REPORT OF FIELD STATIONS IN McINTOSH COUNTY

Field stations are maintained on principal soil types to study truck crop production in the tide water section. For several years work has been done on lettuce and other truck crops on the delta soils (Altamaha clay) of Butler Island. During the last three years this work has been extended to include tests on the sandier soils outside of the delta as follows: Bladen Sandy Loam, Eulonia Fine Sandy Loam, Eulonia Fine Sand and Norfolk Fine Sand.

Tests at the field stations are in cooperation with land owners and include variety trials, planting dates, fertilizer formulas and rates of applying fertilizer. In the following discussion the locations on the different soil types will be designated as field stations A, B, C, D, and E.

FIELD STATION A

Soil Type: Bladen Sandy Loam.

Tests in progress on Bladen Sandy Loam soil are:
1. Vegetable—Variety Tests
2. Vegetable—Planting Dates
3. Onion—Fertilizer Formula Tests

Vegetables—Variety Tests: Several varieties of each vegetable are used to determine their commercial importance in the counties bordering the coast. Listed below are the varieties that are showing to best advantage.

Winter Vegetables

Carrots:
Chantenay
Oxheart

Rape:
Dwarf Essex

Kale:
Early Green Curled

Cauliflower:
Early Snowball
Gilt Edge

Lettuce:
Imperial F
Drumhead White Cabbage

Spinach
Bloomsdale
Aragon
New Zealand

Mustard:
Tendergreen
Giant Green Curled

English Peas:
Improved American
Thomas Laxton

Broccoli:
Green Sprouting

Rutabaga:
Improved American

Cabbage:
Copenhagen Market
Charleston Wakefield
Turnips:
  Purple Top
  Shogoin (best for summer use)
  White Egg

Radish:
  Early Scarlet Globe

Summer Vegetables

Beans (Lima):
  Henderson Bush
  Jackson Wonder

Beans (Snap):
  Stringless Green Pod
  Bountiful

Cucumber:
  White Spine

Corn (Roasting Ear):
  Trucker’s Favorite
  Golden Bantam
  Hastings’ Early Market

Okra:
  White Velvet

Squash:
  Yellow Summer Crookneck

Tomatoes:
  Marglobe
  Livingston Globe
  Gulf States Market

Vegetable—Planting Dates: Plantings of vegetable varieties are made at frequent intervals to determine the correct planting date for each in order to bring them to maturity at a time when market demands are best. Plantings are made on individual farms, and an effort is being made to show the importance of a continuous supply of fresh vegetables for home consumption as well as for market.

Bermuda Onion—Fertilizer Formula Test: This test was begun for the purpose of determining the correct proportion of phosphoric acid, ammonia and potash for an onion fertilizer on Bladen Sandy Loam soil. It has been conducted only one season and for that reason no fertilizer recommendation can yet be made and it is being continued for further study.

FIELD STATION B

Soil Type: Eulonia Fine Sandy Loam.

Studies in progress on Eulonia Fine Sandy Loam soil are:
2. Vegetable—Planting Dates
3. Lettuce—Fertilizer Formula Test
4. Onion—Variety Test
5. Brussels Sprouts—Variety Test

Vegetable—Variety Tests and Planting Dates at “Field Station B” are the same as those listed under “Field Station A.”

Lettuce—Fertilizer Formula Test: This test is being conducted to determine the proportion of phosphoric acid, ammonia and pot-
ash best suited for lettuce production on the ridge lands of coastal Georgia. Five hundred pounds of fertilizer per acre of the various formulas was applied at time of seeding and an additional 500 pounds per acre of each formula was added as a side dressing just after thinning, which is normally about 60 days after planting.

The seed were treated in a bichloride of mercury solution (one ounce to 30 gallons of water) for 15 minutes, in an effort to prevent "damping off," which often destroys the young plants. As a result of unfavorable weather conditions just after this treatment, planting was delayed several days. Consequently only about 10 per cent of a stand was obtained and this did not furnish sufficient plants to transplant the entire area. Additional plants were obtained and transplanted to the area in January at which time the second application of 500 pounds of fertilizer was made. Continued heavy rains drowned out a large part of the planting, which occupied a rather low area, and "bottom rot" destroyed the remaining plants.

Little success has resulted from the attempt to produce lettuce under ordinary field conditions because it is impossible to control the moisture supply. Unless some method of irrigation is used this crop apparently holds little commercial promise on upland soils. An irrigation test being conducted on another area, is discussed later in this report.

**Onion—Variety Test**: The object of this test is to determine the onion varieties best suited to the ridge lands of coastal Georgia.

Varieties used are: Yellow Bermuda, Crystal Wax Bermuda, Hastings' Dark Red Globe, Prizetaker, Hastings’ Yellow Globe, Australian Brown, and Riverside Sweet Spanish. This test has been underway only one season and no definite recommendations can be made. However, Prizetaker, Australian Brown and Yellow Bermuda produced the highest yields.

**Brussels Sprouts—Variety Test**: The following varieties of Brussels Sprouts were used: Long Island Improved, Oregon Special, Half Moon Bay, Mammoth Fancy, and Long Island Half Dwarf.

Seed were planted October 1 and plants were transplanted to the open field November 15. The early stages of development apparently were normal but none of the varieties produced marketable sprouts. The test will be continued using various dates of planting with the idea of ascertaining just when seedings should be made to produce the most desirable sprouts.

**FIELD STATION C**

**Soil Type: Eulonia Fine Sand.**

The tests underway on Eulonia Fine Sand are:
1. Vegetable—Variety Tests
2. Vegetable—Planting Dates
3. Lettuce—Rates of Applying Fertilizer
Vegetable—Variety Tests and Planting Dates are the same at "Field Station C" as those outlined under "Field Station A."

