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Yields of the Field Experiments 1973

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73/R/BE/10 - Effects of Heat Treatments - Beans

Rothamsted Research

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73/R/BE/10

SPRING BEANS

EFFECTS OF HEAT TREATMENTS

Object: To study the effects of a range of heat treatments of seed on germination, incidence of seed borne viruses and yield of beans - Garden Plot 2.

Sponsor: A.J. Cockbain.

Design: 4 randomised blocks of 7 plots.

Whole plot dimensions: 2.03 x 10.7. Area harvested: 0.00108.

Treatments: Heat treatment of seed:

HEATTRMT

None	None
Seed kept for 2 days at 60°C	2Day60
Seed kept for 4 days at 60°C	4Day60
Seed kept for 8 days at 60°C	8Day60
Seed kept for 2 days at 65°C	2Day65
Seed kept for 4 days at 65°C	4Day65
Seed kept for 8 days at 65°C	8Day65

Basal applications: Manures: (0:20:20) at 780 kg. Weedkiller: Simazine at 0.84 kg in 340 l. Insecticide: Demeton-s-methyl at 0.25 kg in 290 l.

Seed: Maris Bead, sown at 220 kg.

Cultivations, etc.: PK fertiliser applied: 24 Nov, 1972. Ploughed: 30 Nov. Rotary cultivated and seed sown: 29 Mar, 1973. Weedkiller applied: 3 Apr. Insecticide applied: 26 June. Combine harvested: 7 Sept. Previous crops: Winter wheat 1971, potatoes 1972.

- NOTES: (1) Seedling emergence counts were made and virus infection assessed on 29 May.
(2) Some treatments killed most seeds. Yields were taken only from 'None', '2Day60' and '2Day65'.

Standard error per plot.

Grain, tonnes/hectare: 0.343 or 18.2% (6 d.f.)

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TABLE OF MEANS

GRAIN: TONNES/HECTARE

HEATTRMT			
None	2Day60	2Day65	Mean
3.00	1.44	1.21	1.89

STANDARD ERROR OF DIFFERENCES

HEATTRMT

0.242

Mean D.M. % 80.2