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RESEARCH

# Numerical Results of the Field Experiments 1968

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## 68/C/34 Fumigants and Irrigation - Barley

### Rothamsted Research

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68/c/34.1

## FUMIGANTS AND IRRIGATION

(WCR)

The effect of fumigants on the control of *Pratylenchus* spp. in barley - Woburn Butt Close Series III, 1st year.

Design: 3 blocks of 4 plots, with fumigants on quarter plots and nitrogen on eighth plots with split plot confounding.

Area of each sub plot: 0.0050. Area harvested: 0.0020.

Treatments: All combinations of:-

Whole plots: 1. Irrigation: None (0), full irrigation (I).

Quarter plots: 2. Fumigants: None (0), chloropicrin at 400 lb injected at 12 inch spacings (C), D-D at 33 1/2 gals injected at 12 inch spacings (D), Temik at 6 lb a.i. (60 lb granules) combine drilled (T).

Eighth plots: 3. Nitrogen: None (N0), 0.4 (N1), 0.8 (N2), 1.2 (N3) cwt N as 'Nitro-Chalk'.

Basal applications: 270 lb (0:20:20). Weedkiller: Ioxynil/mecoprop (Acril C at 5 pts in 25 gals).

Cultivations, etc.: Ploughed: 19 Sept, 1967. D-D injected: 30 Oct. Chloropicrin injected: 7 Nov. Magnesian limestone applied at 22 1/2 cwt: 8 Nov. Basal PK applied: 4 Mar, 1968. Seed at 140 lb, and Temik combine drilled: 5 Mar, 'Nitro-Chalk' applied: 11 Mar. Weedkiller applied: 26 Apr. Irrigation applied at 0.5 inches: 14 June, and 0.75 inches: 20 June. Combine harvested: 21 Aug. Variety: Maris Badger. Previous crops: Spring wheat 1966, barley 1967.

NOTE: Crop and soil samples taken at intervals through the growing season for nematode counts.

Standard error per plot (pooled).

Grain: 4.05 or 16.0% (62 d.f.)

68/C/34.2

SUMMARY OF RESULTS

GRAIN

	O	C	D	T	Mean
	(±1.17)				(±0.58)
O	25.6	30.8	23.6	22.3	25.6
I	25.1	29.8	23.2	21.9	25.0
Mean (±0.83)	25.4	30.3	23.4	22.1	25.3
	NO	N1	N2	N3	
	(±1.17)				
O	13.6	29.1	30.9	28.6	
I	14.2	28.4	29.7	27.8	
	(±1.65)				
O	10.0	27.4	32.6	31.4	
C	29.4	32.1	30.8	28.9	
D	9.3	29.1	29.4	25.9	
T	6.9	26.5	28.5	26.7	
Mean (±0.83)	13.9	28.8	30.3	28.2	

Mean D.M. %: 82.9

68/c/34.3

STRAW					
	O	C	D	T	Mean
O	25.2	32.8	26.5	23.9	27.1
I	28.3	33.0	26.1	25.4	28.2
Mean	26.8	32.9	26.3	24.7	27.7
	NO	N1	N2	N3	
O	17.2	31.5	33.2	26.6	
I	17.8	32.4	33.8	28.9	
O	11.2	28.5	36.5	30.9	
C	31.4	36.4	33.9	29.9	
D	15.2	34.0	31.8	24.3	
T	12.2	29.0	31.7	25.8	
Mean	17.5	32.0	33.5	27.7	

