Bulletin No. 42. **January, 1893.**

Agricultural Experiment Station

—OF THE—

AGRICULTURAL AND MECHANICAL COLLEGE,

AUBURN, : : ALABAMA.

CO-OPERATIVE SOIL TEST EXPERIMENTS

—FOR 1892.—

A. J. BONDURANT, Agriculturist.
JAMES CLAYTON, Assistant.

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CO-OPERATIVE SOIL-TEST EXPERIMENTS.

FOR 1892.

Results of co-operative experiment for 1981 were published in Bulletin No. 34, January, 1892, from this Station, and will be made use of in comparing results obtained from the same line of experiments conducted in 1892.

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

NAMES.	POST-OFFICE.	COUNTY.
1. Aday, Rev. L. C.	Newburgh	Franklin.
2. Beasley, E. J.	Red Level	Covington.
3. Binford, R. E.	Athens	Limestone.
4. Bishop, M. A.	Madison	Madison.
5. Bradley, F. W.	Walker Springs	Clarke.
6. Brannon, J. M.	Seale	Russell.
7. Brown, D. L.	Randolph	Bibb.
8. Compton, G. W.	Dixon's Mills	Marengo.
9. Cory, A. F.	Mulberry	Autauga.
10. Cross, R. H	Letohatchie	Lowndes.
11. Davis, Maj. E. M.	Prattville	Autauga.
12. Deer, Jno. F.	Monroeville	Monroe.
13. Dick, R. M.	Attalla	Etowah.
14. Ellison, J. M.	Creek Stand	Macon.
15. Ewing, R. T.	Centre	Cherokee.
16. Gillis, Dan, jr.	Abbeville	Henry.
17. Goodwyn, A. T.	Robinson Springs	Elmore.
18. Gordon, Dr. Jno.	Healing Springs	Washington.
19. Hobdy, J. M.	Louisville	Barbour.
20. Inzer, J. T.	Eden	St. Clair.
21. Johnson, Uriah.	Trinity Station	Morgan.
22. Killebrew, J. C.	Newton	Dale.
23. Lane, H. D.	Athens	Limestone.
24. Logan, J. A.	Clanton	Chilton.
25. Martin, Wm.	Greensboro	Hale.
26. Mize, J. W.	Remlap	Blount.
27. Newman, W. H.	Uniontown	Perry.
28. Oliver, J. P.	Dadeville	Tallapoosa.
29. Ott, J. C.	Florence	Lauderdale.
30. Pitts, J. W.	Cresswell Station	Shelby.
31. Pruett, S. A.	Chesser	Pike.
32. Radney, J. H.	Roanoke	Randolph.
33. Sellers, W. H.	Geneva	Geneva.
34. Snuggs, T. A.	Holly Pond	Cullman.
35. Stroud, Z. T.	Aberfoil	Bullock.
36. White, W. L.	Hattan	Lawrence.

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.
1. Beasley, E. J.	Red Level.....	Covington.
2. Brannon, J. M....	Seale.....	Russell.
3. Ewing, R. T.....	Centre.....	Cherokee.
4. Goodwyn, A. T...	Robinson Springs	Elmore.
5. Hobdy, J. M	Louisville.....	Barbour.
6. Inzer, J. T.....	Eden	St. Clair.
7. Lane, H. D.....	Athens.....	Limestone.
8. White, W. L	Hattan.....	Lawrence.
9. Binford, R. E....	Athens	Limestone.

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 reshipped 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, 1892.

Plot.	Fertilizers.	
1	96 lbs. Nitrate Soda	2.79
2	240 lbs. Acid Phosphate	1.68
3	64 lbs. Muriate Potash	1.62
4	No Manure.	
5	96 lbs. Nitrate Soda 2.79 64 lbs. Muriate Potash 1.62—	4.41
6	96 lbs. Nitrate Soda 2.79 240 lbs. Acid Phosphate 1.68—	4.47
7	64 lbs. Muriate Potash 1.62 240 lbs. Acid Phosphate 1.68—	3.30
8	No Manure.	
9	96 lbs. Nitrate Soda 2.99 240 lbs. Acid Phosphate 1.68 64 lbs. Muriate Potash 1.62—	6.09
10	240 lbs Floats	1.82
11	240 lbs. Floats 1.82 96 lbs. Nitrate Soda 2.99—	4.61
12	No Manure	
13	848 lbs. Green Cotton Seed @ 45c per cwt.	3.81
14	848 lbs. Green Cotton Seed @ 45c per cwt. 3.81 240 lbs. Floats 1.82—	5.63
15	4240 lbs. Stable Manure @ $1 per 1,000 lbs.	4.24
16	240 lbs. Acid Phosphate 1 68 240 lbs. Cotton Seed Meal. 2 36—	4 04

The following table shows the 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.	Fertilizers.	Lbs. of Potash.	Lbs. Phosphoric Acid Available.	Lbs. Phosphoric Acid Total.	Lbs. Nitr'gn.	Lbs. Equivalent to Ammonia.
1	96 lbs. Nitrate Soda	....	....	....	14.17	17.20
2	240 lbs. Acid Phosphate	....	34 94	38 32	....	.....
3	64 lbs. Muriate Potash	31 91	....	.....	....	.....
4	No Manure	....	....	....	....	.....
5	96 lbs. Nitrate Soda.	....	....	....	14.17	17 29
	64 lbs. Muriate Potash	31.91	....	....	....	.....
6	96 lbs. Nitrate Soda.	....	....	....	14 17	17 20
	240 lbs. Acid Phosphate	....	34 94	38.32	....	.....
7	64 lbs. Muriate Potash	31 91	....	....	....	.....
	240 lbs. Acid Phosphate	....	34 94	38 32	....	.....
8	No Manure	....	....	....	....	....
9	96 lbs. Nitrate Soda	....	....	....	14 17	17 20
	240 lbs. Acid Phosphate	....	34.94	38 32	....	.....
	64 lbs. Muriate Potash	31 91	....	....	....	.....
10	240 lbs. Floats	....	....	28 50	....	.....
11	240 lbs. Floats	....	....	28.50	....	.....
	96 lbs. Nitrate Soda	....	....	....	14 17	17.20
12	No Manure	....	....	....	....	....
13	848 lbs. Green Cotton Seed	10.6	....	10.17	21.2	25 74
14	848 lbs. Green Cotton Seed	10 6	....	10 17	21.2	.....
	240 lbs. Floats	....	....	28 50	....	.....
15	240 lbs. Stable Manure	28.40	....	13 14	26.71	32 43
16	240 lbs. Acid Phosphate	....	34.94	38 32	....	....
	240 lbs. Cotton Seed Meal	6 55	....	....	15 79	19 17

EXPERIMENT MADE BY REV. L. C. ADAY.

NEWBURGH, FRANKLIN COUNTY.

Soil, Red Cedar Land; Sub-soil, Red Clay.

By examining the following statement of Mr. Aday's work for 1892, and comparing it with the experiments made by him for 1891, it will be seen that the general indications are that his soil is deficient in the three main elements of plant food, as plot No. 9, where a complete fertilizer is used, gives the best results for both years. When floats in combination with nitrate of soda and floats with green cotton seed are compared it is in favor of floats with green cotton seed in 1891, and floats with nitrate of soda in 1892.

Plot No.	POUNDS OF FERTILIZER PER PLOT.	POUNDS OF FERTILIZER 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.....	39	22	23	84	1344
2	15 lbs. Acid Phosphate	240 lbs. Acid Phosphate..	27	16	4	47	752
3	4 lbs. Muriate Potash..	64 lbs. Muriate Potash..	26	12	4	42	672
4	No Manure..... ...	No Manure..	23	11	4	38	608
5	6 lbs. Nitrate Soda, 4 lbs. Muriate Potash	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash..	32	14	6	52	832
6	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate.	96 lbs. Nitrate Soda, 240 lbs. Acid Phosphate..	36	17	5	58	928
7	4 lbs. Muriate Potash, 15 lbs. Acid Phosphate.	64 lbs. Muriate Potash, 240 lbs. Acid Phosphate..	29	15	5	49	784
8	No Manure.....	No Manure..	27	13	5	45	720
9	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate, 4 lbs. Muriate Potash.	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash, 240 lbs. Acid Phosphate..	46	22	10	78	1240
10	15 lbs. Floats.....	240 lbs. Floats.	27	14	6	47	752
11	6 lbs. Nitrate Soda, 15 lbs. Floats.....	96 lbs. Nitrate Soda, 240 lbs. Floats.....	34	16	6	56	896
12	No Manure..	No Manure.....	34	9	2	45	720
13	53 lbs. Green Cot. Seed	848 lbs. Green Cotton Seed	41	11	2	54	864
14	15 lbs. Floats, 53 lbs. Green Cot. Seed	240 lbs. Floats, 848 lbs. Green Cotton Seed.	39	11	3	53	848
15	265 lbs. Stable Manure.	4,240 lbs. Stable Manure	31	24	5	60	960
16	15 lbs. Acid Phosphate, 15 lbs. Cot. Seed Meal.	240 lbs. Acid Phosphate, 240 lbs. Cotton Seed Meal.	33	23	7	63	1008

EXPERIMENT MADE BY MR. M. A. BISHOP,

MADISON, MADISON CUUNTY.

Soil, Dark Loam; Sub-soil, Clay.

