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Report of the work at the Holly Springs Station for 1908

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Mississippi Agricultural Experiment Station.

BULLETIN NO. 122.

JULY, 1909.

REPORT OF THE WORK AT THE HOLLY SPRINGS STATION FOR 1908.

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By C. T. AMES.

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As a rule the crops on the Station farm did well in 1908. A good corn crop was made and vetch grew exceptionally well. The terraces controlled the water very satisfactorily though on steep slopes a sod is necessary to prevent washing. Strawberries again did well, giving net returns of over one hundred dollars an acre. The soil produces berries of excellent quality.

The Station barn was struck by lightning in July. One mule was killed and the barn and contents burned. Though the barn was insured for \$1,000, the Station suffered a loss of at least \$1,000. A new barn was built with the funds received from the insurance company.

Mr. R. S. Nicholls was made foreman in January, 1908.

A cottage for foreman was finished as well as three or four cabins for laborers.

### PLAT WORK WITH FERTILIZERS.

**Fertilizers under Cotton.**—Forty-six 1-20th acre plats, on light upland, were used to test several combinations of fertilizers under cotton. Cook's Improved seed were planted May 8, 1908. Tables 1 and 2 give data obtained.

TABLE I—Fertilizer Test with Cotton, 1908.

| Number Plat<br>Each 1-20 acre. | Kind and Quantity of Fertilizer<br>used per Acre.           | 1st. Picking,<br>September 10th. | 2nd Picking,<br>September 25th. | 3rd Picking,<br>October 12th. | 4th Picking,<br>October 28th. | 5th Picking,<br>December 5th. | TOTAL. | Pounds Seed Cot-<br>ton per Acre. | Value of Cotton<br>at 3c per lb. |
|--------------------------------|-------------------------------------------------------------|----------------------------------|---------------------------------|-------------------------------|-------------------------------|-------------------------------|--------|-----------------------------------|----------------------------------|
| 1                              | No Fertilizer .....                                         | 2                                | 7                               | 7                             | 7                             | 5                             | 28     | 560                               | \$16 80                          |
| 2                              | 200 lbs. Cotton Seed Meal .....                             | 7                                | 13                              | 17                            | 9                             | 2½                            | 48½    | 970                               | 28 10                            |
| 3                              | 200 lbs. Acid Phosphate .....                               | 13                               | 24                              | 20                            | 5½                            | 2                             | 64½    | 1290                              | 38 70                            |
| 4                              | 200 lbs. Kainit.....                                        | 3                                | 9                               | 13                            | 9                             | 5                             | 39     | 780                               | 23 40                            |
| 5                              | No Fertilizer .....                                         | 2                                | 7                               | 11                            | 6                             | 3                             | 29     | 580                               | 17 40                            |
| 6                              | 200 lbs. Rock Floats.....                                   | 6                                | 17                              | 14                            | 5½                            | 2                             | 44½    | 890                               | 26 70                            |
| 7                              | 400 lbs. Rock Floats.....                                   | 5                                | 15                              | 18                            | 8                             | 2½                            | 48½    | 970                               | 29 10                            |
| 8                              | 200 lbs. Acid Phosphate .....                               | 8                                | 19                              | 13                            | 5                             | 1½                            | 46½    | 930                               | 27 90                            |
| 9                              | 100 lbs. Cotton-Seed Meal,<br>100 lbs. Acid Phosphate ..... | 11                               | 20                              | 17                            | 7                             | 3                             | 58     | 1160                              | 34 80                            |
| 10                             | 100 lbs. Cotton-Seed Meal<br>200 lbs. Rock Floats.....      | 9                                | 19                              | 17                            | 9                             | 2                             | 56     | 1120                              | 33 60                            |
| 11                             | No Fertilizer .....                                         | 5                                | 13                              | 10                            | 8                             | 3                             | 39     | 780                               | 23 40                            |
| 12                             | 100 lbs. Cotton-Seed Meal<br>200 lbs. Acid Phosphate .....  | 8                                | 16                              | 13                            | 4                             | 2                             | 43     | 860                               | 25 80                            |
| 13                             | 200 lbs. Acid Phosphate .....                               | 5                                | 15                              | 13                            | 6                             | 2½                            | 41½    | 830                               | 24 90                            |
| 14                             | 400 lbs. Rock Floats.....                                   | 5                                | 13                              | 15                            | 9                             | 4½                            | 46½    | 930                               | 27 90                            |
| 15                             | 200 lbs. Kainit.....                                        | 4                                | 17                              | 17                            | 9                             | 4                             | 51     | 1020                              | 30 60                            |
| 16                             | No Fertilizer .....                                         | 2                                | 12                              | 16                            | 11                            | 5                             | 46     | 920                               | 27 60                            |

