muriate potash . .	5	11	9	25	400
6	6 " nitrate soda	96 " nitrate soda					
	15 " acid phosph'te	240 " acid phosph. . . .	14	20	16	50	800
7	4 " muriate potash	64 " muriate potash . .					
	15 " acid phosphat'	240 " acid phosph. . . .	11	21	16	48	768
8	No manure	No manure	5	10	10	25	400
9	6 lbs nitrate soda	96 lbs nitrate soda . .					
	4 " muriate potash	64 " muriate potash . .					
	15 " acid phosph.	240 " acid phosph. . . .	13	22	18	53	848
10	15 " Floats	240 " Floats	10	16	10	36	576
11	15 " Floats	240 " Floats					
	6 " nitrate soda	96 " nitrate soda	11	22	13	46	736
12	No manure	No manure	7	13	12	32	512
13	53 lbs green cotton S. . . .	848 lbs green C. S. . .	8	10	7	25	400
14	53 lbs green C. seed	848 " green C. S. . . .					
	15 " Floats	240 " Floats	12	13	9	34	544
15	265 " stable m'ure.	4240 " stable m'nre. . .	11	13	10	34	544
16	15 " acid phosph.	240 " acid phosph. . . .					
	15 " C. seed meal	240 " cotton S. M. . . .	20	17	17	44	704

EXPERIMENT MADE BY MR. J. A. LOGAN,

CLANTON, CHILTON COUNTY.

Soil, Mulatto and Sandy—Sub-soil, Red Clay.

Average yield of unmanured plots, 509 lbs. Mr. Logan states that he prepared and cultivated this test acre thoroughly, and made as many as three careful observations on the growth and maturity of the plant from the use of fertilizers. Attention is called to the uniform fertility of the soil, by observing the yield of the unmanured plots 4, 8 and 12. The increased yield over no manure from the use of acid phosphate in this soil, is very decided, as is shown in plot 2, giving 363 lbs., and in plot 6, in combination with nitrate soda the increase is 475 lbs. over no manure, giving better results than acid phosphate alone. It will be seen by referring to plots 3, 5, 7 and 9 and comparing them with plot 2, no decided benefit is derived from the use of muriate potash. From the use of floats in plot 10, we have an increase over no manure of 131 lbs., and by the addition of nitrate soda as in plot 11, we have an increase of 235 lbs. and in plot 14, floats and green cotton seed combined, we have an increase of 281 lbs. The increased yield from the use of floats is not so great as from acid phosphate; but when the cost of the two are compared, the results are satisfactory. The yield from stable manure in plot 15 is very marked, and from cotton seed meal and acid phosphate in plot 16, the result is as great as could be expected when compared with plots 9 and 10.

No. Plot.	Lbs. Fertilizer per Plot.	Lbs. Fertilizer per Acre.	Lbs. Cotton, 1st picking, Sept. 16th.	Lbs Cotton, 2nd picking Oct. 6th.	Lbs. Cotton, 3rd picking, Nov. 16th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda..	6	20	8½	34½	552
2	15 lbs acid phosphate . .	240 " acid phosph...	35½	16½	2½	54½	872
3	4 lbs muriate potash. . . .	64 " muriate pot. . .	8½	19	9	36½	584
4	No manure.	No manure	10	20	4½	34½	552
5	6 lbs nitrate soda	96 lbs nitrate soda.	9	20½	8	37½	600
		64 lbs mur. potash . . .					
6	6 " nitrate soda.	96 " nitrate soda.	42	18	1½	61½	984
		240 " A. phosphate . . .					
7	4 lbs muriate pota.	64 " muriate pota.	29½	19	2	50½	808
		240 " acid phosph.					
8	No manure.	No manure	6	15	7	28	448
9	6 lbs nitrate soda.	96 lbs nitrate soda	38	15½	1	54½	872
		64 " muriate pota.					
10	15 lbs Floats.	240 " acid phosph.	20½	17	2½	40	640
		240 " "					
11	15 lbs Floats	240 " "	18½	22½	5½	46½	744
		96 " nitrate soda.					
12	No manure	No manure	4	18½	10½	33½	528
13	53 lbs green cotton S. . . .	848 lbs green C. S. . . .	14½	23½	6½	44½	712
		848 lbs green C. S. . . .					
14	53 lbs green C. S.	848 lbs green C. S. . . .	21½	23	5½	50	800
		240 lbs Float					
15	265 lbs stable manur'	4240 " stable man. . . .	35½	22½	6½	64½	1032
		240 " acid phosph.					
16	15 " cotton seed M.	240 cotton seed M. . . .	26½	25½	6½	58½	936

EXPERIMENT MADE BY MR. W. H. MILLER,

UNION, GREENE COUNTY.

Soil, Sandy—Sub-soil, Clay.

Average yield per acre of unmanured plots, 104 pounds. By noticing the yield from the unmanured plots 4, 8 and 12, the irregularity of the fertility of this acre is plainly seen. Mr. Miller writes in making his report, that his land has been in cultivation 52 years, was never fertilized, and is very poor; and while it has been lying out for the past 4 years, the growth of vegetation was very scant. This soil is very deficient in the three main elements of plant food, as is shown by comparing plots 1, 2 and 3, where the fertilizers were applied singly, with plot 9, a complete fertilizer, where all were combined. This report certainly shows very gratifying results. The increased yield from floats in plots 10, 11 and 14, is very decided. The yield from plots 15 and 16 is nearly the same, and alike satisfactory. Much more could be said about this report, but it is so plain and decided in showing such bountiful and profitable returns from the use of fertilizers, that further comment is unnecessary.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs Fertilizers per Acre.	Lbs. cotton, 1st picking Sept. 14th.	Lbs. cotton, 2nd picking, Sept. 26th.	Lbs. cotton 3rd picking, Nov. 24th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	....	2	4	6	96
2	15 " acid phosphate	240 " acid phosph.	10	14	8	32	512
3	4 " muriate potash	64 " muriate pot.	....	1½	2½	4	64
4	No manure	No manure	....	1½	2	3½	56
5	{ 6 lbs nitrate soda	96 lbs nitr'te soda	....	1½	2	3½	56
	{ 4 " muriate potash	64 " muriate pot.	....	1½	2	3½	56
6	{ 6 " nitrate soda	96 " nitrate soda	....	1½	2	3½	56
	{ 15 " acid phosphate	240 " acid phosph.	20	28	12	60	960
	{ 4 " muriate potash	64 " muriate pot.	....	1½	2	3½	56
7	{ 15 " acid phosphate	240 " acid phosph.	12	18	18	48	768
8	No manure	No manure	....	2	4	6	96
9	{ 6 lbs nitrate soda	96 lbs nitrate soda	....	2	4	6	96
	{ 4 " muriate potash	64 " muriate pot.	....	2	4	6	96
	{ 15 " acid phosphate	240 " acid phosph.	16	32	28	76	1216
10	15 " Floats	240 " Floats	4	14	10	28	448
11	{ 15 " Floats	240 " Floats	....	14	24	34	1152
	{ 6 " nitrate soda	296 " nitrate soda	6	20	16	42	672
12	No manure	No manure	....	6	4	10	160
13	53 lbs green cotton seed	848 lbs green C. S.	8	34	32	74	1184
14	{ 53 " green cotton seed	848 " green C. S.	....	6	4	10	160
	{ 15 " Floats	240 " Floats	14	24	34	72	1152
15	265 " stable manure	4240 " stable m'nu.	16	20	32	68	1088
16	{ 15 " acid phosphate	240 " acid phosph.	....	22	28	66	1056
	{ 15 " cotton seed meal	240 " cotton S. M.	16	22	28	66	1056

EXPERIMENT MADE BY MR. J. W. MIZE,
REMLAP, BLOUNT COUNTY.

