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86/R/RA/5 Precision Sowing - W. Oilseed Rape

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Rothamsted Research (1987) *86/R/RA/5 Precision Sowing - W. Oilseed Rape* ; Yields Of The Field Experiments 1986, pp 277 - 280 - DOI: <https://doi.org/10.23637/ERADOC-1-36>

86/R/RA/5

WINTER OILSEED RAPE

PRECISION SOWING

Object: To compare two precision drills with a conventional machine at two seed rates on two sowing dates with and without an insecticide - Little Hoos.

Sponsor: D.P. Yeoman.

Design: 2 replicates of 3 x 2 x 2 x 2 arranged in 4 blocks of 12 plots.

Whole plot dimensions: 3.0 x 15.0.

Treatments: All combinations of:-

- | | |
|--------------|---|
| 1. DRILL | Drills used to sow seed: |
| CNVNTIAL | Conventional, sown in rows 17.6 cm apart, seeds randomly spaced |
| MONOCENT | Monocentra, sown in rows 25 cm apart, seeds precisely spaced |
| STANHAY | Stanhay, sown in rows 25 cm apart, seeds precisely spaced |
| 2. SOW DATE | Dates of sowing: |
| 22 AUG | 22 August, 1985 |
| 6 SEP | 6 September |
| 3. SEEDRATE | Seed rates: |
| 4 KG | |
| 8 KG | |
| 4. INSC TCDE | Insecticide: |
| NONE | None |
| DELTAMET | Deltamethrin at 0.0075 kg in 220 l on 30 Oct, 1985 |

NOTES: (1) For the Monocentra drill the seed within the row was spaced at 5.5 cm for the 4 kg seed rate and 2.7 cm for the 8 kg seed rate.

(2) For the Stanhay drill the seed within the row was spaced at 4.8 cm for the 4 kg seed rate and 2.8 cm for the 8 kg seed rate.

Basal applications: Manures: 'Nitro-Chalk' at 180 kg. 'Nitram' at 720 kg. Weedkillers: Fluazifop-P-butyl at 0.19 kg with a wetting agent ('Agral' at 0.28 l) in 280 l. Propyzamide and clopyralid (as 'Matrikerb' at 1.6 kg) in 500 l. Fungicides: Prochloraz at 0.50 kg in 200 l on two occasions. Iprodione at 0.50 kg in 500 l. Desiccant: Diquat at 0.60 kg ion with a wetting agent ('Agral' at 0.50 l) in 500 l.

Seed: Bienvenu, dressed gamma HCH, thiram and fenpropimorph.

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Cultivations, etc.:- Rotary grubbed: 17 Aug, 1985. 'Nitro-Chalk' applied: 20 Aug. Discd, spring-tine cultivated, SOWDATE 22 AUG seed sown: 22 Aug. SOWDATE 6 SEPT seed sown: 6 Sept. Fluazifop-P-butyl with wetting agent applied to SOWDATE 22 AUG plots: 26 Sept and to SOWDATE 6 SEPT plots: 17 Oct. First prochloraz applied: 12 Dec. 'Matrikerb' applied: 19 Dec. 'Nitram' applied: 12 Mar, 1986. Second prochloraz applied: 19 May. Iprodione applied: 25 June. Desiccant with wetting agent applied: 24 July. Combine harvested: 4 Aug. Previous crops: W. wheat 1984, w. barley 1985.

NOTE: Plant counts were made at establishment and again at the end of April.

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

***** TABLES OF MEANS *****

| SOWDATE | 22 AUG | 6 SEP | MEAN |
|----------|--------|----------|------|
| DRILL | | | |
| CNVNTIAL | 4.29 | 3.93 | 4.11 |
| MONOCENT | 4.32 | 3.96 | 4.14 |
| STANHAY | 4.30 | 3.67 | 3.98 |
| MEAN | 4.30 | 3.85 | 4.08 |
| SEEDRATE | 4 KG | 8 KG | MEAN |
| DRILL | | | |
| CNVNTIAL | 4.09 | 4.13 | 4.11 |
| MONOCENT | 4.10 | 4.18 | 4.14 |
| STANHAY | 3.93 | 4.03 | 3.98 |
| MEAN | 4.04 | 4.11 | 4.08 |
| SEEDRATE | 4 KG | 8 KG | MEAN |
| SOWDATE | | | |
| 22 AUG | 4.26 | 4.35 | 4.30 |
| 6 SEP | 3.83 | 3.88 | 3.85 |
| MEAN | 4.04 | 4.11 | 4.08 |
| INSCTCDE | NONE | DELTAMET | MEAN |
| DRILL | | | |
| CNVNTIAL | 4.09 | 4.13 | 4.11 |
| MONOCENT | 4.15 | 4.13 | 4.14 |
| STANHAY | 3.96 | 4.00 | 3.98 |
| MEAN | 4.07 | 4.09 | 4.08 |
| INSCTCDE | NONE | DELTAMET | MEAN |
| SOWDATE | | | |
| 22 AUG | 4.31 | 4.29 | 4.30 |
| 6 SEP | 3.83 | 3.88 | 3.85 |
| MEAN | 4.07 | 4.09 | 4.08 |

