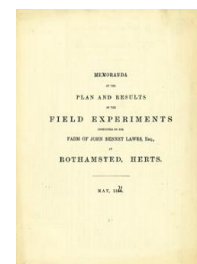


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# Memoranda of the Plan and Results of the Field Experiments, May 1870



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## Experiments on Oats; Geescroft Field

### Rothamsted Research

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EXPERIMENTS ON THE GROWTH OF OATS YEAR AFTER YEAR ON THE SAME LAND; WITHOUT MANURE, AND WITH DIFFERENT KINDS OF MANURE.

GEESCROFT FIELD.

Previous Cropping—1847 and 1848, Clover, Experimental Manures; 1849—1859, Beans, Experimental Manures; 1860, Fallow; 1861 and 1862, Wheat, Unmanured; 1863, Fallow; 1864, Beans, Dunged; 1865, Wheat, Unmanured; 1866, Beans, Unmanured; 1867 and 1868, Wheat, Unmanured.  
First Experimental Oat Crop in 1869.

(Area under Experiment,  $\frac{2}{3}$  acre).

| PLOTS. |                                                                            | PRODUCE PER ACRE.         |                       |                       |                       |                       |                           |                    |                      |                    |                      |
|--------|----------------------------------------------------------------------------|---------------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------|--------------------|----------------------|--------------------|----------------------|
|        |                                                                            | 1ST SEASON, 1869.         |                       |                       |                       |                       | 2ND SEASON, 1870.         |                    |                      |                    |                      |
|        |                                                                            | DRESSED CORN.             |                       |                       |                       |                       | DRESSED CORN.             |                    |                      |                    |                      |
|        |                                                                            | Quantity.                 | Weight per Bushel.    | Total Straw.          | Weight per Bushel.    | Total Straw.          | Quantity.                 | Weight per Bushel. | Total Straw.         | Weight per Bushel. | Total Straw.         |
| 1      | Unmanured                                                                  | Bushels. 36 $\frac{3}{4}$ | lbs. 36 $\frac{3}{4}$ | cwt. 19 $\frac{1}{4}$ | lbs. 36 $\frac{3}{4}$ | cwt. 19 $\frac{1}{4}$ | Bushels. 10 $\frac{3}{4}$ | lbs. 35            | cwt. 9 $\frac{1}{2}$ | lbs. 35            | cwt. 9 $\frac{1}{2}$ |
| 2      | Mixed Alkalies <sup>(1)</sup> ; and Superphosphate of Lime <sup>(2)</sup>  | 45                        | 38 $\frac{1}{2}$      | 24 $\frac{1}{2}$      | 38 $\frac{1}{2}$      | 24 $\frac{1}{2}$      | 19 $\frac{1}{2}$          | 35 $\frac{1}{2}$   | 9 $\frac{1}{2}$      | 35 $\frac{1}{2}$   | 9 $\frac{1}{2}$      |
| 3      | 400 lbs. Ammonia-salts <sup>(3)</sup>                                      | 56 $\frac{1}{2}$          | 37 $\frac{1}{2}$      | 36 $\frac{3}{4}$      | 37 $\frac{1}{2}$      | 36 $\frac{3}{4}$      | 30                        | 34 $\frac{3}{4}$   | 17 $\frac{1}{2}$     | 34 $\frac{3}{4}$   | 17 $\frac{1}{2}$     |
| 4      | 400 lbs. Ammonia-salts ; "Mixed Alkalies" ; and "Superphosphate of Lime"   | 75 $\frac{1}{2}$          | 39 $\frac{1}{2}$      | 54                    | 39 $\frac{1}{2}$      | 54                    | 50 $\frac{3}{4}$          | 36                 | 28 $\frac{3}{4}$     | 36                 | 28 $\frac{3}{4}$     |
| 5      | 550 lbs. Nitrate of Soda <sup>(4)</sup>                                    | 62 $\frac{1}{2}$          | 38 $\frac{1}{2}$      | 42 $\frac{3}{4}$      | 38 $\frac{1}{2}$      | 42 $\frac{3}{4}$      | 36 $\frac{3}{4}$          | 35 $\frac{1}{2}$   | 23                   | 35 $\frac{1}{2}$   | 23                   |
| 6      | 550 lbs. Nitrate of Soda ; "Mixed Alkalies" ; and "Superphosphate of Lime" | 68 $\frac{3}{4}$          | 39 $\frac{1}{2}$      | 49 $\frac{1}{4}$      | 39 $\frac{1}{2}$      | 49 $\frac{1}{4}$      | 50                        | 35 $\frac{3}{4}$   | 28 $\frac{3}{4}$     | 35 $\frac{3}{4}$   | 28 $\frac{3}{4}$     |

<sup>(1)</sup> 200 lbs. Sulphate of Potash, 100 lbs. Sulphate of Soda, and 100 lbs. Sulphate of Magnesia.

<sup>(2)</sup> 200 lbs. Bone-ash, 150 lbs. Sulphuric Acid (sp. gr. 1.7).

<sup>(3)</sup> Equal parts Sulphate and Muriate of Ammonia of Commerce.

<sup>(4)</sup> 550 lbs. Nitrate of Soda is reckoned to contain the same amount of Nitrogen as 400 lbs. "Ammonia-salts."