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61/R/C/8 Intensive Barley Growing - Cereals and Beans

Rothamsted Research

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61/C/8.1

INTENSIVE BARLEY GROWING EXPERIMENT

Little Knott I - 1961

Design: 2 replicates of 40 treatments in 4 blocks of 20 plots each.

Area of each plot (acres): 0.0212. Area harvested: 0.0138

Treatments. All combinations of:-

Crop sequences:

	1961	1962	1963	1964	1965	1966	1967	1968
1	O	Be	B	B	B	B	B	B
2	SW	O	Be	B	B	B	B	B
3	O	SW	O	Be	B	B	B	B
4	Be	O	SW	O	Be	B	B	B
5	SW	Be	O	SW	O	Be	B	B
6	SW	SW	Be	O	SW	O	Be	B
7	B	B	B	B	B	B	B	B
8	SW	SW	SW	SW	SW	SW	SW	SW
9	W*	W	W	W	W	W	W	W
10	Be	W	P	B	Be	W	P	B

O = Oats, Be = Spring beans, SW = Spring wheat, W = Winter wheat,
B = Barley, P = Potatoes.

Nitrogen: Applied to continuous crops and to the winter wheat and
barley in treatment 10 - none; 0.3; 0.6; 0.9 cwt N per acre
as 'Nitro-Chalk'.

*In this case, because of bad weather, spring instead of winter wheat
was sown.

Basal dressings (per acre): 240 lb compound fertiliser, 14% P₂O₅,
28% K₂O, to all crops except potatoes, which receive 10 cwt
compound fertiliser, 10% N, 10% P₂O₅, 18% K₂O. The non-continuous
crops oats and spring wheat also receive 0.45 cwt N as 'Nitro-
Chalk'.

Cultivations, etc.: Ground chalk applied at 24 cwt per acre: Sept 23,
1960. Ploughed: Oct 4.

Spring beans: Seed placement drilled at 200 lb per acre: Mar 10, 1961.
Sprayed with demeton-methyl at 12 fluid oz in 60 gallons per acre:
June 12. Combine harvested: Aug 26. Variety: Tick.

Oats: Seed combine drilled at 4 bushels per acre, 'Nitro-Chalk'
applied: Mar 10, 1961. Sprayed with MCPA/TBA at 4 pints in
40 gallons per acre: May 12. Combine harvested: Aug 22.
Variety: Condor.

Spring wheat: Seed combine drilled at 3 bushels per acre, 'Nitro-
Chalk' applied: Mar 10, 1961. Sprayed with MCPA/TBA at
4 pints in 40 gallons per acre: May 12. Combine harvested:
Aug 30. Variety: Jufy I.

Barley: Seed combine drilled at 2½ bushels per acre: Mar 9, 1961.
'Nitro-Chalk' applied: Mar 10. Sprayed with MCPA/TBA at 4
pints in 40 gallons per acre: May 12. Combine harvested:
Aug 30. Variety: Proctor.

Previous crop: Spring wheat.

61/C/8.2

Note. Yields were only taken for sequences 2, 7, 8 and 9.

Standard error per plot. Grain (at 85% dry matter):
 Spring wheat (8 & 9): 2.27 cwt per acre or 8.2% (11 d.f.)
 Spring wheat (2): 2.70 cwt per acre or 9.2% (6 d.f.)

Summary of Results

Grain (at 85% dry matter): cwt per acre

Spring wheat (8 and 9)

N: cwt per acre

None	0.3	0.6	0.9	Mean
16.9	25.3	32.0	36.0	27.5

(±1.13)

Mean dry matter % as harvested: 85.5

Spring wheat (2)

N: cwt per acre

0.45

29.3

(±0.96)

Mean dry matter % as harvested: 85.8

Barley (7)

N: cwt per acre

None	0.3	0.6	0.9	Mean
22.7	34.5	38.8	38.8	33.7

Mean dry matter % as harvested: 83.9