TABLE II—Fertilizer Test with Cotton, 1908.

| Number Plat, Each 1-20 Acre. | Kind and Quantity of Fertilizer used per Acre. | 1st Picking, 11th. | 2nd Picking, 25th. | 3rd Picking, 12th. | 4th Picking, 28th. | 5th Picking, 6th. | Total per Plat, 1-20 acre each. | Total Seed Cotton per Acre. | Value of Cotton at 3c per lb. | Number Plat, Each 1-20 acre. | Kind and Quantity of Fertilizer used per Acre. | 1st Picking, 11th. | 2nd Picking, 25th. | 3rd Picking, 12th. | 4th Picking, 28th. | 5th Picking, 6th. | Total per Plat, 1-20th acre. | Total Seed Cotton per Acre. | Value of Cotton at 3c per lb. |
|------------------------------|------------------------------------------------|--------------------|--------------------|--------------------|--------------------|-------------------|---------------------------------|-----------------------------|-------------------------------|------------------------------|------------------------------------------------|--------------------|--------------------|--------------------|--------------------|-------------------|------------------------------|-----------------------------|-------------------------------|
| 1                            | No Fertilizer                                  | 4                  | 11                 | 14                 | 8                  | 4                 | 41                              | 820                         | \$24 60                       | 1½                           | No Fertilizer                                  | 1                  | 8                  | 7                  | 7                  | 5                 | 28                           | 560                         | \$16 80                       |
| 2                            | 200 lbs. C-S, Meal                             | 11                 | 19                 | 17                 | 11                 | 4                 | 62                              | 1240                        | 37 20                         | 2½                           | 400 lbs. C-S, Meal                             | 5                  | 15                 | 14                 | 9                  | 3                 | 46                           | 920                         | 27 60                         |
| 3                            | 200 lbs. Acid Phos.                            | 16                 | 28                 | 19                 | 6                  | 2                 | 71                              | 1420                        | 42 60                         | 3½                           | 400 lbs. Acid Phos.                            | 11                 | 24                 | 13                 | 4                  | 1½                | 53½                          | 1070                        | 32 10                         |
| 4                            | 200 lbs. Kainit                                | 4                  | 16                 | 12                 | 8                  | 4                 | 44                              | 890                         | 26 70                         | 4½                           | 400 lbs. Kainit                                | 2                  | 14                 | 13                 | 6                  | 4½                | 39½                          | 790                         | 23 70                         |
| 5                            | No Fertilizer                                  | 6                  | 15                 | 10                 | 6                  | 2                 | 39                              | 790                         | 23 70                         | 5½                           | No Fertilizer                                  | 4                  | 10                 | 10                 | 5                  | 3½                | 32½                          | 650                         | 19 50                         |
| 6                            | 100 lbs. C-S, Meal                             | 16                 | 24                 | 15                 | 5                  | 1                 | 62                              | 1240                        | 27 20                         | 6½                           | 200 lbs. C-S, Meal.                            | 24                 | 30                 | 16                 | 6                  | 1                 | 77                           | 1540                        | 46 20                         |
| 7                            | 100 lbs. Acid Phos.                            | 8                  | 14                 | 15                 | 9                  | 4                 | 50                              | 1000                        | 30 00                         | 7½                           | 200 lbs. Acid Phos.                            | 9                  | 18                 | 18                 | 10                 | 4                 | 59                           | 1180                        | 35 40                         |
| 8                            | 100 lbs. Kainit                                | 8                  | 14                 | 15                 | 9                  | 4                 | 50                              | 1000                        | 30 00                         | 8½                           | 200 lbs. Kainit                                | 17                 | 32                 | 18                 | 5                  | 1                 | 73                           | 1460                        | 43 80                         |
| 9                            | 120 lbs. Acid Phos.                            | 8                  | 22                 | 16                 | 6                  | 3                 | 55                              | 1100                        | 33 00                         | 9½                           | 200 lbs. Acid Phos.,                           | 23                 | 34                 | 17                 | 4                  | 1½                | 78½                          | 1570                        | 47 10                         |
| 10                           | 40 lbs. C-S, Meal,<br>40 lbs. Kainit           | 15                 | 22                 | 16                 | 7                  | 1                 | 61                              | 1230                        | 36 90                         | 10½                          | 80 lbs. C-S, Meal,<br>80 lbs. Kainit           | 23                 | 34                 | 17                 | 4                  | 1½                | 78½                          | 1570                        | 47 10                         |
| 22                           | No Fertilizer                                  | 6                  | 14                 | 11                 | 7                  | 3                 | 41                              | 820                         | 24 60                         | 10½                          | No. Fertilizer                                 | 7                  | 15                 | 12                 | 8                  | 4                 | 46                           | 920                         | 27 60                         |
| 23                           | 150 lbs. C-S, Meal                             | 16                 | 21                 | 13                 | 5                  | 1                 | 56                              | 1120                        | 33 60                         | 22½                          | 300 lbs. C-S, Meal,                            | 25                 | 34                 | 17                 | 5½                 | 1                 | 82½                          | 1650                        | 49 50                         |
| 24                           | 50 lbs. C-S, Meal,<br>150 lbs. Acid Phos.      | 17                 | 23                 | 14                 | 3                  | 2                 | 59                              | 1190                        | 35 70                         | 23½                          | 200 lbs. C-S, Meal,<br>200 lbs. Acid Phos.     | 26                 | 33                 | 16                 | 3                  | 1                 | 79                           | 1580                        | 47 40                         |
| 25                           | No Fertilizer                                  | 6                  | 17                 | 13                 | 6                  | 3                 | 45                              | 910                         | 27 30                         | 24½                          | 100 lbs. C-S, Meal,<br>300 lbs. Acid Phos.     | 20                 | 22                 | 9                  | 2                  | 1                 | 54                           | 1080                        | 32 40                         |
| 30                           | 400 lbs. Rock Floats                           | 8                  | 20                 | 15                 | 6                  | 2                 | 51                              | 1020                        | 30 60                         | 30½                          | 800 lbs. Rock Floats                           | 10                 | 25                 | 20                 | 4                  | 1                 | 60                           | 1200                        | 36 00                         |

