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73/R/RN/9 - Cereal Disease Reference Plots - Beans, Oats, Wheat

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73/R/RN/9

CEREAL DISEASE REFERENCE PLOTS

Object: To study the effects of intensive cereal cropping on the incidence of soil-borne diseases, especially in relation to seasonal variation - Pennell's Piece.

Sponsors: D.B. Slope, E.W. Broom, G.A. Salt.

The eleventh year, winter wheat, spring oats, beans.

For previous years see 63/C/10(t), 64-65/C/9, 66/C/7, 67-68/C/5 and 69-72/R/RN/9.

Design: 2 randomised blocks of 6 plots.

Whole plot dimensions: 17.1 x 4.27. Area harvested: 0.00479.

Treatments: Previous crops (1963-72):-

PREVCROP

1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
W	W	W	BE	O	W	W	W	BE	O	W/W/BE/O
W	W	BE	O	W	W	W	BE	O	W	W/BE/O/W
W	BE	O	W	W	W	BE	O	W	W	BE/O/W/W
BE	O	W	W	W	BE	O	W	W	W	-
O	W	W	W	BE	O	W	W	W	BE	-
W	W	W	W	W	W	W	W	W	W	W/W/W/W

where: W = wheat, BE = beans, O = oats

NOTE: Spring wheat series discontinued from 1973.

Standard applications:

Winter wheat: Manures: (0:14:28) at 270 kg, combine drilled, 'Nitro-Chalk' at 500 kg. Weedkillers: Terbutryne and related triazines ('Prebane' at 4.5 kg in 220 l), MCPA, mecoprop and dicamba ('Tetralax Plus' at 9.1 l in 220 l).

Spring beans: Manures: (0:14:28) at 450 kg, placement drilled. Insecticide: Demeton-s-methyl at 0.25 kg in 370 l.

Spring oats: Manures: (0:14:28) at 270 kg, combine drilled, 'Nitro-Chalk' at 200 kg. Weedkiller: MCPA, mecoprop and dicamba ('Tetralax Plus' at 7.0 l in 220 l).

Seed: Winter wheat: Cappelle, sown at 200 kg
 Spring beans: Minor, sown at 220 kg
 Spring oats: Manod, sown at 190 kg.

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Cultivations, etc.:— All plots: Ploughed: 12 Oct, 1972. Winter wheat: Rotary harrowed, seed sown: 13 Oct. 'Prebane' applied: 20 Oct. N applied: 23 Mar, 1973. 'Tetralix Plus' applied: 26 Apr. Combine harvested: 22 Aug.
 Spring beans: Power harrowed: 8 Mar, 1973. Seed sown: 9 Mar. Insecticide applied: 8 June. Combine harvested: 4 Sept.
 Spring oats: Power harrowed: 8 Mar, 1973. Seed sown: 14 Mar. N applied: 23 Mar. Weedkiller applied: 15 May. Combine harvested: 23 Aug.

- NOTES: (1) Yields were taken for winter wheat only.
 (2) Estimates were made in July of incidence of Take-all (*Gaeumannomyces graminis*) and eyespot (*Cercospora herpotrichoides*) in the wheat.

TABLES OF MEANS

WINTER WHEAT

GRAIN: TONNES/HECTARE

PREVCROP				Mean
W/W/BE/O	W/BE/O/W	BE/O/W/W	W/W/W/W	
5.51	5.13	4.01	5.05	4.92

Mean D.M. % 82.5