In Mr. Bishop's experiments for 1891, plots number 6 and 9 give the same yield, and plot number 16 gives 256 lbs. less than either, but the same as plot number 3, while in his experiments for 1892, plot number 6 gives 128 lbs. less than plot number 9, plot number 16 gives 64 lbs. more than plot number 6, and 128 lbs. less than plot number 9, and 192 lbs. more than plot number 3. The results are so conflicting that no conclusion can be drawn. Floats with the nitrate of soda gave best results in 1891, but in 1892 the combination is in favor of floats with green cotton seed.

Plot No.	POUNDS OF FERTILIZER PER ACRE.	POUNDS OF FERTILIZER PER PLOT.	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.....	10	8	4	22	352
2	15 lbs. Acid Phosphate	240 lbs. Acid Phosphate..	16	14	8	38	608
3	4 lbs. Muriate Potash	64 lbs. Muriate Potash...	14	12	6	32	512
4	No Manure.	No Manure	...	10	8	18	288
5	6 lbs. Nitrate Soda, 4 lbs. Muriate Potash	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash...	14	12	8	34	544
6	6 lbs. Nitrate Soda, 5 lbs. Acid Phosphate	96 lbs. Nitrate Soda, 240 lbs. Acid Phosphate	16	14	10	40	640
7	4 lbs. Muriate Potash, 15 lbs. Acid Phosphate	64 lbs. Muriate Potash, 240 lbs. Acid Phosphate..	18	14	10	42	672
8	No Manure..	No Manure.	...	9	9	18	288
9	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate, 4 lbs. Muriate Potash	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash, 240 lbs. Acid Phosphate	22	18	8	48	768
10	15 lbs. Floats..	240 lbs. Floats	...	14	6	20	320
11	6 lbs. Nitrate Soda, 15 lbs. Floats.....	96 lbs. Nitrate Soda, 240 lbs. Floats..	14	10	6	30	480
12	No Manure....	No Manure	...	11	8	19	304
13	53 lbs. Green Cot. Seed	848 lbs. Green Cotton Seed	14	10	8	32	512
14	15 lbs. Floats, 53 lbs. Green Cot. See	240 lbs. Floats, 848 lbs. Green Cotton Seed	18	12	6	36	576
15	265 lbs. Stable Manure.	4,240 lbs. Stable Manure .	22	18	10	50	800
16	15 lbs. Acid Phosphate, 15 lbs. Cot'n Seed Meal	240 lbs. Acid Phosphate, 240 lbs. Cotton Seed Meal	20	16	8	44	704

EXPERIMENT BY MR. F. W. BRADLEY.

WALKER SPRINGS, CLARKE COUNTY.

Soil, Sandy; Sub-soil, Red Clay.

The best results obtained by Mr. Bradley in his two years experiments are from the use of cotton seed meal with acid phosphate. In 1891 plot No. 16 gave 276 pounds more than plot No. 9, and 1892 it is 288 pounds more. These results are very decided, and show that it is a waste of money for Mr. Bradley to use potash on his soil. Green cotton seed with floats give better results than nitrate of soda with floats, and for two years give larger yield than complete fertilizer. To purchase a fertilizer which contains potash is a waste of money for Mr. Bradley.

Plot No.	POUNDS FERTILIZER PER PLOT.	POUNDS FERTILIZER 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 ..	6	20	8	34	344
2	15 lbs. acid phosphate	240 lbs. acid phosphate	16	25	13	54	864
3	4 lbs. muriate potash.	64 lbs. muriate potash	32	21	10	44	704
4	No manure.....	No manure.	4	16	4	24	384
5	6 lbs. nitrate soda, 4 lbs. muriate potash	96 lbs. nitrate soda, 64 lbs. muriate potash	19	26	15	60	960
6	6 lbs. nitrate soda, 15 lbs. acid phosphate.	96 lbs. nitrate soda, 240 lbs. acid phosphate	28	24	18	70	1120
7	4 lbs. murate potash, 15 lbs. acid phosphate.	64 lbs. muriate potash, 240 lbs. acid phosphate	33	21	14	68	1088
8	No manure. ...	No manure.....	8	12	6	26	416
9	6 lbs. nitrate soda, 15 lbs acid phosphate, 4 lbs. muriate potash	96 lbs. nitrate soda, 64 lbs. muriate potash, 240 lbs. acid phosphate.	35	16	21	72	1152
10	15 lbs. floats	240 lbs. floats	16	18	8	42	672
11	6 lbs. nitrate soda, 15 lbs. floats	96 lbs. nitrate soda, 240 lbs. floats	33	24	17	74	1184
12	No manure.	No manure.	6	16	2	24	384
13	53 lbs. green cotton seed	848 lbs. green cotton seed	19	23	18	60	960
14	15 lbs. floats, 53 lbs. green cotton seed	240 lbs. floats, 848 lbs. green cotton seed	37	29	22	88	1408
15	265 lbs. stable manure..	4240 lbs. stable manure.	37	32	15	78	1248
16	15 lbs. acid phosphate, 15 lbs. cotton seed meal	240 lbs. acid phosphate, 240 lbs. cotton seed meal	37	33	20	90	1440

EXPERIMENT MADE BY D. L. BROWN,

RANDOLPH, BIBB COUNTY.

Soil, Sandy; Sub-soil, Clay.

While Mr. Brown's experiments were injured in 1891 by drought and overflow, yet when plot Nos. 6 and 16 are compared with plot No. 9 in 1891, and the same comparison is made in his experiment for 1892, it is cleaaly seen that Mr. Brown's soil does not need potash as his best results are obtained where nitrogen combined with acid phosphate are used and that money can be saved on such soils in buying only cotton feed meal and acid phosphate and mixing them on the farm. In Mr. Brown's experiments, floats with green cotton seed give better results each year than floats with nitrate of soda.

Plot No.	POUNDS FERTILIZER PER PLOT.	POUNDS FERTILIZER 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 ...	16	12	8	36	576
2	15 lbs. acid phosphate.	240 lbs. acid phosphate	20	26	4	50	800
3	4 lbs. muriate potash	64 lbs. muriate potash	16	24	8	48	768
4	No manure.	No manure	6	10	6	22	352
5	6 lbs. nitrate soda, 4 lbs. muriate potash	96 lbs. nitrate soda, 64 lbs. muriate potash.	20	28	12	60	960
6	6 lbs. nitrate soda, 15 lbs. acid phosphate.	96 lbs. nitrate soda, 240 lbs. acid phosphate.	48	44	16	108	1728
7	4 lbs. muriate potash, 15 lbs. acid phosphate.	64 lbs. muriate potasc, 240 lbs. acid phosphate.	28	26	12	66	1056
8	No manure.	No manure	8	10	6	24	384
9	6 lbs. nitrate soda, 15 lbs. acid phosphate, 4 lbs. muriate potash	96 lbs. nitrate soda, 64 lbs. muriate potash, 240 lbs. acid phosphate	44	36	12	92	1472
10	15 lbs. floats.... ...	240 lbs. floats	24	22	10	56	896
11	6 lbs. nitrate soda, 15 lbs. floats.	96 lbs nitrate soda, 240 lbs. floats.....	32	26	6	64	1024
12	No manure.....	No manure	16	12	8	36	576
13	53 lbs green cotton seed	848 lbs.green cotton seed	32	28	12	72	1152
14	15 lbs. floats, 53 lbs.green cotton seed	240 lbs. floats, 848 lbs.green cotton seed	36	42	14	92	1476
15	265 lbs. stable manure..	4240 lbs. stable manure.	32	44	12	88	1408
16	15 lbs. acid phosphate, 15 lbs.cotton seed meal	240 lbs. acid phosphate, 240 lbs. cotton seed meal	48	46	14	108	1728

EXPERIMENTS WITH FERTILIZERS, G. W. COMPTON,

Dixon's Mills, Marengo County.

Soil, Dark, Sandy; Sub-soil, Clay.

In Mr. Compton's experiments for two years, results are somewhat conflicting. His soil is most deficient in phosphoric acid, though the increased yield, when combined with nitrogen, is very marked. Floats, with green cotton seed, give best results for the two years, and give only 16 lbs. less than complete fertilizer in 1892.

