

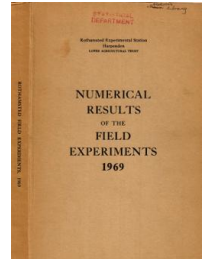
Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Numerical Results of the Field Experiments 1969

[Full Table of Content](#)



69/W/RN/13 - Intensive Cereals - Ley, Potatoes, Wheat & Barley

Rothamsted Research

Rothamsted Research (1970) *69/W/RN/13 - Intensive Cereals - Ley, Potatoes, Wheat & Barley ; Numerical Results Of The Field Experiments 1969*, pp 106 - 117 - DOI:
<https://doi.org/10.23637/ERADOC-1-96>

INTENSIVE CEREALS

(69/W/RN/13)

Woburn Stackyard I 1969 - the fourth year.

For treatments etc., and previous years' results, see 'Results' 66/B/9, 67/B/9 and 68/B/7.

Area of each sub plot: 0.0103. Area harvested: Ley - 0.0022, wheat - 0.0033, potatoes - 0.0034.

NOTE: The magnesium test on eighth plots of wheat blocks continued and was cumulative with 1968 and a similar test was introduced on eighth plots on the barley blocks: None (0), 162 lb MgO as Epsom salts (Mg).

Basal and standard applications:

All crops: 1.0 cwt P2O5, 2.0 cwt K2O as (0:14:28), half ploughed in, half applied to the plough furrow.

Ley: 0.4 cwt N as 'Nitro-Chalk'.

Potatoes: 1.2 cwt N as 'Nitro-Chalk'. Weedkiller: Paraquat at 0.37 lb ion plus linuron at 0.5 lb in 25 gals. Fungicide: Mancozeb at 1.2 lb in 37 gals applied on 2 occasions. Insecticide: Demeton-s-methyl at 3.5 oz applied once with fungicide.

Wheat: Weedkiller: Ioxynil at 9 oz plus mecoprop at 27 oz in 25 gals.

Barley: Weedkiller: Ioxynil octanoate, bromoxynil octanoate and iso-octyl ester of dichlorprop ('Oxytril P' at 1 pt in 25 gals).

Cultivations, etc.:

All plots: Half PK applied: 1 Oct, 1968. Ploughed: 4 Oct. Remaining PK and Mg applied: 7 Oct.

Ley: Seeds sown at 29 lb: 14 Oct. 'Nitro-Chalk' applied: 27 Mar, 1969. Cut twice: 28 June, 3 Sept.

Potatoes: 'Nitro-Chalk' applied: 17 Apr. Rotary cultivated, potatoes planted: 18 Apr. Weedkiller applied: 15 May. Rotary ridged: 17 June. Fungicide plus insecticide applied: 18 July. Fungicide applied: 7 Aug, 27 Aug. Haulm mechanically destroyed: 16 Sept. Lifted: 23 Sept.

Wheat: Seed drilled at 175 lb: 17 Oct, 1968. 'Nitro-Chalk' applied: 15 Apr, 1969. Weedkiller applied: 2 May. Combine harvested: 29 Aug.

Barley: Seed drilled at 140 lb: 11 Mar resown 16 Apr. 'Nitro-Chalk' applied: 3 Apr. Weedkiller applied: 22 May. Combine harvested: 29 Aug.

NOTE: Estimates of eyespot (*Cercospora herpotrichoides*) and take-all (*Ophiobolus graminis*) were made in May and June on barley and in April and July on wheat.

Standard errors per plot.

Ley, dry matter, cwt:

Wheat blocks 1/4 plot:	1st cut:	5.89 or 19.2% (4 d.f.)
	2nd cut:	0.21 or 4.7% (4 d.f.)
	Total of 2 cuts:	5.81 or 16.5% (4 d.f.)
Barley blocks 1/4 plot:	1st cut:	7.31 or 18.7% (4 d.f.)
	2nd cut:	0.52 or 9.3% (4 d.f.)
	Total of 2 cuts:	7.66 or 17.1% (4 d.f.)

