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67/W/WEBO/C/19 Fumigants - Barley

Rothamsted Research

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67/C/19.1

COMPARISON OF FUMIGANTS

(WEBO)

Nitrogen and fumigants - Woburn Butt Close, barley 1967, the third year.

Design: 4 randomised blocks of 16 plots split into two for effects of fumigants.

Area of each sub plot: 0.0010. Area harvested: 0.0010.

Treatments: All combinations of:-

Whole plots:

1. Nitrogen: 0.4 (N1), 1.2 (N3) cwt N as 'Nitro-Chalk', cumulative on N1 and N3 treatments to spring wheat 1966.
2. Fumigants etc. in 1965 and 1966: None. (O)
None, plots rotary cultivated. (OR)
Methyl bromide applied under gas tight sheets at 436 lb. (MB)
Dichloropropane-dichloropropene at 800 lb injected at 12 inch spacing. (DD)
Chloropicrin at 400 lb injected at 12 inch spacing. (CH)
Dazomet at 400 lb rotary cultivated in. (DA)
Formalin as drench at 200 gals formaldehyde in 40% solution. (FU)
Calomel dust 4% mercurous chloride at 5 lb Hg rotary cultivated in. (ME)

Sub plots:

Fumigants etc. applied in 1965 only (R).
In 1965 and 1966 (C).

Basal applications: 2 cwt (0:20:20) combine drilled. Weedkiller: 4 lb amino-triazole plus 3.7 lb ammonium thiocyanate in 33 gals.

Cultivations, etc.: Weedkiller applied: Sept 27, 1966. Ground chalk applied at 20 cwt: Oct 31. Ploughed: Nov 2. Seed combine drilled at 140 lb: Mar 6. 'Nitro-Chalk' applied: Mar 8. Harvested: 8 - 10 Aug. Variety: Maris Badger.

67/C/19.2

- NOTES: (1) Samples were taken of tops for plant growth and roots for counts of nematode larvae during the season.
(2) Samples were also taken in October for nematode counts.
(3) For previous years' results see 'Results' 65/C/31 and 66/C/24.

Standard errors per plot. Grain:

Whole plot: 4.46 or 16.6% (45 d.f.)

Sub plot: 3.53 or 13.1% (48 d.f.)

67/C/19.3

SUMMARY OF RESULTS

GRAIN

	O	OR	MB	DD	CH	DA	FO	ME	Mean
Mean (± 1.58)	23.4	25.8	32.1	32.0	29.4	29.4	19.2	23.8	26.9
				(± 2.23)					(± 0.79)
N1	18.2	19.3	25.0	26.6	22.7	22.3	10.9	16.8	20.2
N3	28.6	32.3	39.3	37.5	36.0	36.5	27.5	30.9	33.6
				(1) and (2)					(± 0.47)
R		26.6	34.1	31.7	27.7	28.4	18.9	25.1	27.5
C		25.1	30.1	32.4	31.0	30.4	19.6	22.6	27.3

(1) (± 1.81) For use in horizontal and diagonal comparisons

(2) (± 1.25) For use in vertical and interaction comparisons

Mean D.M. %: 80.9