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Yields of the Field Experiments 1971

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71/R/WW/1 and 71/W/WW/1 Varieties and N - W. Wheat

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71/R/WW/1 and 71/W/WW/1

WINTER WHEAT

VARIETIES AND N

Object: To study the yield of newer varieties of wheat grown at a range of nitrogen levels on land in rotation or after several cereals - Rothamsted (R) Summerdells I (pathogen free) and Claycroft (pathogen infected), and Woburn (W) White Horse Field (pathogen free).

Design: 3 randomised blocks of 8 plots, split into 4.

Whole plot dimensions:- Summerdells (R): 4.27 x 36.9. Claycroft (R) and White Horse Field (W): 4.27 x 39.3. Sub plot area harvested: Summerdells (R): 0.00243. Claycroft (R) and White Horse Field (W): 0.00260.

Treatments: All combinations of:-

Whole plots: 1. Varieties: Champlein (CH), Cama (CM), Cappelle (CP), Joss Cambier (JC), Maris Beacon (MB), Maris Nimrod (MN), Maris Widgeon (MW), Tommy (TO).

Sub plots: 2. Rates of nitrogen (in kg N): 63, 126, 189 in spring, and 126 in spring plus 63 at flowering. All N as 'Nitro-Chalk'.

Basal applications:-

All fields: 314 kg (8:20:16) combine drilled. Weedkiller: 2,4-D at 0.56 kg plus dichlorprop at 2.2 kg in 225 l (281 l on White Horse Field (W)).

Claycroft (R) only: Weedkiller: Paraquat at 0.28 kg ion in 225 l.

Cultivations, etc.:

Summerdells (R): Ploughed: 18 Sept, 1970. Seed combine drilled at 200 kg: 8 Oct. Weedkiller applied: 13 Apr, 1971. Spring N applied: 16 Apr. Late N applied: 3 June. Combine harvested: 26 Aug. Previous crops: Spring beans 1969 and 1970.

Claycroft (R): Paraquat applied: 17 Sept, 1970. Deep-tine cultivated: 23 Sept. Deep-tine cultivated 2nd time: 5 Oct. Seed combine drilled at 200 kg: 8 Oct. Weedkiller applied: 13 Apr, 1971. Spring N applied: 16 Apr. Late N applied: 3 June. Combine harvested: 26 Aug. Previous crops: Winter wheat 1969 and 1970.

71/R/WW/1 and 71/W/WW/1

White Horse Field (W): Deep-tine cultivated: 12 Oct, 1970. Seed combine drilled at 191 kg: 13 Oct. Weedkiller applied: 31 Mar, 1971. Spring N applied: 15 Apr. Late N applied: 3 June. Combine harvested: 27 Aug. Previous crops: Fallow 1969, potatoes 1970.

| Standard errors per plot. | Grain, tonnes/hectare: |
|---------------------------|-------------------------------------|
| Summerdells (R): | Whole plot: 0.433 or 6.3% (14 d.f.) |
| | Sub plot: 0.492 or 7.1% (48 d.f.) |
| Claycroft (R): | Whole plot: 0.300 or 4.5% (14 d.f.) |
| | Sub plot: 0.661 or 9.8% (48 d.f.) |
| White Horse Field (W): | Whole plot: 0.225 or 4.0% (14 d.f.) |
| | Sub plot: 0.349 or 6.2% (48 d.f.) |

71/R/WW/1 and 71/W/WW/1

SUMMARY OF RESULTS

GRAIN: TONNES/HECTARE

| | CH | CM | CP | JC | MB | MN | MW | TO | Mean |
|-------------------------------|-------------|------|------|------|------|------|------|------|----------|
| SUMMERDELLS (R) PATHOGEN FREE | | | | | | | | | |
| N: KG/HA | (1) and (2) | | | | | | | | (±0.100) |
| 63 | 7.73 | 7.35 | 6.57 | 7.28 | 7.11 | 8.60 | 6.13 | 6.71 | 7.18 |
| 126 | 8.12 | 6.87 | 7.04 | 7.09 | 6.24 | 7.71 | 5.84 | 7.24 | 7.02 |
| 189 | 7.77 | 6.73 | 6.43 | 6.37 | 5.36 | 6.06 | 5.76 | 6.90 | 6.42 |
| 126+63 | 7.93 | 7.03 | 7.04 | 7.09 | 6.01 | 7.34 | 6.28 | 7.36 | 7.01 |
| Mean (±0.250) | 7.89 | 6.99 | 6.77 | 6.96 | 6.18 | 7.43 | 6.00 | 7.05 | 6.91 |

(1) (±0.351) For use in horizontal and interaction comparisons only
 (2) (±0.284) For use in vertical and diagonal comparisons only

Mean D.M. %: 81.5

CLAYCROFT (R) PATHOGEN INFECTED

| N: KG/HA | (1) and (2) | | | | | | | | (±0.135) |
|---------------|-------------|------|------|------|------|------|------|------|----------|
| 63 | 6.43 | 5.72 | 5.75 | 6.85 | 7.15 | 7.14 | 5.43 | 6.33 | 6.35 |
| 126 | 7.21 | 6.36 | 6.19 | 6.81 | 7.38 | 8.24 | 5.96 | 6.84 | 6.87 |
| 189 | 6.97 | 6.95 | 6.48 | 6.51 | 5.96 | 7.57 | 5.82 | 6.64 | 6.61 |
| 126+63 | 7.51 | 6.59 | 6.74 | 7.14 | 7.38 | 8.06 | 6.11 | 6.64 | 7.02 |
| Mean (±0.173) | 7.03 | 6.40 | 6.29 | 6.83 | 6.97 | 7.75 | 5.83 | 6.61 | 6.71 |

(1) (±0.373) For use in horizontal and interaction comparisons only
 (2) (±0.381) For use in vertical and diagonal comparisons only

Mean D.M. %: 82.0

TL/R/WW/1 and TL/W/WW/1

GRAIN: TONNES/HECTARE

WHITE HORSE FIELD (W) PATHOGEN FREE

| | CH | CM | CP | JC | MB | MN | MW | TO | Mean |
|---------------|-------------|------|------|------|------|------|------|------|----------|
| N: KG/HA | (1) and (2) | | | | | | | | (±0.071) |
| 63 | 5.57 | 5.73 | 5.40 | 5.56 | 5.82 | 5.75 | 5.16 | 5.59 | 5.57 |
| 126 | 6.39 | 5.65 | 6.20 | 5.49 | 6.49 | 6.50 | 5.42 | 5.61 | 5.97 |
| 189 | 5.78 | 4.87 | 5.31 | 4.37 | 5.82 | 6.45 | 4.88 | 4.86 | 5.29 |
| 126+63 | 5.72 | 5.40 | 5.68 | 5.17 | 6.19 | 6.63 | 5.19 | 5.18 | 5.65 |
| Mean (±0.130) | 5.86 | 5.41 | 5.65 | 5.15 | 6.08 | 6.33 | 5.16 | 5.31 | 5.62 |

(1) (±0.218) For use in horizontal and interaction comparisons only
 (2) (±0.202) For use in vertical and diagonal comparisons only

Mean D.M. %: 81.4