Soil, Red Sandy—Sub-soil, Sticky, Mineral Nature.

Average yield of unmanured plots per acre, 331 pounds. From Mr. Mize's report, it is evident that acid phosphate is the principal element needed in this soil, and that a combination of acid phosphate and nitrate soda as shown in plot No. 6, gives better results than the complete fertilizer in plot No. 9. In plot 15, stable manure, there is a marked decrease in comparison with plot 16, acid phosphate and cotton seed meal, which plot gives the greatest yield of any in this experiment.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking, Sept. 28th	Lbs. cotton, 2nd picking, Oct. 19th.	Lbs. cotton, 3rd picking, Nov. 2nd.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	1	4½	15½	21	336
2	15 " acid phosphate	240 " acid phosph	6½	12½	17	36	576
3	4 " muriate potash	64 " muriate pot.	1½	7	17	25½	408
4	No manure.	No manure	1	4½	15	20½	328
5	{ 6 lbs nitrate soda	96 lbs nitrate soda.	1	6	16	23	368
	{ 4 " muriate potash	64 " muriate pota.					
	{ 6 " nitrate soda	96 " nitrate soda.					
6	{ 15 " acid phosphate	240 " acid phosph.	8	16½	18	42½	680
	{ 4 " muriate potash	64 " muriate pota					
	{ 15 " acid phosphate	240 " acid phosph					
7	{ 4 " muriate potash	64 " muriate pota	4½	12½	14	31	496
	{ 15 " acid phosphate	240 " acid phosph					
8	No manure	No manure	1	8	12½	21½	344
9	{ 6 lbs nitrate soda	96 lbs nitrate soda.	3	13½	17	33½	536
	{ 4 " muriate potash	64 " muriate pot.					
	{ 15 " acid phosphate	240 " acid phosph.					
10	15 " Floats.	240 lbs Floats . .	1½	10	14	25½	408
11	{ 15 " Floats.	240 " Floats . .	1	10	17	28	448
	{ 6 " nitrate soda	96 " nitrate soda					
	{ No manure	No manure					
12	No manure	No manure	1	5	14	20	320
13	53 lbs green cotton seed	48 lbs green C. S.	4	15½	16	35½	568
14	{ 53 " green cotton seed	848 " green C. S.	2½	10	15½	28	448
	{ 15 " Floats	240 " Floats. . .					
	{ 255 " stable manue	4240 " stable m'nu.					
15	{ 15 " acid phosphate	240 " acid phosph	1½	11	16½	29	464
	{ 15 " cotton seed meal	240 " cotton S. M.					
16	{ 15 " acid phosphate	240 " acid phosph	10	18½	16	34½	712
	{ 15 " cotton seed meal	240 " cotton S. M.					

EXPERIMENT MADE BY MR. W. B. MELTON,

DAVIS' CREEK, FAYETTE COUNTY.

Soil, White and Gray—Sub-soil Clay.

Average yield per acre of unmanured plots, 245 lbs. Mr. Melton selected an acre for this experiment of almost uniform fertility as will be seen by comparing the unmanured plots 4, 8 and 12 with each other. It will be observed that this soil claims phosphoric acid as the principle element needed as is demonstrated in plot 2, and by comparing this plot with 1 and 3. By adding muriate potash as in plot 7, better results are obtained than from plots 5 and 6, but the complete fertilizer in plot 9, gives the best results of all. Floats alone in plot 10, show better results than the combination in nitrogen in plot 11; but in plot 14 in combination with green cotton seed, the increase in yield is decided. By comparing plot 15 stable manure and plot 16 phosphate and cotton seed meal, with plot 9, this result also favors a complete fertilizer.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking. Sept. 9.	Lbs. cotton, 2nd picking. Sept. 27	Lbs. cotton, 3rd picking. Oct. 15.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda.	0	4	6	10	160
2	15 " acid phosphate. . . .	240 " acid phosph. . . .	7	18	10	35	560
3	4 " muriate potash. . . .	64 " muriate pot	0	11	13	24	384
4	No manure	No manure.	0	9	6	15	240
5	{ 6 lbs nitrate soda. . . .	96 lbs nitrate soda	0	6	12	18	288
	{ 4 " muriate p'ash. . . .	64 " muriate pot. . . .					
6	{ 6 " nitrate soda	96 " nitrate soda.	8	22	12	42	672
	{ 15 " acid phosph. . . .	240 " acid phosph. . . .					
7	{ 4 " muriate pota. . . .	64 " muriate pot.	4	24	16	44	704
	{ 15 " acid phosph. . . .	240 " acid phosph. . . .					
8	No manure.	No manure	0	6	10	16	256
9	{ 6 lbs nitrate	96 lbs nitrate soda	7	32	23	62	992
	{ 4 " muriate pota. . . .	64 " muriate pot.					
	{ 15 " acid phosph. . . .	240 " acid phosph. . . .					
10	15 " Floats.	240 " Floats	2	16	7	25	400
	15 " Floats.	240 " Floats	0	13	8	21	336
11	{ 6 " nitrate soda	96 " nitrate soda. . . .					
12	No manure	No manure.	0	9	6	15	240
13	53 lbs green cotton S. . . .	848 lbs green C. S. . . .	3	19	14	36	576
14	{ 53 " " " seed. . . .	848 " green C. S. . . .	5	24	12	41	656
	{ 15 " Floats	240 " Floats.					
15	265 " stable manure	4240 " stable m'nre. . . .	7	37	15	59	944
16	{ 15 " acid phosph. . . .	240 " acid phosph.	5	27	16	48	768
	{ 15 " cotton S. meal	240 " cotton S. M. . . .					

EXPERIMENT MADE BY MR. W. S. MANNING,

OXFORD, CALHOUN COUNTY.

Soil, Mulatto—Sub-soil, Red Clay.

