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83/W/RN/13 Intensive Cereals - W. Wheat, Ley

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83/W/RN/13

INTENSIVE CEREALS

Object: To study the effects of intensive cereal cropping on yield, incidence of soil-borne pathogens and organic matter in the soil - Woburn Stackyard I.

Sponsors: A.E. Johnston, J. McEwen.

The 18th year, w. wheat, ley.

For previous years see 'Details' 1973 and 74-82/W/RN/13.

Treatments:-

Until 1977 the experiment tested all phases of the five-course rotation ley, potatoes, cereal, cereal, cereal and continuous cereal. From 1977 to 1980 all phases were cropped with cereal. The experiment was in two halves, one in which the cereal was w. wheat, sown on part of the site of the classical wheat experiment 1877-1954 and one in which the cereal was s. barley, sown on part of the site of the classical barley experiment 1877-1954. From 1981 the experiment is being used to establish leys of different durations for test on w. wheat in 1987. Plots not in ley are sown to w. wheat on both halves of the experiment.

The following crop sequences are being followed:

1981	82	83	84	85	86	87
W(5)	W	W	W	W	L	W
W(5)	W	W	W	L	L	W
W(6)	W	W	L	L	L	W
W(7)	W	L	L	L	L	W
W(8)	L	L	L	L	L	W
L	L	L	L	L	L	W

L = clover/grass ley W = w. wheat (5)etc = number of years continuous cereal

NOTE: Yields are not taken in the period 1981-86.

Standard applications:

W. wheat: Manures: (5:14:30) at 340 kg, N at 150 kg as 'Nitro-Chalk'.
Weedkillers: Mecoprop with bromoxynil and ioxynil (as 'Brittox' at 3.5 l) with the fungicide in 280 l. Fungicide: Prochloraz at 0.4 kg.
Ley, 1st year: Manures: (5:14:30) at 340 kg, N at 50 kg as 'Nitro-Chalk'. Weedkiller: Paraquat at 0.84 kg ion in 280 l.
Ley, 2nd and 3rd years: Manures: (0:18:36) at 380 kg.

Seed: W. wheat: Avalon, sown at 190 kg.

Ley: S 23 perennial ryegrass at 27 kg, Blanca white clover at 7 kg, mixture sown at 34 kg.

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Cultivations, etc.:-

W. wheat: Ploughed: 20 Sept, 1982. Spring-tine cultivated: 28 Sept.
NPK applied: 30 Sept. Rotary cultivated, seed sown: 1 Oct.
Weedkillers and fungicide applied: 15 Apr, 1983. N applied: 28 Apr.
Combine harvested: 5 Aug.
Ley, 1st year: Ploughed: 20 Sept, 1982. Spring-tine cultivated:
28 Sept. NPK applied: 30 Sept. Spring-tine cultivated: 8 Mar, 1983.
N applied, rotary cultivated: 17 Mar. Weedkiller applied: 16 May.
Rotary cultivated: 7 June. Seed sown: 9 June. Cut: 15 Aug.
Ley, 2nd and 3rd years: PK applied: 11 Jan, 1983. Cut: 21 June, 15 Aug.