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## Yields of the Field Experiments 1974

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### 74/R/BN/7 Barnfield - Beans, Potatoes, Barley

74/R/BN/7 *Barnfield - Beans, Potatoes, Barley*, Rothamsted Research (1975) Yields Of The Field Experiments 1974, pp 39 - 41 - DOI: <https://doi.org/10.23637/ERADOC-1-119>

74/R/BN/7

# BARNFIELD

**Object:** Originally studied the effects of organic and inorganic manures on continuous roots. The experiment has been modified to study effects on other crops and continuous beans.

The eighth year of beans on Sections 1 and 2. The rest of the experiment was fallowed in preparation for a new scheme except that potatoes were grown on Strip 3 for a study of pink rot (*Phytophthora erythroseptica*) and barley on the discard area of Strip 4 for a study of take-all (*Gaeumannomyces graminis*).

For previous years see 'Details' 1967, 68/A/5(t), 69/R/BN/7, 70/R/BN/7(t), 71/R/BN/7(t), 72/R/BN/7(t) and 73/R/BN/7.

Plot dimensions and areas harvested:

Beans: Section 1 (half-plots): 5.33 x 55.9. (Strips 1 and 8: 4.27 x 55.9). Area harvested: 0.00585.

Treatments to beans (Sections 1 and 2 only). All combinations of:-

Whole plots: 1. Fertilisers and organic manures		MANURE
D		D
D P K		DPK
P K (Na) Mg		PK(Na)Mg
P		P
P K		PK
P (Na) Mg		P(Na)Mg
None		None

P: 35 kg P as triple superphosphate (single superphosphate until 1973)

K: 225 kg K as sulphate of potash

(Na): 90 kg Na as sodium chloride until 1973

Mg: 90 kg Mg as kieserite every fourth year since 1974 (sulphate of magnesia until 1973)

D: Farmyard manure at 35 tonnes.

Sub plots: 2. Year of applying simazine (at 1.1 kg)		SIMAZINE
1972, none since (mechanically weeded)		1972
1974 (mechanically weeded 1972 and 1973)		1974

**NOTES:** (1) Beans were sown on half plots only, the eastern half of each plot was fallowed.

(2) Manurial treatments were applied to all sections.

(3) For a fuller record of treatments see 'Details' etc.

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Standard applications:

Spring beans: Weedkiller: Paraquat 0.56 kg ion in 220 l. Insecticide:  
Demeton-s-methyl at 0.25 kg in 220 l.

Seed: Maris Bead, sown at 220 kg.

Cultivations, etc.:-

K and Mg applied: 12 Dec, 1973. P applied: 17 Dec. FYM applied:  
19 Dec. Ploughed: 20 Dec.

Spring beans: Paraquat applied: 12 Sept, 1973. Rotary harrowed: 4 Apr, 1974.  
Seed sown and spring-tine cultivated: 5 Apr. Simazine applied: 10 Apr.  
Insecticide applied: 13 June. Combine harvested: 24 Sept.

Fallow: Spring-tine cultivated: 11 Apr, 1974, 2 May and 10 July. Deep-tine  
cultivated: 23 May. Rotary cultivated: 11 June. Subsoiled at  
approximately 50 cm depth: tines 1.4 m apart on 23 July and 0.7 m  
apart on 24 July.

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TABLES OF MEANS

BEANS

SIMAZINE

	1972	1974	Mean
GRAIN: TONNES/HECTARE			
MANURE			
D	1.92	2.31	2.11
DPK	2.16	2.38	2.27
PK(Na)Mg	2.24	2.23	2.23
P	2.05	1.99	2.02
PK	2.11	1.74	1.93
P(Na)Mg	2.39	1.92	2.15
None	1.57	1.56	1.56
Mean	2.06	2.02	2.04

STRAW: TONNES/HECTARE

MANURE			
D	2.32	1.88	2.10
DPK	1.85	2.79	2.32
PK(Na)Mg	1.20	1.18	1.19
P	1.07	1.16	1.12
PK	1.07	0.96	1.01
P(Na)Mg	1.39	1.10	1.25
None	0.98	0.86	0.92
None	1.41	1.42	1.42

Mean D.M. % Grain: 76.3  
Straw: 52.5