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RESEARCH

Yields of the Field Experiments 1950

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50/CA/1 Wheat - Eyespot - Rothamsted

Rothamsted Research

Rothamsted Research (1951) *50/CA/1 Wheat - Eyespot - Rothamsted* ; Yields Of The Field Experiments 1950, pp 55 - 57 - DOI: <https://doi.org/10.23637/ERADOC-1-185>

50/Ca/1.1

WHEAT

• Control of "Eyespot"

Sulphate of ammonia, seed rates and spraying - Little Hoos 1950.

System of replication: 3 x 3 x 3 x 2 design in 6 blocks of 9 plots, certain three factor interactions and the effect of spraying being confounded with block differences. Three extra plots with no sulphate of ammonia were added to each block.

Area of each plot: 0.0797 acre.

Treatments: All combinations of

Sulphate of ammonia: Rates: $1\frac{1}{2}$, 3, $4\frac{1}{2}$ cwt per acre (N_1, N_2, N_3)
Times of application: First week in March and at 5 weekly intervals (T_1, T_2, T_3)
Rate of sowing: $1\frac{1}{2}, 2\frac{1}{2}, 3\frac{1}{2}$ bushels per acre (R_1, R_2, R_3)
Spraying: 3 blocks sprayed with 12% B.O.V. at 100 gallons per acre, beginning of March.
The 3 plots per block receiving no sulphate of ammonia were sown one at each seed rate.

Basal Manuring: 3 cwt superphosphate and 1 cwt muriate of potash per acre drilled across the plots.

Cultivations, etc.: Ploughed: Oct 14-16. Harrowed: Oct 15-17. Seed drilled and harrowed in: Nov 1. Basal fertilizers applied: Nov 2. Sprayed with 12% B.O.V: Mar 3. First application of sulphate of ammonia: Mar 10. Ring rolled: Apr 3. Second application of sulphate of ammonia: Apr 14. Third application: May 17. Harvested: Aug 8. Variety: Squareheads Master 13/4. Previous crop: Wheat.

Standard errors per plot:

| | | |
|--------------------------|----------------------------|-----------|
| Grain: unsprayed blocks: | 2.86 cwt per acre or 15.3% | (19 d.f.) |
| sprayed blocks: | 2.29 cwt per acre or 14.5% | (19 d.f.) |
| Straw: unsprayed blocks: | 3.75 cwt per acre or 14.4% | (19 d.f.) |
| sprayed blocks: | 2.53 cwt per acre or 11.1% | (19 d.f.) |

50/Ca/1.2

Summary of Results

Grain: cwt per acre

| | Unsprayed | | | | Mean | Sprayed | | | | Mean | Effect of Spraying |
|----------------|--|----------------|----------------|----------------|---------|----------------|----------------|----------------|----------------|-----------------------|-----------------------|
| | R ₁ | R ₂ | R ₃ | | | R ₁ | R ₂ | R ₃ | | | |
| | | | | (±1.65) | (±0.95) | | | | (±0.76) | (±1.22) ^{SE} | |
| T ₁ | 16.2 | 20.3 | 21.3 | | 19.3 | 16.6 | 16.2 | 18.6 | 17.1 | -2.2 | |
| T ₂ | 20.7 | 20.7 | 21.8 | | 21.1 | 17.8 | 18.5 | 21.3 | 19.2 | -1.9 | |
| T ₃ | 18.4 | 19.5 | 21.1 | | 19.7 | 13.0 | 18.0 | 16.8 | 15.9 | -3.8 | |
| Mean | 18.4 | 20.2 | 21.4 | (±0.95) | 20.0 | 15.8 | 17.6 | 18.9 | 17.4 | | |
| | N ₁ | N ₂ | N ₃ | | | N ₁ | N ₂ | N ₃ | | | |
| | | | | (±1.65) | | | | | | (±1.32) | |
| T ₁ | 15.6 | 21.7 | 20.5 | | | 14.4 | 19.4 | 17.6 | | | |
| T ₂ | 19.3 | 21.6 | 22.3 | | | 19.8 | 18.8 | 18.9 | | | |
| T ₃ | 20.5 | 17.1 | 21.3 | | | 14.9 | 16.9 | 16.0 | | | |
| | N ₀ | N ₁ | N ₂ | N ₃ | (±0.82) | N ₀ | N ₁ | N ₂ | N ₃ | (±0.66) | (±1.06) ^{SE} |
| R ₁ | 14.7 | 17.7 | 18.4 | 19.3 | 17.5 | 8.1 | 16.3 | 15.4 | 15.7 | 13.9 | -3.6 |
| R ₂ | 14.4 | 18.4 | 20.8 | 21.3 | 18.7 | 11.7 | 16.1 | 19.2 | 17.5 | 16.1 | -2.6 |
| R ₃ | 14.2 | 19.4 | 21.2 | 23.6 | 19.6 | 13.8 | 16.8 | 20.5 | 19.3 | 17.6 | -2.0 |
| Mean | 14.4 | 18.5 | 20.1 | 21.4 | 18.6 | 11.2 | 16.4 | 18.3 | 17.5 | 15.9 | |
| | | | | (±0.95) | | | | | (±0.76) | | |
| | Effect of Spraying (±1.22) ^{SE} | | | | | -3.2 | -2.1 | -1.8 | -3.9 | | |

