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67/R/EA/C/29 Soil Sterilants - Winter Wheat

Rothamsted Research

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67/C/29.1

WINTER WHEAT

(EA)

Soil sterilants, Claycroft 1967.

Design: 4 randomised blocks of 10 plots.

Area of each plot: 0.0030. Area harvested: 0.0016.

Treatments: All combinations of:-

1. Soil sterilants: None (O), none, plots rotary cultivated (R), DD at 800 lb injected (D), dazomet at 400 lb rotary cultivated in (Z), formalin drench (F) at 372 gals of formalin in 9680 gals.
2. Nitrogen: None (NO), 1.0 cwt (N1) N as 'Nitro-Chalk'.

Basal applications: 280 lb (0:20:20) combine drilled. Weedkiller: Aminotriazole at 4 lb and ammonium thiocyanate at 3.7 lb in 40 gals.

Cultivations, etc.:- Weedkiller applied: Sept 20, 1966. Ploughed: Oct 6. Formalin drench applied: Oct 7. DD applied, R plots rotary cultivated, dazomet applied and rotary cultivated in: Oct 11. Seed drilled at 180 lb: Nov 29. 'Nitro-Chalk' applied: Apr 17, 1967. Combine harvested: Aug 30. Variety: Cappelle. Previous crops: Barley 1965 and 1966.

NOTE: Plant samples were taken for disease analysis in April, May, June and July. Soil samples were taken for determination of ammonia nitrogen and nitrate nitrogen in Nov 1966 and March 1967.

Standard error per plot.

Grain: 3.92 or 7.9% (27 d.f.)

67/C/29.2

SUMMARY OF RESULTS

GRAIN

	O	R	D	Z	F	Mean
			(±1.96)			(±0.88)
NO	49.5	49.7	41.8	54.9	53.4	49.9
N1	54.9	52.7	39.7	53.6	46.8	49.5
Mean (±1.39)	52.2	51.2	40.8	54.3	50.1	49.7

% PLANTS AFFECTED

NO	N1
72.0	94.4

Mean D.M. %: 84.9

NOTE: Many plants in plots treated with DD had deformed and partially sterile ears. (No abnormal ears were seen on other plots).