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80/R/BE/16 Spring Beans *Vicia* Cryptic Virus

Rothamsted Research

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80/R/BE/16

SPRING BEANS

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 III 1.

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

Design: 3 randomised blocks of 12 plots.

Whole plot dimensions: 1.52 x 2.44.

Treatments:

LINE V	Line number and VCV infection:			
7 V	Line 7, VCV particles present			
14 V	" 14,	"	"	"
20 V	" 20,	"	"	"
39 V	" 39,	"	"	"
47 V	" 47,	"	"	"
56 V	" 56,	"	"	"
13 O	" 13,	"	"	absent
15 O	" 15,	"	"	"
17 O	" 17,	"	"	"
38 O	" 38,	"	"	"
14 1 O	" 14 1,	"	"	"
20 1 O	" 20 1,	"	"	"

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

Basal applications: Weedkillers: Trietazine and simazine (as 'Rental SC' at 3.0 l) in 340 l. Aphicide: Permethrin at 0.15 kg in 340 l. Pirimicarb at 0.14 kg in 340 l.

Seed: Minden.

Cultivations, etc.: Ploughed: 14 Nov, 1979. Spring-tine cultivated: 7 Apr, 1980. Power harrowed: 9 Apr. Seed sown: 10 Apr. Weedkillers applied: 15 Apr. Permethrin applied: 23 May. Pirimicarb applied: 11 July. Harvested by hand: 3 Oct. Previous crops: Potatoes 1978, s. barley 1979.

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

80/R/BE/16

GRAIN TONNES/HECTARE

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

LINE	V	
7	V	1.48
14	V	1.84
20	V	1.71
39	V	1.74
47	V	0.80
56	V	2.41
13	O	2.25
15	O	1.78
17	O	2.34
38	O	1.00
14	1 O	2.19
20	1 O	0.94
MEAN		1.71

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

TABLE	LINE	V
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SED		0.314

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

STRATUM	DF	SE	CV%
BLOCK.WP	22	0.385	22.6

GRAIN MEAN DM% 89.0

PLOT AREA HARVESTED 0.00037