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Agricultural Experiment Station


—OF THE—

AGRICULTURAL AND MECHANICAL COLLEGE,

AUBURN, : : ALABAMA.

—COTTON—

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EXPERIMENTS WITH COTTON, 1891.

COMPARISON OF VARIETIES.

An effort was made the past Spring to obtain as many varieties of cotton as possible, and twenty-nine were secured and planted on April 15th for the purpose of comparing their productiveness and yield and quality of lint.

The soil upon which these varieties were planted was supposed to be perfectly uniform, but later in the season such a difference in the growth of the plant was discovered, that only plots 1 to 13 could be compared with each other, and 14 to 27 with each other.

In the preparation of the soil 250 pounds cotton seed meal and 250 pounds acid phosphate per acre, were used broadcast, and thoroughly plowed in. The rows were measured exactly 4 feet apart, and 200 pounds of the above mixture applied in the drill, per acre, at a total cost of \$6.67.

The cotton was carefully picked and stored, each variety to itself, until time of ginning, when all were weighed under like conditions, and ginned separately. A sample of each variety was numbered and sent to Mr. H. C. Parker, of Montgomery, Ala., for classification and valuation.

The length of staple and valuation will be interesting to cotton growers.

The following tabulated statement shows the comparative yield per acre in seed cotton and lint, and the per cent. of lint, length of staple and price.

COMPARISON OF VARIETIES OF COTTON—1891.

| | NAMES OF VARIETIES. | YIELD PER ACRE. | | Per cent. of lint. | Length of Staple. | Price. | |
|------------------|--------------------------------|-----------------|-----------------|-----------------------|----------------------|------------------|-------------------------------------|
| | | Seed Cotton. | Lint Cotton. | | | | |
| 1 | Allen Long Staple | 2011 | 563 | .28 | 1 $\frac{1}{4}$ | 8 $\frac{3}{4}$ | Weak. |
| 2 | Barnett..... | 2035 | 621 | 30.52 | 1 | 8 | |
| 3 | Cherry's Cluster..... | 2064 | 607 | 29.42 | 7 $\frac{7}{8}$ | 7 | Staple too short. |
| 4 | Cook, J. C..... | 1294 | 446 | 34.53 | 3 $\frac{3}{4}$ | 6 $\frac{3}{4}$ | |
| 5 | Cook, W. A..... | 2259 | 607 | 26.89 | 1 $\frac{1}{2}$ | 13 $\frac{1}{2}$ | Well ginned—strength fair. |
| 6 | Dixon..... | 2021 | 626 | 30.98 | 13-16 | 6 $\frac{7}{8}$ | |
| 7 | Gold Dust..... | 1927 | 577 | 30.13 | 13-16 | 6 $\frac{7}{8}$ | |
| 8 | Hawkins Improved..... | 1934 | 532 | 32.69 | 7 $\frac{7}{8}$ | 7 $\frac{1}{8}$ | Hard (canebrake). |
| 9 | Hunnicutt..... | 2157 | 663 | 30.75 | 1 | 7 $\frac{3}{4}$ | |
| 10 | Herlong..... | 1953 | 579 | 29.70 | 3 $\frac{3}{4}$ | 6 $\frac{3}{4}$ | Poor color—staple too short. |
| 11 | Jones Improved..... | 1709 | 514 | 30.10 | 13-16 | 6 $\frac{7}{8}$ | |
| 12 | Jones Long Staple..... | 1752 | 494 | 28.26 | 1 $\frac{1}{4}$ | 9 | Well ginned. |
| 13 | Keith..... | 2007 | 603 | 30.06 | 1 | 7 $\frac{1}{4}$ | |
| 14 | King, T. J..... | 1419 | 440 | 31.00 | | | |
| 15 | Okra..... | 1295 | 378 | 29.18 | 1 $\frac{1}{8}$ | 7 $\frac{3}{4}$ | Medium price based on. |
| 16 | Peeler..... | 1555 | 436 | 28.05 | 1 $\frac{1}{4}$ | 9 | |
| 17 | Peerless..... | 1581 | 468 | 29.63 | 7 $\frac{7}{8}$ | 7 | |
| 18 | Peterkin Improved..... | 1475 | 465 | 31.51 | ..... | ..... |  |
| 19 | Petit Gulf..... | 1516 | 481 | 31.76 | 1 | 7 $\frac{1}{4}$ | |
| 20 | Rameses..... | 1525 | 415 | 27.19 | 7 $\frac{7}{8}$ | 7 | |
| 21 | Scrub..... | 1412 | 403 | 28.57 | 7 $\frac{7}{8}$ | 7 | |
| 22 | Southern Hope..... | 1556 | 426 | 27.38 | 1 $\frac{1}{4}$ | 9 | Well ginned. |
| 23 | Storm Proof..... | 1048 | 325 | 31.05 | 1 | 7 | Poor color. |
| 24 | Truitt..... | 1676 | 489 | 29.22 | 1 | 7 $\frac{1}{4}$ | |
| 25 | Welborn's Pet..... | 1295 | 394 | 30.37 | 1 | 7 $\frac{3}{4}$ | |
| 26 | Wonderful..... | 1372 | 361 | 26.38 | 1 $\frac{3}{8}$ | 10 $\frac{1}{2}$ | Well ginned—strength fair. |
| 26 $\frac{1}{2}$ | Bailey..... | 1526 | 388 | 25.39 | 1 $\frac{1}{8}$ | 7 $\frac{3}{4}$ | Well ginned, medium price based on. |
| 27 | Zellner..... | 1784 | 509 | 28.57 | 1 | 7 $\frac{1}{4}$ | |
| 28 | Jones No. 1, Short Staple..... | | | 33.76 | 3 $\frac{3}{4}$ | 6 $\frac{3}{4}$ | Staple to short. |