Average yield per acre of unmanured plots, 171 lbs. It will be seen from Mr. Manning's report that acid phosphate is the element most needed in this soil which is plainly demonstrated by comparing plot 2 acid phosphate, with plots 1 and 3; and by combining acid phosphate and nitrate soda in plot 6, the results are better than from 5 and 7. By a combination of all three elements as in plot 9, the best results in the entire experiment, are shown. A slight increase in plot 10 from the use of floats is manifest, but when nitrogen is added as in plots 11 and 14, the increased yield over no manure is decidedly in favor of the combination with green cotton seed. Plot 15, stable manure, shows a decided falling off, while plot 16, cotton seed meal and acid phosphate, shows very satisfactory results.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking.	Lbs cotton, 2nd picking.	Lbs. cotton, 3rd picking.	Total yield per plot.	Total yield per acre.
1	6 lbs nitrate soda....	96 lbs. nitrate soda .	5	4	4	13	208
2	15 lbs acid phosphate...	240 lbs acid phosphate	11	10	9	30	480
3	4 lbs muriate potash ...	64 lbs muriate potash	4	5	4	13	208
4	No manure.	No manure.	4	5	4	13	208
5	{ 6 lbs nitrate soda. ...	96 lbs nitrate soda	3	4	3	10	160
	{ 4 lbs muriate potash	64 lbs muriate potash					
6	{ 6 lbs nitrate soda ...	96 lbs nitrate soda	21	10	9	40	640
	{ 15 lbs acid phosphate	240 lbs acid phosphate					
7	{ 4 lbs muriate potash ...	64 lbs muriate potash	17	9	7	33	528
	{ 15 lbs acid phosphate	240 lbs acid phosphate					
8	No manure.	No manure	3	2	4	9	144
9	{ 6 lbs nitrate soda.	96 lbs nitrate soda	23	18	10	51	816
	{ 15 lbs acid phosphate.	240 lbs acid phosphate					
	{ 4 lbs Muriate potash	64 lbs muriate potash					
10	15 lbs Floats	240 lbs Floats.	4	7	5	16	256
11	{ 15 lbs Floats.	240 lbs Floats.	6	8	6	20	320
	{ 6 lbs nitrate soda....	96 lbs nitrate soda ...					
12	No manure.	No manure.	2	3	5	10	160
13	53 lbs green cotton seed	848 lbs green cotton S.	7	7	6	20	320
14	{ 53 lbs green cotton S.	848 lbs green cotton S	18	19	10	47	752
	{ 15 lbs Floats..	240 lbs Floats.					
15	265 lbs stable manure.	4240 lbs stable manure	11	9	8	28	448
16	{ 15 lbs acid phosphate.	240 lbs acid phosphate	18	11	10	39	624
	{ 15 lbs cott'n seed meal	240 lbs cotton S meal.					

EXPERIMENT MADE BY MR. J. P. OLIVER,

DADEVILLE, TALLAPOOSA COUNTY.

Soil, Gray Sandy—Sub-soil, Clay.

Average yield per acre of unmanured plots, 432 pounds. Mr. Oliver reports that he followed instructions accurately in conducting this experiment. The uniform fertility of this acre is satisfactory. From this report, all three main elements of plant food were beneficial to the soil, particularly in a combination, as is indicated by plots 6, 7 and 9, compared with 1, 2 and 3. The increased yield from use of acid phosphate alone in plot 2, compared with the unmanured plots 4, 8 and 12, is very decided. Especial attention is called to the increased yield from floats in plot No. 10, being 296 pounds per acre over average of no manure, and in combination with nitrate soda in plot 11, the increased yield over no manure is 384 pounds. Comparing the nitrogenous effects with floats in plot 11, with plot No. 14, the results are in favor of green cotton seed. Plots 15 and 16, compared with plot 9, give results in favor of plot 9, complete fertilizer.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking Sept 16th.	Lbs. cotton, 2nd picking Oct. 5th.	Lbs. cotton, 3d picking. Nov. 9th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda.....	96 lbs nitrate soda..	2½	14	8	24½	392
2	15 lbs acid phosphate....	240 lbs acid phosph..	15	19	6	40	640
3	4 lbs muriate potash....	64 lbs muriate pot...	3½	14	6	23½	376
4	No manure.....	No manure.....	3½	14	8	25½	408
5	{ 6 lbs nitrate soda....	96 lbs nitrate soda	3½	16	9	28½	456
	{ 4 lbs mur'te potash....	64 lbs muriate pot...					
6	{ 6 lbs nitrate soda....	96 lbs nitrate soda	22½	28	5	55½	888
	{ 15 lbs acid phosph....	240 lbs acid phosp...					
7	{ 4 lbs muriate pota....	64 lbs muriate pot.	15½	25	6	46½	744
	{ 15 " acid phosph....	240 lbs acid phosh..					
8	No manure.....	No manure.....	3½	15	8	26½	424
9	{ 6 lbs nitrate soda....	96 lbs nitrate soda	22	29	9	60	960
	{ 15 " acid phosph....	240 lbs acid phosp.					
	{ 4 lbs muriate pota....	64 lbs muriate pot...					
10	15 lbs. Floats.....	240 lbs Floats.....	10	27½	8	45½	728
11	{ 15 lbs Floats.....	240 lbs Floats.....	11	30	10	51	816
	{ 6 lbs nitrate soda....	96 " nitrate soda..					
12	No manure.....	No manure.....	2	15	12	29	464
13	53 lbs green cotton S....	848 lbs. G. C. seed..	6½	23	12	41½	664
14	{ 53 lbs G. Cot. seed....	848 lbs green C. S.	16	28½	10	54½	872
	{ 15 lbs Floats.....	240 lbs Floats.....					
15	265 lbs stable manure....	4240 lbs stable ma...	17½	32½	4	54	864
16	{ 15 lbs acid phosph....	240 lbs acid phos.	19½	32	8	59½	952
	{ 15 " cotton S. meal....	240 " C. seed meal..					

EXPERIMENT MADE BY MR. J. W. PITTS,

CRESSWELL STATION, SHELBY COUNTY.

Soil, Thin Brown or Mulatto—Sub-soil, Stiff Red Clay.

Average yield per acre of unmanured plots, 317 lbs. Mr. Pitts says that the acre selected for this experiment was thin upland, which had been in cultivation 50 years, but during the last 8 or 10 years had rested and grown up in sedge. Owing to a protracted drought in the Spring, cotton did not come up until the 24th of May, and then only an imperfect stand was secured. Preparation of ground and cultivation of crop, were carried out according to instructions. Attention is directed to the uniformity of the soil in this acre, as is shown in plots 4, 8 and 12. The indications are that nitrogen and phosphoric acid are the only two elements beneficial in this experiment. There is some increase from use of potash alone in plot 3, but in combination either with nitrate soda in plot 5, or with acid phosphate in plot 7, or with both phosphate and nitrate soda in plot 9, the yield is decreased compared with plots 2 and 6. The increased yield from floats alone in plot 10, is slight, but in combination with nitrogen in plots 11 and 14, is very satisfactory. Stable manure in plot 15, and acid phosphate and cotton seed meal in plot 16, produce the best results.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking, Sept. 28th.	Lbs. cotton, 2nd picking, Oct. 26th.	Lbs. cotton, 3rd picking, Nov. 25th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	20½	20	5	45½	728
2	15 " acid phosphate	240 " acid phosph	21½	22½	4	48	768
3	4 " muriate potash	64 " muriate pot.	9	19½	8½	37	592
4	No manure.	No manure	6	8½	5½	20	320
5	{ 6 lbs nitrate soda.	96 lbs nitrate soda.	3½	7½	1½	12½	200
	{ 4 " muriate potash ..	64 " muriate pota.					
6	{ 6 " nitrate soda.	96 " nitrate soda.	25	23	2½	50½	808
	{ 15 " acid phosphate....	240 " acid phosph.					
7	{ 4 " muriate potash....	64 " muriate pota.	19½	21	4½	45	720
	{ 15 " acid phosphate....	240 " acid phosph					
8	No manure	No manure	9	9½	2	20½	328
9	{ 6 lbs nitrate soda	96 lbs nitrate soda.	22½	20	5	47½	760
	{ 4 " muriate potash....	64 " muriate pot.					
	{ 15 " acid phosphate....	240 " acid phosph.					
10	15 " Floats.....	240 lbs Floats....	10	10½	1½	22	352
11	{ 15 " Floats.....	240 " Floats	15	13	6½	34½	552
	{ 6 " nitrate soda.....	96 " nitrate soda					
12	No manure.....	No manure.....	7	9	3	19½	304
13	53 lbs green cotton seed	848 lbs green C. S.	13	15	4	32	512
14	{ 53 " green cotton seed	848 " green C. S.	17½	20½	6	44	704
	{ 15 " Floats.....	240 " Floats....					
15	265 " stable manue....	4240 " stable m'nu.	29½	23	6	58½	936
16	{ 15 " acid phosphate....	240 " acid phosph	29½	20	5	54½	872
	{ 15 " cotton seed meal.	240 " cotton S. M.					

