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Agricultural and Mechanical College,

EXPERIMENT STATION,

AUBURN, ALABAMA.

Co-operative Soil Tests of Corn

—BY—

A. J. BONDURANT.

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

CO-OPERATIVE SOIL TEST EXPERIMENTS FOR 1894.

Fertilizers, mixed at the Experiment Station, were sent to twenty-seven farmers living in different sections of the State, for Co-operative Soil Test Experiment on Corn.

The fertilizers sent out consisted of 250 pounds of cotton seed meal, and 250 pounds of acid phosphate.

The land to be used for this experiment was two plots of one-half acre each.

Plot No. 1 was to receive all of the fertilizer. Plot No. 2, no manure.

The object of this experiment was to ascertain the greatest quantity of corn that could be produced on a half acre of land, with a given quantity of fertilizer, as compared with a half acre unmanured.

The following instructions were sent to each one of the Co-operative Soil Test Experimenters :

Break the land broad-cast. When ready to plant, lay-off rows with a shovel plow. Each sack of fertilizer sent contains 125 pounds. Scatter two sacks in the furrow and follow with a scooter plow in order to mix thoroughly with the soil. Drop the corn in the furrow and cover with a scooter. When the corn is up, thin to one stalk in the hill. If the land is not already in excellent condition, plow *déep* at first plowing. All subsequent plowing should be done shallow and with a heel scrape if possible.

Some time in May scatter the other two sacks of fertilizers broad-cast, and at this time plant a row of peas in each *corn middle*. The planting of the peas and plowing in the fertilizer will be done at the same plowing.

Keep a record of the time of planting, of the method of cultivation and of the difference between the manured and

unmanured plots or half-acres, and note whether the fodder ripens at the same time, or not, on both plots.

Weigh corn in the *shuck*, and report as soon as convenient after gathering.

The following tabulated reports show the results of the experiments :

CORN EXPERIMENT BY MR. E. J. BEASLEY,

Red Level, Covington County, Alabama.

Soil—Red, with Red Clay sub-soil.

Rows 70 yards long—5 feet wide.

Plot Number.	Size of Plot.	Fertilizers, use Per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush, allowing 80 lbs. per bush, weighed in shuck.
			Per Plot.	Rate Per Acre.	
1	½ Acre.....	250 lbs. C. S. Meal. 250 lbs. Acid Phos.	1243.....	2486.....	31⅓
2	½ “		Nothing.....	755.....	1510.....

Mr. Beasley says that he prepared his land according to instructions from the Station.

Corn was planted March 10th, on the 25th killed by freeze. On the 14th of April planted the second time, securing a good stand. First plowing was done with a scooter, and succeeding culture with scrape and scooter. Just as corn was bunching for tassel, a drought began, which lasted three weeks. A good rain fell at the close of this drought, and another three weeks drought came on which cut off the fertilized half acre, fully one half. The unfertilized plot did not seem to suffer much for rain. Mr. Beasley thinks that the first application of fertilizer was lost on account of the heavy rains in April and May.

CORN EXPERIMENT BY MR. M. A. BISHOP,

*Madison, Madison County, Alabama.**Soil—Dark Loam with Red Clay sub-soil.**Rows 70 yards long—5 feet wide.*

Plot Number.	Size of Plot.	Fertilizers used Per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush, allow- ing 80 lbs. in shuck to the bushel.
			Per Plot.	Rate Per Acre.	
1	½ Acre.....	250 lbs. C. S. Meal. 250 lbs. Acid Phos.	1262.....	2524.....	31½
2	½ “	No Manure.....	878.....	1756.....	21 9-10

The land on which this experiment was made, Mr. Bishop writes, was planted in cotton for four years in succession previous to the corn, was high upland, and well adapted for corn with favorable seasons. Planted corn March 22d, in the face of inauspicious seasons, varying from cold to dry. From April 6th to June 27th, three months lacking one week, no rain fell; and although the crop was much injured from this drought, the fertilized plot started off in advance and maintained a difference, and a good color, although the growth was slow for want of rain. After the rains set in, the fertilized plot developed a large, vigorous growth, but the ears were not in proportion to size of stalk. Plot 2, or the unmanured half acre, was the reverse as to results, the stalks being medium in size and the ears well developed. The quality of corn good from both plots.

