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71/S/CS/1 Row Spacing and Seed Rates After Intensive Wheat - Wheat

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71/S/CS/1

ROW SPACING AND SEED RATES AFTER INTENSIVE WHEAT

Object: To study the effects of seed rate and row spacing on the yields of winter wheat. The effects of different periods of pre-cropping with winter wheat are also studied - Saxmundham, Oldershaw's and Garner's plots.

The sixth year on this site, first year of row spacing and seed rate treatments, winter wheat.

For previous years see 66/C/30(t), 67/C/23(t), 68/C/39 and 69-70/S/CS/1.

Design: A single replicate of 4 x 2 x 4 in 4 blocks of 4 plots each split lengthways into 2, plus one additional plot (not split into 2) per block. Additionally, all the plots are split breadthways into 3.

Whole plot dimensions: 5.49 x 40.2. Sub plot area harvested: 0.00273.

Treatments:-

Additional plots: One immediately previous continuous winter wheat crop (1), row spacing 18.9 cm (8.25 inches) and seed rate 212 kg (S), and N to sub plots as shown below, and all combinations of:-

Whole plots:

1. Cropping history: 2, 3, 4 and 5 years of immediately previous continuous winter wheat crops 1966-1970 (2, 3, 4, 5).

Half plots:

2. Row spacing: 15.2 cm (6 inches) (C), 30.5 cm (12 inches) (W).
3. Seed rates: 70.6 (R1), 141 (R2), 212 (R3), 283 (R4) kg.

One third plots:

4. N rates: 50.2 (N1), 100.4 (N2), 150.6 (N3) kg N as 'Nitro-Chalk'.

Basal applications: 1255 kg (0:20:20) applied to stubble in autumn before ploughing. Weedkiller: Metoxuron ('Dosanex' at 5.6 kg in 449 l).

Cultivations, etc.: Basal PK applied and ploughed in: 14 Sept, 1970. Seed drilled and basal NPK applied: 5 Oct. Weedkiller applied: 15 Apr, 1971. Test N applied: 21 Apr. Combine harvested: 25 Aug. Variety: Cappelle.

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NOTE: Green crop samples for estimates of total weight, grain straw ratios and leaf areas were taken.

Standard errors per sub plot.

Grain, tonnes/hectare: 0.337 or 5.9% (6 d.f.)

SUMMARY OF RESULTS

GRAIN: TONNES/HECTARE

| | R1 | R2 | R3 | R4 | N1 | N2 | N3 | Mean |
|---------------|----------|------|------|------|-----------|------|------|----------|
| | (±0.106) | | | | (±0.084)* | | | (±0.053) |
| C | 4.67 | 6.11 | 6.20 | 5.87 | 5.09 | 5.99 | 6.06 | 5.71 |
| W | 5.75 | 5.79 | 5.71 | 5.35 | 4.96 | 5.93 | 6.05 | 5.65 |
| | | | | | (±0.119)* | | | (±0.075) |
| | | | | R1 | 4.68 | 5.47 | 5.48 | 5.21 |
| | | | | R2 | 5.25 | 6.19 | 6.41 | 5.95 |
| | | | | R3 | 5.18 | 6.29 | 6.40 | 5.96 |
| | | | | R4 | 4.99 | 5.90 | 5.94 | 5.61 |
| Mean (±0.060) | | | | | 5.02 | 5.96 | 6.06 | 5.68 |

S 5.92
General mean: 5.73

Mean D.M. %: 89.5

* For use in horizontal and interaction comparisons only