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# Agricultural Experiment Station

—OF THE—

AGRICULTURAL AND MECHANICAL COLLEGE,

AUBURN, : : ALABAMA.

## WHEAT.

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# Experiments in Wheat.

In 1890 the Agricultural Experiment Station began some experiments in wheat culture. Application for varieties of wheat, was made to the Agricultural Department at Washington, D. C., but only two varieties, imported from France, were sent, viz: Richelle de Naples, Large White, and de Reiti, or Large Red. The Purple Straw, a standard amber variety, was obtained near Auburn, and twelve other varieties were presented by James Carter & Co., High Holborn, London.

It was not intended to show the farmers *how* to raise wheat, but to find some variety so adapted to our soil and climate, that they might be induced to plant something besides cotton, and at least raise enough wheat for home consumption.

In October, 1891, eight bushels of purple straw, and six bushels each of large red and large white were distributed to forty-five farmers in different parts of the State; twenty-six of whom reported, sixteen of them were failures, owing largely to late planting, and ten met with moderate success.

In addition to the above experiments, this Station also carried on a comparison of the same varieties, as follows:

### Experiment No. 1.

The land had been planted in oats the previous year, followed by peas. About Nov. 1st, 300 lbs. cotton seed meal and 200 lbs, acid phosphate, per acre, were sown broadcast and turned under with a Dixie plow. On Nov. 4th, plots of $\frac{1}{4}$ acre each were accurately measured, (the "Farmer's Acre" of 70 yards square used) and to obtain the same number of grains of wheat for each plot, three ounces of each variety were weighed and counted separately, and the average taken. The grain of the Large White, being an intermediate between that of the Large Red, and the Purple Straw, was used as a

basis, and $\frac{1}{4}$ bushel, or 15lbs. (the quantity to be used per plot) was found to contain 156,000 grains. The Large Red required 15.7lbs. to make 156,000 grains, while the Purple Straw, being much smaller, required only 10.1 lbs.

The following tabulated statement shows the comparative yield from the same number of grains per plot.

SAME NUMBER OF GRAINS PER PLOT.

| Plot No. | Size of plot. | No. of Lbs to plot. | Names of varieties. | No. of grains to plot. | No. of Lbs. per acre. | Yield per plot in lbs. | Yield per acre in bushels. |
|---|---|---|---|---|---|---|---|
| 1... | ¼ Acre. | 10.1 | Purple Straw. | 156,000 | 40.4 | 236.3 | 15¾ |
| 2... | " | 15.7 | Large Red. | 156,000 | 62.8 | 235.1 | 15⅔ |
| 3... | " | 15. | Large white | 156,000 | 60. | 209.7 | 13.29-30 |

## Experiment No. 2.

The land had been planted the previous year in wheat, followed by peas, and was prepared and fertilized as in Experiment No. 1.

In this Experiment fifteen pounds of each of the three foregoing varieties were sown in $\frac{1}{4}$ acre plots, with results as shown in the tabulated statement below.

SAME NUMBER POUNDS PER PLOT.

| Plot No. | Size of plot. | Names of varieties. | No. lbs. sowed per plot. | No. lbs. sowed per acre. | Fertilizers per Plot. | Fertilizers per Acre. | Yield in Lbs. per plot. | Yield in bushels per acre. |
|---|---|---|---|---|---|---|---|---|
| 1 | ¼ Acre. | Purple Straw. | 15 | 60 | 75 lbs. C. S. M., 50 lbs. A. phos. | 300 lbs. C. S. M 200 lbs. A. phos | 176.4 | 11¾ |
| 2 | " | Large Red. | 15 | 60 | " | " | 90.2 | 6.2-15 |
| 3 | " | Large White. | 15 | 60 | " | " | 116.5 | 7¾ |

The object of these two experiments being to compare the yield of the same number of pounds planted, with that of the same number of grains planted, it is clearly shown that if the same number of *grains* be planted, the results are nominally the same, but that if the same number of *pounds* be planted, the smaller grain, giving more stalks per acre, produces a larger yield. That wheat *can* be grown profitably the statement below will show, and we urge our farmers to take a few acres of good land, prepare them well and plant a standard wheat. Even if the yield is a little below our estimate, the gleanings for the hogs, and the pea crop following on the same land, are items not to be lost sight of.

ESTIMATED COST OF ONE ACRE OF WHEAT.

| | | |
|---|---|---|
| Breaking land and sowing | | $ 1.00 |
| 1 bushel seed wheat | | 1.00 |
| 500 pounds fertilizers | | 5.00 |
| Harvesting and threshing | | 1.50 |
| | | $ 8.50 |
| By 15 bushels wheat | $ 15.00 | |
| Net proceeds | $ 6.50 | |

The above is based on the price the station paid for seed wheat.

