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86/R/BE/6 Varieties, Row Spacing and Plant Health - S. Beans

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86/R/BE/6

SPRING BEANS

VARIETIES, ROW SPACING AND PLANT HEALTH

Object: To compare four varieties of spring-sown field beans at two row spacings and two amounts of pest and disease control - Stackyard.

Sponsors: J. McEwen, D.P. Yeoman.

Design: 3 randomised blocks of 16 plots.

Whole plot dimensions: 6.0 x 10.0.

Treatments: All combinations of:-

1. VARIETY Varieties sown at 60 seeds per square metre:
ALFRED
MINDEN
TICOL
TROY
2. ROW SPAC Spacing between rows (cm):
12
48
3. PATHCONT Pest and pathogen control:
STANDARD Pirimicarb at 0.14 kg in 200 l on 16 July, 1986
ENHANCED Deltamethrin at 0.0079 kg in 500 l on 3 June and
23 June
Pirimicarb at 0.14 kg in 500 l on 9 July and in 200 l
on 16 July
Benomy1 at 0.50 kg in 500 l on 18 July
Maneb at 0.80 kg and mancozeb at 0.80 kg in 500 l on
1 Aug
Triadimefon at 0.50 kg in 500 l on 19 Aug

Basal applications: Weedkillers: Trietazine at 1.2 kg and simazine at 0.17 kg in 200 l. Desiccant: Diquat at 0.60 kg ion with a wetting agent ('Agral' at 0.075 l) in 500 l.

Cultivations, etc.:- Ploughed: 20 Nov, 1985. Rotary harrowed, seed sown: 28 Apr, 1986. Weedkillers applied: 2 May. Desiccant with wetter applied: 17 Sept. Combine harvested: 23 Sept. Previous crops: W. wheat 1984 and 1985.

NOTES: (1) Establishment counts were made. Disease assessments were made in September. At maturity plant heights, lodging and components of yield were assessed.

(2) Because of seed shortage five plots were not sown, those with treatment combinations

| | | | | | |
|----------|----------|----------|----------|----------|----------|
| VARIETY | TICOL | TICOL | ALFRED | TICOL | TICOL |
| ROW SPAC | 12 | 48 | 48 | 48 | 12 |
| PATHCONT | ENHANCED | STANDARD | ENHANCED | ENHANCED | STANDARD |

Estimated values were used in the analysis.

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GRAIN TONNES/HECTARE

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

| ROW SPAC | 12 | 48 | MEAN |
|----------|------|------|------|
| VARIETY | | | |
| ALFRED | 5.15 | 4.83 | 4.99 |
| MINDEN | 4.95 | 4.78 | 4.87 |
| TICOL | 4.54 | 4.04 | 4.29 |
| TROY | 4.80 | 4.01 | 4.40 |
| MEAN | 4.86 | 4.41 | 4.64 |

| PATHCONT | STANDARD | ENHANCED | MEAN |
|----------|----------|----------|------|
| VARIETY | | | |
| ALFRED | 4.74 | 5.24 | 4.99 |
| MINDEN | 4.71 | 5.02 | 4.87 |
| TICOL | 4.21 | 4.37 | 4.29 |
| TROY | 4.13 | 4.68 | 4.40 |
| MEAN | 4.45 | 4.83 | 4.64 |

| PATHCONT | STANDARD | ENHANCED | MEAN |
|----------|----------|----------|------|
| ROW SPAC | | | |
| 12 | 4.73 | 4.99 | 4.86 |
| 48 | 4.16 | 4.67 | 4.41 |
| MEAN | 4.45 | 4.83 | 4.64 |

| ROW SPAC | 12 | 48 | | |
|----------|----------|----------|----------|----------|
| PATHCONT | STANDARD | ENHANCED | STANDARD | ENHANCED |
| VARIETY | | | | |
| ALFRED | 4.92 | 5.38 | 4.55 | 5.11 |
| MINDEN | 4.82 | 5.09 | 4.61 | 4.96 |
| TICOL | 4.54 | 4.55 | 3.88 | 4.20 |
| TROY | 4.66 | 4.95 | 3.60 | 4.41 |

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

| TABLE | VARIETY | ROW SPAC | PATHCONT | VARIETY ROW SPAC |
|-------|---------|----------|----------|---------------------|
| SED | 0.100 | 0.070 | 0.070 | 0.141 |

| TABLE | VARIETY PATHCONT | ROW SPAC PATHCONT | VARIETY ROW SPAC PATHCONT |
|-------|---------------------|----------------------|---------------------------------|
| SED | 0.141 | 0.100 | 0.199 |

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

| STRATUM | DF | SE | CV% |
|----------|----|-------|-----|
| BLOCK.WP | 25 | 0.244 | 5.3 |

GRAIN MEAN DM% 80.6

| | | |
|---------------------|-------------|---------|
| PLOT AREA HARVESTED | ROW SPAC 12 | 0.00300 |
| | ROW SPAC 48 | 0.00288 |