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71/R/WW/1 and 71/W/WW/1 Varieties and N - W. Wheat

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71/R/WW/1 and 71/W/WW/1

WINTER WHEAT

VARIETIES AND N

Object: To study the yield of newer varieties of wheat grown at a range of nitrogen levels on land in rotation or after several cereals - Rothamsted (R) Summerdells I (pathogen free) and Claycroft (pathogen infected), and Woburn (W) White Horse Field (pathogen free).

Design: 3 randomised blocks of 8 plots, split into 4.

Whole plot dimensions:- Summerdells (R): 4.27 x 36.9. Claycroft (R) and White Horse Field (W): 4.27 x 39.3. Sub plot area harvested: Summerdells (R): 0.00243. Claycroft (R) and White Horse Field (W): 0.00260.

Treatments: All combinations of:-

Whole plots: 1. Varieties: Champlein (CH), Cama (CM), Cappelle (CP), Joss Cambier (JC), Maris Beacon (MB), Maris Nimrod (MN), Maris Widgeon (MW), Tommy (TO).

Sub plots: 2. Rates of nitrogen (in kg N): 63, 126, 189 in spring, and 126 in spring plus 63 at flowering. All N as 'Nitro-Chalk'.

Basal applications:-

All fields: 314 kg (8:20:16) combine drilled. Weedkiller: 2,4-D at 0.56 kg plus dichlorprop at 2.2 kg in 225 l (281 l on White Horse Field (W)).

Claycroft (R) only: Weedkiller: Paraquat at 0.28 kg ion in 225 l.

Cultivations, etc.:

Summerdells (R): Ploughed: 18 Sept, 1970. Seed combine drilled at 200 kg: 8 Oct. Weedkiller applied: 13 Apr, 1971. Spring N applied: 16 Apr. Late N applied: 3 June. Combine harvested: 26 Aug. Previous crops: Spring beans 1969 and 1970.

Claycroft (R): Paraquat applied: 17 Sept, 1970. Deep-tine cultivated: 23 Sept. Deep-tine cultivated 2nd time: 5 Oct. Seed combine drilled at 200 kg: 8 Oct. Weedkiller applied: 13 Apr, 1971. Spring N applied: 16 Apr. Late N applied: 3 June. Combine harvested: 26 Aug. Previous crops: Winter wheat 1969 and 1970.

71/R/WW/1 and 71/W/WW/1

White Horse Field (W): Deep-tine cultivated: 12 Oct, 1970. Seed combine drilled at 191 kg: 13 Oct. Weedkiller applied: 31 Mar, 1971. Spring N applied: 15 Apr. Late N applied: 3 June. Combine harvested: 27 Aug. Previous crops: Fallow 1969, potatoes 1970.

Standard errors per plot.	Grain, tonnes/hectare:
Summerdells (R):	Whole plot: 0.433 or 6.3% (14 d.f.)
	Sub plot: 0.492 or 7.1% (48 d.f.)
Claycroft (R):	Whole plot: 0.300 or 4.5% (14 d.f.)
	Sub plot: 0.661 or 9.8% (48 d.f.)
White Horse Field (W):	Whole plot: 0.225 or 4.0% (14 d.f.)
	Sub plot: 0.349 or 6.2% (48 d.f.)

71/R/WW/1 and 71/W/WW/1

SUMMARY OF RESULTS

GRAIN: TONNES/HECTARE

	CH	CM	CP	JC	MB	MN	MW	TO	Mean
SUMMERDELLS (R) PATHOGEN FREE									
N: KG/HA	(1) and (2)								(±0.100)
63	7.73	7.35	6.57	7.28	7.11	8.60	6.13	6.71	7.18
126	8.12	6.87	7.04	7.09	6.24	7.71	5.84	7.24	7.02
189	7.77	6.73	6.43	6.37	5.36	6.06	5.76	6.90	6.42
126+63	7.93	7.03	7.04	7.09	6.01	7.34	6.28	7.36	7.01
Mean (±0.250)	7.89	6.99	6.77	6.96	6.18	7.43	6.00	7.05	6.91

(1) (±0.351) For use in horizontal and interaction comparisons only
 (2) (±0.284) For use in vertical and diagonal comparisons only

Mean D.M. %: 81.5

CLAYCROFT (R) PATHOGEN INFECTED

N: KG/HA	(1) and (2)								(±0.135)
63	6.43	5.72	5.75	6.85	7.15	7.14	5.43	6.33	6.35
126	7.21	6.36	6.19	6.81	7.38	8.24	5.96	6.84	6.87
189	6.97	6.95	6.48	6.51	5.96	7.57	5.82	6.64	6.61
126+63	7.51	6.59	6.74	7.14	7.38	8.06	6.11	6.64	7.02
Mean (±0.173)	7.03	6.40	6.29	6.83	6.97	7.75	5.83	6.61	6.71

(1) (±0.373) For use in horizontal and interaction comparisons only
 (2) (±0.381) For use in vertical and diagonal comparisons only

Mean D.M. %: 82.0

TL/R/WW/1 and TL/W/WW/1

GRAIN: TONNES/HECTARE

WHITE HORSE FIELD (W) PATHOGEN FREE

	CH	CM	CP	JC	MB	MN	MW	TO	Mean
N: KG/HA	(1) and (2)								(±0.071)
63	5.57	5.73	5.40	5.56	5.82	5.75	5.16	5.59	5.57
126	6.39	5.65	6.20	5.49	6.49	6.50	5.42	5.61	5.97
189	5.78	4.87	5.31	4.37	5.82	6.45	4.88	4.86	5.29
126+63	5.72	5.40	5.68	5.17	6.19	6.63	5.19	5.18	5.65
Mean (±0.130)	5.86	5.41	5.65	5.15	6.08	6.33	5.16	5.31	5.62

(1) (±0.218) For use in horizontal and interaction comparisons only
 (2) (±0.202) For use in vertical and diagonal comparisons only

Mean D.M. %: 81.4