Wheat, grain, cwt: 1/4 plot:	2.14 or 7.4% (12 d.f.)
1/8 plot:	1.99 or 6.9% (16 d.f.)

Barley, grain, cwt: 1/4 plot:	1.45 or 4.9% (12 d.f.)
1/8 plot:	1.52 or 5.1% (16 d.f.)

Potatoes, total tubers, tons:

Wheat blocks 1/4 plot:	0.882 or 6.3% (4 d.f.)
Barley blocks 1/4 plot:	0.766 or 4.6% (4 d.f.)

SUMMARY OF RESULTS

LEY

PERMANENT WHEAT BLOCKS

1968

	N1	N2	N3	N4	Mean
1ST CUT					
	$(\pm 4.17)^*$				(± 2.08)
O	32.5	28.7	30.0	32.4	30.9
Mg	28.1	29.2	33.5	31.4	30.5
Mean	30.3	28.9	31.8	31.9	30.7

* For use in vertical and interaction comparisons only

2ND CUT					
	$(\pm 0.15)^*$				(± 0.08)
O	4.3	5.0	4.4	4.7	4.6
Mg	4.0	5.1	4.4	4.4	4.5
Mean	4.2	5.1	4.4	4.5	4.5

* For use in vertical and interaction comparisons only

Mean D.M. %: 1st cut: 29.3
 2nd cut: 35.6

LEY
PERMANENT WHEAT BLOCKS
1968

	N1	N2	N3	N4	Mean
	TOTAL OF 2 CUTS				
	(±4.11)*				(±2.05)
O	36.8	33.7	34.4	37.1	35.5
Mg	32.1	34.3	37.9	35.8	35.0
Mean	34.4	34.0	36.2	36.5	35.3

* For use in vertical and interaction comparisons only

Mean D.M. %: 32.4

LEY
PERMANENT BARLEY BLOCKS
1968

	N1	N2	N3	N4	Mean
1ST CUT					
	$(\pm 5.17)^*$				(± 2.58)
O	43.1	36.5	36.9	34.4	37.8
Mg	46.4	40.7	36.7	38.2	40.5
Mean	44.8	38.6	36.8	36.3	39.1

* For use in vertical and interaction comparisons only

2ND CUT					
	$(\pm 0.37)^*$				(± 0.18)
O	4.8	5.5	5.1	5.4	5.2
Mg	5.1	5.7	6.4	6.5	5.9
Mean	5.0	5.6	5.8	6.0	5.6

* For use in vertical and interaction comparisons only

Mean D.M. %: 1st cut: 30.4
2nd cut: 36.8

LEY
PERMANENT BARLEY BLOCKS
1968

	N1	N2	N3	N4	Mean
TOTAL OF 2 CUTS					
	(±5.41)*				(±2.71)
O	48.0	42.1	42.1	39.9	43.0
Mg	51.5	46.4	43.1	44.7	46.4
Mean	49.7	44.2	42.6	42.3	44.7

* For use in vertical and interaction comparisons only

Mean D.M. %: 33.6

WINTER WHEAT

GRAIN: CWT

Crop in 1966 1967 1968			N1	N2	N3	N4	O	Mg	Mean
			(1) and (2)				(3) and (4)		(±1.51)
L	P	W	23.3	28.6	24.6	26.6	24.2	27.3	25.8
P	W	W	17.0	24.8	23.4	25.0	21.6	23.6	22.6
W	L	P	33.0	41.6	43.6	39.6	38.9	40.0	39.4
W	W	W	23.3	28.1	31.8	29.6	27.1	29.3	28.2
							(5) and (6)		(±0.76)
			N1				24.3	24.0	24.1
			N2				29.5	32.0	30.8
			N3				29.3	32.4	30.9
			N4				28.6	31.8	30.2
			Mean (±0.35)				27.9	30.0	29.0

