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86/R/RA/6 Straw Treatments Before Sowing - W. Oilseed Rape

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86/R/RA/6

WINTER OILSEED RAPE

STRAW TREATMENTS BEFORE SOWING

Object: To study the effects of a range of methods of treating cereal straw on the establishment and yield of w. oilseed rape sown on two dates, with and without seedbed N - Little Hoos.

Sponsors: R.J. Darby, D.P. Yeoman.

Design: 2 randomised blocks of 6 plots split into 2 sub plots each split into 2 sub sub plots.

Whole plot dimensions: 6.0 x 33.0.

Treatments: All combinations of:-

Whole plots

- | | |
|-------------|---|
| 1. STR DRLL | Methods of disposing of previous barley straw and method of drilling: |
| BRN DD | Straw burnt, seed direct drilled |
| BRN C CD | Straw burnt, cultivated in, conventionally drilled |
| CHP C CD | Straw chopped, cultivated in, conventionally drilled |
| BAL C CD | Straw baled, soil cultivated, conventionally drilled |

Sub plots

- | | |
|-------------|------------------|
| 2. SOW DATE | Dates of sowing: |
| 22 AUG | 22 August, 1985 |
| 9 SEP | 9 September |

Sub sub plots

- | | |
|------------|---|
| 3. SDBED N | Seedbed nitrogen (kg N) as 'Nitro-Chalk': |
| 0 | |
| 50 | |

plus two extra whole plot treatments given all combinations of:-

Whole plots

- | | |
|-------------|---|
| 1. STR DRLX | Methods of disposing of previous barley straw and method of drilling: |
| BRN P CD | Straw burnt, soil ploughed, conventionally drilled |
| CHP P CD | Straw chopped, soil ploughed, conventionally drilled |

Sub plots

- | | |
|-------------|--------------------------------|
| 2. SOW DATX | Dates of sowing: |
| 9 SEP | 9 September, 1985 (duplicated) |

86/R/RA/6

Sub sub plots

3. SDBED NX Seedbed nitrogen (kg N) as 'Nitro-Chalk':

0
50

NOTES: (1) Main (non-ploughed) plots were rotary grubbed on 22 Aug and received the weedkiller fluazifop-P-butyl at 0.19 kg in 280 l with a wetting agent ('Agral' at 0.28 l), on 26 Sept to the first sowing and on 17 Oct to the second.
(2) (Extra ploughed) plots were ploughed on 20 Aug and rotary harrowed on 6 Sept.

Basal applications: Manures: 'Nitram' at 580 kg. Weedkillers: Clopyralid and propyzamide (as 'Matrikerb' at 1.6 kg) in 500 l. Fungicide: Iprodione at 0.50 kg in 500 l. Insecticide: Deltamethrin at 0.0062 kg in 500 l. Desiccant: Diquat at 0.60 kg ion in 500 l with a wetting agent ('Agral' at 0.50 l).

Seed: Bienvenu, dressed gamma HCH, thiram and fenpropimorph, sown at 8.0 kg.

Cultivations, etc.:— Straw treatments applied: 16 Aug, 1985. Rotary grubbed: 17 Aug. Discd: 22 Aug. Seedbed N treatments applied: 20 Aug. Insecticide applied: 31 Oct. Weedkiller applied: 19 Dec. 'Nitram' applied: 12 Mar, 1986. Fungicide applied: 25 June. Desiccant with wetting agent applied: 24 July. Combine harvested: 4 Aug. Previous crops: W. wheat 1984, w. barley 1985.

NOTE: Emergence counts were made in autumn and plant counts in early March.

86/R/RA/6

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

SOW DATE	22 AUG	9 SEP	MEAN
STR DRLL			
BRN DD	4.00	2.91	3.45
BRN C CD	4.05	3.27	3.66
CHP C CD	3.88	1.19	2.54
BAL C CD	4.04	2.03	3.03
MEAN	3.99	2.35	3.17
SDBED N	0	50	MEAN
STR DRLL			
BRN DD	3.35	3.55	3.45
BRN C CD	3.60	3.73	3.66
CHP C CD	2.43	2.65	2.54
BAL C CD	3.01	3.06	3.03
MEAN	3.10	3.24	3.17
SDBED N	0	50	MEAN
SOW DATE			
22 AUG	3.95	4.04	3.99
9 SEP	2.25	2.45	2.35
MEAN	3.10	3.24	3.17
SOW DATE	22 AUG	9 SEP	
SDBED N	0	50	0
STR DRLL			
BRN DD	3.94	4.05	2.77
BRN C CD	4.01	4.10	3.19
CHP C CD	3.83	3.94	1.03
BAL C CD	4.02	4.06	1.99
SDBED NX	0	50	MEAN
STR DRLX			
BRN P CD	4.08	3.72	3.90
CHP P CD	2.81	2.80	2.80
MEAN	3.44	3.26	3.35

GRAND MEAN 3.23

86/R/RA/6

GRAIN (AT 90% DRY MATTER) TONNES/HECTARE

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

TABLE	STR DRLL	SOW DATE	SDBED N	STR DRLL SOW DATE
SED	0.890	0.087	0.078	0.898
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: STR DRLL				0.174

TABLE	STR DRLL SDBED N	SOW DATE SDBED N	STR DRLL SOW DATE SDBED N
SED	0.897	0.117	0.912
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: STR DRLL	0.157		0.234
SOW DATE		0.111	
STR DRLL.SOW DATE			0.222
STR DRLL.SDBED N			0.234

TABLE	STR DRLX	SDBED NX	STR DRLX SDBED NX
SED	0.890	0.111	0.897
EXCEPT WHEN COMPARING WITHIN THE SAME LEVEL(S) OF: STR DRLX			0.166

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

STRATUM	DF	SE	CV%
BLOCK.WP	5	0.890	27.5
BLOCK.WP.SP	8	0.174	5.4
BLOCK.WP.SP.SSP	14	0.222	6.9

GRAIN MEAN DM% 75.8

SUB PLOT AREA HARVESTED 0.00370