Mean D.M. %: 86.9

TABLE 1

WATER

Year	WATER				Total
	1	2	3	4	
1970	6.00	1.00	0.00	0.00	7.00
1971	6.00	1.00	0.00	0.00	7.00
1972	7.00	1.00	0.00	0.00	8.00
1973	7.00	1.00	0.00	0.00	8.00
1974	8.00	1.00	0.00	0.00	9.00
1975	8.00	1.00	0.00	0.00	9.00
1976	9.00	1.00	0.00	0.00	10.00
1977	9.00	1.00	0.00	0.00	10.00
1978	10.00	1.00	0.00	0.00	11.00
1979	10.00	1.00	0.00	0.00	11.00
1980	11.00	1.00	0.00	0.00	12.00
1981	11.00	1.00	0.00	0.00	12.00
1982	12.00	1.00	0.00	0.00	13.00
1983	12.00	1.00	0.00	0.00	13.00
1984	13.00	1.00	0.00	0.00	14.00
1985	13.00	1.00	0.00	0.00	14.00
1986	14.00	1.00	0.00	0.00	15.00
1987	14.00	1.00	0.00	0.00	15.00
1988	15.00	1.00	0.00	0.00	16.00
1989	15.00	1.00	0.00	0.00	16.00
1990	16.00	1.00	0.00	0.00	17.00
1991	16.00	1.00	0.00	0.00	17.00
1992	17.00	1.00	0.00	0.00	18.00
1993	17.00	1.00	0.00	0.00	18.00
1994	18.00	1.00	0.00	0.00	19.00
1995	18.00	1.00	0.00	0.00	19.00
1996	19.00	1.00	0.00	0.00	20.00
1997	19.00	1.00	0.00	0.00	20.00
1998	20.00	1.00	0.00	0.00	21.00
1999	20.00	1.00	0.00	0.00	21.00
2000	21.00	1.00	0.00	0.00	22.00
2001	21.00	1.00	0.00	0.00	22.00
2002	22.00	1.00	0.00	0.00	23.00
2003	22.00	1.00	0.00	0.00	23.00
2004	23.00	1.00	0.00	0.00	24.00
2005	23.00	1.00	0.00	0.00	24.00
2006	24.00	1.00	0.00	0.00	25.00
2007	24.00	1.00	0.00	0.00	25.00
2008	25.00	1.00	0.00	0.00	26.00
2009	25.00	1.00	0.00	0.00	26.00
2010	26.00	1.00	0.00	0.00	27.00
2011	26.00	1.00	0.00	0.00	27.00
2012	27.00	1.00	0.00	0.00	28.00
2013	27.00	1.00	0.00	0.00	28.00
2014	28.00	1.00	0.00	0.00	29.00
2015	28.00	1.00	0.00	0.00	29.00
2016	29.00	1.00	0.00	0.00	30.00
2017	29.00	1.00	0.00	0.00	30.00
2018	30.00	1.00	0.00	0.00	31.00
2019	30.00	1.00	0.00	0.00	31.00
2020	31.00	1.00	0.00	0.00	32.00
2021	31.00	1.00	0.00	0.00	32.00
2022	32.00	1.00	0.00	0.00	33.00
2023	32.00	1.00	0.00	0.00	33.00
2024	33.00	1.00	0.00	0.00	34.00
2025	33.00	1.00	0.00	0.00	34.00
2026	34.00	1.00	0.00	0.00	35.00
2027	34.00	1.00	0.00	0.00	35.00
2028	35.00	1.00	0.00	0.00	36.00
2029	35.00	1.00	0.00	0.00	36.00
2030	36.00	1.00	0.00	0.00	37.00
2031	36.00	1.00	0.00	0.00	37.00
2032	37.00	1.00	0.00	0.00	38.00
2033	37.00	1.00	0.00	0.00	38.00
2034	38.00	1.00	0.00	0.00	39.00
2035	38.00	1.00	0.00	0.00	39.00
2036	39.00	1.00	0.00	0.00	40.00
2037	39.00	1.00	0.00	0.00	40.00
2038	40.00	1.00	0.00	0.00	41.00
2039	40.00	1.00	0.00	0.00	41.00
2040	41.00	1.00	0.00	0.00	42.00
2041	41.00	1.00	0.00	0.00	42.00
2042	42.00	1.00	0.00	0.00	43.00
2043	42.00	1.00	0.00	0.00	43.00
2044	43.00	1.00	0.00	0.00	44.00
2045	43.00	1.00	0.00	0.00	44.00
2046	44.00	1.00	0.00	0.00	45.00
2047	44.00	1.00	0.00	0.00	45.00
2048	45.00	1.00	0.00	0.00	46.00
2049	45.00	1.00	0.00	0.00	46.00
2050	46.00	1.00	0.00	0.00	47.00
2051	46.00	1.00	0.00	0.00	47.00
2052	47.00	1.00	0.00	0.00	48.00
2053	47.00	1.00	0.00	0.00	48.00
2054	48.00	1.00	0.00	0.00	49.00
2055	48.00	1.00	0.00	0.00	49.00
2056	49.00	1.00	0.00	0.00	50.00
2057	49.00	1.00	0.00	0.00	50.00
2058	50.00	1.00	0.00	0.00	51.00
2059	50.00	1.00	0.00	0.00	51.00
2060	51.00	1.00	0.00	0.00	52.00
2061	51.00	1.00	0.00	0.00	52.00
2062	52.00	1.00	0.00	0.00	53.00
2063	52.00	1.00	0.00	0.00	53.00
2064	53.00	1.00	0.00	0.00	54.00
2065	53.00	1.00	0.00	0.00	54.00
2066	54.00	1.00	0.00	0.00	55.00
2067	54.00	1.00	0.00	0.00	55.00
2068	55.00	1.00	0.00	0.00	56.00
2069	55.00	1.00	0.00	0.00	56.00
2070	56.00	1.00	0.00	0.00	57.00
2071	56.00	1.00	0.00	0.00	57.00
2072	57.00	1.00	0.00	0.00	58.00
2073	57.00	1.00	0.00	0.00	58.00
2074	58.00	1.00	0.00	0.00	59.00
2075	58.00	1.00	0.00	0.00	59.00
2076	59.00	1.00	0.00	0.00	60.00
2077	59.00	1.00	0.00	0.00	60.00
2078	60.00	1.00	0.00	0.00	61.00
2079	60.00	1.00	0.00	0.00	61.00
2080	61.00	1.00	0.00	0.00	62.00
2081	61.00	1.00	0.00	0.00	62.00
2082	62.00	1.00	0.00	0.00	63.00
2083	62.00	1.00	0.00	0.00	63.00
2084	63.00	1.00	0.00	0.00	64.00
2085	63.00	1.00	0.00	0.00	64.00
2086	64.00	1.00	0.00	0.00	65.00
2087	64.00	1.00	0.00	0.00	65.00
2088	65.00	1.00	0.00	0.00	66.00
2089	65.00	1.00	0.00	0.00	66.00
2090	66.00	1.00	0.00	0.00	67.00
2091	66.00	1.00	0.00	0.00	67.00
2092	67.00	1.00	0.00	0.00	68.00
2093	67.00	1.00	0.00	0.00	68.00
2094	68.00	1.00	0.00	0.00	69.00
2095	68.00	1.00	0.00	0.00	69.00
2096	69.00	1.00	0.00	0.00	70.00
2097	69.00	1.00	0.00	0.00	70.00
2098	70.00	1.00	0.00	0.00	71.00
2099	70.00	1.00	0.00	0.00	71.00
2100	71.00	1.00	0.00	0.00	72.00

Year 2000 to 2100