(1) (±2.00) (3) (±1.59) (5) (±0.91) For use in vertical and diagonal comparisons only

(2) (±1.51) (4) (±0.70) (6) (±0.70) For use in horizontal and interaction comparisons only

Mean D.M. %: 82.1

WINTER WHEAT

STRAW: CWT

Crop in			N1	N2	N3	N4	O	Mg	Mean
1966	1967	1968							
L	P	W	25.7	30.8	30.3	32.1	29.3	30.2	29.7
P	W	W	18.9	29.3	28.8	30.3	26.6	27.0	26.8
W	L	P	33.0	45.0	48.1	47.4	43.3	43.4	43.4
W	W	W	25.7	32.3	35.1	34.3	31.2	32.5	31.8
N1							26.2	25.4	25.8
N2							34.6	34.1	34.4
N3							35.3	35.8	35.6
N4							34.3	37.8	36.0
Mean							32.6	33.3	32.9

Mean D.M. %: 87.4

BARLEY

GRAIN: CWT

Crop in 1966 1967 1968			N1	N2	N3	N4	O	Mg	Mean
			(1) and (2)				(3) and (4)		(±0.58)
L	P	B	25.1	33.1	32.4	31.3	30.8	30.2	30.5
P	B	B	19.5	31.9	32.1	29.1	28.4	27.9	28.2
B	L	P	28.7	35.6	34.9	30.8	32.7	32.2	32.5
B	B	B	20.4	28.0	31.0	30.5	27.1	27.9	27.5
							(5) and (6)		(±0.51)
			N1				23.0	23.8	23.4
			N2				32.2	32.2	32.2
			N3				32.9	32.3	32.6
			N4				30.8	30.0	30.4
			Mean (±0.27)				29.7	29.6	29.7

(1) (±1.06) (3) (±0.69) (5) (±0.64) For use in vertical and diagonal comparisons only

(2) (±1.03) (4) (±0.54) (6) (±0.54) For use in horizontal and interaction comparisons only

Mean D.M. %: 82.4

BARLEY

STRAW: CWT

Crop in 1966 1967 1968			N1	N2	N3	N4	O	Mg	Mean	
L	P	B	23.0	32.2	32.3	32.1	29.0	30.8	29.9	
P	B	B	20.0	29.9	33.3	32.0	28.3	29.3	28.8	
B	L	P	26.2	35.7	35.2	34.7	33.0	32.8	32.9	
B	B	B	20.6	29.8	32.2	32.5	27.9	29.7	28.8	
							N1	21.6	23.3	22.5
							N2	30.7	33.1	31.9
							N3	32.5	34.0	33.2
							N4	33.5	32.2	32.8
Mean							29.6	30.6	30.1	

Mean D.M. %: 88.3

POTATOES
PERMANENT WHEAT BLOCKS

1967

	N1	N2	N3	N4	Mean
TOTAL TUBERS					
	(±0.624)*				(±0.312)
O	14.69	13.95	13.00	12.90	13.64
Mg	14.93	13.24	14.77	13.99	14.23
Mean	14.81	13.60	13.89	13.45	13.93

* For use in vertical and interaction comparisons only

% WARE

O	95.9	95.4	95.3	95.9	95.6
Mg	96.3	95.6	94.9	95.8	95.6
Mean	96.1	95.5	95.1	95.9	95.6

POTATOES
PERMANENT BARLEY BLOCKS

1967

	N1	N2	N3	N4	Mean
TOTAL TUBERS					
	(±0.542)*				(±0.271)
O	14.98	16.61	15.86	15.81	15.82
Mg	17.23	16.85	16.98	17.56	17.15
Mean	16.11	16.73	16.42	16.68	16.48

* For use in vertical and interaction comparisons only

% WARE

O	95.8	94.7	94.7	96.0	95.3
Mg	95.3	96.0	95.7	96.7	95.9
Mean	95.6	95.4	95.2	96.4	95.6