The variety of corn used was a cross of Hickory King and Tennessee Gourd-seed.

The crop of peas on No. 1 was very fine, and will pay the rent of land, while No. 2 scarcely made the seed planted.

The variety of peas planted was the “Unknown,” and was furnished by the Agricultural Department at Washington, at the suggestion of your Station.

Peas were late in ripening, which prevented the gathering of the corn until September 25th.

CORN EXPERIMENT BY MR. F. W. BRADLEY.

Walker Springs, Clarke Co., Ala.

Soil—Sandy with red clay sub-soil.

Rows 70 yards long—5 feet wide.

Plot Number.	Size of Plot.	Fertilizers used Per Acre.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bushels, al- lowing 80 lbs. in the shuck to the bushel.
			Per Plot.	Rate Per Acre.	
1	½ Acre.....	250 lbs. C. S. Meal. 250 lbs. Acid Phos.	896.....	1792.....	22 2-5
2	½ “		No Manure.....	435.....	870.....

Mr. Bradley says that the land on which the experiment was made was old sandy soil never before fertilized. Broke the land deep broad cast, laid off rows as directed and applied 250 lbs. fertilizers at time of planting which was Mar. 27th. Failed to get a stand and planted again April 14th, and failing again, replanted the second time April 26th, when a good stand was secured. Thinned to one stalk to the hill. First plowing was done with shovel and sweep. Used the other 250 lbs. fertilizer at second plowing. Plowed corn every two weeks. Injured very much from drought.

CORN EXPERIMENT BY MR. G. W. COMPTON.

*Wayne, Marengo Co., Ala.**Soil*—Dark sandy with clay subsoil.

Rows 70 yards long—5 feet wide.

Plot Number.	Size of Plot.	Fertilizers used Per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allow- ing 80 lbs. in shuck to the bushel.
			Per Plot.	Rate Per Acre.	
1	½ Acre.....	250 lbs. C. S. Meal. 250 lbs. Acid Phos.	538.....	1076.....	13 3-7
2	½ ".....		No Manure.....	196.....	392.....

Mr. Compton writes: "I planted corn Mar. 16th, at which time I put in one-half the fertilizers. Corn came up and looked well until the last of April. Rains were plentiful until the 19th of April. On May the 12th a light shower fell, at which time I applied the other half of fertilizers, and there was no more rain until the 19th of July, which made 67 days without rain. The fertilized corn burned up to the ear. The crop is about one-half what it would have been with seasons.

CORN EXPERIMENT BY MR. R. H. CROSS.

*Letohatchie, Lowndes Co. Ala.**Soil*—Dark sandy with clay sub-soil.

Rows 70 yards long—5 feet wide.

Plot Number.	Size of Plot.	Fertilizers, use Per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allow- ing 80 pounds in the shuck to the bushel.
			Per Plot.	Rate per Acre.	
1	½ Acre.....	250 lbs. C. S. Meal 250 lbs. Acid Phos.	1820...	3640...	45 ½
2	½ Acre.....		No Manure.....	980...	1960 ..

The results of Mr. Cross's experiment are more satisfactory than some others, which may be attributed to the favorable seasons. He says this acre was in cotton last year (1893) from which he gathered a good crop. In February, the land was broken with a Double Avery plow, turning under the cotton stalks. On March 1st laid off rows $5\frac{1}{2}$ feet wide with a long scooter, distributed fertilizer and bedded on it, with a Pony Avery plow. Next day opened furrows and planted the usual way, and in a few days had a perfect stand.

Cultivated the crop very shallow after the first plowing.

The seasons were all that could be desired for a perfect development of stalk and ears.

A magnificent crop of peas is made which were planted at the last plowing of corn.

CORN EXPERIMENT BY PROF. H. BENTON.

Uniontown, Perry Co., Ala.

Soil—

Rows 70 yards long—5 feet wide.

Plot Number.	Size of Plot.	Fertilizers used Per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allow- ing 80 pounds in the shuck to the bushel.
			Per Plot.	Rate per Acre.	
1	$\frac{1}{2}$ Acre.....	250 lbs. C. S. Meal. 250 lbs. Acid Phos.	626....	1252....	15 6-10
2	$\frac{1}{2}$ Acre.....		No Manure.	468....	936....

