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87/R/CS/212

SEASONAL EFFECTS OF TAKE-ALL

Object: To study the incidence of take-all (*Gaeumannomyces graminis*) in continuous w. wheat and in first, second and third w. wheats after a break - Great Harpenden I.

Sponsors: D. Hornby, R.J. Gutteridge.

The tenth year, s. beans, w. wheat.

For previous years see 78-86/R/CS/212.

Design: 3 randomised blocks of 8 plots.

Whole plot dimensions: 5.33 x 10.7.

Treatments:

PREVCROP Previous crops before w. wheat 1987:

	1984	1985	1986
CONT W	W	W	W
FIRST W	W	BE	W
SECOND W	BE	W	W
THIRD W	W	W	W
BEANS 1	W	W	BE (duplicated)
BEANS 2	W	BE	BE

BE = s. beans, W = w. wheat

NOTE: One additional crop sequence was in s. beans 1987, yields not taken.

Standard applications:

W. wheat: Manures: Chalk at 5.0 t. 'Nitram' at 410 kg. Weedkillers: Isoproturon at 2.5 kg in 200 l. Fluroxypyr at 0.20 kg with clopyralid at 0.05 kg and bromoxynil at 0.24 kg in 500 l.

Seed: W. wheat: Avalon, sown at 180 kg.
S. beans: Minden, sown at 260 kg.

Cultivations, etc.:-

Both crops: Chalk applied: 24 Sept, 1986. Ploughed: 29 Sept. Rotary harrowed: 30 Sept.

W. wheat: Seed sown: 1 Oct, 1986. Isoproturon applied: 14 Apr, 1987. N applied: 17 Apr. Remaining weedkillers applied: 21 Apr. Combine harvested: 1 Sept.

S. beans: Rotary harrowed: 20 Mar, 1987. Seed sown: 31 Mar. Hand hoed: 27 May. Combine harvested: 21 Sept.

NOTE: Take-all was assessed in soil and in w. wheat roots.

87/R/CS/212

GRAIN TONNES/HECTARE

***** Tables of means *****

PREVCROP	CONT W	FIRST W	SECOND W	THIRD W	BEANS 1	BEANS 2	Mean
	4.63	4.90	4.68	5.07	5.24	6.00	5.11

*** Standard errors of differences of means ***

Table	PREVCROP
s.e.d.	0.351 min.rep
	0.304 max-min

	PREVCROP
max-min	BEANS 1 v any of the remainder
min.rep	any of the remainder

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP	13	0.430	8.4

GRAIN MEAN DM% 85.4

PLOT AREA HARVESTED 0.00303