EXPERIMENT MADE BY MR. T. M. J. PORTER,

GEORGIANA, BUTLER COUNTY.

Soil, Light Sandy—Sub-soil, Red and Yellow Sandy Clay.

Average yield per acre of unmanured plots, 200 pounds. Mr. Porter planted this test acre April 23rd, and failing to get a stand, replanted May 7th, in Peterkin cotton. The land was quite uniform in fertility, as is shown by the unmanured plots 4, 8 and 12. In this experiment, the soil shows a lack of all three elements of plant food, as is shown by the increased yield in plot No. 9.

The use of floats in plots 10 and 14 show an increased yield, and why there should be a falling off in plot 11, cannot be explained. It will be noticed that there is a falling off in stable manure in plot 15, while acid phosphate and cotton seed meal in plot 16, give good results.

No. Plot.	Lbs. Fertilizers per Plot	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking Sept. 28th.	Lbs. cotton, 2nd picking Oct. 21st.	Lbs. cotton, 3d picking, Nov. 3rd.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda.	96 lbs nitrate soda.	6	5	1½	12½	200
2	15 lbs acid phosphate . .	240 lbs acid phosph.	25	11	4	40	640
3	4 lbs muriate potash. . .	64 lbs muriate pot. . .	10½	9	2	21½	344
4	No manure.	No manure	6	6	2	14	224
5	{ 6 lbs nitrate soda	96 lbs nitrate soda	6	7½	2½	16	256
	{ 4 lbs mur'te potash. . . .	64 lbs muriate pot. . .					
6	{ 6 lbs nitrate soda. . . .	96 lbs nitrate soda	32	10	4½	46½	744
	{ 15 lbs acid phosph. . . .	240 lbs acid phosph. .					
7	{ 4 lbs muriate pota. . . .	64 lbs muriate pot. . .	27½	10½	4½	42½	680
	{ 15 " acid phosph.	240 lbs acid phosph. .					
8	No manure	No manure.	7½	4	1	12½	200
9	{ 6 lbs nitrate soda	96 lbs nitrate soda	35½	10½	4	50	800
	{ 15 " acid phosph.	240 lbs acid phosph. .					
	{ 4 lbs muriate pota. . . .	64 lbs muriate pot. . .					
10	15 lbs. Floats	240 lbs Floats	18½	7½	2	28	448
11	{ 15 lbs Floats	240 lbs Floats	14	7½	1½	23	368
	{ 6 lbs nitrate soda.	96 " nitrate soda.					
12	No manure	No manure	6½	3½	1	11	176
13	53 lbs green cotton S. . . .	848 lbs. G. C. seed. . .	30½	9½	2½	42½	680
14	{ 53 lbs G. Cot. seed	848 lbs green C. S. . .	40	7	3	50	800
	{ 15 lbs Floats.	240 lbs Floats					
15	265 lbs stable manure . . .	4240 lbs stable ma. . .	28	6½	1	35½	568
16	{ 15 lbs acid phosph.	240 lbs acid phos. . . .	39	7	1½	47½	760
	{ 15 " cotton S. meal	240 " C. seed meal. . .					

EXPERIMENT MADE BY MR. S. A. PRUITT,

CHESSER, PIKE COUNTY.

Soil, Sandy—Sub-soil, Sandy Clay.

Average yield of no manure per acre, 384 pounds. Judging from Mr. Pruitt's report in this experiment, the soil is lacking in the three main elements of plant food.

Attention is called specially to the uniform fertility of this acre, and also to the increased yield from use of fertilizers, in every instance, over unmanured plots. Fertilizers, evidently are a great source of benefit to this land.

No. Plot.	Lbs Fertilizers per Plot.	Lbs. Fertilizer per Acre.	Lbs. cotton, 1st picking, Sept. 19.	Lbs. cotton, 2nd picking, Oct. 10.	Lbs. cotton, 3rd picking Oct. 25.	Lbs. cotton, 4th picking, Nov. 6.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda..	96 lbs nitrate soda	29	19	2	3	53	848
2	15 " acid phosphate	240 " acid phosph.	19	12	1	2	34	544
3	4 " muriate potash	64 " muriate pot	20	14	2	4	40	640
4	No manure . . .	No manure.	9	7	3	6	25	400
5	{ 6 lbs nitrate soda.	96 " nitrate soda,	18	16	5	2	41	656
	{ 4 " muri'ate pot'sh	64 " muriate pot.						
6	{ 6 " nitrate soda .	96 " nitrate, soda,	29	22	2	1	54	864
	{ 15 " acid phosph.	240 " acid phosph						
7	{ 4 " muriate pota.	64 " muriate pota	28	17	1	1	47	752
	{ 15 " acid phosph	240 " acid phosph.						
8	No manure...	No manure..	8	7	2	7	24	384
9	{ 6 " nitrate soda	96 " nitrate soda,	43	26	4	1	74	1184
	{ 4 " muriate pota.	64 " muriate pot.						
	{ 15 " acid phosph.	240 " acid phosph.						
10	15 " Floats	240 " Floats	28	21	1	$\frac{1}{2}$	$50\frac{1}{2}$	808
11	{ 15 " Floats	240 " Floats	39	16	1	2	58	928
	{ 6 " nitrate soda..	96 " nitrate soda						
12	No manure...	No manure	7	8	2	6	23	368
13	53 " green C. seed.	848 " green cot. S.	30	19	4	2	55	880
14	{ 53 " " "	848 " " "	39	28	3	1	71	1136
	{ 15 " Floats	240 " Floats						
15	265 " stable manure	4240 " stable m'ure	50	41	5	2	98	1568
16	{ 15 " acid phosph.	240 " acid phosph	53	54	6	1	114	1824
	{ 15 " cotton seed M	240 " cotton S. M.						

EXPERIMENT MADE BY MR. J. H. RADNEY,

ROANOKE, RANDOLPH COUNTY.

Soil, Sandy Loam—Sub-soil, Clay.

Average yield per acre of unmanured plots, 299 pounds. Mr. Radney states that this land has been in cultivation 25 years. By noticing the yield from plots 1, 2 and 3 where the fertilizers were applied singly, it will be observed that muriate potash gives the best results; but in combination, as in plots 5, 6 and 7, nitrate soda and acid phosphate in plot 6 give the best. In plot 9, a complete fertilizer, the yield is the same as plot 5, and less than plots 6 and 7.