Mr. Benton accompanies his report with the following remarks: "The land used for this experiment was a rich bottom. The small yield was due to the long drought from April 11th to July 16th. All corn in this immediate vicinity suffered likewise.

One noteworthy fact is that the experiment shows that fer-

tilizers will increase the yield on canebroke lands, a fact which is denied by most farmers of this section."

CORN EXPERIMENT BY MR. JOHN F. DEER.

Monroeville, Monroe Co., Ala.

Gray sandy soil with clay sub-soil.

Rows 70 yards long—5 feet wide.

Plot Number.	Size of Plot.	Fertilizers used Per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allowing 80 pounds in the shuck to the bushel.
			Per Plot.	Rate per Acre.	
1	½ Acre.....	{ 250 lbs. C. S. Meal. 250 lbs. Acid Phos.	800....	1600....	20
2	½ Acre.....	No Manure.....	488....	966....	12 1-16

This experiment was planted March 13th, instructions being followed as to preparation, putting in fertilizer, &c. Corn was killed and replanted March 30th, resulting in a good stand. Mr. Deer says on the 14th of April, run around corn with a "half-twister" barring it off, in which condition it remained until the 26th, when the dirt was thrown back to it. Hoed it May 1st and on the 3d plowed out middles. Run around corn May 15th with Dixon sweep, planted the "Unknown" pea in this furrow three days afterwards and covered with the same sweep. On the 31st plowed out the middles.

Second application of fertilizes made at time of planting peas, May 18th.

Good rains, in fact there was too much rain up to the 24th, and none from that time to the 17th of June. For four days previous to this rain corn failed rapidly and a fair estimate is, that it was cut off one-third.

Fertilized plat grew rapidly from the beginning and appeared to be about 10 days earlier than the unmanured.

Much of plot 2 was destroyed by worms. While plot 1 averaged 90 hills to the row, plot 2 averaged 60 hills.

CORN EXPERIMENT BY MR. R. M. DICK.

Albertville, Etowah Co., Ala.

Red loam soil—red clay sub-soil.

Rows 70 yards long—5 feet wide.

Plot Number.	Size of Plot.	Fertilizers used per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield in bush. per acre, allowing 80 lbs. in shuck to the bushel.
			Per Plot.	Rate per Acre.	
1	½ Acre.....	250 lbs. C. S. Meal 250 lbs. Acid Phos.	978...	1956...	24½
2	½ Acre.....		No Manure.....	485...	970...

Mr. Dick says that on the 19th and 20th of May a cold spell injured the corn very much, at which time plot 1 was twelve inches high, vigorous and green, and plot 2 was four inches high, yellow and not vigorous. Plot 2 was not damaged so much as the other plot, it being less forward. Mr. Dick remarks that one thing developed, "that Sand Mountain soil will stand as heavy fertilizing as river or creek bottoms, so far as moisture is concerned."

CORN EXPERIMENT BY MAJ. E. M. DAVIS.

Prattville, Autauga County, Alabama.

Plot Number.	Size of Plot.	Fertilizers used per plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allowing 80 pounds in the shuck to the bushel.
			Per Plot.	Rate per Acre.	
1	½ Acre.....	250 lbs. C. S. Meal 250 lbs. Acid Phos.	593	1186	14 4-5
2	½ Acre.....		No manure.....	389	778

Mr. Davis says: "This has been a bad year for fertilizers in this country, the extremely dry spring and early summer seem to have caused the plant to lose the benefit of the 250 lbs. applied at planting time."

CORN EXPERIMENT BY MR. R. T. EWING.

Round Mountain, Cherokee County, Alabama.

Soil—Gray sandy (piney woods) yellow clay sub-soil.
Rows 70 yards long—5 feet wide.