**Remarks.**—The growing season was favorable.

Each plat represented in Table No. 2 has been fertilized three years in succession, with the same kind and quantity of fertilizers as shown in table.

Phosphates hasten the maturity of cotton. Acid Phosphate, or Rock Floats (untreated finely ground phosphate rock) alone, have given good results on thin soils. Acid Phosphate, or Rock Floats, alone, have given better results on soils with more organic matter in them.

It appears that Rock Floats alone, or in combination with Cottonseed Meal has given about the same results, pound for pound, as Acid Phosphate.

Cottonseed Meal (Nitrogen) alone has given good results.

The farmers in the brown loam area can use 200 pounds of an equal mixture of High Grade Cottonseed Meal, and Rock Floats, or Acid Phosphate, per acre, with good results, on ordinary uplands. For the better classes of soils one third Cottonseed Meal and two-thirds Phosphate, and from 300 to 400 pounds per acre, will give good results.

#### **Variety Test with Cotton.**

Sixteen varieties were used in this test. Soil, light rolling upland. Fertilizer, 200 pounds of an equal mixture, by weight, of Cottonseed Meal and Acid Phosphate per acre in the drill.

Each variety was planted in one row plats, and then repeated six times, which distributed each variety in the entire plat.

Table 3 gives the data obtained.