^{SE}Standard error for use in testing differences between effects of spraying only.

50/Ca/1.3

Straw: cwt per acre

| | Unsprayed | | | | Mean | Sprayed | | | | Mean | Effect of spraying |
|----------------|----------------|----------------|----------------|----------------|---------|----------------|----------------|----------------|----------------|---------|-----------------------|
| | R ₁ | R ₂ | R ₃ | | | R ₁ | R ₂ | R ₃ | | | |
| | | | | (±2.17) | (±1.25) | | | | (±1.46) | (±0.84) | (±1.51) ^{SE} |
| T ₁ | 24.3 | 29.3 | 31.6 | | 28.4 | 25.7 | 24.3 | 26.4 | | 25.4 | -3.0 |
| T ₂ | 29.0 | 30.0 | 33.1 | | 30.7 | 26.9 | 26.8 | 30.4 | | 28.0 | -2.7 |
| T ₃ | 24.7 | 26.1 | 27.5 | | 26.1 | 21.6 | 24.3 | 22.9 | | 23.0 | -3.1 |
| Mean | 26.0 | 28.5 | 30.7 | (±1.25) | 28.4 | 24.7 | 25.1 | 26.6 | (±0.84) | 25.5 | |
| | N ₁ | N ₂ | N ₃ | (±2.17) | | N ₁ | N ₂ | N ₃ | (±1.46) | | |
| T ₁ | 22.7 | 31.7 | 30.7 | | | 20.5 | 28.7 | 27.1 | | | |
| T ₂ | 25.9 | 31.5 | 34.7 | | | 27.0 | 28.6 | 28.4 | | | |
| T ₃ | 26.7 | 22.9 | 28.9 | | | 19.9 | 24.2 | 24.8 | | | |
| | N ₀ | N ₁ | N ₂ | N ₃ | (±1.08) | N ₀ | N ₁ | N ₂ | N ₃ | (±0.73) | (±1.31) ^{SE} |
| R ₁ | 18.8 | 23.4 | 25.8 | 28.8 | 24.2 | 12.7 | 22.8 | 24.9 | 26.5 | 21.7 | -2.5 |
| R ₂ | 18.8 | 25.5 | 29.6 | 30.4 | 26.1 | 14.6 | 21.5 | 27.5 | 26.3 | 22.5 | -3.6 |
| R ₃ | 18.5 | 26.4 | 30.7 | 35.1 | 27.7 | 18.0 | 23.1 | 29.1 | 27.5 | 24.4 | -3.3 |
| Mean | 18.7 | 25.1 | 28.7 | 31.4 | 26.0 | 15.1 | 22.5 | 27.2 | 26.8 | 22.9 | |
| | | (±1.25) | | | | | (±0.84) | | | | |

Effect of Spraying (±1.51)^{SE} -3.6 -2.6 -1.5 -4.6

^{SE} Standard error for use in testing differences between effects of spraying only.