Plot Number.	Size of Plot.	Fertilizers used per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allowing 80 lbs. in the shuck to the bushel.
			Per Plot.	Rate per Acre.	
1	½ Acre	250 lbs. C. S. Meal. 250 lbs. Acid Phos.	1165	2330	29 ⅛
2	½ Acre		No Manure.....	793	1586

Mr. Ewing reports that he planted corn on April 7th, and owing to the late cold Spring, had to replant three times before securing a stand. Preparation of land, putting in fertilizers, &c., were according to instructions. On 2nd of May run around corn with scooter and scrape, and on the 5th plowed out middles. On the 12th run around with scooter and scrape and followed with hoe. Did the same on the 22d. On May 31st run a furrow in the middle of each row, dropped peas in this furrow, scattered the other 250 lbs. fertilizer broadcast and plowed out with scooter and 20 inch scrape.

All of May and the early part of June was dry and the fertilized portion of experiment stood drought better than the other.

CORN EXPERIMENT BY PROF. J. B. ESPY.

Southeast Alabama Agricultural School, Abbeville, Henry County, Alabama.

Soil—Sandy. Sub-soil, sand and clay mixed.

Plot Number.	Size of Plot.	Fertilizers used Per Plot.	Pounds yield of corn in the ear.		Estimated yield per acre in bush., allow- ing 70 lbs. in the ear to the bushel.
			Per Plot.	Rate per Acre.	
1	½ Acre.....	} 250 lbs. C. S. Meal. 250 lbs. Acid Phos.	726.....	1452.....	20 5-7
2	½ Acre.....		No Manure.....	403.....	806.....

The report of this experiment, as will be seen from the above table, was made in the *ear* instead of in the shuck. The estimate is made at the rate of 70 lbs. of ear corn to a bushel of shelled, that being the custom. Prof. Espy says that the corn was planted Mar. 12th, but owing to a freeze killing it, was replanted April 14th.

Fertilizer on plot 1 was put on at time of planting, that is the first application and the other 250 lbs at last plowing. First plowing May 8th, second May 23d, and third and last plowing, June 9th. Seasons very unfavorable, no rain for two months after the first plowing.

Prof. Espy thinks the last application of fertilizer did very little good.

Plot 1 yielded 165 lbs. fodder and plot No. 2, 98 lbs.

CORN EXPERIMENT BY DR. JOHN GORDON.

*Healing Springs, Washington County, Alabama.**Soil—Sandy loam. Sub-soil about the same.**Rows 70 yards long—5 feet wide.*

Plot Number.	Size of Plot.	Fertilizers used per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allowing 80 pounds in the shuck to the bushel.
			Per Plot.	Rate per Acre.	
1	½ Acre.....	250 lbs C. S. Meal. 250 lbs. Acid Phos.	750....	1500....	18¾
2	½ Acre.....	No Manure.....	288 ...	576....	7 1-5

Dr. Gordon makes the following statement about his experiment: "The experiment was almost a complete failure in consequence of the dry weather in May and June, and the excessive rains in July and August. I followed instructions in preparing land and cultivating crop. Planted corn Apr 6th in 5 feet rows. Plowed May the 7th, thinned to a stand and sided up on the 17th. Plowed with heel scrape June 12th, planted peas and put down the other 250 lbs fertilizer at this time."

CORN EXPERIMENT BY MR. J. A. LOGAN.

*Clanton, Chilton County, Alabama.**Soil—Mulatto and sandy. Sub-soil, red clay.*

Plot Number.	Size of Plot.	Fertilizers used per Plot	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allowing 80 pounds corn in shuck to bushel.
			Per Plot.	Rate per Acre.	
1	½ Acre.....	250 lbs. C. S. Meal. 250 lbs. Acid Phos.	1103....	2206....	27 3-5
2	½ Acre.....	No Manure.....	570....	1140....	14¼

Mr. Logan, in selecting his ground for experiment, says that he got an acre as level as possible, plowed it broadcast from 4 to 6 inches deep on Mar. 1st, and on the 24th run off rows 5 feet apart, using mold board, put in 250 lbs. of fertilizer and run a small plow through it in order to mix it with the soil. In this furrow he dropped the corn and covered with one furrow. On April the 2nd. put another furrow on opposite side.

The experiment was cultivated according to directions and did not lack for work. On May 22nd the other 250 lbs. fertilizer was scattered broad-cast, corn plowed, hoed and put to a stand. Bud worms were very injurious and with difficulty succeeded in getting a stand. From the 14th to the 22nd of May, light showers and some little rain in June, but the corn was in a wilted condition half the time. Mr. Logan thinks on account of the dry weather, that the last 250 lbs. of fertilizer did but little good.

