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Yields of the Field Experiments 1952

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52/A/6 Hoosfield Exhaustion Land - Barley - Rothamsted

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BARLEY - EXHAUSTION LAND HOOSFIELD 1952

History: From 1852 - 1875 wheat was grown on this field under fertilizer treatments similar to those on some of the Broadbalk plots, on strips $\frac{1}{5}$ acre in area. From 1876 - 1901 potatoes were grown continuously, several of the strips retaining their original treatments.

The field received no fertilizers whatsoever from 1902 - 1939 during which period cereals were grown. In 1940 and thereafter, a top dressing of nitrogen, at present $2\frac{1}{2}$ cwt sulphate of ammonia per acre, has been applied each year, the intention being to study further the residual effects of the fertilizers applied to the potatoes. No yields were taken between 1922 and 1948 except in 1935.

The fertilizers (per acre) applied to potatoes from 1876-1901 as follows:-

- Plot 1 Unmanured
- 2 Previously unmanured
1876-1881 6 years of F.Y.M. at 14 tons
1882-1901 unmanured.
- 3 Previously unmanured
1876-1882 7 years superphosphate at 350 lb. (200 lb. bone ash, 150 lb. sulphuric acid)
1876-1901 26 years F.Y.M. at 14 tons
- 4 Previously unmanured
1876-1882 7 years superphosphate at 350 lb.
1876-1881 6 years nitrate of soda at 550 lb.
1876-1901 26 years F.Y.M. at 14 tons
- 5 Previously 400 lb. ammonium salts
1876-1901 26 years ammonium salts at 400 lb.
- 6 Previously 400 lb. ammonium salts
1876-1901 26 years nitrate of soda at 550 lb.
- 7 Previously 400 lb. ammonium salts and minerals
1876-1901 26 years ammonium salts at 400 lb.
1877-1887 11 years superphosphate (200 lb. bone ash, 150 lb. sulphuric acid)
1888-1896 9 years super at 392 lb. (made from mineral phosphate)
1897-1901 5 years basic slag at 400 lb.
1877-1901 25 years sulphate of potash at 300 lb.
1877-1901 25 years sulphate of magnesia at 100 lb.
1877-1901 25 years sulphate of soda at 100 lb.
- 8 Previously 400 lb. ammonium salts and minerals
1876-1901 26 years nitrate of soda at 550 lb.
1876-1901 minerals as applied to plot 7
- 9 Previously complete minerals
1877-1901 25 years phosphate as applied on plot 7
- 10 Previously complete minerals
1877-1901 minerals as applied to plot 7

52/A/6.2

Cultivations, etc.: Ploughed: Sept 14 and again Dec 17, 1951. Seed drilled at 3 bushels per acre, sulphate of ammonia applied: Feb 28. Harvested: July 31. Variety: Plumage Archer.

Summary of Results

| Manuring to Potatoes 1876 - 1901 [*] | Grain: cwt per acre | Straw: cwt per acre |
|--|------------------------|------------------------|
| 1 Unmanured | 12.9 | 16.7 |
| 2 Unmanured after 6 years dung | 10.1 | 13.0 |
| 3 Dung | 23.2 | 27.2 |
| 4 Dung | 22.8 | 29.4 |
| 5 Ammonium salts | 16.5 | 19.8 |
| 6 Nitrate of soda | 13.1 | 15.5 |
| 7 Ammonium salts and complete minerals | 21.3 | 27.0 |
| 8 Nitrate of soda and complete minerals | 21.4 | 24.3 |
| 9 Superphosphate | 19.7 | 22.2 |
| 10 Complete minerals | 21.8 | 23.9 |

^{*}For certain changes see list of treatments.