Plot No.	Pounds of Fertilize per Plot.	Pounds of Fertilizer Per Acre.	Lbs. Cotton 1st Picking.	Lbs. Cotton 2nd Picking	Lbs. Cotton 3rd Picking.	Lbs. Cotton 4th Picking.	Total yield per Plot.	Total yield per Acre.
1	6 lbs. Nitrate Soda ...	96 lbs. Nitrate Soda. ..	2	6	7	2	17	272
2	15 lbs. Acid Phosphate.	240 lbs. Acid Phosphate..	13	11	5	1½	30½	488
3	4 lbs. Muriate Potash...	64 lbs. Muriate Potash..	1½	5	4½	2½	13½	216
4	No Manure.	No Manure	½	3½	3½	2	9½	152
5	6 lbs. Nitrate Soda, 4 lbs. Muriate Potash...	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash..	½	3	3	4	10½	168
6	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate..	96 lbs. Nitrate Soda, 240 lbs. Acid Phosphate..	22	9	3	½	34½	552
7	4 lbs. Muriate Potash, 15 lbs. Acid Phosphate .	64 lbs. Muriate Potash, 240 lbs. Acid Phosphate	8	10½	4	1	23½	376
8	No Manure.	No Manure.	3	6	4	1½	14½	232
9	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate, 4 lbs. Muriate Potash...	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash, 240 lbs. Acid Phosphate..	22	15	4	2	43	688
10	15 lbs. Floats..	240 lbs. Floats	8½	13	6	3½	31	496
11	6 lbs. Nitrate Soda, 15 lbs. Floats.....	96 lbs. Nitrate Soda, 240 lbs. Floats..	11	11½	4	2	28½	456
12	No. Manure.....	No Manure.....	2	6½	4½	2½	15½	248
13	53 lbs. Green CottonSeed	848 lbs. Green CottonSeed	10	12	5	2	29	464
14	15 lbs Floats, 53 lbs. Green CottonSeed	240 lbs. Floats, 848 lbs. Green CottonSeed	18	15½	4½	4	42	672
15	265 lbs. Stable Manure	4,240 lbs. Stable Manure.	15	13½	4½	1½	34½	552
16	15 lbs. Acid Phosphate, 15 lbs. Cotton Seed Meal.	240 lbs. Acid Phosphate, 240 lbs. Cotton Seed Meal.	24	12½	3½	1	41	656

EXPERIMENT BY MR. A. F. CORY

MULBERRY, AUTAUGA COUNTY.

Soil, Red. Sub-soil, Red Clay.

It is clearly shown from Mr. Cory's experiment that his soil does not need potash. Plot 6, nitrate of soda with acid phosphate, gave 111 lbs. more than plot No. 9, complete fertilizer, while plot No. 16 gave an increase of 32 lbs. over plot No. 9.

Floats with green cotton seed give better results than floats with nitrate of soda, and both give larger yields than complete fertilizer.

Plot No.	POUNDS FERTILIZER PER PLOT.	POUNDS FERTILIZER 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	12	22	..	34	544
2	15 lbs. acid phosphate..	240 lbs. acid phosphate..	13	14	....	27	432
3	4 lbs. muriate potash. .	64 lbs. muriate potash .	9	19	..	28	448
4	No manure.	No manure	11	17	..	28	448
5	6 lbs. nitrate soda, 4 lbs. muriate potash.	96 lbs. nitrate soda .... 64 lbs. muriate potash .	14	20	..	34	544
6	6 lbs. nitrate soda, 15 lbs. acid phosphate.	96 lbs. nitrate soda, 240 lbs. acid phosphate .	30	14	...	44	704
7	4 lbs. muriate potash, 15 lbs. acid phosphate.	64 lbs. muriate potash, 250 lbs. acid phosphate .	15	9	....	24	384
8	No manure	No manure.	8	12	...	20	320
9	6 lbs. nitrate soda, 15 lbs. acid phosphate, 4 lbs. muriate potash.	96 lbs. nitrate soda, 64 lbs. muriate potash, 240 lbs. acid phosphate .	27	10	....	37	592
10	15 lbs. floats	240 lbs. floats	15	12	...	27	432
11	6 lbs. nitrate soda, 15 lbs. floats.....	96 lbs. nitrate soda, 240 lbs. floats	20	20	....	40	640
12	No manure.	No manure	9	16	....	25	400
13	53 lbs. green cotton seed	848 lbs. green cotton seed	16	22	...	38	608
14	15 lbs. floats, 53 lbs. green cotton seed	240 lbs. floats, 848 lbs. green cotton seed	25	23	...	48	768
15	265 lbs. stable manure..	4240 lbs. stable manure	26	11	...	37	592
16	15 lbs. acid phosphate. 15 lbs cotton seed meal.	240 lbs, acid phosphate, 240 lbs. cotton seed meal	30	9	...	39	624

EXPERIMENT MADE BY R. H. CROSS,

LETOHATCHIE, LOWNDES COUNTY.

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

Mr. Cross gains nothing by the use of potash on his land. In 1891 complete fertilizer gave a slight increase over plot 6, nitrate soda and acid phosphate, but yields 160 lbs. less than plot 16, cotton seed meal and acid phosphate. In 1892, plots 6 and 9 gave the same. Plot 16 gave 304 lbs. more than either. The indications for the two years are that potash is not needed in this soil. Floats, with green cotton seed, gave better results for the two years than floats with nitrate soda.

Plot No.	Pounds Fertilizer per Plot.	Pounds Fertilizer Per Acre.	Lbs. Cotton 1st Picking	Lbs. Cotton 2nd Picking.	Lbs. Cotton 3rd Picking.	Lbs Cotton 4th Picking	Total yield per Plot.	Total yield per Acre.
1	6 lbs. Nitrate Soda	96 lbs. Nitrate Soda	12	16	14	9	51	816
2	15 lbs. Acid Phos ...	240 lbs. Acid Phosphate	16	20	21	11	68	1088
3	4 lbs. Muriate Potash	64 lbs. Muriate Potash.	8	10	14	9	41	656
4	No Manure.....	No Manure	5	7	12	4	28	448
5	6 lbs. Nitrate Soda, 4 lbs. Muriate Potash	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash	18	22	16	8	64	1024
6	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate	96 lbs. Nitrate Soda, 240 lbs. Acid Phosphate.	26	29	22	12	89	1424
7	4 lbs. Muriate Potash 15 lbs. Acid Phosphate	64 lbs. Muriate Potash, 240 lbs. Acid Phosphate.	21	25	20	16	80	1280
8	No Manure.....	No Manure.....	7	9	11	5	32	512
9	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate 4 lbs. Muriate Potash	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash, 240 lbs. Acid Phosphate	30	24	19	16	89	1424
10	15 lbs. Floats.....	240 lbs. Floats.... ...	12	21	26	18	77	1232
11	6 lbs. Nitrate Soda, 15 lbs. Floats.....	96 lbs. Nitrate Soda, 240 lbs. Floats	16	12	18	20	66	1056
12	No Manure	No Manure.....	6	9	13	7	35	560
13	53 lbs. Green Cot. Seed	848 lbs. Green Cot. Seed	30	26	21	6	84	1344
14	15 lbs. Floats, 53 lbs. Green Cot. Seed	240 lbs. Floats, 848 lbs. Green Cot. Seed	33	24	20	8	85	1360
15	265 lbs. Stable Manure	4240 lbs. Stable Manure.	40	34	21	7	102	1632
16	15 lbs. Acid Phosphate 15 lbs. Cot. Seed Meal,	240 lbs. Acid Phosphate, 240 lbs. Cot. Seed Meal.	41	41	20	6	108	1728

EXPERIMENT MADE BY MAJ. E. M. DAVIS,

PRATTVILLE, AUTAUGA COUNTY.

Soil, Sandy Loam; Subsoil, Red Clay.

In Maj. Davis's experiments results are conflicting. In 1891 the complete fertilizer gave the best results, while in 1892 nothing is gained by the use of potash as in plot No. 9. Floats with green cotton seed give the best results in 1891, while floats with nitrate of soda gave best results in 1892. Further experiment is necessary to determine anything for this soil.

Plot No.	Pounds Fertilizers per Plot.	Pounds Fertilizer 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 ..	21	18	3	42	672
2	15 lbs. acid phosphate.	240 lbs. acid phosphate.	17½	9	½	27	432
3	4 lbs. muriate potash	64 lbs. muriate potash.	17	13	½	31	496
4	No manure	No manure	17	12	2	31	496
5	6 lbs. nitrate soda, 4 lbs. muriate potash.	96 lbs. nitrate soda, 64 lbs. muriate potash.	19	22	3½	44½	722
6	6 lbs. nitrate soda, 15 lbs. acid phosphate.	96 lbs. nitrate soda, 240 lbs. acid phosphate.	26	20	1	47	752
7	4 lbs. muriate potash, 15 lbs. acid phosphate.	64 lbs. muriate potash, 240 lbs. acid phosphate	18	24	2	44	704
8	No manure	No manure.	15	18	4	35	560
9	6 lbs. nitrate soda, 15 lbs. acid phosphate, 4 lbs. muriate potash.	96 lbs. nitrate soda, 64 lbs. muriate potash, 240 lbs. acid phosphate.	20	24	2½	46½	744
10	15 lbs. floats	240 lbs. floats	15	16½	2	33½	536
11	6 lbs. nitrate soda, 15 lbs. floats	96 lbs. nitrate soda, 240 lbs. floats	19	19	4	42	672
12	No manure.	No manure.....	17½	13	3	33½	536
13	53 lbs. green cotton seed	848 lbs. green cotton seed	22	16	3	41	656
14	15 lbs. floats, 53 lbs. green cotton seed	240 lbs. floats, 848 lbs green cotton seed	22	4	3	38	608
15	265 lbs. stable manure	4240 lbs. stable manure	17½	14	1	42½	680
16	15 lbs. acid phosphate, 15 lbs cotton seed meal	240 lbs. acid phosphate, 240 lbs. cotton seed meal	28	10	1	38	608

EXPERIMENT MADE BY J. F. DEER,

MONROEVILLE, MONROE COUNTY.

Soil, Gray Sandy; Sub-soil, Clay.

Mr. Deer failed to make a report last year, 1891, so we have only this year's work to compare. It is evident from this experiment for one year that it is a waste of money to apply potash as in plot 9 on land like Mr. Deer's. Floats with green cotton seed give better results for the one year than floats with nitrate of soda.

