ROTHAMSTED RESEARCH

Yields of the Field Experiments 1963

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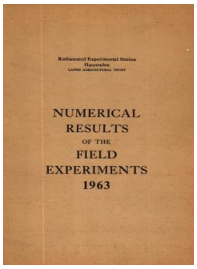

63/R/RW101/DA/1 Winter Wheat - Azotobacter Inoculation and N

Rothamsted Research

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63/Da/1

WINTER WHEAT

(RW 101)

Effects of nitrogen and inoculation with Azotobacter - Great Field I 1963.

Design: 4 x 4 Latin square.

Area of each plot: 0.0145 acres. Area harvested: 0.0096 acres.

Treatments. All combinations of:-
Nitrogen: None, 0.6 cwt N per acre applied as 'Nitro-Chalk'.
Azotobacter inoculation: None (sterile medium, no carbon source), Azotobacter culture applied to seed.

Basal dressing per acre: 2.5 cwt compound fertiliser (20% P_2O_5, 20% K_2O) broadcast in seedbed. 40 cwt ground chalk.

Cultivations, etc.: Ground chalk applied at 20 cwt per acre: Sept 26, 1962. Ploughed: Oct 29. Ground chalk applied at 20 cwt per acre, seed drilled at 2 1/2 bushels per acre, basal dressing applied by hand: Nov 14. 'Nitro-Chalk' applied by hand: Apr 27, 1963. Sprayed with mecoprop/2:4-D at 7 pints in 40 gallons per acre: May 16. Combine harvested: Sept 10. Variety: Cappelle. Previous crops: Winter wheat 1961, barley 1962.

Note: Crop samples were taken throughout the season for counts of Azotobacter. Measurements of the height of the crop were made on May 9. Estimates of ear number were made on July 17 and August 13.

Standard error per plot.
Grain (at 85% dry matter): 1.13 cwt per acre or 6.8% (6 d.f.)

Summary of Results

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

Inoculation	N: cwt per acre None	0.6	Mean
	(±0.57)		(±0.40)
None	13.0	20.6	16.8
Azotobacter	11.9	21.3	16.6
Mean (±0.40)	12.5	21.0	16.7

Mean dry matter % as harvested: 79.7

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