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Yields of the Field Experiments 1967

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67/R/ECC/C/22 and 67/W/WECD/C/22 Dd and Dazomet - Spring Wheat

Rothamsted Research

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67/C/22.1

DD AND DAZOMET - SPRING WHEAT

(ECC and WECD)

Effects of soil fumigants on yield and soil-borne pathogens,
Rothamsted (R) Hoosfield and Woburn (W) Lansome, the second
year, 1967.

Design: 3 randomised blocks of 3 plots, split into 8 and again into two.

Area of each sub plot: 0.0024. Area harvested: 0.0015.

Treatments: All combinations of:-

Whole plots: 1. Nitrogen: 0.5 (N1), 1.0 (N2), 1.5 cwt N (N3) as
'Nitro-Chalk'.

1/8 plots: 2. Fumigants: None (0), None, rotary cultivated (R),
DD: 200 (D2), 400 (D4), 800 lb (D8) injected to
6 inch depth.
Dazomet: 100 (Z1), 200 (Z2), 400 lb (Z4) rotary
cultivated in.

1/16 plots: 3. Residual and cumulative effects of factor 2 above:
Treatments applied in 1966 only (F), applied in 1966
and 1967 (C).

Basal applications: 280 lb (0:20:20) combine drilled.

Hoosfield (R): Weedkiller: Mecoprop/2,4-D (Methoxone Extra at
6 pints in 30 gals).

Lansome (W): Weedkiller: Ioxynil/mecoprop (Actril C at 5 pints
in 30 gals).

Cultivations, etc.

Hoosfield (R): Ground chalk applied at 23 cwt: Sept 22, 1966.

Ploughed: Oct 17. Dazomet and DD applied, ZC and RC sub-plots

rotary cultivated: Feb 7, 1967. Seed drilled at 175 lb:

Mar 16. 'Nitro-Chalk' applied: Mar 21. Weedkiller applied:

May 18. Combine harvested: Aug 24. Variety: Kloka.

Previous crops: Winter barley 1965.

Lansome (W): Ground chalk applied at 2 cwt: Nov 3, 1966.

Ploughed: Nov 4. ZC sub-plots dazomet applied rotary

cultivated in: Nov 24. DD applied: Dec 8. RC sub-plots rotary

cultivated: Jan 17, 1967. Seed drilled at 170 lb: Mar 6.

'Nitro-Chalk' applied: Mar 7. Weedkiller applied: May 3.

Combine harvested: Aug 23. Variety: Kloka. Previous crops:

Barley 1965.

67/C/22.2

- NOTE: (1) Soil samples were taken for microflora investigations and plant samples for root rotting diseases. Samples were also taken for nematode counts and plant weights, also soil samples for final nematode population (Lansome only).
- (2) For previous year's results see 'Results' 66/C/29.

Standard errors per plot. Grain:

Hoosfield (R):

Whole plot: 3.00 or 9.1% (4 d.f.)

1/8 plot: 2.36 or 7.2% (42 d.f.)

1/16 plot: 2.94 or 8.9% (48 d.f.)

Lansome (W):

Whole plot: 5.81 or 12.7% (4 d.f.)

1/8 plot: 4.20 or 9.1% (42 d.f.)

1/16 plot: 5.61 or 12.2% (48 d.f.)

67/C/22.3

SUMMARY OF RESULTS

HOOSEFIELD (R)

GRAIN

	O	R	D2	D4	D8	Z1	Z2	Z4	Mean
Mean (±0.79)	32.9	31.1	35.8	34.4	31.6	30.9	33.6	33.2	32.9
N1	26.0	23.4	27.9	28.8	26.9	24.8	28.0	28.5	26.8
N2	33.3	33.8	37.3	35.9	32.5	32.2	35.4	33.1	34.2
N3	39.3	36.2	42.2	38.7	35.4	35.9	37.3	37.9	37.9
F		31.8	36.4	37.0	37.1	30.0	31.9	31.0	33.6
C		30.4	35.2	31.9	26.2	31.9	35.3	35.4	32.3

(±1.73)

(±0.37)

% PLANTS AFFECTED

	D2	D4	D8
N1	10.0	9.1	8.3
N2	17.2	13.7	14.9
N3	12.4	19.3	17.0

Mean D.M. %: 81.3

67/C/22.4

LANSOME (W)

GRAIN

	O	R	D2	D4	D8	Z1	Z2	Z4	Mean
Mean (±1.40)	45.4	45.5	45.8	46.5	46.2	43.7	45.3	49.0	45.9
N1	36.6	38.4	39.9	44.0	47.7	33.6	43.2	45.4	(±3.36) 41.1
N2	52.0	51.8	50.1	49.5	51.0	49.8	47.0	55.4	50.8
N3	47.6	46.3	47.6	46.0	39.9	47.7	45.8	46.3	45.9
F		45.1	48.0	47.5	49.8	40.4	44.4	44.9	(±0.71) 45.7
C		45.9	43.7	45.5	42.6	47.0	46.3	53.2	46.3

% PLANTS AFFECTED

	D2	D4	D8
N1	10.2	14.7	12.8
N2	13.1	23.2	17.7
N3	30.8	26.8	45.5

Mean D.M. %: 83.9

NOTE: Many plants in plots treated with DD (D2, D4, D8) had deformed and partially sterile ears (No ab normal ears were seen on other plots).