Plot No.	LBS. FERTILIZER PER PLOT.	LBS. FERTILIZER 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	½	6	15	21½	344
2	15 lbs. acid phosphate.	240 lbs. acid phosphate...	16	26	8	50	800
3	4 lbs. muriate potash.	64 lbs. muriate potash..	3½	13	7	23½	376
4	No manure.	No manure.....	1½	8	6	15½	248
5	6 lbs. nitrate soda, 4 lbs. muriate potash.	96 lbs. nitrate soda, 64 lbs. muriate potash.	1½	10	14	25½	408
6	6 lbs. nitrate soda, 15 lbs. acid phosphate.	96 lbs. nitrate soda, 240 lbs. acid phosphate.	10	20	10	40	640
7	4 lbs. muriate potash, 15 lbs. acid phosphate.	64 lbs. muriate potash, 240 lbs. acid phosphate.	8	17	8	33	528
8	No manure.	No manure...	3	11	5	19	304
9	6 lbs. nitrate soda, 15 lbs. acid phosphate, 4 lbs. muriate potash.	96 lbs. nitrate soda, 64 lbs. muriate potash, 240 lbs. acid phosphate...	9	20	6	35	560
10	15 lbs. floats	240 lbs. floats	5	14	3	22	352
11	6 lbs. nitrate soda, 15 lbs. floats	96 lbs. nitrate soda, 240 lbs. floats	5	16	5	26	416
12	No manure.....	No manure	2	11	4	17	272
13	53 lbs. green cotton seed	848 lbs. green cotton seed.	9	18	5	32	512
14	15 lbs. floats, 53 lbs. green cotton seed	240 lbs. floats, 848 lbs. green cotton seed.	12½	20	5	37½	600
15	265 lbs. stable manure.	4240 lbs. stable manure...	16	19	4	39	624
16	15 lbs. acid phosphate 15 lbs. cotton seed meal	240 lbs. acid phosphate, 240 lbs. cotton seed meal.	16	18	1	35	560

EXPERIMENT MADE BY R. M. DICK.

ATTALLA, ETOWAH COUNTY.

Soil, Red Loam; Sub-soil, Red Clay.

In Mr. Dick's experiments for 1891 nitrate of soda with acid phosphate, as in plot No. 6, gives 48 lbs. more than complete fertilizers as in plot No. 9, while in 1892 the results are in favor of the complete fertilizer which gives 376 lbs. more than plot No. 6. The Floats with green cotton seed give better results for the two years than floats with nitrate of soda.

Plot No.	POUNDS OF FERTILIZER PER ACRE.	POUNDS OF FERTILIZER PER PLOT.	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 ...	8½	13	11	32½	520
2	15 lbs. Acid Phosphate	240 lbs. Acid Phosphate	22	24	13	59	944
3	4 lbs. MuriateP otash.	64 lbs. Muriate Potash.	12	15	14	41	656
4	No Manure	No Manure	9	13	11	33	528
5	6 lbs. Nitrate Soda, 4 lbs. Muriate Potash.	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash..	10	19	13	42	672
6	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate	96 lbs. Nitrate Soda, 240 lbs Acid Phosphate	23	25	14½	62½	1000
7	4 lbs. Muriate Potash, 15 lbs. Acid Phosphate	64 lbs. Muriate Potash, 240 lbs. Acid Phosphate	24	26	14	34	1024
8	No Manure	No Manure	8	13½	11	32½	520
9	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate, 4 lbs. Muriate Potash.	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash, 240 lbs. Acid Phosphate..	29	33	24	86	1376
40	15 lbs. Floats	240 lbs. Floats.	17	19	15	51	816
11	6 lbs. Nitrate Soda, 15 lbs. Floats	96 lbs. Nitrate Soda, 240 lbs. Floats	16	22	13	51	816
12	No Manure	No Manure..... .	10	14	12½	30½	584
13	53 lbs. Green Cot. Seed 15 lbs. Floats,	848 lbs. Green Cot. Seed 240 lbs Floats,	16	21½	17	54½	872
14	53 lbs. Green Cot. Seed	848 lbs. Green Cot. Seed	22	26	16½	64½	1032
15	265 lbs. Stable Manure..	4240 lbs. Stable Manure.	26	26	18	70	1120
16	15 lbs. Acid Phosphate, 15 lbs. Cot. Seed Meal..	240 lbs. Acid Phosphate 240 lbs. Cot. Seed Meal...	27	23½	12½	63	1008

EXPERIMENT MADE BY J. M. ELLISON,

CREEKSTAND, MACON COUNTY.

Soil, Sandy; Sub-soil, Sandy.

Results are conflicting in the experiments made by Mr. Ellison. In 1891 nothing was gained by the use of potash as in plot No. 9, while in 1892 plot No. 9 gives an increase over plot No. 6 of 224 pounds. Floats, with sodium nitrate, gives better results for the two years than floats with green cotton seed.

Plot No.	POUNDS FERTILIZER PER PLOT.	POUNDS FERTILIZER PER ACRE.	Lbs. Cotton 1st Picking.	Lbs. Cotton 2nd Picking.	Lbs. Cotton 3rd Picking.	Lbs. Cotton 4th Picking.	Total yield per Plot.	Total yield per Acre.
1	6 lbs. Nitrate Soda..	96 lbs. Nitrate Soda ..	5	17	12	7	41	656
2	15 lbs. Acid Phos	240 lbs. Acid Phosphate	5	9	18	7	39	624
3	4 lbs. Muriate Potash	64 lbs. Muriate Potash.	6	21	20	14	61	976
4	No Manure..... ...	No Manure.	6	12	20	13	51	816
5	6 lbs. Nitrate Soda,.. 4 lbs. Muriate Potash	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash	19	17	10	16	62	992
6	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate	96 lbs. Nitrate Soda, 240 lbs. Acid Phosphate.	13	18	20	21	72	1152
7	4 lbs. Muriate Potash 15 lbs. Acid Phosphate	64 lbs. Muriate Potash, 240 lbs. Acid Phosphate.	13	22	13	19	67	1072
8	No Manure.....	No Manure.....	9	15	10	17	51	816
9	6 lbs Nitrate Soda, .. 15 lbs. Acid Phosphate 4 lbs. Muriate Potash	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash, 240 lbs. Acid Phosphate.	14	22	18	27	81	1296
10	15 lbs. Floats.....	240 lbs. Floats....	9	14	18	33	74	1184
11	6 lbs. Nitrate Soda, 15 lbs Floats.	96 lbs. Nitrate Soda, 240 lbs. Floats	14	20	16	28	78	1248
12	No Manure	No Manure.....	11	12	12	16	51	816
13	53 lbs Green Cot. Seed	848 lbs. Green Cot. Seed	12	12	14	18	56	896
14	15 lbs. Floats, 53 lbs. Green Cot. Seed	240 lbs. Floats, 848 lbs. Green Cot. Seed	10	12	13	15	50	800
15	265 lbs. Stable Manure.	4240 lbs. Stable Manure.	17	13	10	10	50	800
16	15 lbs. Acid Phosphate 15 lbs Cot. Seed Meal,	240 lbs. Acid Phosphate. 240 lbs. Cot. Seed Meal.	18	10	6	8	42	672

EXPERIMENT MADE BY MR. DAN GILLIS,

IN CHARGE OF SOUTHEAST ALABAMA EXPERIMENT STATION, ABBEVILLE, HENRY COUNTY.

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

It is clearly shown by the results of this experiment that the soil on the Southeast Alabama Experiment Station is deficient in the three main elements of plant food. In 1891 plot No. 9 gives largest yield of any except Plot No. 15—stable manure—and gives an increased yield over average of no manure, of 735 pounds per acre. While in 1892 the increase is not so large (414 pounds) yet the facts indicate best results from the use of complete fertilizer. Floats with green cotton seed give better results for the two years than floats with nitrate of soda.

Plot No.	Pounds of Fertilize per Plot.	Pounds of Fertilizer Per Acre.	Lbs. Cotton 1st Picking	Lbs. Cotton 2nd Picking	Lbs. Cotton 3rd Picking	Lbs. Cotton 4th Picking.	Total yield per Plot.	Total yield per Acre.
1	6 lbs. Nitrate Soda	96 lbs. Nitrate Soda.	..	4	9½	9½	23	368
2	15 lbs. Acid Phosphate	240 lbs. Acid Phosphate	..	5	8	9	22	352
3	4 lbs. Muriate Potash..	64 lbs. Muriate Potash..	..	5	7	10	22	352
4	No Manure.	No Manure	..	4	6½	11	21½	344
5	6 lbs. Nitrate Soda, 4 lbs. Muriate Potash...	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash..	..	7	9	9	25	400
6	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate..	96 lbs. Nitrate Soda, 240 lbs. Acid Phosphate.	4	14	14	8	40	640
7	4 lbs. Muriate Potash, 15 lbs. Acid Phosphate .	64 lbs. Muriate Potash, 240 lbs. Acid Phosphate.	3	8½	10	6½	28	448
8	No Manure.	No Manure.	..	4	6	7	17	272
9	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate, 4 lbs. Muriate Potash...	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash, 240 lbs. Acid Phosphate	4	16	17	7½	44½	712
10	15 lbs. Floats..	240 lbs. Floats .	...	5	8½	6	19½	312
11	6 lbs. Nitrate Soda, 15 lbs. Floats.	96 lbs. Nitrate Soda, 240 lbs. Floats..	..	6	7	7	20	320
12	No Manure.	No Manure.	..	4	8	5	17	272
13	53 lbs. Green CottonSeed	848 lbs. Green CottonSeed	5	11	9	5	30	480
14	15 lbs Floats, 53 lbs. Green CottonSeed	240 lbs. Floats, 848 lbs. Green CottonSeed	7	10½	8	3	28½	456
15	265 lbs. Stable Manure.	4,240 lbs. Stable Manure	8	17	13	6	44	704
16	15 lbs. Acid Phosphate, 15 lbs. Cotton Seed Meal.	240 lbs. Acid Phosphate, 240 lbs. Cotton Seed Meal.	8	14	10	4	36	576

EXPERIMENT MADE BY DR. J. GORDON,

HEALING SPRINGS, WASHINGTON COUNTY.

