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71/W/CS/56 Nematodes and Verticillium - Potatoes

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71/W/CS/56

NEMATODES AND VERTICILLIUM

Object: To study the effects, direct and residual of methyl bromide, residual only of aldicarb, on *Heterodera rostochiensis* and *Verticillium* on potatoes grown continuously for three years - Woburn Broad Mead I.

The third year, potatoes.

For previous years see 69/W/P/2(t) and 70/W/CS/56(t).

Design: 4 blocks of 6 plots.

Whole plot dimensions: 2.84 x 13.4. Area harvested: 0.00147.

Treatments:

Chemicals 1971: 487 (M1), 975 (M2) kg methyl bromide.

NOTE: These treatments were balanced over (OW) and (BO) applied in 1969. No fresh treatments were applied in 1970.

Basal applications: 1530 kg (13:13:20), 605 kg Epsom salts. Weedkiller: Linuron at 1.12 kg in 281 l. Fungicide with insecticide: Mancozeb at 1.34 kg with demeton-s-methyl at 246 ml in 416 l. Fungicide: Mancozeb at 1.34 kg in 371 l.

Cultivations, etc.: Deep-tine cultivated 1st stroke: 29 Oct, 1970, 2nd stroke: 30 Oct, 3rd stroke: 18 Dec. Methyl bromide applied under gas tight sheets: 21 Apr, 1971. Gas tight sheets removed: 26 Apr. NPK applied: 27 Apr. Mg applied, rotary cultivated, potatoes planted: 28 Apr. Weedkiller applied: 17 May. Rotary ridged twice: 21 June, 25 June. Fungicide with insecticide applied: 29 June. Fungicide applied: 12 Aug. Lifted: 13 Sept. Variety: Pentland Crown.

NOTE: Soil samples were taken after treatments were applied and after harvest for numbers of cysts, eggs and larvae of *Heterodera rostochiensis* and propagules of *Verticillium*.

Standard error per plot.

Total tubers, tonnes/hectare: 3.75 or 21.6% (15 d.f.)

71/W/CS/56

SUMMARY OF RESULTS

1969					1971		
00	MD	MW	TO		M1	M2	Mean
TOTAL TUBERS: TONNES/HECTARE							
(±1.88)							
5.9	6.2	7.7	8.8		37.3	38.1	17.3
% WARE: 4.44 CM (1.75 INCH) RIDDLE							
29.7	33.9	45.2	42.5		87.5	89.8	54.8