COMPARISON OF VARIETIES OF COTTON ON FIELD SCALE, AND TESTS OF GINS.

The following statement shows a comparison of varieties of cotton on a larger scale in the field, also shows a test made on the Gullett and Pratt Gins, the former furnished by the Gullett Gin Co., Amite, La., and the latter purchased of the Pratt Gin Co., Prattville, Ala.

It is claimed that the Gullett Gin makes a better sample than any other, and to determine the comparative value of the two, samples were taken from each, as the varieties were ginned, only bearing numbers, and sent to Mr. Parker, of Montgomery, as previously stated. This experiment shows no perceptible difference between the two gins.

The following amounts of fertilizers were used per acre: 1000 pounds of compost at \$5.00, and 200 pounds cotton seed meal at \$2.17, making a total cost of \$7.17.

The entire culture was done with the Terrell heel scrape.

COMPARISON OF VARIETIES OF COTTON ON FIELD SCALE, AND TESTS OF GINS.

| Number. | NAMES OF VARIETIES. | Yield per Acre. | GULLETT GIN. | | | PRATT GIN. | | |
|---------|-------------------------|-----------------|--------------------|-------------------|--------|--------------------|-------------------|--------|
| | | | Per cent. of Lint. | Length of Staple. | Price. | Per cent. of Lint. | Length of Staple. | Price. |
| 1 | Cook, W. A | 931 | 31.73 | 1¼ | 9 | 29.59 | 1¾ | 11½ |
| 2 | Gold Dust..... | ..... | 32.75 | ¾ | 7 | 27.50 | ¾ | 7 |
| 3 | King, T. J..... | 990 | 35.55 | 1 | 7¼ | 34.69 | 13-16 | 6¾ |
| 4 | Peerless | 1648 | 32.51 | 13-16 | 6¾ | 32.72 | 13-16 | 6¾ |
| 5 | Peterkin..... | 1013 | 37.33 | 1 | 7¼ | 36.13 | 1 | 7 |
| 6 | Southern Hope..... | 1003 | 36.86 | 1½ | 7¾ | 32.02 | 1½ | 7½ |
| 7 | Truitt | 1713 | 34.63 | 1 | 7 | 32.60 | ¾ | 7 |
| 8 | Welborn's Selected..... | ..... | 32.07 | ..... | ..... | 32.31 | ..... | ..... |

CLUSTER AND LONG-LIMBED VARIETIES OF COTTON AND
DISTANCES.

The following tabulated statement as a comparison of Cluster and Long-limbed varieties of cotton at different distances. It appears from this experiment that 1 by 4 is the limit of distance for the Cluster, and 2 by 4 the limit for the Long-limbed, as they both decrease with greater distance.