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

In the experiment made by Dr. Gordon for 1 91, plot No. 2, acid phosphate, gave 80 pounds more than plot N › 9, complete fertilizer; 336 pounds more than plot No. 6, nitrate of soda with acid phosphate, but 184 pounds less than plot No. 16, cotton seed meal with acid phosphate, while in 1892 plot No. 2 gives 152 pounds less than plot No. 6, 96 lbs. less than plot No. 9, but 112 pounds more than plot 16. The results of these experiments are so conflicting that no conclusion can be made. Floats with green cotton seed give a slight increase over floats with nitrate of soda for the two years.

Plot No.	Pounds of Fertilizer per Acre.	Pounds of Fertilizer per Plot.	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	10	5	15	240
2	15 lbs. Acid Phosphate ...	240 lbs. Acid Phosphate .	20	6½	26½	424
3	4 lbs. MuriateP otash...	64 lbs. Muriate Potash....	8	9	17	272
4	No Manure	No Manure	7	8½	15½	248
5	6 lbs. Nitrate Soda, 4 lbs. Muriate Potash....	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash....	9	6½	15½	248
6	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate ...	96 lbs Nitrate Soda, 240 lbs Acid Phosphate ...	26	10	36	576
7	4 lbs. Muriate Potash, 15 lbs. Acid Phosphate ..	64 lbs. Muriate Potash, 240 lbs. Acid Phosphate ...	26	8½	34½	552
8	No Manure	No Manure	6	6	12	192
9	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate, 4 lbs. Muriate Potash...	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash, 240 lbs. Acid Phosphate....	26	6½	32½	520
10	15 lbs. Floats	240 lbs. Floats.	30	6½	36½	584
11	6 lbs. Nitrate Soda, 15 lbs. Floats	96 lbs. Nitrate Soda, 240 lbs. Floats	25	8½	33½	536
12	No Manure.	No Manure.....	8	8	16	256
13	53 lbs. Green Cot. Seed..	848 lbs. Green Cot. Seed..	21	9	30	480
14	15 lbs. Floats, 53 lbs. Green Cot. Seed...	240 lbs Floats, 848 lbs. Green Cot. Seed...	27½	9	36½	584
15	265 lbs. Stable Manure.....	4240 lbs. Stable Manure...	26	7	33	528
16	15 lbs. Acid Phosphate, 15 lbs. Cot. Seed Meal...	240 lbs. Acid Phosphate 240 lbs. Cot. Seed Meal.....	13	6½	19½	312

EXPERIMENT MADE BY MR. URIAH JOHNSON.

TRINITY STATION, MORGAN COUNTY.

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

In Mr. Johnson's two years experiments it is clearly shown by the increased yield of plot No. 2 over 1 and 3, that phosphoric acid is the element most deficient in his soil, but in combination results are conflicting. In 1891 plot No. 9 gave 128 pounds more than plot No. 6, while in 1892 plot 6 gives 352 pounds increase over plot No. 9. Floats, with green cotton seed, give the best results in 1891, while floats with nitrate of soda give best results in 1892. Further experiments are necessary to be made on this soil before any conclusions can be drawn.

Plot No.	Pounds of Fertilizer per Acre.	Pounds of Fertilizer per Plot.	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	16	8	24	384
2	15 lbs. Acid Phosphate ...	240 lbs. Acid Phosphate .	34	6	40	640
3	4 lbs. MuriateP otash....	64 lbs. Muriate Potash....	14	8	22	352
4	No Manure.....	No Manure	12	8	20	320
5	6 lbs. Nitrate Soda, 4 lbs. Muriate Potash....	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash....	18	10	28	448
6	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate ...	96 lbs. Nitrate Soda, 240 lbs. Acid Phosphate ...	32	10	62	992
7	4 lbs. Muriate Potash, 15 lbs. Acid Phosphate ...	64 lbs. Muriate Potash, 240 lbs. Acid Phosphate ...	34	8	42	672
8	No Manure.....	No Manure	12	8	20	320
9	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate, 4 lbs. Muriate Potash....	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash, 240 lbs. Acid Phosphate ...	28	12	40	640
10	15 lbs. Floats	240 lbs. Floats.	22	6	28	448
11	6 lbs. Nitrate Soda, 15 lbs. Floats.....	96 lbs. Nitrate Soda, 240 lbs. Floats	32	8	40	640
12	No Manure.	No Manure.....	12	8	20	320
13	53 lbs. Green Cot. Seed...	848 lbs. Green Cot. Seed..	24	10	38	608
14	15 lbs. Floats, 53 lbs. Green Cot. Seed...	240 lbs. Floats, 848 lbs. Green Cot. Seed...	36	8	34	544
15	265 lbs. Stable Manure.....	4240 lbs. Stable Manure...	40	4	44	704
16	15 lbs. Acid Phosphate, 15 lbs. Cot. Seed Meal....	240 lbs. Acid Phosphate 240 lbs. Cot. Seed Meal....	....	..	44	704

EXPERIMENT MADE BY J. C. KILLEBREW,

NEWTON, DALE COUNTY.

Soil, Sandy Loam; Subsoil, Red Clay.

In Mr. Killebrew's experiment for 1891, nothing is gained from the use of acid phosphate, as is shown when plot No. 6 is compared with plot No. 9, while in 1892 it is clearly seen that phosphoric acid is the leading element needed. The increase of plot No. 2 over average of unmanured plots 4, 8 and 12, is 256 pounds per acre. Plot No. 6 gives an increase of 288 pounds, and plot No. 9 gives 576 pounds increase. The results from plot No. 16 are very marked. In 1891 the increase over plot No. 9 is 16 pounds, but in 1892 it is 160 pounds per acre. Floats with green cotton seed, and floats with nitrate of soda, give same results in 1891, but in 1892 floats with green cotton seed give 544 pounds more than floats with nitrate of soda, but no more than green cotton seed alone, as in plot No. 13.

Plot No.	Pounds of Fertilizer per Acre.	Pounds of Fertilizer Per Plot.	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. ...	14	20	8	42	672
2	15 lbs. Acid Phosphate	240 lbs. Acid Phosphate..	20	18	12	50	800
3	4 lbs. Muriate Potash.	64 lbs. Muriate Potash...	12	10	12	34	544
4	No Manure.....	No Manure.....	14	10	10	34	544
5	6 lbs. Nitrate Soda, 4 lbs. Muriate Potash.	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash..	16	14	12	42	672
6	6 lbs. Nitrate Soda, 5 lbs. Acid Phosphate	96 lbs. Nitrate Soda, 240 lbs. Acid Phosphate.	24	16	12	52	832
7	4 lbs. Muriate Potash, 15 lbs. Acid Phosphate	64 lbs. Muriate Potash, 240 lbs. Acid Phosphate..	16	20	12	48	768
8	No Manure.....	No Manure.....	12	12	8	32	512
9	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate, 4 lbs. Muriate Potash	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash, 240 lbs. Acid Phosphate..	26	24	20	70	1120
10	15 lbs. Floats.....	240 lbs. Floats	14	16	6	36	576
11	6 lbs. Nitrate Soda, 15 lbs. Floats.....	96 lbs. Nitrate Soda, 240 lbs. Floats.....	16	16	12	44	704
12	No Manure.....	No Manure	12	14	10	36	576
13	53 lbs. Green Cot. Seed	848 lbs. Green Cotton Seed	30	28	20	72	1248
14	15 lbs. Floats, 53 lbs. Green Cot. See.	240 lbs. Floats, 848 lbs. Green Cotton Seed	28	26	24	78	1248
15	265 lbs. Stable Manure.	4,240 lbs. Stable Manure..	32	36	20	88	1408
16	15 lbs. Acid Phosphate, 15 lbs. Cot'n Seed Meal	240 lbs. Acid Phosphate, 240 lbs. Cotton Seed Meal	32	30	18	80	1280

EXPERIMENT MADE BY J. A. LOGAN,

CLANTON, CHILTON COUNTY.

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

It is clearly shown by the results of two years' experiments made by Mr. Logan that his soil does not need potash. In 1891 plot 6 gave an increase over plot 9 of 112 pounds, and over plot No. 16 of 48 pounds; while in 1892 plot No. 6 gave 16 pounds more than plot No. 9, and 8 pounds more than plot No. 16.