The yield from floats alone in plot 10, and in combination with nitrate soda in plot 11, is better than in plot 14 in combination with green cotton seed. Plot 15, stable manure, gives the best results, except plot 6 nitrate soda and acid phosphate.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking, Sept. 15th.	Lbs. cotton, 2nd picking, Oct. 10th.	Lbs. cotton, 3d picking, Nov. 8th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	1	14	2	17	272
2	15 " acid phosphate	240 " acid phosph.	5	15	4	24	384
3	4 " muriate potash	64 " muriate pot.	6	16	3	25	400
4	No manure.	No manure.	7	6	5	18	288
5	{ 6 lbs nitrate soda	96 lbs nitrate soda	9	18	7	34	544
	{ 4 " muriate potash	64 " muriate pota					
	{ 6 " nitrate soda	96 " nitrate soda.					
6	{ 15 " acid phosphate	240 " acid phosph.	27	17	3	47	752
	{ 4 " muriate potash	64 " muriate pot.					
	{ 15 " acid phosphate	240 " acid phosph.					
7	No manure.	No manure	16	18	5	39	624
8	{ 6 lbs nitrate soda	96 lbs nitrate soda	8	6	7	21	336
	{ 4 " muriate potash.	64 " muriate pot					
	{ 15 " acid phosphate.	240 " acid phosph.					
9	{ 6 lbs nitrate soda	96 " acid phosph.	17	9	8	34	544
	{ 15 " muriate potash.	240 " muriate pot					
	{ 15 " acid phosphate.	240 " acid phosph.					
10	{ 15 " Floats	240 " Floats	5	16	7	28	448
	{ 15 " Floats	240 " Floats					
	{ 6 " nitrate soda	96 " nitrate soda.					
11	No manure	No manure	8	17	5	30	480
12	No manure	No manure	6	5	6	17	272
13	53 lbs green cotton seed	848 lbs green C. S.	12	10	9	31	496
14	{ 53 " green cotton seed	848 " green cot. S	9	10	8	27	432
	{ 15 " Floats	240 " Floats					
	{ 15 " Floats	240 " Floats					
15	265 " stable manure	4240 " stable man.	25	10½	9	44½	712
16	{ 15 " acid phosphate.	240 " acid phosph.	10	18	6	34	544
	{ 15 " cotton seed meal.	240 " cotton S. M.					

· EXPERIMENT MADE BY MR. Z. T. STROUD,

ABERFOIL, BULLOCK COUNTY.

Soil, Light Gray—Sub-soil, Clay.

Average yield per acre of unmanured plots, 227 pounds. The uniform fertility of this acre is very marked as will be observed from the unmanured plots 4, 8 and 12. Mr. Stroud in his report says that instructions as to preparation of ground and cultivation of crop, were strictly carried out, and everything was favorable to the growth of the crop up to the last of July, after which time the extremely dry weather caused a general falling off, though plots 1, 2, 3, 5, 7 and 9 stood the drought better than the others. Results indicate the need of a complete fertilizer on this soil, as is shown by the increased yield in plot No. 9, which is the largest obtained. This is the only one in these experiments, except one, (by Mr. R. H. Cross whose results are about the same) where nitrate soda and acid phosphate in combination as in plot 6, give less results than in plots 5 and 7.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking. Sept. 1.	Lbs. cotton, 2nd picking. Sept. 24.	Lbs. cotton, 3rd picking. Oct. 22.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda ...	96 lbs nitrate soda..	4	12	5	21	336
2	15 " acid phosphate..	240 " acid phosphate.	14	9	1	24	384
3	4 " muriate potash..	64 " muriate potash	6	16	8	30	480
4	No manure.....	No manure. ...	6	8	$\frac{1}{2}$	14 $\frac{1}{2}$	232
5	{ 6 lbs nitrate soda	96 " nitrate soda	7	26	8 $\frac{1}{2}$	41 $\frac{1}{2}$	664
	{ 4 " muriate potash	64 " muriate potash					
6	{ 6 " nitrate soda..	96 " nitrate soda,	17	7	$\frac{1}{2}$	24 $\frac{1}{2}$	392
	{ 15 " acid phosphate	240 " acid phosphate.					
7	{ 4 " muriate potash	64 " muriate potash	18	17	3 $\frac{1}{2}$	38 $\frac{1}{2}$	616
	{ 15 " acid phosphate	240 " acid phosphate.					
8	No manure.....	No manure.....	7	6	1	14	224
9	{ 6 lbs nitrate soda	96 " nitrate soda,	23	26	3	52	832
	{ 4 " muriate potash	64 " muriate potash,					
10	{ 15 " acid phosphate	240 " acid phosphate	11	5	$\frac{1}{8}$	16 $\frac{1}{8}$	258
	{ 15 " Floats.....	240 " Floats.....					
11	{ 15 " Floats.....	240 " Floats,	10	6 $\frac{1}{2}$	..	16 $\frac{1}{2}$	264
	{ 6 " nitrate soda..	96 " nitrate soda ...					
12	No manure ..	No manure. ...	7	7	..	14	224
13	53 " green cotton S.	848 " green cotton s'ed	17	8	$\frac{1}{8}$	25 $\frac{1}{8}$	404
14	{ 53 " green cotton S	848 " " " "	17	10 $\frac{1}{2}$	$\frac{1}{2}$	28	448
	{ 15 " Floats.....	240 " Floats.....					
15	265 " stable manure	4240 " stable manure..	18	8	$\frac{1}{2}$	26 $\frac{1}{2}$	424
16	{ 15 " acid phosphate	240 " acid phosphate.	23	7	1	31	496
	{ 15 " cotton seed M.	240 " cotton seed meal					

EXPERIMENT MADE BY MR. T. A. SNUGGS,

HOLLY POND, CULLMAN COUNTY.

Soil, Sandy and Gravelly—Sub-soil, Yellow Sandy.

Average yield per acre of unmanured plots 347 pounds. Mr. Snuggs writes in making his report, that he carefully carried out all instructions as to preparation of ground and cultivation of crop, and that great good is being done to the farmers of Cullman county from these experiments, that they are watched with great interest and that the bulletin containing his report is anxiously looked for. Special attention is called to the uniform fertility of the soil selected for this experiment. It will be seen that this soil is deficient in the three main elements of plant food, and while each gives its proper proportion, as is shown in plots 1, 2 and 3, and 5, 6 and 7, yet a culmination is found in the combined efforts of all in plot No. 9, giving 1,120 lbs., an increased yield of 773 lbs. over no manure. By carefully studying this report, the results are so plainly seen, that further comment seems unnecessary.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking Sept. 25th.	Lbs. cotton, 2nd picking. Oct. 8th.	Lbs. cotton, 3rd picking. Oct. 23rd.	Lbs. cotton, 4th picking Nov. 7th.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	4	10½	10½	9½	34½	552
2	15 " acid phosphate	240 " acid phosph	16	21	13	8	58	928
3	4 " muriate potash	64 " muriate pot.	..	8	8	9	25	400
4	No manure.	No manure.....	..	6	6	8½	20½	328
5	{ 6 lbs nitrate soda	96 lbs nitrate soda						
	{ 4 " muriate pota.	64 " muriate pot.	..	7	9	13	29	464
6	{ 6 " nitrate soda	96 " nitrate soda.						
	{ 15 " acid phosph	240 " acid phosph.	10½	22	19	16	67½	1080
7	{ 4 " muriate pota.	64 " muriate pota.						
	{ 15 " acid phosph	240 " acid phosph	7	18	18½	12½	56	896
8	No manure.....	No manure.....	..	8	8	8	24	384
9	{ 6 lbs nitrate soda	96 lbs nitrate soda						
	{ 4 " muri'te pot'sh	64 " muriate pot.						
	{ 15 " acid phosph	240 " acid phosph	9½	23½	21½	15½	70	1120
10	{ 15 " Floats.....	240 " Floats.....	4	12	14	11½	41½	664
11	{ 15 " Floats.....	240 " Floats.....						
	{ 6 " nitrate soda..	96 " nitrate soda.	5	13½	13	12½	44	704
12	No manure.....	No manure.....	..	6	6	8½	20½	328
13	53 lbs green cotton S.	848 lbs green C. S.	4½	14	14½	13	46	736
14	{ 53 " " " seed	848 " green C. S.						
	{ 15 " Floats.....	240 " Floats.....	9	19	17	12½	57½	920
15	265 lbs stable manur.	4240 " stable m'ure	16½	26	18½	12	73	1168
16	{ 15 " acid phosph	240 " acid phosph.						
	{ 15 " cotton S. meal	240 " cotton S. M.	13½	24	19	12	68½	1096

EXPERIMENT MADE BY MR. W. H. SELLERS,

GENEVA, GENEVA COUNTY.