CORN EXPERIMENT BY MR. J. P. OLIVER.

Dadeville, Tallapoosa Co., Ala.

Soil—Gray sandy—sub-soil, clay.

Rows 70 yards long—5 feet wide.

Plot Number.	Size of Plot.	Fertilizers used per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allowing 80 lbs corn in the shuck to the bushel.
			Per Plot.	Rate per Acre.	
1	½ Acre.....	250 lbs. C. S. Meal.	1110....	2220....	27¾
2	½ Acre.....	250 lbs. Acid Phos.	960....	1920 ..	24
		No Manure.....			

Corn was planted April 1st. Preparation of land, applying fertilizers and culture of crop according to instructions. Mr. Oliver says that the long and very severe drought at the time the corn was tasseling and silking, reduced the yield

considerably. No fodder was saved—all burnt up and peas failed to come up, the ground being so hot and dry.

CORN EXPERIMENT BY MR. J. C. OTT.

Florence, Lauderdale Co., Ala.

Soil—Gray and gravelly—sub-soil, clay.

Rows 70 yards long—5 feet wide.

Plot Number.	Size of Plot.	Fertilizers used Per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bushels, al- lowing 80 lbs. in the shuck to the bushel.
			Per Plot.	Rate Per Acre.	
1	½ Acre	} 250 lbs. C. S. Meal. 250 lbs. Acid Phos.	1622	3644	40½
2	½ Acre		No Manure	1390	2780

While this experiment was considerably damaged by cold in the spring according to Mr. Ott's opinion, yet the yield is quite satisfactory. He says it was planted on clover land which was broken flush last fall, and this in connection with favorable seasons after the crop started off, is the reason why there is so little difference between the manured and unmanured plots.

CORN EXPERIMENT BY MR. T. M. J. PORTER.

Georgiana, Butler Co., Ala.

Soil—Light sandy—sub-soil, red and yellow sand.

Rows 70 yards long—5 feet wide.

Plot Number.	Size of Plot.	Fertilizers used per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allow- ing 80 lbs. in shuck to the bushel.
			Per Plot.	Rate per Acre.	
1	½ Acre	} 250 lbs. C. S. Meal. 250 lbs. Acid Phos.	1617	3234	40 3-7
2	½ Acre		No Manure	945	1890

Mr. Porter says he carried out instructions according to the letter. The plot was selected in a field planted in oats last year (1893), but a portion of the plot had peas on it the year before, and the difference in the corn where the peas had been grown was so marked as to attract the attention of every visitor who saw it.

May 16th plowed corn the last time, and at this time put down the last fertilizer and planted peas. From the 2nd of May until the 17th of June, had no rain. Mr. Porter says he thinks the crop would have doubled in yield, had the seasons been favorable. His opinion is that the "*intensive system*" is the best, as better crops are insured and the land vastly improved by it.

CORN EXPERIMENT BY MR. M. H. SELLERS.

Geneva, Geneva Co., Ala.

Soil—Sandy, with sub-soil of clay and sand mixed.

Rows 70 yards long—5 feet wide.

Plot Number.	Size of Plot.	Fertilizers used per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allowing 80 lbs. in shuck to the bushel.
			Per Plot.	Rate Per Acre.	
1	½ Acre	250 lbs. C. S. Meal. 250 lbs. Acid Phos.	550	1100	13¾
2	½ Acre		No Manure	200	400

Mr. Sellers reports that he planted corn on March 15th, was killed by freeze on the 28th, and replanted April 10th. Thinned to a stand April 18th, and cultivated with scrape and sweep.

CORN EXPERIMENT BY MR. WM. MARTIN.

Greensboro, Hale Co., Ala.

Soil—Sandy loam—sub-soil, clay.
Rows 70 yards long—5 feet wide.

Plot Number.	Size of Plot.	Fertilizers used Per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bushels, al- lowing 80 lbs. to the bushel in the shuck.
			Per Plot.	Rate Per Acre.	
1	½ Acre.....	{ 250 lbs. C. S. Meal. 250 lbs. Acid Phos.	1400.....	2800.....	35
2	½ Acre.....		No Manure.	940.....	1880.....