These amounts are small but they are valuable facts, and show that it is a waste of money to use potash on such soils, as the yield of cotton is decreased. It should be stated here that cotton seed meal contains some potash, is why the comparison is made between plot No. 6 and plot No. 16. Floats with green cotton seed gave better results for the two years than floats with nitrate of soda.

Plot No.	LBS. FERTILIZER PER PLOT.	LBS. FERTILIZER 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	11	20	4	38	608
2	15 lbs. acid phosphate	240 lbs. acid phosphate...	20	19	3	42	672
3	4 lbs. muriate potash.	64 lbs. muriate potash...	12½	19½	5½	37½	600
4	No manure.	No manure.....	10	17	5½	32½	520
5	6 lbs. nitrate soda, 4 lbs. muriate potash.	96 lbs. nitrate soda, 64 lbs. muriate potash..	10½	25	8½	42	672
6	6 lbs. nitrate soda, 15 lbs. acid phosphate.	96 lbs. nitrate soda, 240 lbs. acid phosphate...	30	28	6	64	1024
7	4 lbs. muriate potash, 15 lbs. acid phosphate.	64 lbs. muriate potash, 240 lbs. acid phosphate..	20	26½	7	54½	872
8	No manure.	No manure.....	10½	18½	6	35	560
9	6 lbs. nitrate soda, 15 lbs. acid phosphate, 4 lbs. muriate potash.	96 lbs. nitrate soda, 64 lbs. muriate potash, 240 lbs. acid phosphate...	23	33	7	63	1008
10	15 lbs. floats	240 lbs. floats	16	25	6	67	752
11	6 lbs. nitrate soda, 15 lbs. floats	96 lbs. nitrate soda, 240 lbs. floats	15	27½	80½	53	848
12	No manure.....	No manure.....	11½	20	8½	39	624
13	53 lbs. green cotton seed	848 lbs. green cotton seed	15	25½	15½	56	896
14	15 lbs. floats, 53 lbs. green cotton seed	240 lbs. floats, 848 lbs. green cotton seed.	19½	28½	10	58	928
15	265 lbs. stable manure.	4240 lbs. stable manure...	28	30½	10½	69	1104
16	15 lbs. acid phosphate 15 lbs. cotton seed meal	240 lbs. acid phosphate, 240 lbs. cotton seed meal.	22½	33	8	63½	1016

EXPERIMENT MADE BY MR. WILLIAM MARTIN,

GREENSBORO, HALE COUNTY.

Soil, Sandy Loam; Subsoil, Clay.

No conclusions can be made from Mr. Martin's work, as we have only one year's experiment to compare. The following statement shows the results for 1892.

Plot No.	POUNDS FERTILIZER PER PLOT.	POUNDS FERTILIZER 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 ..	30	10	8	48	768
2	15 lbs. acid phosphate	240 lbs. acid phosphate	20	20	4	44	704
3	4 lbs. muriate potash	64 lbs. muriate potash	30	10	6	46	736
4	No manure.	No manure	16	10	4	30	480
5	6 lbs. nitrate soda, 4 lbs. muriate potash	96 lbs. nitrate soda, 64 lbs. muriate potash.	32	14	6	52	832
6	6 lbs. nitrate soda, 15 lbs. acid phosphate	96 lbs. nitrate soda, 240 lbs. acid phosphate.	36	32	10	78	1248
7	4 lbs. muriate potash. 15 lbs. acid phosphate	64 lbs. muriate potasc, 240 lbs. acid phosphate.	68	16	20	104	1664
8	No manure.	No manure	30	18	8	56	896
9	6 lbs. nitrate soda, 15 lbs acid phosphate, 4 lbs. muriate potash	96 lbs. nitrate soda, 64 lbs. muriate potash, 240 lbs. acid phosphate	50	20	14	84	1344
10	15 lbs. floats	240 lbs. floats	52	16	16	84	1344
11	6 lbs nitrate soda, 15 lbs. floats.	96 lbs nitrate soda, 240 lbs. floats.....	32	10	12	54	864
12	No manure.	No manure	42	16	8	66	1056
13	53 lbs green cotton seed	848 lbs. green cotton seed	68	16	12	96	1536
14	15 lbs. floats, 53 lbs. green cotton seed	240 lbs. floats, 848 lbs. green cotton seed	34	8	10	52	832
15	265 lbs. stable manure.	4240 lbs. stable manure	28	14	6	48	768
16	15 lbs. acid phosphate, 15 lbs cotton seed meal	240 lbs. acid phosphate, 240 lbs. cotton seed meal	36	12	10	58	928

EXPERIMENT MADE BY J. W. MIZE,

REMLAP, BLOUNT COUNTY.

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

In the experiments made by Mr. Mize nothing is gained by the use of potash. In 1891 plot No. 6 gave 144 pounds more than plot No. 9, and plot 16 gave 176 pounds increase over plot No. 9, while in 1892 plot No. 9 gives an increase of 8 pounds over plot No. 6 and 98 pounds over plot No. 16.

These results are conflicting, and no conclusion can be drawn. Floats, as in plots No. 11 and 14, gave same yield in 1891, while in 1892 floats, with green cotton seed, give an increase of 224 pounds over nitrate of soda with floats.

Plot No.	Lbs Fertilizer Per Plot.	Lbs. Fertilizer 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.....	4	7	2	13	208
2	15 lbs. acid phosphate	240 lbs. acid phosphate..	15	16½	8	39½	632
3	4 lbs. muriate potash.	64 lbs. muriate potash...	4½	7½	2½	14½	232
4	No manure.....	No manure.....	3½	5	2	10½	168
5	6 lbs. nitrate soda, 4 lbs. muriate potash.	96 lbs. nitrate soda, 64 lbs. muriate potash...	5½	8	4	17½	280
6	6 lbs. nitrate soda, 15 lbs. acid phosphate.	96 lbs. nitrate soda, 240 lbs. acid phosphate...	16½	19	10	45½	728
7	4 lbs. muriate potash, 15 lbs. acid phosphate.	64 lbs. muriate potash, 240 lbs. acid phosphate...	12½	15½	6	34	544
8	No manure.....	No manure.....	4	6½	1½	12	192
9	6 lbs. nitrate soda, 15 lbs. acid phosphate, 4 lbs. muriate potash.	96 lbs. nitrate soda, 64 lbs. muriate potash, 240 lbs. acid phosphate...	18	20	8	46	736
10	15 lbs. floats.....	240 lbs. floats	6	8½	3	17½	280
11	6 lbs. nitrate soda, 15 lbs. floats	96 lbs. nitrate soda, 240 lbs. floats	5	6½	3½	15	240
12	No manure.....	No manure.....	3½	7	4	14½	232
13	53 lbs. green cotton seed	848 lbs. green cotton seed.	4½	6	3½	14	224
14	15 lbs. floats, 53 lbs. green cotton seed	240 lbs. floats, 848 lbs. green cotton seed.	10½	13	5½	29	464
15	265 lbs. stable manure..	4240 lbs. stable manure...	12	15½	6	33½	536
16	15 lbs. acid phosphate. 15 lbs. cotton seed meal	240 lbs. acid phosphate, 240 lbs. cotton seed meal.	14½	17	9	40½	648

EXPERIMENT MADE BY W. H. NEWMAN.

REPORTED BY B. M. DUGGAR, CANEBRAKE EXPERIMENT STATION, UNIONTOWN, PERRY COUNTY.

The following tabulated statement is the result of the experiment as conducted on the Uniontown Experiment Station:

Plot No.	POUNDS OF FERTILIZE PER PLOT.	POUNDS OF FERTILIZER PER ACRE.	Lbs. Cotton 1st Picking.	Lbs. Cotton 2nd Picking.	Lbs. Cotton 3rd Picking.	Lbs. Cotton 4th Picking.	Total yield per Plot.	Total yield per Acre.
1	6 lbs. Nitrate Soda ...	96 lbs. Nitrate Soda.....	9	35½	17	....	61½	984
2	15 lbs. Acid Phosphate..	240 lbs. Acid Phosphate..	16½	54½	22½	..	93½	1496
3	4 lbs. Muriate Potash...	64 lbs. Muriate Potash..	17	37½	19	..	73½	1176
4	No Manure.....	No Manure.....	14½	42½	20½	..	77½	1240
5	6 lbs. Nitrate Soda, 4 lbs. Muriate Potash...	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash..	14½	30	14	..	58½	936
6	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate..	96 lbs. Nitrate Soda, 240 lbs. Acid Phosphate..	13½	24½	11½	..	49½	792
7	4 lbs. Muriate Potash, 15 lbs. Acid Phosphate .	64 lbs. Muriate Potash, 240 lbs. Acid Phosphate.	6½	24½	9	..	40	640
8	No Manure.....	No Manure.....	9	31	21	..	60	960
9	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate, 4 lbs. Muriate Potash..	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash, 240 lbs. Acid Phosphate..	12	32½	21	....	65½	1048
10	15 lbs. Floats.....	240 lbs. Floats	15	24½	10½	..	50	800
11	6 lbs. Nitrate Soda, 15 lbs. Floats..... ..	96 lbs. Nitrate Soda, 240 lbs. Floats..	14	25½	8	....	47½	760
12	No Manure.....	No Manure.....	18	29	13	....	60	960
13	53 lbs. Green CottonSeed	848 lbs. Green CottonSeed	12	24½	7	...	43½	696
14	15 lbs Floats, 53 lbs. Green CottonSeed	240 lbs. Floats, 848 lbs. Green CottonSeed	15	31½	8½	..	55	880
15	265 lbs. Stable Manure	4,240 lbs. Stable Manure.	13	23½	4½	...	41	656
16	15 lbs. Acid Phosphate, 15 lbs. Cotton Seed Meal	240 lbs. Acid Phosphate, 240 lbs. Cotton Seed Meal.	15	17	3½	....	35½	568

EXPERIMENT MADE BY J. P. OLIVER,

DADEVILLE, TALLAPOOSA COUNTY.

