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ROTHAMSTED  
RESEARCH

## Yields of the Field Experiments 1982

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### 82/R/BE/12 Control of Rust - Spring Beans

#### Rothamsted Research

Rothamsted Research (1983) *82/R/BE/12 Control of Rust - Spring Beans* ; Yields Of The Field Experiments 1982, pp 298 - 299 - DOI: <https://doi.org/10.23637/ERADOC-1-33>

82/R/BE/12

SPRING BEANS

CONTROL OF RUST

Object: To study the effects of fungicides on the control of rust (*Uromyces fabae*) and on the yield of spring beans - Long Hoos VI/VII 5.

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

Design: 3 randomised blocks of 10 plots.

Whole plot dimensions: 2.03 x 3.05.

Treatments: All combinations of:-

1. C S FUNG            Fungicide to control chocolate spot but not rust:  
    NONE                None  
    BENOMYL            Benomyl at 1.0 kg in 340 l on 2 July, 1982
2. RUSTFUNG           Fungicides to control rust:  
    MAN+MANC          Maneb at 0.8 kg + mancozeb at 0.8 kg in 340 l  
    PROPICON           Propiconazole at 0.12 kg in 340 l
3. RFNGTIME          Times of applying fungicides to control rust:  
    TWICE                Twice on 9 July and 13 Aug  
    THRICE                Thrice, on 9 July, 23 July and 13 Aug

plus one extra treatment:

EXTRA

NONE                  None (duplicated)

Basal applications: Manures: Chalk at 2.9 t. Muriate of potash at 520 kg.  
Weedkillers: Trietazine at 1.0 kg with simazine at 0.14 kg in 340 l.  
Insecticide: Permethrin applied twice at 0.06 kg in 340 l.

Seed: Minden, sown at 270 kg.

Cultivations, etc.: - Muriate of potash applied: 12 Nov, 1981. Chalk applied: 27 Nov. Ploughed: 29 Jan, 1982. Spring-tine cultivated: 26 March. Spring-tine cultivated, power harrowed, seed sown: 29 Mar. Weedkillers applied: 14 Apr. Insecticide applied: 11 May, 26 May. Harvested by hand: 9 Sept. Previous crops: Potatoes 1980, fallow 1981.

NOTE: The incidence of chocolate spot and rust was assessed from early July until maturity. Components of yield were measured at maturity.

82/R/BE/12  
GRAIN TONNES/HECTARE

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

RUSTFUNG	MAN+MANC	PROPICON	MEAN
C S FUNG			
NONE	5.28	5.18	5.23
BENOMYL	5.65	5.60	5.62
MEAN	5.46	5.39	5.43

RFNGTIME	TWICE	THRICE	MEAN
C S FUNG			
NONE	5.06	5.40	5.23
BENOMYL	5.47	5.77	5.62
MEAN	5.27	5.59	5.43

RFNGTIME	TWICE	THRICE	MEAN
RUSTFUNG			
MAN+MANC	5.36	5.57	5.46
PROPICON	5.17	5.61	5.39
MEAN	5.27	5.59	5.43

C S FUNG	RFNGTIME	TWICE	THRICE
NONE	RUSTFUNG		
	MAN+MANC	5.05	5.50
	PROPICON	5.06	5.30
BENOMYL	MAN+MANC	5.67	5.63
	PROPICON	5.28	5.92

EXTRA NONE 4.51

GRAND MEAN 5.24

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

TABLE	C S FUNG	RUSTFUNG	RFNGTIME	C S FUNG RUSTFUNG
SED	0.138	0.138	0.138	0.195

TABLE	C S FUNG RFNGTIME	RUSTFUNG RFNGTIME	C S FUNG RUSTFUNG RFNGTIME
SED	0.195	0.195	0.276

SED FOR COMPARING EXTRA NONE WITH ANY ITEM IN  
C S FUNG.RUSTFUNG.RFNGTIME TABLE IS 0.239

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

STRATUM	DF	SE	CV%
BLOCK.WP	19	0.338	6.5
GRAIN MEAN DM%	87.0	PLOT AREA HARVESTED	0.00015