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Yields of the Field Experiments 1957

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57/R/CD/1 Cereals and Beans - Rotations

Rothamsted Research

Rothamsted Research (1958) *57/R/CD/1 Cereals and Beans - Rotations* ; Yields Of The Field Experiments 1957, pp 88 - 88 - DOI: <https://doi.org/10.23637/ERADOC-1-177>

57/Ca/1

CEREALS AND BEANS ROTATIONS

The effect of crop sequences on the incidence of cereal foot and root rot diseases - Great Field I 1957 - the 1st year.

Design: Three series each of 3 randomized blocks of 6 plots, starting in each of the years 1957, 1958 and 1959. In 1957 there were 3 plots per block with winter wheat.

Area of each plot: 0.0305 acres. Area harvested: 0.0201 acres.

Treatments:

Crop sequences for each series:

1st year:	WW	WW	WW	SW	O	B
2nd year:	WW	O	O	WW	WW	WW
3rd year:	SW	SW	Be	SW	SW	B

WW = Winter wheat, SW = Spring wheat, O = Oats, B = Barley, Be = Beans.

In the 4th year plots will be split for N, and all cropped with winter wheat.

Basal dressing: 23 cwt ground chalk per acre, 2 cwt compound fertilizer (16% P₂O₅, 16% K₂O) per acre combine drilled with seed.

Nitrogen for cereals: 3 cwt 'Nitro-Chalk' per acre to spring wheat and 2 cwt 'Nitro-Chalk' per acre to oats and barley all in seedbed. 6 cwt 'Nitro-Chalk' per acre to winter wheat as spring top dressing, half applied in March and half in May.

Cultivations, etc.: Ground chalk applied: Nov 6, 1956. Ploughed: Nov 12. Winter wheat combine drilled at 2½ bushels per acre: Nov 15. 1st application of 'Nitro-Chalk' to winter wheat, 'Nitro-Chalk' applied for oats and seed combine drilled at 4 bushels per acre: Mar 13, 1957. 'Nitro-Chalk' applied for barley and seed combine drilled at 2 bushels per acre: Mar 14. 'Nitro-Chalk' applied for spring wheat and seed combine drilled at 3 bushels per acre: Mar 15. 2nd application of 'Nitro-Chalk' to winter wheat: May 2. Sprayed with DNOC at 8 lb in 80 gallons per acre: May 10. Combine harvested: Aug 26. Varieties: Winter wheat - Heine7; spring wheat - Koga II; oats - Sun II; barley - Proctor. Previous crop: Spring beans.

Summary of Results

Yields (at 85% dry matter): cwt per acre

	WW	SW	B	O
Grain	45.5	39.7	40.7	27.3
Straw	26.1	25.3	20.1	22.5

Mean dry matter % as harvested: Grain, 83.5; Straw, 87.2