Soil, Gray Sandy; Subsoil, Clay.

In Mr. Oliver's experiments for the two years the indications are that his soil is deficient in the three main elements of plant food. In 1891 plot No. 9 gave best results, and in 1892 plots No. 9 and 16 gave the same yield. Floats with green cotton seed gave best results in 1891, while floats and nitrate of soda gave best results in 1892.

Plot No.	Pounds Fertilizers per Plot.	Pounds Fertilizer per Acre.	Lbs. cotton 1st picking.	Lbs. cotton 2nd picking.	Lbs. cotton 3rd picking.	Lbs. cotton 4th picking	Total yield per Plot.	Total yield per Acre.
1	6 lbs. nitrate soda...	96 lbs. nitrate soda	0	5	3	6½	34½	232
2	15 lbs. acid phosphate	240 lbs. acid phosphate.	7	3	5	3	18	288
3	4 lbs. muriate potash	64 lbs muriate potash.	0	4	3½	8	15½	248
4	No manure ...	No manure	0	1	2	8	11	176
5	6 lbs nitrate soda, 4 lbs. muriate potash	96 lbs. nitrate soda, 64 lbs. muriate potash	0	3	2½	9	14½	232
6	6 lbs. nitrate soda, 15 lbs. acid phosphate	96 lbs. nitrate soda, 240 lbs. acid phosphate	17	23	6	3	49	784
7	4 lbs. muriate potash 15 lbs. acid phosphate	64 lbs. muriate potash, 240 lbs. acid phosphate	8	19	7	5	39	624
8	No manure	No manure.	0	2	3	6	11	176
9	6 lbs. nitrate soda, 15 lbs. acid phosphate 4 lbs. muriate potash	96 lbs. nitrate soda, 64 lbs. muriate potash, 240 lbs. acid phosphate.	14	24	7	7	52	832
10	15 lbs. floats	240 lbs. floats	6	16½	7½	8	38	608
11	6 lbs. nitrate soda, 15 lbs. floats	96 lbs. nitrate soda, 240 lbs. floats	12	22½	9	8	51½	824
12	No manure.	No manure.	0	4	4	9	17	272
13	53 lbs. green cot. seed	848 lbs. green cotton seed	12	16	7½	6	41½	664
14	15 lbs. floats, 53 lbs. green cot. seed	240 lbs. floats, 848 lbs. green cotton seed	12	16	8½	4	40½	648
15	265 lbs. stable manure	4240 lbs. stable manure	18	23	6½	3	50½	808
16	15 lbs. acid phosphate 15 lbs. cot. seed meal.	240 lbs. acid phosphate, 240 lbs. cotton seed meal	22	22	6	2	52	832

EXPERIMENT MADE BY J. C. OTT,

FLORENCE, LAUDERDALE COUNTY.

Soil, Grey and Gravelly; Subsoil, Clay.

No experiment was reported by Mr. Ott for 1891. Conclusions cannot be drawn from one year's work. The following statement shows results for 1892.

Plot No.	POUNDS FERTILIZER PER PLOT.	POUNDS FERTILIZER PER ACRE.	Lbs. Cotton 1st Picking	Lbs. Cotton 2nd Picking	Lbs. Cotton 3rd Picking.	Lbs Cotton 4th Picking	Total yield per Plot.	Total yield per Acre.
1	6 lbs. Nitrate Soda	96 lbs. Nitrate Soda	12	12	16	10	50	800
2	15 lbs. Acid Phos	240 lbs. Acid Phosphate	12	10	12	8	42	672
3	4 lbs. Muriate Potash	64 lbs. Muriate Potash.	8	10	14	8	40	640
4	No Manure	No Manure	6	8	12	8	34	544
5	6 lbs. Nitrate Soda, 4 lbs. Muriate Potash	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash	10	14	14	10	48	768
6	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate	96 lbs. Nitrate Soda, 240 lbs. Acid Phosphate.	18	16	20	12	66	1058
7	4 lbs. Muriate Potash 15 lbs. Acid Phosphate	64 lbs. Muriate Potash, 240 lbs. Acid Phosphate.	14	14	14	10	52	832
8	No Manure	No Manure.	10	10	12	8	40	640
9	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate 4 lbs. Muriate Potash	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash, 240 lbs. Acid Phosphate	18	18	22	14	72	1132
10	15 lbs. Floats	240 lbs. Floats	10	10	16	10	46	736
11	6 lbs. Nitrate Soda, 15 lbs. Floats.	96 lbs. Nitrate Soda, 240 lbs. Floats	12	12	22	10	56	896
12	No Manure	No Manure	8	8	14	8	38	608
13	53 lbs. Green Cot. Seed	848 lbs. Green Cot. Seed	14	18	18	12	62	992
14	15 lbs. Floats, 53 lbs. Green Cot. Seed	240 lbs. Floats, 848 lbs. Green Cot. Seed	12	12	14	10	48	768
15	265 lbs. Stable Manure	4240 lbs. Stable Manure.	12	10	16	10	48	768
16	15 lbs Acid Phosphate 15 lbs. Cot. Seed Meal,	240 lbs. Acid Phosphate 240 lbs. Cot Seed Meal	18	18	12	10	58	928

EXPERIMENT MADE BY J. W. PITTS,

Creswell Station, Shelby County.

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

In this experiment it is clearly shown in two years' results that potash is not needed in this soil. Comment seems unnecessary. In 1891 plot No. 6 gave an increase over plot No. 9 of 48 pounds, and plot 16 gave 112 pounds more than plot No. 9. In 1892 plot No. 6 gave 208 pounds more than plot No. 9, and plot No. 16 gave 192 pounds more than plot No. 9. These are not large amounts, but they are hard facts, and Mr. Pitts is wasting money when he buys potash for his soil.

Floats with green cotton seed give best results in 1891, while floats with nitrate of soda give an increase in 1892.

Plot No.	Pounds Fertilizer per Plot.	Pounds Fertilizer per Acre.	Lbs. cotton 1st picking	Lbs. cotton 2nd picking	Lbs. cotton 3rd picking	Total yield per Plot.	Total yield pr Acre.
1	6 lbs. nitrate soda ...	96 lbs. nitrate soda ...	9	10	9	28	448
2	15 lbs. acid phosphate..	240 lbs. acid phosphate.	29	21	10	60	960
3	4 lbs. muriate potash. .	64 lbs. muriate potash	7	10	11	28	448
4	No manure.	No manure	2	7	4	13	208
5	6 lbs. nitrate soda, 4 lbs. muriate potash.	96 lbs. nitrate soda 64 lbs. muriate potash	2	3	6	11	176
6	6 lbs. nitrate soda, 15 lbs. acid phosphate.	96 lbs. nitrate soda, 240 lbs. acid phosphate	35	17	5	57	912
7	4 lbs. muriate potash, 15 lbs. acid phosphate..	64 lbs. muriate potash, 250 lbs. acid phosphate	21	13	5	39	624
8	No manure	No manure..... ...	3	3	4	10	160
9	6 lbs. nitrate soda, 15 lbs. acid phosphate, 4 lbs. muriate potash	96 lbs. nitrate soda, 64 lbs. muriate potash, 240 lbs. acid phosphate .	28	13	3	44	704
10	15 lbs. floats.....	240 lbs. floats	13	9	5	27	432
11	6 lbs. nitrate soda, 15 lbs. floats.....	96 lbs. nitrate soda, 240 lbs. floats	23	14	7	44	704
12	No manure.	No manure	5	4	4	13	208
13	53 lbs. green cotton seed	848 lbs. green cotton seed	8	6	6	20	320
14	15 lbs. floats, 53 lbs. green cotton seed	240 lbs. floats, 848 lbs. green cotton seed	17	13	8	38	608
15	265 lbs. stable manure..	4240 lbs. stable manure	46	25	8	79	1364
16	15 lbs. acid phosphate, 15 lbscotton seed meal .	240 lbs, acid phosphate, 240 lbs. cotton seed meal	41	12	3	56	896

EXPERIMENT MADE BY S. A. PRUITT,

CHESS, PIKE COUNTY.

Soil, Light Sandy; Sub-soil, Red and Yellow Sandy.