**Lettuce—Rates of Applying Fertilizer:** The object of this test is to determine the most economical rate of fertilizer application for lettuce on the upland soils of the coast.

Fertilizer was applied in varying amounts ranging from 500 to 2500 pounds per acre. The heavier rates were split so that not more than 1000 pounds were applied previous to planting. The remainder was applied at the first and second cultivations following thinning.

**FIELD STATION D**

**Soil Type:** Altamaha Clay.

The following tests are being conducted on the Altamaha Clay delta soil of Butler Island:

1. Lettuce—Fertilizer Formula Test
2. Lettuce—Rates of Applying Fertilizer

**Lettuce—Fertilizer Formula Test:** The object of this test is to determine the proper proportion of phosphoric acid, ammonia and potash for lettuce fertilizer on the delta soils. A four-year average shows that 8 to 10 per cent phosphoric acid, 2 to 4 per cent ammonia, and 4 to 6 per cent potash is producing highest yields.

**TABLE LXXXIII**

**LETTUCE—FERTILIZER FORMULA TEST**

<table>
<thead>
<tr>
<th>Soil Type: Altamaha Clay (Delta Soil)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Yield for Years 1932 to 1936, Inclusive</td>
</tr>
<tr>
<td>Fertilizer: 1600 Pounds per Acre</td>
</tr>
<tr>
<td>Average Date Planted: November 18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FERTILIZER FORMULA*</th>
<th>Total Yield in Heads Per Acre</th>
<th>Days Required to Mature</th>
<th>Days Bearing Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric Acid Series:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-4-6</td>
<td>10351</td>
<td>132</td>
<td>14</td>
</tr>
<tr>
<td>8-4-6</td>
<td>12180</td>
<td>132</td>
<td>14</td>
</tr>
<tr>
<td>10-4-6</td>
<td>13381</td>
<td>132</td>
<td>14</td>
</tr>
<tr>
<td>Check (No Fertilizer)</td>
<td>7322</td>
<td>132</td>
<td>14</td>
</tr>
<tr>
<td>Ammonia Series:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-2-6</td>
<td>13212</td>
<td>132</td>
<td>14</td>
</tr>
<tr>
<td>8-4-6</td>
<td>12346</td>
<td>132</td>
<td>14</td>
</tr>
<tr>
<td>8-6-6</td>
<td>11169</td>
<td>132</td>
<td>14</td>
</tr>
<tr>
<td>Check (No Fertilizer)</td>
<td>8597</td>
<td>132</td>
<td>14</td>
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<tr>
<td>Potash Series:</td>
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<td></td>
</tr>
<tr>
<td>8-4-4</td>
<td>12162</td>
<td>132</td>
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<tr>
<td>8-4-6</td>
<td>12968</td>
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<tr>
<td>8-4-8</td>
<td>11377</td>
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</tbody>
</table>

* Phosphoric acid, ammonia and potash in the order named.

**Note:** Varieties: Drumhead White Cabbage 1932 to 1934 inclusive, Imperial F. 1935.
Under commercial production an 8-4-6 (PNK) fertilizer is giving satisfactory results.

**Lettuce—Rates of Applying Fertilizer:** This test is to determine the amount of fertilizer that should be used under lettuce on delta soils. Rates of application range from 400 pounds per acre to 2000 pounds per acre. The heavier rates were split so that not more than 800 pounds were applied previous to planting. The remainder was applied at first and second cultivations following thinning. A four-year average shows that 1200 to 1600 pounds per acre is the most practical rate of application.

**TABLE LXXIV**

**LETTUCE—RATES OF APPLYING FERTILIZER**

<table>
<thead>
<tr>
<th>Soil Type: Altamaha Clay (Delta Soil)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Yield for Years 1932 to 1936, Inclusive</td>
</tr>
<tr>
<td>Fertilizer: 8% Phosphoric Acid, 4% Ammonia, and 6% Potash</td>
</tr>
<tr>
<td>Average Date Planted: November 18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RATE OF APPLICATION</th>
<th>Total Yield in Heads Per Acre</th>
<th>Days Required to Mature</th>
<th>Days Bearing Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check (No Fertilizer)</td>
<td>5679</td>
<td>132</td>
<td>14</td>
</tr>
<tr>
<td>400 Pounds</td>
<td>8330</td>
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<td>14</td>
</tr>
<tr>
<td>800 Pounds</td>
<td>12130</td>
<td>132</td>
<td>14</td>
</tr>
<tr>
<td>1200 Pounds</td>
<td>15495</td>
<td>132</td>
<td>14</td>
</tr>
<tr>
<td>1600 Pounds</td>
<td>14762</td>
<td>132</td>
<td>14</td>
</tr>
<tr>
<td>2000 Pounds</td>
<td>12408</td>
<td>132</td>
<td>14</td>
</tr>
</tbody>
</table>

**FIELD STATION E**

**Soil Type: Norfolk Fine Sand.**

The only test underway at “Field Station E” on Norfolk Fine Sand is an irrigation study with lettuce. Water from a flowing well was piped to this area and distributed to the growing crop by means of the porous hose type of irrigation.

Plants were transplanted to this area in January and were fertilized often by frequent side dressings of a complete fertilizer. Sufficient irrigation water was applied to keep the area reasonably moist. About three weeks prior to maturity an application of nitrate of soda was made at the rate of 100 pounds per acre. Very large heads of fine quality lettuce were produced.

Comparison of results of this irrigation test with other lettuce work on upland soils would indicate that irrigation is essential for commercial production of lettuce on soils lying outside of the delta. This phase of vegetable production is very important in coastal Georgia and will receive further study.