Mr. Martin in rendering his report simply says that the experiment suffered some for want of rain. The inference is that preparation of land, planting, culture, &c., were all according to instructions.

CORN EXPERIMENT BY MR. T. A. SNUGGS.

Holly Pond, Cullman Co., Ala.

Soil—Sandy and gravelly—sub-soil, yellow sand.
Rows 70 yards long—5 feet wide.

Plot Number.	Size of Plot.	Fertilizers used Per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bushels, al- lowing 80 lbs. in the shuck to the bushel.
			Per Plot.	Rate Per Acre.	
1	½ Acre.....	{ 250 lbs. C. S. Meal. 250 lbs. Acid Phos.	1195.....	2390.....	29¾
2	½ Acre.....		No Manure.....	715.....	1430.....

Mr. Snuggs says he planted corn April 21th. Secured a good stand. No rain from date of planting until June 21st,

being two months without rain. On June 21st, a severe wind and rain storm came which damaged the experiment, particularly the fertilized portion.

CORN EXPERIMENT BY MR. J. H. RADNEY.

Roanoke, Randolph County, Alabama.

Soil—Light sandy, clay sub-soil.

Rows 70 yards long, 5 feet wide.

Plot Number.	Size of Plot.	Fertilizers used per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allowing 80 lbs. in shuck to the bushel.
			Per Plot.	Rate Per Acre.	
1	½ Acre	250 lbs. C. S. Meal.	1960	3920	49
		250 lbs. Acid Phos.			
2	½ Acre	No Manure	1312	2634	32¾

Mr. Radney reports that the corn was closely slip-shucked and that the weight of shucks from 75 lbs. were 4¾ lbs. In this instance, as well as several others, 80 lbs. in the shuck are *too much to allow* to the bushel but an *average* was necessary to all alike. Supposing that 76 lbs. were allowed in this instance, which would be about correct, the yield from plot No. 1 would show nearly 51½ bushels per acre, and plot No. 2, in proportion.

CORN EXPERIMENT BY MR. A. C. WALKER.

Wheeler's Station, Lawrence County, Alabama.

Soil—Sandy, yellow clay foundation.

Rows 70 yards long, 5 feet wide.

Plot Number.	Size of Plot.	Fertilizers used per Plot	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allowing 80 pounds corn in shuck to bushel.
			Per Plot.	Rate per Acre.	
1	½ Acre.....	{ 250 lbs. C. S. Meal. 250 lbs. Acid Phos.	1176....	2352....	29¼
2	½ Acre.....	No Manure.....	630....	1260....	15¾

Mr. Walker makes the following statement concerning preparation, planting, culture, &c.: March 12th, broke land with single Oliver chilled plow, the soil being too thin to use the double plow as it would have turned up too much clay. Then harrowed over and planted in 5 feet rows. Before planting, drilled the fertilizer in the rows, run a scooter in it to mix it thoroughly with the soil, dropped the corn and covered with a scooter, using two lists. The seasons were all that could be desired up to May 15th. Plowed over with Iron Age 5 tooth Cultivator and planted peas in middles, at the same time sowing the other two sacks of fertilizers. Corn grew off well, was laid-by June 1st, seasons still very favorable. July 13th, manured plot began to tassel and silk, and fully 12 feet high. The unmanured plot still very small and just shooting and beginning to tassel in spots.

The manured half acre ripened fully two weeks before the other. A severe storm blew it down, and the yield was lessened, but the test shows that the acid phosphate and cotton seed meal are a perfect fertilizer for this light soil.

CORN EXPERIMENT BY MR. JNO. C. KILLEBREW.

*Newton, Dale County, Alabama.**Soil—Sandy loam, red clay sub-soil.**Rows 70 yards long, 5 feet wide.*

Plot Number.	Size of Plot.	Fertilizers used per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allowing 80 pounds in the shuck to the bushel.
			Per Plot.	Rate per Acre.	
1	½ Acre.....	250 lbs C. S. Meal. 250 lbs. Acid Phos.	753....	1506....	18 4-5
2	½ Acre.....		No Manure.....	280....	560....