The total cost expended for fertilizer was \$6.68 per acre, and the culture was made with a Terrell heel scrape.

COMPARISON OF CLUSTER AND LONG-LIMBED VARIETIES
OF COTTON AT DIFFERENT DISTANCES.

| Plot Number. | NAMES OF VARIETIES. | Distance. | Yield in lbs. seed cotton per acre. |
|--------------|------------------------------|------------|---|
| 1 | Welborn's Pet (Cluster)..... | 1 x 4 feet | 2519 |
| 2 | “ “ | 2 x 4 feet | 2010 |
| 3 | “ “ | 3 x 4 feet | 2077 |
| 4 | “ “ | 4 x 4 feet | 1145 |
| 5 | Peeler (Long-Limbed)..... | 2 x 4 feet | 1983 |
| 6 | “ “ | 3 x 4 feet | 1487 |
| 7 | “ “ | 4 x 4 feet | 1453 |
| 8 | “ “ | 4 x 5 feet | 1333 |

EXPERIMENTS WITH PHOSPHATE.

Question—Will the vegetable matter in freshly cleared land supply all the nitrogen needed by the cotton plant?

This experiment in reply to the above question was begun in 1890, and published in Bulletin No. 22, and was continued this year without changing the rows, or the addition of any more fertilizers.

By reference to the following tabulated statement, it will be seen that the yield from the use of phosphate alone is greater in 1891 than in 1890; but in combination with cotton seed meal, the yield was greater in 1890.

PHOSPHATE ALONE, AND PHOSPHATE AND NITRGGEN APPLIED ON NEW GROUND IN 1890.

| Plot Number. | NAMES OF FERTILIZERS AND QUANTITY USED PER ACRE. | PER ACRE. | | | |
|--------------|--|---------------------------------------|---|---|--|
| | | Total yield lbs. seed cotton—1891. | Increase in pounds seed cotton over no manure—1891. | Total yield pounds seed cotton—1890. | Increase in lbs. seed seed cotton over no manure—1890. |
| 1 | 500 lbs. Acid Phosphate..... | 851 | 513 | 819 | 360 |
| 2 | { 500 lbs. Acid Phosphate..... 500 lbs. Cotton Seed Meal..... | 816 | 478 | 1017 | 558 |
| 3 | 1000 lbs. Acid Phosphate..... | 790 | 452 | 883 | 424 |
| 4 | No Manure..... | 338 | ..... | 459 | ..... |
| 5 | { 1000 lbs. Acid Phosphate..... 1000 lbs. Cotton Seed Meal..... | 936 | 598 | 1213 | 754 |

For the purpose of answering numerous enquiries concerning many different kinds of cotton now being cultivated, the following description of 28 varieties tested on this Station during 1891, is published for the benefit of those interested.

ALLEN LONG STAPLE.

Stalks large, open pyramid. Wood limbs near base and very large. Fruit limbs long, with joints of medium length. Bolls large and pointed. Prolific for long limed and long staple cotton. Staple very long and fine. Medium as to time of maturity.

BAILEY.

Stalk small, pyramidal. Limbs drooping, and joints long. Bolls small and roundish. Prolific. Staple medium, and suggests a recent cross with Sea Island. Seed black and sleek. Early.

BARNETT.

Stalk tall, pyramidal. Wood limbs scarce and small—only at the base. Fruit limbs short, jointed. Prolific. Bolls medium and round. Staple short. Late.

CHERRY'S CLUSTER.

Stalk medium, compact, pyramidal. Wood limbs abundant and fruitful. Fruit limbs longer, and longer jointed than the Peerless, which it somewhat resembles. Bolls small and round. Prolific. Staple short. Early.

J. C. COOK.

Stalk medium, pyramidal, purple. Leaves purple underneath, presenting a singular appearance. Devoid of wood limbs. Fruit limbs long, and long jointed. Bolls round. Staple very short. Not prolific. Very late.

W. A. COOK.

Stalk tall and straggling. Wood limbs less developed than on the Allen Long Staple. Fruit limbs short for a long staple cotton. Bolls large and tapering. Staple very fine and long. Late.

DIXON.

Stalk small, compact, pyramidal. Few wood limbs. Fruit limbs short jointed. Quite prolific. Bolls small and round. Staple short. Early.