The best results in this experiment for the two years are from plot 16—cotton seed meal with acid phosphate. Plot No. 9, complete fertilizer, gave a marked increase over plot No. 6 for each year, and the indications are that the soil is deficient in the three main elements of plant food. Floats with green cotton seed give a decided increase over floats with nitrate of soda for the two years

Plot No.	Pounds Fertilizer Per Plot.	Pounds Fertilizer 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 ..	24	14	...	38	608
2	15 lbs. acid phosphate	240 lbs. acid phosphate	40	40	..	80	1280
3	4 lbs. muriate potash.	64 lbs. muriate potash	28	14	....	42	672
4	No manure.....	No manure.....	28	16	....	44	704
5	6 lbs. nitrate soda, 4 lbs. muriate potash	96 lbs. nitrate soda, 64 lbs. muriate potash	30	18	..	48	768
6	6 lbs. nitrate soda, 15 lbs. acid phosphate.	96 lbs. nitrate soda, 240 lbs. acid phosphate	40	22	..	62	992
7	4 lbs. murate potash, 15 lbs. acid phosphate.	64 lbs. muriate potash, 240 lbs. acid phosphate	28	12	..	40	640
8	No manure.....	No manure.....	32	12	....	44	704
9	6 lbs. nitrate soda, 15 lbs acid phosphate, 4 lbs. muriate potash	96 lbs. nitrate soda, 64 lbs. muriate potash, 240 lbs. acid phosphate	52	24	...	76	1216
10	15 lbs. floats	240 lbs. floats	36	18	..	54	864
11	6 lbs. nitrate soda, 15 lbs. floats	96 lbs. nitrate soda, 240 lbs. floats	40	22	..	62	992
12	No manure.	No manure.	32	12	...	44	704
13	53 lbs. green cotton seed	848 lbs. green cotton seed	36	22	..	58	928
14	15 lbs. floats, 53 lbs. green cotton seed	240 lbs. floats, 848 lbs. green cotton seed	40	30	...	70	1120
15	265 lbs. stable manure..	4240 lbs. stable manure..	52	28	..	80	1280
16	15 lbs. acid phosphate, 15 lbs. cotton seed meal	240 lbs. acid phosphate, 240 lbs. cotton seed meal	56	28	...	84	1344

EXPERIMENT MADE BY J. H. RADNEY,

ROANOKE, RANDOLPH COUNTY.

Soil, Sandy Loam; Subsoil, Clay.

Results of Mr. Radney's experiments are so conflicting that further work will have to be done before any conclusions can be drawn. His best results in 1891 are from plot No. 6, nitrate of soda with acid phosphate; while in 1892, plot No. 9, complete fertilizer, gives 136 pounds more than plot No. 6, and plot 16 gives an increase of 398 pounds over plot No. 6. Where floats with nitrogen are compared, floats with nitrate of soda give best results in 1891, while floats with green cotton seed give best results in 1892.

Plot No.	Pounds Fertilizer Per Plot.	Pounds Fertilizer Per Acre.	Lbs. cotton 1st picking	Lbs. cotton 2nd picking	Lbs. cotton 3rd picking	Lbs. cotton 4th picking	Total yield per Plot.	Total yield per Acre.
1	6 lbs. nitrate soda	96 lbs. nitrate soda	2	5	6	2	15	240
2	15 lbs. acid phosphate	240 lbs. acid phosphate	10	12	14	3	39	624
3	4 lbs. muriate potash	64 lbs. muriate potash	3	6	5	2	16	256
4	No manure.	No manure.	2	4	6	1	13	208
5	6 lbs. nitrate soda, 4 lbs. muriate potash	96 lbs. nitrate soda, 64 lbs. muriate potash	2	5	8	2	17	272
6	6 lbs. nitrate soda, 15 lbs. acid phosphate	96 lbs. nitrate soda, 240 lbs. acid phosphate	16	15	10	2½	43½	696
7	4 lbs. murate potash, 15 lbs. acid phosphate	64 lbs. muriate potash, 240 lbs. acid phosphate	6	8	12	1	27	432
8	No manure. ...	No manure.	1	4	7	2	16	256
9	6 lbs. nitrate soda, 15 lbs acid phosphate, 4 lbs. muriate potash	96 lbs. nitrate soda, 64 lbs. muriate potash, 240 lbs. acid phosphate	13	20	18	1	52	832
10	15 lbs. floats	240 lbs. floats	2	4	3	2	11	176
11	6 lbs. nitrate soda, 15 lbs. floats	96 lbs. nitrate soda, 240 lbs floats	9	12	8	3	32	512
12	No manure.	No manure.	1	5	4	2	12	192
13	53 lbs. green cot. seed.	848 lbs. green cotton seed	...	...	..			...
14	15 lbs. floats, 53 lbs. green cot. seed	240 lbs. floats, 848 lbs. green cotton seed	17	15	10	3	45	720
15	265 lbs. stable manure	4240 lbs. stable manure.	...	.	...	..	..	...
16	15 lbs. acid phs'phate, 15 lbs. cot. seed meal.	240 lbs. acid phosphate, 240 lbs. cotton seed meal	23	25	20	1	69	1094

EXPERIMENT MADE BY W. H. SELLERS.

GENEVA, GENEVA COUNTY.

Soil, Sandy; Subsoil, Red Clay and Sand.

The indications are, from results of two years' experiments by Mr. Sellers, that his soil is deficient in the three main elements of plant food, as plot No. 9 gives best results for the two years' work. No comparison can be made as to floats with nitrogen. No results having been reported from floats and green cotton seed in 1891.

Plot No.	POUNDS OF FERTILIZER PER ACRE.	POUNDS OF FERTILIZER PER PLOT.	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. ..	...		..	8½	136
2	15 lbs. Acid Phosphate	240 lbs. Acid Phosphate.	..	...	..	18	288
3	4 lbs. Muriate Potash	64 lbs. Muriate Potash...	.	...	..	13	208
4	No Manure.	No Manure		.	..	9	144
5	6 lbs. Nitrate Soda, 4 lbs. Muriate Potash	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash..	..			13	208
6	6 lbs. Nitrate Soda, 5 lbs. Acid Phosphate	96 lbs. Nitrate Soda, 240 lbs. Acid Phosphate	..	...	..	26	416
7	4 lbs. Muriate Potash, 15 lbs. Acid Phosphate	64 lbs. Muriate Potash, 240 lbs. Acid Phosphate..	...	...	..	21	336
8	No Manure..	No Manure.	...	..	..	8½	136
9	6 lbs. Nitrate Soda, 15 lbs. Acid Phosphate, 4 lbs. Muriate Potash	96 lbs. Nitrate Soda, 64 lbs. Muriate Potash, 240 lbs. Acid Phosphate	...	...	..	28	448
10	15 lbs. Floats..	240 lbs. Floats	...	...	..	13	208
11	6 lbs. Nitrate Soda, 15 lbs. Floats.....	96 lbs. Nitrate Soda, 240 lbs. Floats.....	..	..	...	17	272
12	No Manure....	No Manure	...	...	..	9	144
13	53 lbs. Green Cot. Seed	848 lbs. Green Cotton Seed	...	..	..	13	208
14	15 lbs. Floats, 53 lbs. Green Cot. See	240 lbs. Floats, 848 lbs. Green Cotton Seed	..	...	..	17	272
15	265 lbs. Stable Manure.	4,240 lbs. Stable Manure .	..	..	...	17	272
16	15 lbs. Acid Phosphate, 15 lbs. Cot'n Seed Meal	240 lbs. Acid Phosphate, 240 lbs. Cotton Seed Meal	..	..	..	17½	280

EXPERIMENT MADE BY T. A. SNUGGS.

Holly Pond, Cullman County.

Soil, Sandy and Gravelly; Subsoil, Yellow Sandy.

The two years work of Mr. Snuggs clearly shows that his soil is deficient in the three main elements of plant food, as plot No. 9 gave a large increase over everything for the two years, when floats with nitrogen are compared. Floats with green cotton seed give best results for each year.

Plot No.	Pounds Fertilizers per Plot.	Pounds Fertilizer 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 ..	15	16	6½	37½	600
2	15 lbs. acid phosphate.	240 lbs. acid phosphate.	22	17½	6	45½	728
3	4 lbs. muriate potash	64 lbs. muriate potash.	12½	16½	10½	39½	632
4	No manure	No manure	13	16½	11	40½	648
5	6 lbs. nitrate soda, 4 lbs. muriate potash.	96 lbs. nitrate soda, 64 lbs. muriate potash.	12½	19	14	45½	728
6	6 lbs. nitrate soda, 15 lbs. acid phosphate.	96 lbs. nitrate soda, 240 lbs. acid phosphate.	31	23	8½	62½	1000
7	4 lbs. muriate potash, 15 lbs. acid phosphate.	64 lbs. muriate potash, 240 lbs. acid phosphate	28	23½	8½	60	960
8	No manure	No manure.	14½	18	9½	42	672
9	6 lbs. nitrate soda, 15 lbs. acid phosphate, 4 lbs. muriate potash.	96 lbs. nitrate soda, 64 lbs. muriate potash, 240 lbs. acid phosphate.	32½	23½	9½	65½	1048
10	15 lbs. floats	240 lbs. floats	14	17	9	40	640
11	6 lbs. nitrate soda, 15 lbs. floats	96 lbs. nitrate soda, 240 lbs. floats	16½	25½	17	59	944
12	No manure.	No manure.....	13½	17	12	42½	680
13	53 lbs. green cotton seed	848 lbs. green cotton seed	18	21	10	49	784
14	15 lbs. floats, 53 lbs. green cotton seed	240 lbs. floats, 848 lbs green cotton seed	16	20½	14	50½	808
15	265 lbs. stable manure	4240 lbs. stable manure	30	24½	10½	65	1040
16	15 lbs. acid phosphate, 15 lbs. cotton seed meal	240 lbs. acid phosphate, 240 lbs. cotton seed meal	20	18½	11	49½	792