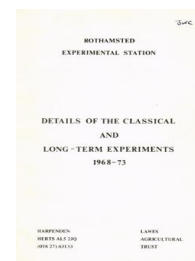


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Details of the Classical and Long-term Experiments 1968-73



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W/RN/15 Rotation and Fumigation - Barley, Potatoes, Sugar Beet

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ROTATION AND FUMIGATION

WOBURN BUTT CLOSE

(W/RN/15)

This experiment, started in 1969, is designed to study different ways of using nematicides in a three-course rotation and to determine the effects on crop yield and incidence of pathogenic nematodes.

Design

3 series each of 2 blocks of 3 plots split into 7. One phase of a 3-course rotation, potatoes, barley and sugar beet is present in each series.

Treatments

Each crop tests all combinations of:—

<i>Whole plots:</i>	N fertiliser (kg N)	
	Potatoes and Sugar beet	Barley
	75	38
	150	75
	225	113

<i>Sub-plots:</i>	Fumigants	
(a)	None	
(b)	Dichloropropane/dichloropropene	
	('D-D' at 448 kg):	before potatoes
		before sugar beet
		before barley
		before all crops

Plus 2 reserve sub-plots: one no fumigant:
one allocated in 1970 to dazomet at 224 kg before all crops after no treatment in 1969.

NOTE: 'D-D' has been injected into ploughed or cultivated soil in autumn or early winter. Dazomet has been applied and rotary cultivated in before the 'D-D' injection except in December 1971 when it was worked in the following day. In 1971 and 1972 all sub-plots were rotary cultivated, in 1970 and 1973 only dazomet-treated sub-plots were cultivated following application.

Standard manuring

Barley:	310 kg (0-20-20)
Potatoes:	1050 kg (0-14-28)
Sugar beet:	1050 kg (0-14-28)
1971:	13 kg B ₂ O ₃ as 'Solubor'
1972 & '73:	7 kg B ₂ O ₃ as 'Solubor'

Liming

1971-73: 2.5 t magnesian limestone in autumn before sugar beet.

Varieties

Barley:	1969	Zephyr
	1970-73	Julia (dressed with ethirimol 1972 and 73)

Potatoes:	1969	King Edward
	1970-73	Pentland Crown
Sugar beet	1969-73	Klein E

Weedkillers

Barley:	1969-72	Ioxynil with mecoprop
Potatoes:	1969-73	Linuron: alone 1971 and 1973 and with paraquat in 1969, 70 and 72.
Sugar beet:	1969-70 and 1972-73	Phenmedipham; and paraquat in 1972

Other chemicals applied

Fungicides	Potatoes	1969-73	Mancozeb
Insecticides	Potatoes and Sugar beet	1969-73	Demeton-s-methyl

Plot area harvested

Barley	0.00052
Potatoes	0.00052 – 0.00104
Sugar beet	0.00057 – 0.00156

Soil series Cottenham series