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79/R/BE/15 Effects of *Vicia* Cryptic Virus - Beans

Rothamsted Research

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79/R/BE/15

SPRING BEANS

EFFECTS OF VICIA CRYPTIC VIRUS

Object: To study the effects on growth and yield of field beans of the presence of virus-like particles (provisionally named vicia cryptic virus (VCV)) found in the sap of certain plants - Long Hoos VI/VII 2.

Sponsors: A.J. Cockbain, R.H. Kenten.

Design: 3 randomised blocks of 8 plots.

Whole plot dimensions: 1.52 x 2.43.

Treatments:

LINE V	Line number and VCV infection:
7 V	Line 7, VCV particles present
14 V	" 14, " " "
20 V	" 20, " " "
39 V	" 39, " " "
13 0	" 13, " " absent
15 0	" 15, " " "
17 0	" 17, " " "
38 0	" 38, " " "

NOTE: Seed was sown by hand in rows 51 cm apart seed spaced 30 cm apart in the row.

Basal applications: Manures: Chalk at 2.9 t. Weedkillers: Trietazine and simazine (as 'Rental SC' at 3.0 kg) in 340 l. Aphicide: Permethrin at 0.15 kg in 340 l. Pirimicarb at 0.14 kg in 340 l.

Cultivations, etc.: - Chalk applied: 31 Oct, 1978. Ploughed: 10 Nov. Spring-tine cultivated: 19 Apr, 1979. Rotary cultivated, seed sown: 20 Apr. Weedkillers applied: 1 May. Permethrin applied twice: 26 June and 4 July. Pirimicarb applied twice: 9 and 26 July. Harvested by hand: 21 Sept. Previous cropping: Potatoes 1977, barley 1978.

NOTE: Plant counts were made at emergence. Pest and disease incidence and growth parameters were assessed throughout the season.

79/R/BE/15

GRAIN TONNES/HECTARE

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

LINE V	7 V	14 V	20 V	39 V	13 0	15 0	17 0	38 0	MEAN
	4.56	4.41	3.28	4.99	3.93	4.59	4.53	3.45	4.21

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

TABLE	LINE V
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SED	0.339

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

STRATUM	DF	SE	CV%
BLOCK.WP	14	0.415	9.9

GRAIN MEAN DM% 85.8

PLOT AREA HARVESTED 0.00037