Experiment No. 3 consists of a comparison of fifteen varieties, planted in drill on the same land as experiment No. 2 with same preparation. Some of the imported varieties, as compared with the Purple Straw, give satisfactory results, and it is hoped that when they are thoroughly acclimated they may yield still more. The following statement shows comparative yield per acre.

VARIETIES OF WHEAT PLANTED NOVEMBER 4TH, 1891.

| Plot No. | Name of Varieties. | Date of Cutting | Yield per plot in pounds. | Yield per acre in bushels. | Bearded or Smooth. |
|---|---|---|---|---|---|
| 1 | Anglo Canadian | June 6 | 7.1 | 16.17–30 | Bearded. |
| 2 | Bird Proof. | " 11 | 3.7 | 8.19–30 | Smooth. |
| 3 | Earliest of All | " 6 | 6.4 | 14.14–15 | " |
| 4 | Flour Ball. | " 11 | 2.2 | 5. 4–15 | " |
| 5 | Holborn's Wonder. | " 11 | 4.2 | 9. 4–5 | " |
| 6 | Hundred Day. | " 11 | 2.7 | 6. 3–10 | " |
| 7 | Miller's Delight | " 11 | 1.8 | 4. 1–15 | " |
| 8 | Purple Straw. | May 23 | 7.7 | 17.29–30 | " |
| 9 | Pride of Market | June 11 | 2.3 | 5.11–30 | " |
| 10 | Prince of Wales | " 11 | 3.5 | 8. 1–16 | " |
| 11 | Queen | " 11 | 3 3 | 7. 7–10 | " |
| 12 | Red (Large) | " 1 | 3.7 | 8 19–30 | Bearded. |
| 13 | Stand Up | " 11 | 3.1 | 7. 7–30 | Smooth. |
| 14 | White (Large) | May 27 | 2.3 | 5.11–30 | " |
| 15 | White Chaff. | June 6 | 5.7 | 13. 3–10 | " |

## Reports of Experimenters.

Mr. R. H. Cross of Letohatchie, Lowndes County, Ala., writes: "Your station furnished me with $\frac{1}{4}$ bushel of Large Red wheat, I planted it upon $\frac{1}{4}$ acre land, top dressed it twice with Ala. fertilizer, and cultivated twice with harrow. No smut or blight of any kind, and gathered $5\frac{3}{4}$ bushels, or 23 bushels per acre."

M. A. Bishop of Madison Co., writes: "Your station furnished me with $\frac{1}{4}$ bushel of wheat, planted Nov. 10th on $\frac{1}{4}$ acre. Season unfavorable. I fertilized with 250 lbs. green cotton seed per plot, (or 1000 lbs. per acre,) and gathered 171 lbs. wheat, or 11 bushels and nearly a half per acre."

F. W. Bradley of Walker Springs, Clarke, Co., says: "Your station furnished me with $\frac{1}{4}$ bushel of wheat, I planted it on $\frac{1}{4}$ acre of piney woods land, fertilized it with forty-five bushels of green cotton seed per acre, and made five bushels (5) of wheat, fine large grain, or 20 bushels per acre."

Mr. Dan Gillis in charge of South East Ala. Agricultural Experiment Station at Abbeville, Henry Co., writes: "We planted a plot $\frac{1}{8}$ acre of each of the two varieties sent us on Nov. 19th.

White wheat, cut May 19th, yield 59lbs, or 7 bushels and 52 lbs per acre.

Red wheat, cut May 25th, yield 41 lbs., or 5 bushels and 28 lbs. per acre.

These experiments were injured by a long dry spell in March and April, no rust or blight of any kind."

J. W. Mize of Remlap, Blount Co., writes: "I received $\frac{1}{4}$ bushel of wheat from your station which I received on Oct. 20th, obtained a good stand, but a heavy rain in February injured a part of the plot. I gathered $2\frac{1}{2}$ bushels, or 10 bushels per acre.

Mr. J. C. Ott of Florence, Lauderdale Co., says: "I received $\frac{1}{4}$ bushel of Large White wheat from your station, which I sowed late, owing to a protracted drought. I planted $\frac{1}{4}$ acre and made 2 bushels, or 8 bushels per acre."

Mr. Z. T. Stroud of Aberfoil, Bullock Co., says: "I received $\frac{1}{4}$ bushel Large White wheat from your station, which I planted on $\frac{1}{4}$ acre, and saved 3 bushels of fine wheat, or 12 bushels per acre."

S. H. Burgess, Shady Grove, Pike Co., writes: "I received $\frac{1}{2}$ bushel wheat from your station, which I planted on the 8th of Feb. It did well and I think will prove a success here."