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# Yields of the Field Experiments 1986

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## 86/R/BE/1 Control of Rust - W. Beans

### Rothamsted Research

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86/R/BE/1

WINTER BEANS

CONTROL OF RUST

Object: To study the effects of two fungicides applied at two times on the incidence of rust and on the yield of w. beans sown at two populations - Bones Close.

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

Design: 3 randomised blocks of 8 plots.

Whole plot dimensions: 6.0 x 10.0.

Treatments: All combinations of:-

1. RUSTFUNG            Fungicides, maneb plus mancozeb, against rust:  
    NONE                None (duplicated)  
    EARLY               Applied 18 July, 1986 when first rust pustules seen  
    LATER               Applied 1 Aug, two weeks after first rust pustules  
                              seen
  
2. POPULATN           Plant populations per hectare:  

	Seeds sown	Plants established
120	120,000	73,000
360	360,000	211,000

NOTE: Maneb and mancozeb were each applied at 0.80 kg in 500 l.

Basal applications: Weedkillers: Simazine at 1.2 kg with propyzamide at 0.85 kg in 200 l. Insecticide: Deltamethrin at 0.0079 kg in 200 l on two occasions. Fungicides: Benomyl at 0.50 kg with chlorothalonil at 1.0 kg and a wetting agent ('Agral' at 0.075 l) in 200 l on two occasions. Desiccant: Diquat at 0.60 kg ion with a wetting agent ('Agral' at 0.075 l) in 500 l.

Seed: Banner, dressed with carbendazim and thiram.

Cultivations, etc.: - Heavy spring-tine cultivated once: 12 Sept, 1985 and twice more: 18 Sept. Seed broadcast: 17 Oct. Ploughed: 18 Oct. Weedkillers applied: 1 Nov. Insecticide applied: 1 May, 1986 and 19 May. Fungicides with wetting agent applied: 30 May, 16 June. Desiccant with wetting agent applied: 17 Sept. Combine harvested: 22 Sept. Previous crops: W. wheat 1984, s. barley 1985.

NOTE: Plant counts were made in June, disease assessments were made in July and August and components of yield were measured at maturity.

86/R/BE/1

GRAIN TONNES/HECTARE

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

POPULATN	120	360	MEAN
RUSTFUNG			
NONE	4.96	5.99	5.48
EARLY	4.84	5.95	5.39
LATER	4.64	5.93	5.29
MEAN	4.85	5.97	5.41

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

TABLE	RUSTFUNG	POPULATN	RUSTFUNG POPULATN	
SED	0.258		0.366	MIN REP
	0.224	0.183	0.317	MAX-MIN
			0.258	MAX REP

RUSTFUNG  
 MAX-MIN NONE V ANY OF THE REMAINDER  
 MIN REP ANY OF THE REMAINDER  
 MAX REP NONE

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

STRATUM	DF	SE	CV%
BLOCK.WP	16	0.448	8.3
GRAIN MEAN DM%	84.8		
PLOT AREA HARVESTED	0.00320		