Soil, Sandy—Sub-Soil, Red Clay and Sand Mixed.

Average yield per acre of unmanured plots, 730 lbs. Mr. Sellers writes, that the sack containing the acid phosphate for plot 2 was lost and that he was unable to obtain any green cotton seed. Therefore the experiments for plots from 1 to 9 inclusive, are vitiated. The absence of green cotton seed also vitiates the experiments with floats. It can be seen however, by reference to plot 9, a complete fertilizer, that the soil is deficient in the three main elements of plant food, No. 9 giving the greatest yield over the average of unmanured plots.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs Fertilizers per Acre.	Lbs. cotton, 1st picking Aug. 22.	Lbs. cotton, 2nd picking Sept. 17th	Lbs. cotton 3rd picking Oct. 2.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda	96 lbs nitrate soda	7½	25	9	41½	664
2	15 " acid phosphate	240 " acid phosph.	..	..	..	..	..
3	4 " muriate potash	64 " muriate pot.	13	27	8	48	768
4	No manure	No manure	9	28	9	46	736
5	{ 6 lbs nitrate soda	96 lbs nitr'te soda	8	27	12½	47½	760
	{ 4 " muriate potash	64 " muriate pot.					
	{ 6 " nitrate soda	96 " nitrate soda					
6	{ 15 " acid phosphate	240 " acid phosph.	31	26	3½	60½	968
	{ 4 " muriate potash	64 " muriate pot.					
7	{ 15 " acid phosphate	240 " acid phosph	28½	29	2½	60	960
8	No manure	No manure	8½	27½	9½	45½	728
9	{ 6 lbs nitrate soda	96 lbs nitrate soda	35	31	4	70	1120
	{ 4 " muriate potash	64 " muriate pot.					
	{ 15 " acid phosphate	240 " acid phosph					
10	15 " Floats	240 " Floats	20	25	6	51	816
11	{ 15 " Floats	240 " Floats	23	23	5	51	816
	{ 6 " nitrate soda	96 " nitrate soda					
12	No manure	No manure	9	28	8½	45½	728
13	53 lbs green cotton seed	848 lbs green C. S.	..	..	..	..	..
14	{ 53 " green cotton seed	848 " green C. S.	..	..	..	..	..
	{ 15 " Floats	240 " Floats					
15	265 " stable manure	4240 " stable m'nu.	35½	27	5½	68	1088
16	{ 15 " acid phosphate	240 " acid phosph	35	28½	5	68½	1096
	{ 15 " cotton seed meal	240 " cotton S. M.					

EXPERIMENT MADE BY PROF. DAN GILLIS,
In Charge of South East Alabama Experiment Station,
ABBEVILLE, HENRY COUNTY.

Soil, Sandy—Sub-soil, Sand and Clay Mixed.

Average yield of unmanured plots per acre, 45 lbs. By noticing the yield of unmanured plots 4, 8 and 12, the uniform fertility of the soil is satisfactory. It is seen by comparing plots 1, 2 and 3 with the average of no manure, that plot 1, nitrate soda gives no increase, while plot 2 acid phosphate gives 363 lbs. increase and plot 3, muriate potash, 67 lbs. In plot 5, nitrate soda and muriate potash, the increase over average of unmanured plots is 267 lbs. while plot 6, nitrate soda and acid phosphate, gives 443 lbs. and plot 7, muriate potash and acid phosphate, gives 411 lbs. It will be observed by comparing these plots among themselves, that acid phosphate is the leading element for producing the increased yield; but in plot 9, complete fertilizer, the increase over unmanured plots is 635 lbs. These results are very decided and satisfactory.

Floats in plot 10, increases the yield over average of unmanured plots, 187 lbs., while in combination with nitrate soda, in plot 11, the increase is only 91 lbs. Still floats in combination with green cotton seed in plot 14, increases the yield over no manure, 443 pounds.

Why floats alone in plot 10 should give better results than in combination with nitrate soda in plot 11, we cannot explain. The increased yield in plots 10 and 14, is very satisfactory. Plot 15, stable manure, gives the largest yield, and while the increase in plot 16, acid phosphate and cotton seed meal, is not so large as in plot 9, complete fertilizer, yet the result is quite satisfactory.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking Aug. 24	Lbs. cotton, 2nd picking, Sept. 10.	Lbs. cotton, 3rd picking Oct. 8.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda..	96 lbs nitrate soda ..	10	12	8	30	480
2	15 " acid phosphate	240 " acid phosphate...	22	22	9	53	848
3	4 " muriate potash	64 " muriate potash...	11	14	9½	34½	552
4	No manure	No manure	9	15	8	32	512
5	{ 6 lbs nitrate soda	96 lbs nitrate soda,					
	{ 4 " muriate pota	64 " muriate potash...	17	16	14	47	752
6	{ 6 " nitrate soda	96 " nitrate soda,					
	{ 15 " acid phosph	240 " acid phosphate...	26	21	11	58	928
7	{ 4 " muriate pota.	64 " muriate potash,					
	{ 15 " acid phosph	240 " acid phosphate..	28	18	10	56	896
8	No manure..	No manure	11	10	6	27	432
9	{ 6 " nitrate soda..	96 " nitrate soda,					
	{ 4 " muriate pota.	64 " muriate potash,					
	{ 15 " acid phosph.	240 " acid phosphate..	36	22	12	70	1120
10	15 " Floats.	240 " Floats.....	12	23	7	42	672
	{ 15 " Floats.	240 " Floats,					
	{ 6 " nitrate soda	96 " nitrate soda	17	13	6	36	576
12	No manure..	No manure.	13	14	5	32	512
13	53 " green cot'n S.	848 " green cotton seed	24	18	6	48	768
	{ 53 " green C. S...	848 " green cotton seed,					
	{ 15 " Floats.	240 " Floats	29	20	9	58	928
15	265 lbs stable m'nure	4240 " stable manure ...	42	25	7	74	1184
	{ 15 " acid phosphat	240 " acid phosphate,					
	{ 15 " cotton S. meal	240 " cotton seed meal..	40	22	6	68	1088

EXPERIMENT MADE BY MR. W. L. WHITE,

HATTAN, LAWRENCE COUNTY.

Soil, Clay Loam—Sub-soil, Red Clay.

Average yield per acre of unmanured plots, 235 pounds. Mr. White's report shows another instance where nitrate soda and muriate potash applied separately, as in plots 1 and 3, decrease the yield, while in combination one with the other, in plot 5 there is a slight increase; and in combination with acid phosphate in plots 6 and 7, the increase is still greater and in No. 9, a complete fertilizer the best results in this experiment are seen.

The increased yield from use of floats alone in plot 10, and in combination with nitrate soda in plot 11 and cotton seed in plot 14, is very decided and satisfactory. It will be seen by comparing plots 15 and 16, with plot 9 a complete fertilizer, that the results are in favor of No. 9. This acre is not as uniform in fertility as would be desired for an experiment.