Mr. Killebrew reports the following: Planted corn March 1st, killed by freeze and planted over. But for spring drought, and with 10 per cent. less of stalks, would have made 20 per cent. more of corn. As it was, crop fired badly. Seasons were extreme, first cold, then dry, and then rain for forty days in succession, and August 2d, a heavy rain and wind storm, levelling much of the corn to the ground and rendering the fodder worthless.

CORN EXPERIMENT BY ALABAMA EXPERIMENT STATION.

*Auburn, Lee County, Alabama.**Soil—Light sandy, clay sub-soil.**Rows 70 yards long—5 feet wide.*

Plot Number.	Size of Plot.	Fertilizers used Per Plot.	Pounds yield of corn weighed in shuck.		Estimated yield per acre in bush., allowing 80 lbs. in shuck to the bushel.
			Per Plot.	Rate Per Acre.	
1	½ Acre.....	250 lbs. C. S. Meal. 250 lbs. Acid Phos.	690.....	1380.....	17¼
2	½ ".....		No Manure.....	510.....	1020.....

SUMMARY.

Reports were received from twenty-three co-operative Soil Test men, including this Station, to whom fertilizers were sent. Five failed to report.

(1) The *rate per acre* cost of fertilizers sent to each experimenter, was \$9.62 laid down at Auburn, and we estimate the cost to each one at that price, which would have been the figures if purchased for cash.

(2) To determine whether high fertilization has been a gain or loss the past season, which in many respects has been an unfavorable one, as can be seen from the reports, the following facts are submitted for comparison; and in this connection the *average* yield of the 23 experiments is given, both for the manured and unmanured plots.

Average yield per acre for the *manured* plots is as follows:

26 4-5 bus. corn valued at 55c in farmer's crib.....	\$14 74
330 lbs. fodder, valued 75c per cwt.....	2 47
276 lbs. shucks valued at 50c per cwt.....	1 38

Total.....	\$18 59
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Cost of fertilizers per acre.....	\$9 62
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Labor expense.....	5 44
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Total.....	\$15 06
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Deducting the total expenses \$15.06 from the proceeds \$18.59, we have a *profit* of.....\$3 53

Average yield per acre for unmanured plots, as follows:

16 1-3 bus. corn at 55c. in farmer's crib.....	\$8 98
196 lbs. fodder at 75c. per cwt.....	1 47
163 lbs. shucks at 50c. per cwt.....	81

Total.....	\$11 26
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Deduct labor expense per acre.....	5 44
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We have profit.....	\$5 82
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(3) From the foregoing it would appear that the value of the product from the unmanured acre is.....\$5 82
and from the manured..... 3 53

Leaving balance in favor of the unmanured.....\$2 29

In making this report, several things however are to be considered, and as peas were planted in this experiment, one prominent consideration is, that a large crop of peas is reported in some instances by some, justifying the following yield; and taking the same proportion, for both manured and unmanured plots, as for corn, we have—

For the manured, 10 bus. peas per acre, at 75c.....\$7 50
For the unmanured, 6 “ “ “ 75c..... 4 50

Leaving in favor of the manured, profit.....\$3 00

Now by deducting the \$2.29 from \$3.00, we have a net gain of 71 cts. in favor of the fertilized plots.

(4) As to the character of the soils on which these experiments were conducted, many of them were among the poorest in the State. In addition to the net gain of 71c per acre in favor of fertilizers, other benefits were secured. The heavy fertilization, owing to the adverse seasons in many cases as can be seen from these reports, was not all available to the growing crop, and much remains in reserve for succeeding crops. Besides there is an improved condition in the soil due to the large amount of organic matter in the pea vines, which we reasonably conclude is much greater in the manured, than in the unmanured plot.

(5) While the profits from these experiments have not proven large in dollars and cents, yet the indirect benefits are considerable. And the writer is persuaded to believe that the results might have been better, and more economically attained, had the fertilizers contained a higher per cent. of potash and a smaller of nitrogen.

Since writing the foregoing, I have been informed that 76 lbs. of corn in the shuck are allowed to the bushel of shelled corn, instead of 80 lbs.

This being the case, the *average* yield of corn from the use of fertilizers would be 28 1-5 bushels, instead of 26 4-5, and without fertilizers 17 1-5, instead of 16 1-3.

This correction is made in justice to the Experimenters, who deserve to have a correct report of their work.