GOLD DUST.

Stalk small and straggling. Limbs long, joints medium in length. Very few wood limbs. Bolls small and round. Foliage meagre. Staple very short. Moderately prolific. Early.

HAWKINS IMPROVED.

Stalk large, pyramidal. Limbs short jointed. Wood limbs well up on the stalks. Bolls above medium and roundish. Staple short. Prolific. Medium in time of maturing.

HERLONG.

Stalk medium in size, compact, pyramid. Well supplied with wood limbs. Fruit limbs short and short jointed, often two bolls to the joint. Bolls round, medium in size. Staple short. Seed green. Prolific. Early.

HUNNICUTT.

Stalks large and well limbed. Limbs long and drooping, with long joints. Well supplied with wood limbs. Fruit limbs long jointed, with one boll to the joint. Bolls large, slightly pointed. Staple short, but above the average. Prolific for long limbed cotton. Late.

JONES' IMPROVED.

Stalk below medium in size, and moderately prolific. Few wood limbs. Fruit limbs short jointed and drooping. Bolls roundish, and above medium. Staple short. Early.

JONES' LONG STAPLE.

Stalk large and straggling. Limbs long and long jointed. Bolls large and pointed. Staple long. Not prolific. Late.

KEITH.

Stalk above medium. Pyramidal. Deficient in wood limbs. Fruit limbs short jointed, with one boll to the joint. Bolls medium and round. Prolific. Staple short. Early.

T. J. KING.

Stalk very small and pyramidal, and generally devoid of limbs. Fruit limbs long, long jointed and drooping. Bolls small. Staple very short and prolific for a long limed cotton. Very early.

PEELER.

Stalk very large and straggling. Fruit limbs long, long jointed and drooping. Wood limbs abundant and long. Bolls large and tapering, arranged singly on the joints. Staple long. Not prolific. Late.

PEERLESS.

Stalk medium, compact pyramid. Wood limbs abundant and reach well up on the stalk. Fruit limbs long and short jointed near the base, growing shorter towards the top. Bolls round and small, and often two appears to the joint. Very prolific. Staple short. Early.

PETERKIN IMPROVED.

Stalk tall and straggling. Fruit limbs long near base. Wood limbs drooping, long and long jointed. Bolls small and pointed. Staple long—seed very small. Not prolific. Late.

PETIT GULF.

Stalk large and straggling. Wood limbs long and abundant near the bottom. Fruit limbs long, long jointed and drooping. Bolls medium and pointed. Staple long. Not prolific. Late.

RAMESES.

Stalk medium and pyramidal. Bolls round and medium. Fruit limbs long and short jointed. Prolific. Staple short. Early.

SCRUB.

Stalks of various sizes and styles. Limbs long and long jointed. Bolls round, roundish and pointed. Not prolific. Stable short. Early.

SOUTHERN HOPE.

Stalk tall and straggling. Limbs long, long jointed and drooping. Not prolific. Bolls medium and pointed. Staple long. Late.

STORM PROOF.

Stalks tall, acute pyramidal. Limbs medium in length and drooping. Bolls large and slightly pointed. Not prolific. Staple medium. Late. Cotton adheres tenaciously to the boll, rendering it troublesome to pick.

TRUITT.

Stalks medium and pyramidal. Limbs long and short jointed, with one boll to the joint. Bolls very large, round and stem to

boll long. Staple short. Prolific for a long limed cotton. Medium as to time of maturity.

WELBORN'S PET.

Stalk tall, and devoid of wood limbs, except at base. Fruit limbs very short, maintaining equal length all the way up the stalk. A strictly cluster cotton—two to three bolls from one base. Bolls medium and round. Staple short. Early.

WONDERFUL.

Stalk tall and pyramidal. Limbs long, long jointed and drooping. Bolls large and pointed. Prolific for a long limbed and long staple variety. Staple long. Late.

ZELLNER IMPROVED.

Stalk medium and pyramidal. Fruit limbs long, with short joints. Bolls roundish and above medium. Staple short. Early.

OKRA.

Stalk small and straggling. Open pyramid. Limbs long, and length medium between joints. Bolls small. Leaves deeply lobed like okra leaves. Prolific for a long limed variety. Staple short. Early.