TABLE 3—Test of Varieties of Cotton 1908.

|                                | 1st Picking, Sept. 14th. | 2nd Picking, Sept. 30th. | 3rd Picking, October 14th | 4th Picking, Nov. 3rd. | 5th Picking, Dec. 10th. | Tot'l Seed Cot'n per Plat. | Tot'l Lint Cott'n per Plat. | Per Cent of Lint Cotton. | Length of Staple. | Market Value. | Total Lint Cotton per Acre. | Total Value of Seed and Lint Cotton per Acre. |
|--------------------------------|--------------------------|--------------------------|---------------------------|------------------------|-------------------------|----------------------------|-----------------------------|--------------------------|-------------------|---------------|-----------------------------|-----------------------------------------------|
| 1. Cleveland Big Boll .....    | 25                       | 44                       | 16                        | 8                      | 2                       | 95                         | 35                          | 36.84                    | 1 1-16            | 9 1-16        | 350                         | \$36.52                                       |
| 2. Excelsior .....             | 20                       | 37                       | 22                        | 13                     | 2                       | 94                         | 35                          | 37.23                    | 7-8               | 8 7-8         | 350                         | 35.78                                         |
| 3. Moss' Improved .....        | 17                       | 34                       | 16                        | 12                     | 2                       | 81                         | 34                          | 41.97                    | 7-8               | 9             | 340                         | 34.36                                         |
| 4. Bledso's Mortgage Lifter .. | 11                       | 36                       | 23                        | 10                     | 5                       | 85                         | 29                          | 34.11                    | 1 1-6             | 9             | 290                         | 30.58                                         |
| 5. Triumph .....               | 25                       | 41                       | 14                        | 7                      | 1                       | 88                         | 29                          | 32.95                    | 1 1-16            | 8 7-8         | 290                         | 30.47                                         |
| 6. Lewis' Prize .....          | 12                       | 32                       | 19                        | 14                     | 5                       | 82                         | 29                          | 35.36                    | 1                 | 8 15-16       | 290                         | 30.15                                         |
| 7. New Imperial .....          | 17                       | 40                       | 20                        | 10                     | 1                       | 88                         | 28                          | 31.81                    | 1                 | 9             | 280                         | 30.00                                         |
| 8. Cook's Improved .....       | 15                       | 34                       | 17                        | 9                      | 2                       | 77                         | 29                          | 37.66                    | 7-8               | 9             | 290                         | 29.94                                         |
| 9. Hawkins Ex. Prolific .....  | 17                       | 33                       | 19                        | 9                      | 2                       | 80                         | 26                          | 32.50                    | 1                 | 8 7-8         | 260                         | 27.39                                         |
| 10. Poor Land Cotton .....     | 9                        | 28                       | 17                        | 17                     | 4                       | 75                         | 26                          | 34.66                    | 1                 | 8 15-16       | 260                         | 27.35                                         |
| 11. Tool's Improved.....       | 27                       | 35                       | 9                         | 4                      | 1                       | 76                         | 25                          | 32.89                    | 1 1-16            | 9             | 250                         | 26.58                                         |
| 12. Kings' Improved .....      | 36                       | 30                       | 8                         | 1½                     | ½                       | 76                         | 24                          | 31.58                    | 7-8               | 8 7-8         | 240                         | 25.46                                         |
| 13. Peterkin .....             | 9                        | 30                       | 15                        | 14                     | 4                       | 72                         | 24                          | 33.33                    | 1                 | 9             | 240                         | 25.44                                         |
| 14. Mortgage Lifter .....      | 13                       | 32                       | 16                        | 10                     | 1                       | 72                         | 22                          | 30.55                    | 1                 | 9             | 220                         | 23.80                                         |
| 15. Culpepper .....            | 15                       | 27                       | 15                        | 8                      | 2                       | 67                         | 19                          | 28.35                    | 1¼                | 10            | 190                         | 22.84                                         |
| 16. Allen Long Staple .....    | 9                        | 25                       | 17                        | 12                     | 2                       | 65                         | 15                          | 23.07                    | 1 3-8             | 10½           | 150                         | 19.75                                         |

**Remarks.**—The following varieties of Cottonseed were secured from the persons who originated them: Cleveland Big Boll, Moss' Improved, Lewis' Prize, Cooks' Improved, Bledso's Mortgage Lifter, and Peterkin. The other varieties not here named, were secured from reliable seed houses in Georgia.

The length of staple and price of lint, was obtained through the kindness of two cotton merchants in Holly Springs.

In total results, seed were estimated at \$16.00 per ton.

The object of this test is to show the differences that exists between varieties, that are worthy of attention.



Every precaution was taken to prevent any conditions affecting results, other than the difference in seed.

**Conclusions.**—The growing of staple cotton on thin uplands, is less profitable than the shorter lint varieties, and should not be attempted.

An early big boll variety has given the best results.

