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

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85/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 20th year, w. wheat, ley.

For previous years see 'Details' 1973 and 74-84/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 tests 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 80 kg followed by N at 70 kg, as 'Nitro-Chalk' (27.5% N). Weedkillers: Mecoprop at 1.2 kg with bromoxynil at 0.3 kg and ioxynil at 0.3 kg in 250 l. Fungicides: Propiconazole on two occasions at 0.25 kg in 250 l on the first occasion and at 0.12 kg in 250 l on the second occasion with carbendazim and maneb (as 'Septal' at 2.5 kg).

Ley, 1st year: Manures: (5:14:30) at 340 kg. N at 50 kg as 'Nitro-Chalk' (27.5% N).

Ley, 2nd, 3rd, 4th and 5th years: Manures: (0:18:36) at 380 kg.

Seed: W. wheat: Avalon, sown at 160 kg.

Ley: S23 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: 3 Oct, 1984. NPK applied, spring-tine cultivated, seed sown: 9 Oct. N applied: 15 Apr, 1985, 24 Apr. Weedkillers applied: 16 May. Propiconazole applied: 17 June, 2 July. 'Septal' applied: 2 July. Combine harvested: 2 Sept.

Ley, 1st year: Ploughed: 3 Oct, 1984. Spring-tine cultivated: 22 Apr, 1985. N applied: 24 Apr. NPK applied: 25 Apr. Spring-tine cultivated with crumbler attached, seeds sown: 1 May. Cut: 20 Nov.

Ley, 2nd, 3rd, 4th and 5th years: PK applied: 25 Jan, 1985. Chain harrowed: 12 Apr. Cut: 1 July, 20 Nov.