

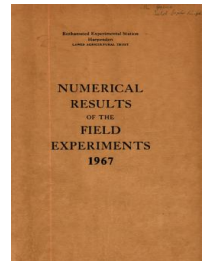
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67/W/WE CG/C/41 Cereal Cyst Nematode - Barley and Spring Wheat

Rothamsted Research

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67/c/41.1

CEREAL CYST - NEMATODE

(WECG)

The effect of cereal cyst-nematode (*Heterodera avenae*) on the yield of spring wheat and barley - Butt Close 1967.

Design: (Each crop) 3 blocks of 5 split into 3. Blocks arranged in pairs, one of each crop.

Area of each sub plot: 0.0032. Area harvested: 0.0021.

Treatments: All combinations of:-

- Whole plots: 1. Oats 1966: Under oats till harvest - (C,D,E) (3 plots per block). Oats rotary cultivated May 26 and then bare fallowed (A). Oats rotary cultivated May 26, bare fallowed, injected with D-D at 400 lb Dec 19, 1966 (B).
- Sub plots: 2. Nitrogen to wheat 1967: 0.6 (N1), 1.2 (N2), 1.8 (N3) cwt N as 'Nitro-Chalk'.
3. Nitrogen to barley 1967: 0.4 (N1), 0.8 (N2), 1.2 (N3) cwt N as 'Nitro-Chalk'.

Basal application: Oats 1966: 2 cwt (21:14:14) combine drilled. Weedkiller. Ioxynil/mecoprop (Atril C at 5 pints in 35 gals). Wheat and barley 1967: 280 lb (0:20:20). Weedkiller: Amino-triazole at 4 lb plus ammonium thiocyanate at 3.7 lb in 33 gals.

Cultivations, etc.:-

Oats 1966: Ploughed: 15 - 23 Nov, 1965. Seed combine drilled at 170 lb: Mar 9, 1966. Weedkiller applied: May 13. A and B plots rotary cultivated: May 26, Aug 18. Combine harvested: Sept 12. Variety: Condor. Previous crops: Barley 1964, carrots, kale, cabbage, 1965.

Wheat and barley 1967: Weedkiller applied: Sept 27, 1966. Ground chalk applied at 20 cwt: Oct 31. Ploughed: Nov 2. DD applied to B plots: Dec 19. Seed combine drilled, wheat at 170 lb, barley at 140 lb: Mar 6, 1967. 'Nitro-Chalk' applied: Mar 13. Combine harvested: Aug 23. Varieties: Wheat - Kloka, barley - Maris Badger.

NOTE: Soil samples were taken for nematode counts on June 5.

Standard errors per plot. Grain:

Spring wheat.	Whole plot: 2.64 or 7.2% (8 d.f.)
	Sub plot: 4.58 or 12.6% (20 d.f.)
Barley.	Whole plot: 2.22 or 6.3% (8 d.f.)
	Sub plot: 3.22 or 9.1% (20 d.f.)

67/c/41.2

SUMMARY OF RESULTS

	GRAIN					
	A	B	C	D	E	Mean
	SPRING WHEAT					
	(1) and (2)					(± 1.18)
N1	35.3	42.2	32.7	34.5	31.4	35.2
N2	37.2	42.1	42.0	34.2	33.6	37.8
N3	38.1	38.9	35.2	34.5	33.9	36.1
Mean (± 1.52)	36.9	41.1	36.6	34.4	33.0	36.4

Mean D.M. %: 83.8

(1) (± 2.64) For use in horizontal and diagonal comparisons(2) (± 2.64) For use in vertical and interaction comparisons

	BARLEY					
	(1) and (2)					(±0.83)
N1	33.5	36.3	28.3	24.8	25.7	29.7
N2	38.6	34.5	38.5	39.7	36.3	37.5
N3	37.4	41.0	37.5	37.4	38.7	38.4
Mean (±1.28)	36.5	37.3	34.8	33.9	33.6	35.2

Mean D.M. %: 83.5

(1) (± 1.99) For use in horizontal and diagonal comparisons(2) (± 1.86) For use in vertical and interaction comparisons