An early big boll type cotton, with a high per cent of lint, will apparently be an important factor in successful cotton production under boll weevil conditions.

### FERTILIZER TEST WITH CORN.

Forty-four plats were used in this test on ordinary valley land. Plats represented in Table No. 4 are 1-20 acre, and were planted on April 8, 1908. Plats planted June 10, in Table 5, were 1-20 acre in size and were duplicated. Mosby was the variety of corn used in both instances.

**TABLE 4—Fertilizer Test with Corn, 1908.**

|    | Kind and Quantity of Fertilizer used per Acre. | Bu. p'r Acre. |     | Kind and Quantity of Fertilizer used per Acre. | Bu. p'r Acre. |
|----|------------------------------------------------|---------------|-----|------------------------------------------------|---------------|
| 1  | No Fertilizer .....                            | 23.05         | 11½ | No Fertilizer .....                            | 32.50         |
| 2  | 200 lbs. C-S. Meal .....                       | 33.88         | 2½  | 400 lbs. C-S. Meal .....                       | 59.72         |
| 3  | 200 lbs. Acid Phosphate .....                  | 34.72         | 3½  | 400 lbs. Acid Phosphate .....                  | 55.27         |
| 4  | 200 lbs. Kainit .....                          | 33.61         | 4½  | 400 lbs. Kainit .....                          | 53.61         |
| 5  | 400 lbs. Rock Floats .....                     | 38.33         | 5½  | 800 lbs. Rock Floats.....                      | 67.50         |
| 6  | No Fertilizer .....                            | 41.66         | 6½  | No Fertilizer .....                            | 49.72         |
| 7  | 100 lbs. C-S. Meal .....                       | 45.27         | 7½  | 200 lbs. C-S. Meal .....                       | 57.77         |
|    | 100 lbs. Acid Phosphate .....                  |               |     | 200 lbs. Acid Phosphate .....                  |               |
| 8  | 100 lbs. C-S. Meal .....                       | 41.94         | 8½  | 200 lbs. C-S. Meal .....                       | 54.44         |
|    | 100 lbs. Kainit .....                          |               |     | 200 lbs. Kainit .....                          |               |
| 9  | 100 lbs. Acid Phosphate .....                  | 38.61         | 9½  | 200 lbs. Acid Phosphate .....                  | 41.94         |
|    | 100 lbs. Kainit .....                          |               |     | 200 lbs. Kainit .....                          |               |
| 10 | 120 lbs. Acid Phosphate .....                  | 37.77         | 10½ | 240 lbs. Acid Phosphate .....                  | 44.44         |
|    | 40 lbs. C-S. Meal .....                        |               |     | 80 lbs. C-S. Meal .....                        |               |
|    | 40 lbs. Kainit .....                           |               |     | 80 lbs. Kainit .....                           |               |
| 22 | No Fertilizer .....                            | 33.61         | 22½ | No Fertilizer .....                            | 36.11         |
| 23 | 150 lbs. Acid Phosphate .....                  | 34.72         | 23½ | 300 lbs. Acid Phosphate .....                  | 32.22         |
|    | 50 lbs. C-S. Meal .....                        |               |     | 100 lbs. C-S. Meal .....                       |               |

TABLE 5—Fertilizer Test with Corn 1908.