No. Plot.	Lbs. Fertilizers per Plot.	Lbs. Fertilizers per Acre.	Lbs. cotton, 1st picking, Oct. 13.	Lbs. cotton, 2nd picking, Nov. 16.	Total yield per Plot.	Total yield per Acre.
1	6 lbs nitrate soda.....	96 lbs nitrate soda ...	1½	6	7½	120
2	15 " acid phosphate	240 " acid phosphate...	23½	14	37½	600
3	4 " muriate potash.....	64 " muriate potash...	5½	11	16½	264
4	No manure.....	No manure.....	6½	10	16½	264
5	{ 6 lbs nitrate soda	96 " nitrate soda,	7½	14	21½	344
	{ 4 " muriate potash ..	64 " muriate potash..				
	{ 6 " nitrate soda.....	96 " nitrate soda				
6	{ 15 " acid phosphate ...	240 " acid phosphate..	26	28	54	864
	{ 4 " muriate potash ..	64 " muriate potash,				
7	{ 15 " acid phosphate ..	240 " acid phosphate..	22	30	52	832
	{ No manure.....	No manure.....				
8	{ 6 lbs nitrate soda	96 " nitrate soda,	5½	12	17½	280
	{ 4 " muriate potash ..	64 " muriate potash,				
	{ 15 " acid phosphate ...	240 " acid phosphate...				
9	{ 15 " acid phosphate ...	240 " acid phosphate...	26½	30	56½	904
	{ 15 " Floats.....	240 " Floats.....				
10	{ 15 " Floats.....	240 " Floats.....	10½	16	26½	424
	{ 6 " nitrate soda.....	96 " nitrate soda....				
11	No manure.....	No manure.....	4	6	10	160
12	53 " green cotton seed..	848 " green cotton seed.	20	16	36	576
13	53 " green cotton seed..	848 " green cotton seed,	19	16	35	560
14	15 " Floats.....	240 " Float.....				
15	265 " stable manure.....	4240 " stable manure ..	37	17	54	864
	15 " acid phosphate ..	240 " acid phosphate.				
16	15 " cotton seed meal..	240 " cotton seed meal	25	18	43	688

EXPERIMENT MADE BY MR. A. F. CORY,

MULBERRY, AŦTAUGA COUNTY.

Soil, Sandy—Subsoil, Clay.

Average yield per acre of unmanured plots 282 pounds. Mr. Cory says unfavorable weather prevented his preparing and planting this ground before the 23rd May, at which time the land was prepared with plows, harrows, &c., fertilizers applied in drill and thoroughly incorporated in soil by running a scooter plow in the furrow. Showery weather delayed the application of fertilizers for intercultural work, from June 15th to June 24th. Fertilizers intended for plot 31, to be used before planting, were overlooked and not put in until June 24th. Mr. Cory says: "Although the experiments are not perfectly accurate, they point to several conclusions with some degree of certainty. Potash does not seem to pay, phosphate applied alone does not have much effect, nitrogenous fertilizers in any form give an increased yield; and only nitrogenous fertilizers increase the yield, when applied inter-culturally." The following tabulated statement shows the results of Mr. Cory's experiments:

Plot No	LBS. FERTILIZER PER PLOT.	LBS. FERTILIZER PER ACRE.	Lbs. cotton, 1st picking, Oct. 8.	Lbs. cotton, 2nd picking, Nov. 6	Total yield per Plot.	Total yield per Acre.
1	{ 10 lbs acid phosphate .. 4½ lbs nitrate soda. ...	160 lbs acid phosphate, 72 lbs nitrate soda.	25	24	49	781
2	{ 10 lbs acid phosphate 7 lbs sulphate ammonia	160 lbs acid phosphate, 112 lbs sulph. ammonia	39	27	66	1053
3	{ 10 lbs acid phosphate 10 lbs cotton seed meal	160 lbs acid phosphate, 160 lbs cotton seed meal.	28½	25	53½	857
4	{ 10 lbs acid phosphate .. 10 lbs acid phosphate	160 lbs acid phosphate 160 lbs acid phosphate,	18½	23	41½	661
5	{ 28 lbs green cotton seed 10 lbs acid phosphate	448 lbs green cotton seed. 160 lbs acid phosphate,	20	22	42	672
6	{ 150 lbs gr. stable manure. No manure	2400 lbs gr. stableman're No manure	21	21½	42½	679
7	{ 10 lbs acid phosphate.... 4½ lbs nitrate soda. ...	160 lbs acid phosphate, 72 lbs nitrate soda.	4½	14	18½	297
8	{ 3 lbs muriate potash ... 10 lbs acid phosphate....	48 lbs muriate potash. 160 lbs acid phosphate,	15	23	38	609
9	{ 7 lbs sulphate ammonia. 3 lbs muriate potash....	112 lbs sulph ammonia, 48 lbs muriate potash..	23	23½	46½	747

EXPERIMENT MADE BY MR. A. F. CORY—CONTINUED.

Plot No.	LBS. FERTILIZER PER PLOT.	LBS. FERTILIZER PER ACRE.	Lbs. cotton, 1st picking, Oct. 8.	Lbs. cotton, 2nd picking, Nov. 6	Total yield per Plot.	Total yield per Acre.
10	{ 10 lbs acid phosphate . . . 10 lbs cotton seed meal . . . 3 lbs muriate potash . . .	160 lbs acid phosphate, 160 lbs cotton seed meal, 48 lbs muriate potash	16	15	31	494
11	{ 10 lbs acid phosphate . . . 10 lbs acid phosphate	160 lbs acid phosphate, 160 lbs acid phosphate	7	16	23	368
12	{ 28 lbs green cotton seed. 3 lbs muriate potash 10 lbs acid phosphate	448 lbs green cotton seed 48 lbs muriate potash 160 lbs acid phosphate	20	19	39	624
13	{ 150 lbs gr. stable manure 3 lbs muriate potash 10 lbs acid phosphate . . .	2400 lbs gr. stable man're 48 lbs muriate potash 160 lbs acid phosphate	16	22	38	608
14	{ 4½ lbs nitrate soda . . . 3 lbs muriate potash . . .	72 lbs nitrate soda, 48 lbs muriate potash	17	19	36	576
15	No manure . . .	No manure . . .	5	13	18	288
16	{ 10 lbs acid phosphate . . . 4½ lbs nitrate soda . . .	160 lbs acid phosphate, 72 lbs nitrate soda,	15	24	39	624
17	{ 12 lbs kainit. 10 lbs acid phosphate . . . 4½ lbs nitrate soda . . . 7 lbs cot'n seed hull ashes	192 lbs kainit 160 lbs acid phosphate, 72 lbs nitrate soda, 112 lbs cot. s'd hull ashes	19	18	37	592
	Before Planting.	Before Planting.				
18	{ 10 lbs acid phosphate . . . 4½ lbs nitrate soda . . . 3 lbs muriate potash . . .	160 lbs acid phosphate, 72 lbs nitrate soda, 48 lbs muriate potash,				
	{ 5 lbs nitrate soda, June 24 5 lbs nitrate soda, July 15	80 nitrate soda, June 24, 80 nitrate soda, July 15.	22	27	19	784
	Before Planting.	Before Planting.				
19	{ 10 lbs acid phosphate . . . 4½ lbs nitrate soda . . . 3 lbs muriate potash . . .	160 lbs acid phosphate, 72 lbs nitrate soda, 48 lbs muriate potash,				
	{ 5 lbs nitrate soda June 24th.	80 lbs nitrate soda, June 24th.	17	27	44	704
	Before Planting.	Before Planting.				
20	{ 10 lbs acid phosphate . . . 4½ lbs nitrate soda . . . 3 lbs muriate potash	160 lbs acid phosphate, 72 lbs nitrate soda, 48 lbs muriate potash,				
	{ 5 lbs nitrate soda July 15th.	80 lbs nitrate soda, July 15th.	18	30	48	768

EXPERIMENT MADE BY MR. A. F. CORY—CONTINUED.

