

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1971

[Full Table of Content](#)



71/R/CS/74 Break Crops and Wheat - Barley, Oats, Beans, Maize, Clover, Undersown Trefoil

Rothamsted Research

Rothamsted Research (1972) *71/R/CS/74 Break Crops and Wheat - Barley, Oats, Beans, Maize, Clover, Undersown Trefoil* ; Yields Of The Field Experiments 1971, pp 220 - 222 - DOI:
<https://doi.org/10.23637/ERADOC-1-97>

71/R/CS/74

BREAK CROPS AND WHEAT

Object: To study the effects of different break crops on yields and soil-borne pathogens of a following sequence of cereals - Fosters West Side.

The first year, barley, oats, beans, maize, clover, undersown trefoil.

Design: 3 randomised blocks of 10 plots.

Whole plot dimensions: 4.27 x 39.3. Area harvested: Barley: 0.01112, Oats: 0.00839, Beans: 0.01258, Clover: 0.00399.

Treatments: Crops:- Maize receiving N at 100 kg, 200 kg as 'Nitro-Chalk' in the seedbed, spring beans (2 plots per block), clover (2 plots per block) and all combinations of:-
1. Crops: Barley, oats, each receiving N at 50 kg as 'Nitro-Chalk' in the seedbed.
2. Undersowing: None (O), trefoil (T).

Basal and standard applications:- 505 kg (0:20:20) across the plough furrow. Weedkillers: Paraquat at 0.56 kg ion in 225 l. Ioxynil octanoate, bromoxynil octanoate and the iso-octyl ester of dichlorprop ('Oxytril P' at 1.4 l in 225 l) to barley and oats (not undersown). MCPB at 2.8 kg in 225 l to undersown barley and oats. Insecticide: Demeton-s-methyl at 245 g in 438 l to beans.

Cultivations, etc.: Paraquat applied: 14 Oct, 1970. Ploughed: 13 Oct. PK applied: 24 Feb, 1971.

Barley: Seed drilled at 157 kg: 25 Feb, 1971. N applied: 24 Mar. Trefoil (variety English) undersown at 27 kg: 13 Apr. 'Oxytril P' applied: 18 May. Combine harvested: 11 Aug. Variety: Julia.
Oats: Seed drilled at 191 kg: 4 Mar, 1971. N applied: 24 Mar. Trefoil (variety English) undersown at 27 kg: 13 Apr. 'Oxytril P' applied: 18 May. Combine harvested: 16 Aug. Variety: Manod.
Spring beans: Seed drilled at 224 kg: 25 Feb, 1971. Insecticide applied: 1 July. Combine harvested: 2 Sept. Variety: Maris Bead.
Maize: N applied, seed drilled at 7.8 kg: 6 May, 1971. Seed resown at 58 kg: 10 May. Cut twice: 30 Oct, 1 Nov. Variety: First sowing - Kelvedon 59A, second - Pioneer 131,
Clover: Seed sown at 34 kg: 28 Apr, 1971. Topped and weeds carted of: 22 June. Topped second time: 19 July. Cut twice: 18 Aug, 29 Oct. Variety: Essex Broadleaf Red.

71/R/CS/74

Previous crops: Spring oilseed rape 1969, winter wheat 1970.

NOTE: Barley plots were sampled in summer for eyespot (*Cercospora herpotrichoides*) and take-all (*Ophiobolus graminis*). Trefoil and clover were sampled before ploughing in and estimates made of the dry matter and N per acre.

SUMMARY OF RESULTS

GRAIN: TONNES/HECTARE

O	T	Mean
BARLEY		
	(±0.078)	
5.04	4.88	4.96

Mean D.M. %: 79.9

OATS		
	(±0.012)	
3.95	4.07	4.01

Mean D.M. %: 77.6

71/R/CS/74

BEANS

GRAIN: TONNES/HECTARE

Mean

2.50

CLOVER

DRY MATTER: TONNES/HECTARE

	Mean
1st cut:	3.37
2nd cut:	1.72
Total of 2 cuts:	5.09

Mean D.M. %

Beans	79.5
Clover, 1st cut:	12.6
2nd cut:	18.8
Total of 2 cuts:	15.7