|    | Kind and Quantity<br>of Fertilizer used on<br>Acre basis. | Bu.<br>per<br>Acre. |     | Kind and Quantity<br>of Fertilizer used on<br>Acre basis. | Bu.<br>per<br>Acre. |
|----|-----------------------------------------------------------|---------------------|-----|-----------------------------------------------------------|---------------------|
| 1  | No Fertilizer .....                                       | 52.63               | 1½  | No Fertilizer .....                                       | 61.66               |
| 2  | 200 lbs. C-S. Meal .....                                  | 66.59               | 2½  | 400 lbs. C-S. Meal .....                                  | 68.88               |
| 3  | 200 lbs. Acid Phosphate .....                             | 64.79               | 3½  | 400 lbs. Acid Phosphate .....                             | 61.03               |
| 4  | 200 lbs. Rock Floats.....                                 | 65.95               | 4½  | 400 lbs. Rock Floats.....                                 | 63.47               |
| 5  | 200 lbs. Kainit .....                                     | 62.84               | 5½  | 400 lbs. Kainit.....                                      | 65.33               |
| 6  | No Fertilizer .....                                       | 57.13               | 6½  | No Fertilizer .....                                       | 56.11               |
| 7  | 100 lbs. C-S. Meal .....                                  | 59.30               | 7½  | 200 lbs. C-S. Meal .....                                  | 58.75               |
|    | 100 lbs. Acid Phosphate .....                             |                     |     | 200 lbs. Acid Phosphate .....                             |                     |
| 8  | 100 lbs. C-S. Meal .....                                  | 60.55               | 8½  | 200 lbs. C-S. Meal .....                                  | 57.08               |
|    | 100 lbs. Kainit.....                                      |                     |     | 200 lbs. Kainit.....                                      |                     |
| 9  | 100 lbs. Acid Phosphate .....                             | 63.05               | 9½  | 200 lbs. Acid Phosphate .....                             | 65.27               |
|    | 100 lbs. Kainit.....                                      |                     |     | 200 lbs. Kainit.....                                      |                     |
| 10 | 120 lbs. Acid Phosphate .....                             | 67.43               | 10½ | 240 lbs. Acid Phosphate .....                             | 59.51               |
|    | 40 lbs. C-S. Meal .....                                   |                     |     | 80 lbs. C-S. Meal .....                                   |                     |
|    | 40 lbs. Kainit.....                                       |                     |     | 80 lbs. Kainit.....                                       |                     |
| 22 | No Fertilizer .....                                       | 63.05               | 22½ | No Fertilizer .....                                       | 60.00               |
| 23 | 150 lbs. C-S. Meal .....                                  | 61.38               | 23½ | 300 lbs. C-S. Meal.....                                   | 56.45               |
|    | 50 lbs. Acid Phosphate .....                              |                     |     | 100 lbs. Acid Phosphate .....                             |                     |
| 24 | 100 lbs. C-S. Meal .....                                  | 60.55               | 24½ | 200 lbs. C-S. Meal .....                                  | 55.41               |
|    | 100 lbs. Acid Phosphate .....                             |                     |     | 200 lbs. Acid Phosphate .....                             |                     |
| 25 | 50 lbs. C-S. Meal .....                                   | 52.36               | 25½ | 100 lbs. C-S. Meal .....                                  | 52.22               |
|    | 150 lbs. Acid Phosphate .....                             |                     |     | 300 lbs. Acid Phosphate .....                             |                     |
| 30 | 66 2-3 lbs. C-S. Meal.....                                | 48.68               | 30½ | 133 1-3 lbs. C-S. Meal.....                               | 43.54               |
|    | 66 2-3 lbs. Acid Phosphate .....                          |                     |     | 133 1-3 lbs. Acid Phosphate .....                         |                     |
|    | 66 2-3 lbs. Kainit.....                                   |                     |     | 133 1-3 lbs. Kainit.....                                  |                     |

**Remarks.**—In the planting of corn made on April 8, the soil was prepared the fall before, and five tons of stable manure per acre, was distributed broadcast on the land. The seasons were not altogether favorable for this planting. Plats Nos. 1, 1½, 23, and 23½ were affected by location. In the planting made June 10, the soil was prepared the fall before, and seeded to Hairy Vetch, with 250 lbs. Acid Phosphate and five tons of stable manure per acre. The treatment this soil had prior to corn planting, and the prolonged drought late in the season affected the results.



**Conclusions.**—Rock Floats gave better results than any other commercial fertilizer under corn.

Cottonseed Meal (Nitrogen) in most instances gave fair results. Acid Phosphate gave good results.

The farmers in the brown loam area can use from 200 to 400 pounds of Rock Floats on their better class of soils with good results.

On thinner soils, an equal mixture of high grade Cottonseed Meal, and Rock Floats, or Acid Phosphate, and from 100 to 300 pounds per acre may be used with fair results.

#### Variety Test with Corn.

Ten varieties were used in this test. Each variety was planted in one-row plats, and then repeated a number of times, which distributed each variety throughout the soil employed in the test.

Plantings made April 10, 1908. Soil, ordinary valley land.

Fertilizers, five tons of stable manure the fall before, and 250 pounds of an equal mixture of Cottonseed Meal and Acid Phosphate per acre, in the drill before planting. Table 6 gives data obtained.