Plot No.	LBS. FERTILIZER PER PLOT.	LBS. FERTILIZER PER ACRE.	Lbs. cotton, 1st picking, Oct. 8.	Lbs. cotton, 2nd picking, Nov. 6.	Total yield per Plot.	Total yield per Acre.
21	No manure	No manure	6	12	18	288
	Before Planting.	Before Planting.				
22	{ 10 lbs acid phosphate... 4½ lbs nitrate soda. ... 3 lbs muriate potash....	160 lbs acid phosphate, 72 lbs nitrate soda, 48 lbs muriate potash.	18	14	32	512
	Before Planting.	Before Planting.				
23	{ 10 lbs acid phosphate .. 4½ lbs nitrate soda. ... 3 lbs muriate potash ..	160 lbs acid phosphate, 72 lbs nitrate soda, 48 lbs muriate potash,				
	{ 3 lbs muriate potash .. June 24th.....	48 lbs muriate potash, June 24th.....	18	14	32	512
	Before Planting.	Before Planting.				
24	{ 10 lbs acid phosphate ... 4½ lbs nitrate soda. ... 3 lbs muriate potash....	160 lbs acid phosphate, 72 lbs nitrate soda, 48 lbs muriate potash,				
	{ 3 lbs muriate potash .. July 15th.....	48 lbs muriate potash, July 15th.....	13	18	31	496
	Before Planting.	Before Planting.				
25	{ 10 lbs acid phosphate... 4½ lbs nitrate soda. ... 3 lbs muriate potash ..	160 lbs acid phosphate, 72 lbs nitrate soda, 48 lbs muriate potash,				
	{ 3 lbs muriate pot. June 24 3 lbs muriate pot. July 15	48 muriate pot. June 24, 48 muriate pot. July 15	18	17	38	560
	Before Planting.	Before Planting.				
26	{ 10 lbs acid phosphate .. 4½ lbs nitrate soda. ... 3 lbs muriate potash....	160 lbs acid phosphate, 72 lbs nitrate soda, 48 lbs muriate potash,				
	{ 10 lbs acid phosphate.... July 15th.. ..	160 lbs acid phosphate, July 15th.....	20	19	39	624

EXPERIMENT MADE BY MR. A. F. CORY—CONTINUED.

Plot No.	LBS. FERTILIZER PER PLOT.	LBS. FERTILIZER PER ACRE.	Lbs. cotton, 1st picking, Oct. 8.	Lbs. cotton, 2nd picking, Nov. 6.	Total yield per Plot.	Total yield per Acre.
	Before Planting.	Before Planting.				
27	{ 10 lbs acid phosphate... 4½ lbs nitrate soda ... 3 lbs muriate potash ...	160 lbs acid phosphate, 72 lbs nitrate soda, 48 lbs muriate potash,				
	{ 10 lbs acid phosphate .. June 24th.....	160 lbs acid phosphate, June 24th.....	17	18	35	560
	Before Planting.	Before Planting.				
28	{ 10 lbs acid phosphate... 4½ lbs nitrate soda ... 3 lbs muriate potash...	160 lbs acid phosphate, 72 lbs nitrate soda, 48 lbs muriate potash,				
	{ 10 lbs acid phosphate .. July 15th.....	160 lbs acid phosphate, July 15th.....	18	20	38	608
	Before Planting.	Before Planting.				
29	{ No manure	No manure.....	4	12	16	256
	Before Planting.	Before Planting.				
30	{ 10 lbs acid phosphate... 4½ lbs nitrate soda ... 3 lbs muriate potash...	160 lbs acid phosphate, 72 lbs nitrate soda, 48 lbs muriate potash,				
	{ 12 lbs kainit..... June 24th.....	192 lbs kainit, June 24th.....	18	20	38	608
31	{ 10 lbs acid phosphate... 4½ lbs nitrate soda ... 3 lbs muriate potash ...	160 lbs acid phosphate, 72 lbs nitrate soda, 48 lbs muriate potash,				
	{ 7 lbs cot'n s'd hull ashes All applied June 24th.	112 cotton seed hull ashes All applied June 24th	7	23	30	480
	Before Planting.	Before Planting.				
32	{ 10 lbs acid phosphate... 4½ lbs nitrate soda ... 3 lbs muriate potash ...	160 lbs acid phosphate, 72 lbs nitrate soda, 48 lbs muriate potash,				
	{ 10 lbs cotton seed meal.. June 24th.....	160 lbs cotton seed meal, June 24th.....	20	30	50	800

In the Spring of 1891 this Station furnished Mr. A. F. Cory seeds of 14 varieties of cotton for the purpose of comparison. In making his report, Mr. Cory says that the ground was thoroughly prepared, and fertilized with 100 lbs. cotton seed meal, acid phosphate and kainit each per acre, mixed thoroughly and applied in drill, before bedding. Cotton was planted in checks $3\frac{1}{2}$ feet each way. By noticing the number of stalks per plot, it will be seen that an uneven stand was obtained which must be considered in comparing the total yield. The cultivation was made with heel scrape throughout the entire season.

The following is a tabulated statement of Mr. Cory's report :

EXPERIMENT WITH VARIETIES COTTON BY MR. A. F. CORY,
MULBERRY, AUTAUGA COUNTY.

NAMES OF VARIETIES.		No. of Stalks per Plot.	Yield per Plot 1st Picking, Oct. 7th.	Yield per Plot 2nd Picking, Nov. 5th.	Total Yield per Plot, Seed Cotton.	Total Yield per Acre, Seed Cotton.
No. 1.	Cook, J. C	187	5	4	9	135
2.	Cook, W. A	212	16	20	36	540
3.	Gold Dust	187	$19\frac{1}{2}$	8	$27\frac{1}{2}$	$412\frac{1}{2}$
4.	Hawkins Improved	201	17	$23\frac{1}{2}$	$40\frac{1}{2}$	$607\frac{1}{2}$
5.	Herlong	220	$16\frac{1}{2}$	$24\frac{1}{2}$	41	615
6.	Hunnicutt	199	19	20	39	585
7.	Keith	226	$23\frac{1}{2}$	18	$41\frac{1}{2}$	$622\frac{1}{2}$
8.	King, T. J.	207	$25\frac{1}{2}$	$10\frac{1}{2}$	36	540
9.	Peerless	201	$22\frac{1}{2}$	16	$38\frac{1}{2}$	$577\frac{1}{2}$
10.	Peterkin	234	$25\frac{1}{2}$	19	$44\frac{1}{2}$	$667\frac{1}{2}$
11.	Southern Hope	213	18	20	38	570
12.	Storm Proof	205	$19\frac{1}{2}$	21	$40\frac{1}{2}$	$607\frac{1}{2}$
13.	Truitt	204	$24\frac{1}{2}$	20	$44\frac{1}{2}$	$667\frac{1}{2}$
14.	Welborn's Pet.	228	$29\frac{1}{2}$	$14\frac{1}{2}$	44	660