

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1971

[Full Table of Content](#)



71/R/WW/6 and 71/BB/WW/6 Growth and Yield on Contrasted Sites - W. Wheat

Rothamsted Research

Rothamsted Research (1972) *71/R/WW/6 and 71/BB/WW/6 Growth and Yield on Contrasted Sites - W. Wheat* ; Yields Of The Field Experiments 1971, pp 249 - 252 - DOI:

<https://doi.org/10.23637/ERADOC-1-97>

71/R/Ww/6 and 71/BB/Ww/6

WINTER WHEAT

GROWTH AND YIELD ON CONTRASTED SITES

Object: To try to account for yields and differences between yields of wheat on sites at Rothamsted and Broom's Barn by studying crop growth rates, nutrient uptake, water use etc. at a wide range of nitrogen levels, with and without irrigation. Also to study the interaction between site differences and crops (see also 71/R & BB/B/1) - Rothamsted (R) Great Knott II and Broom's Barn (BB) Flint Ridge Field.

Design: 3 randomised blocks of 2 plots, split into 6.

Whole plot dimensions:-

Great Knott II (R): 13.7 x 48. Sub plot area harvested: 0.00390.
Flint Ridge Field (BB): 15.2 x 45.7. Sub plot area harvested: 0.00413.

Treatments: All combinations of:-

Whole plots: 1. Irrigation: None (O), full irrigation (I).
Sub plots: 2. Nitrogen: 31, 63, 94, 125, 157, 188 kg N as 'Nitro-Chalk'.

Total irrigation was 61.0 mm applied on four occasions (R) and 76.7 mm applied on four occasions (BB).

Basal applications:

Great Knott II (R): 1260 kg (0:20:20) plus 900 kg Epsom salts in seedbed. 380 kg (8:20:16) combine drilled.

Flint Ridge Field (BB): In seedbed, as above. 392 kg (8:20:16) combine drilled.

Weedkiller (both fields):- 2,4-D at 0.56 kg plus dichlorprop at 2.24 kg in 225 l.

Fungicide (both fields): - Tridemorph at 0.47 kg in 427 l.

Cultivations, etc.:-

Great Knott II (R): Deep-tine cultivated on 2 occasions: 6 Oct and 7 Oct, 1970. Basal PK and Epsom salts applied: 12 Oct. Seed combine drilled at 202 kg: 13 Oct. Weedkiller applied: 14 Apr, 1971. N applied: 16 Apr. Fungicide applied: 12 May.

71/R/WW/6 and 71/BB/WW/6

Irrigated: 14 May - 5.08 mm, 19 May - 5.08 mm, 20 May - 25.4 mm,
7 June - 25.4 mm. Combine harvested: 27 Aug. Variety: Cappelle.
Previous crops: Fallow 1969, potatoes 1970.
Flint Ridge Field (BB): Ploughed: 1 Sept, 1970. Rotary cultivated:
19 Sept. Epsom salts applied: 7 Oct. Basal PK applied, seed
combine drilled at 202 kg: 12 Oct. N applied: 19 Apr, 1971.
Weedkiller applied: 28 Apr. Fungicide applied: 10 May. Irrigated:
11 May - 3.8 mm, 14 May - 25.4 mm, 21 May - 26.7 mm, 26 May -
20.8 mm. Combine harvested: 25 Aug. Variety: Cappelle.
Previous crop: 1 year ley for hay 1970.

NOTE: At Rothamsted straw was gathered by pick-up baler. At Broom's Barn
straw was collected on a sheet behind the combine.

Standard errors per plot.

Grain, tonnes/hectare: Great Knott III (R): Sub plot: 0.335 or 4.8%
(20 d.f.)

Flint Ridge Field (BB): Sub plot: 0.454 or 7.6%
(20 d.f.)

7L/R/WW/6 and 7L/EB/WW/6

SUMMARY OF RESULTS

GREAT KNOTT II (R)

N: KG/HA

	31	63	97	125	157	188	Mean
GRAIN: TONNES/HECTARE							
(±0.193)*							
O	7.40	7.22	7.54	6.73	6.36	5.98	6.87
I	6.98	7.36	7.24	6.91	6.60	6.45	6.92
Mean (±0.137)	7.19	7.29	7.39	6.82	6.48	6.21	6.90

* For use in horizontal and interaction comparisons only

STRAW: TONNES/HECTARE

O	6.50	7.10	6.76	7.23	7.37	6.54	6.92
I	6.58	7.17	7.19	7.33	8.23	7.44	7.32
Mean	6.54	7.13	6.98	7.28	7.80	6.99	7.12

Mean D.M. %: Grain: 80.9
Straw: 83.9

71/R/WW/6 and 71/BB/WW/6

FLINT RIDGE FIELD (BB)

N: KG/HA

	31	63	94	125	157	188	Mean
GRAIN: TONNES/HECTARE (±0.262)*							
O	4.61	5.56	5.64	6.06	6.35	6.36	5.76
I	5.13	5.74	6.40	6.80	6.88	6.36	6.22
Mean (±0.185)	4.87	5.65	6.02	6.43	6.61	6.36	5.99

* For use in horizontal and interaction comparisons only

STRAW: TONNES/HECTARE

O	4.42	5.64	5.51	6.04	6.39	6.35	5.73
I	5.27	6.08	6.57	7.76	7.35	7.76	6.80
Mean	4.85	5.86	6.04	6.90	6.87	7.05	6.26

Mean D.M. %: Grain: 82.6
Straw: 77.4