**TABLE 6—Variety Test with Corn.**

|                                       |                         |
|---------------------------------------|-------------------------|
| 1. Cokes' Prolific .....              | 70.55 bushels per acre. |
| 2. North Carolina Poor Land Corn..... | 68.88 bushels per acre. |
| 3. Alexander Six Ear .....            | 66.66 bushels per acre. |
| 4. Marlboro.....                      | 66.11 bushels per acre. |
| 5. Albemarle.....                     | 65.55 bushels per acre. |
| 6. Snow Flake .....                   | 63.33 bushels per acre. |
| 7. Mosby .....                        | 60.83 bushels per acre. |
| 8. Shaw's Improved .....              | 54.72 bushels per acre. |
| 9. Boon County White .....            | 51.37 bushels per acre. |
| 10. Hickory King .....                | 43.61 bushels per acre. |

**Remarks.**—Mosby variety was placed at a disadvantage on account of location, the seed were home grown, as was also North Carolina.

The other varieties were obtained from reliable seed houses in Georgia and North Carolina.

The seed, soil and climate in which a variety is grown, influences results.

Select a good variety, home grown preferred, and then maintain a breeding plat on the farm.

**FERTILIZER TEST WITH COWPEAS.**

Soil, light rolling upland. Date of plantings, June 9th and 13th. Two sets of plats, 1-20 acre; one set, 1-4 acre each. Table 7 gives the combined results obtained.

**Table 7.**

|                                                     | Lbs. Hay. | Lbs. Fruit. |
|-----------------------------------------------------|-----------|-------------|
| 1. No fertilizer .....                              | 1,180     | 281         |
| 2. 200 lbs. Acid Phosphate .....                    | 1,525     | 347         |
| 3. 200 lbs. Kainit.....                             | 1,555     | 381         |
| 4. 400 lbs. Rock Floats.....                        | 1,535     | 367         |
| 5. 200 lbs. Rock Floats .....                       | 1,340     | 264         |
| 6. 100 lbs. Acid Phosphate,<br>100 lbs. Kainit..... | 1,795     | 324         |

**Remarks.**—The season was unfavorable for the growth on thin soil. Date of planting too late for the class of soil and season.

**GRASSES AND FORAGE CROPS.**

With over 200 plats, consisting of both fall and spring plantings, on both valley and uplands, the following list of seed were used. Alfalfa, Bur Clover, Red Clover, Lespedeza, White Clover, Red Top, Alsike and Crimson Clover, Melilotus, Rape, Vetch, Sanfoin, Bermuda, and Orchard Grass, Blue Grass, Rye Grass, Johnson Grass, Meadow Fesque, Timothy, Florida Beggar Weed, German Millet, and Paspalum Dilatatum or Water Grass.

**Red Clover** with a small quantity of lime and stable manure made good growth on both valley and upland.

**Lespedeza.**—This plant is especially adapted to this section. Indications are that Phosphates increase the yield very materially. Cottonseed Meal also gives good results. With all things being taken into consideration, this is at present, the best forage and pasture plant for this section.

**Bermuda Grass.**—This plant made an excellent growth. Plantings made with Lespedeza, were very successful.

**Alfalfa.**—This plant has shown a disposition to want to grow, but so far it may be considered a failure. Fall prepared land with lime and stable manure, and spring plantings of seed with cultivation, offers so far, a hope for future success with this plant.

**Hairy Vetch.**—This plant made a most excellent growth on valley land, and with the addition of a small quantity of stable manure and phosphate, soil on which it refused to grow the year before, made a most excellent growth this past season. Early fall plantings with oats or wheat will give the best results.

**Florida Beggar Weed.**—This plant made an excellent growth on valley land.

**Red Top.**—This plant made a good growth, it is better adapted to low wet soils, and makes an early spring pasture. Where a sufficient amount of soil can be found for planting, this plant can be used to great advantage as a gully filling proposition.

**Rape.**—This plant made good growth on valley land, and responds nicely, to a liberal application of Cottonseed Meal and Acid Phosphate.

**Johnson Grass.**—This plant made poor growth, even with a liberal application of stable manure. No doubt cultivation induces growth.

**White Clover.**—This plant only makes a fair growth on the better class of soils.

The other plantings not above described made poor growth.

Early spring plantings of seed have given the best success, in almost every instance.