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GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

***** TABLES OF MEANS *****

| INSCTCDE | NONE | DELTAMET | MEAN | | |
|----------|----------|----------|----------|----------|----------|
| SEEDRATE | | | | | |
| 4 KG | 4.07 | 4.01 | 4.04 | | |
| 8 KG | 4.07 | 4.16 | 4.11 | | |
| MEAN | 4.07 | 4.09 | 4.08 | | |
| SOWDATE | 22 AUG | | 6 SEP | | |
| SEEDRATE | 4 KG | 8 KG | 4 KG | 8 KG | |
| DRILL | | | | | |
| CNVNTIAL | 4.25 | 4.34 | 3.93 | 3.92 | |
| MONOCENT | 4.29 | 4.34 | 3.92 | 4.01 | |
| STANHAY | 4.23 | 4.36 | 3.63 | 3.70 | |
| SOWDATE | 22 AUG | | 6 SEP | | |
| INSCTCDE | NONE | DELTAMET | NONE | DELTAMET | |
| DRILL | | | | | |
| CNVNTIAL | 4.42 | 4.17 | 3.76 | 4.09 | |
| MONOCENT | 4.20 | 4.44 | 4.11 | 3.82 | |
| STANHAY | 4.33 | 4.27 | 3.60 | 3.74 | |
| SEEDRATE | 4 KG | | 8 KG | | |
| INSCTCDE | NONE | DELTAMET | NONE | DELTAMET | |
| DRILL | | | | | |
| CNVNTIAL | 4.10 | 4.08 | 4.08 | 4.18 | |
| MONOCENT | 4.12 | 4.08 | 4.18 | 4.17 | |
| STANHAY | 3.99 | 3.88 | 3.94 | 4.13 | |
| SEEDRATE | 4 KG | | 8 KG | | |
| INSCTCDE | NONE | DELTAMET | NONE | DELTAMET | |
| SOWDATE | | | | | |
| 22 AUG | 4.31 | 4.20 | 4.31 | 4.38 | |
| 6 SEP | 3.83 | 3.83 | 3.82 | 3.94 | |
| DRILL | SEEDRATE | 4 KG | | 8 KG | |
| | INSCTCDE | NONE | DELTAMET | NONE | DELTAMET |
| DRILL | SOWDATE | | | | |
| CNVNTIAL | 22 AUG | 4.38 | 4.11 | 4.45 | 4.23 |
| | 6 SEP | 3.82 | 4.05 | 3.71 | 4.14 |
| MONOCENT | 22 AUG | 4.14 | 4.44 | 4.25 | 4.43 |
| | 6 SEP | 4.11 | 3.72 | 4.12 | 3.91 |
| STANHAY | 22 AUG | 4.41 | 4.06 | 4.25 | 4.48 |
| | 6 SEP | 3.57 | 3.70 | 3.63 | 3.77 |

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GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

| TABLE | DRILL | SOWDATE | SEEDRATE | INSCTCDE |
|-------|-------------------------------|---|------------------------------|------------------------------|
| SED | 0.084 | 0.069 | 0.069 | 0.069 |
| TABLE | DRILL SOWDATE | DRILL SEEDRATE | SOWDATE SEEDRATE | DRILL INSCTCDE |
| SED | 0.119 | 0.119 | 0.097 | 0.119 |
| TABLE | SOWDATE INSCTCDE | SEEDRATE INSCTCDE | DRILL SOWDATE SEEDRATE | DRILL SOWDATE INSCTCDE |
| SED | 0.097 | 0.097 | 0.168 | 0.168 |
| TABLE | DRILL SEEDRATE INSCTCDE | DRILL* SOWDATE SEEDRATE INSCTCDE | | |
| SED | 0.168 | 0.238 | | |

* WITHIN THE SAME LEVEL OF SOWDATE.SEEDRATE.INSCTCDE ONLY

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

| STRATUM | DF | SE | CV% |
|----------|----|-------|-----|
| BLOCK.WP | 22 | 0.238 | 5.8 |

GRAIN MEAN DM% 82.2

PLOT AREA HARVESTED 0.00347