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65/R/AY/C/4 and 65/W/WBC/C/4 Methods of Application of Fertiliser 1964-65 - Winter Wheat

Rothamsted Research

Rothamsted Research (1966) *65/R/AY/C/4 and 65/W/WBC/C/4 Methods of Application of Fertiliser 1964-65 - Winter Wheat* ; Yields Of The Field Experiments 1965, pp 133 - 136 - DOI:

<https://doi.org/10.23637/ERADOC-1-159>

65/C/4.1

METHODS OF APPLICATION OF FERTILISER 1964 - 65

(AY and WBC)

Methods of application of fertiliser - Rothamsted (R) Whittlocks and Woburn (W) Broadmead II, 1965 the second year - winter wheat.

Design: 3 x 3 x 3 in 3 blocks of 9 plots each together with 3 additional plots per block.

Area of each plot: 0.0212. Area harvested: 0.0126.

Treatments: 3 x 3 x 3: All combinations of:-

To wheat 1965:

1. NPK: None (F0), 0.66 (F1), 1.32 (F2) cwt N as spring top dressings of 'Nitro-Chalk' each with superphosphate and muriate of potash applied in autumn in the seedbed in the proportion 13 N, 13 P2O5, 20 K2O.

To potatoes 1964:

2. Levels of compound 13:13:20 to supply (cwt):

N	P2O5	K2O	
0.66	0.66	1.02	(L1)
1.32	1.32	2.03	(L2)
2.00	2.00	3.07	(L3)

3. Methods of application: Broadcast (B), placed (P), broadcast and rotary cultivated in (BR).

Additional plots:

To wheat 1965: NPK: F0, F1, F2 as above to plots receiving no treatment in 1964.

Basal applications: Manures: None. Weedkiller: Mecoprop/2,4-D (Methoxone Extra at 7 pints in 40 gals).

Cultivations, etc.:

Whittlocks (R): Chisel ploughed twice: Oct 5 and 6, 1964.

PK applied, seed drilled at 185 lb: Oct 22. 'Nitro-Chalk' applied - 1st half dressing: Mar 31, 1965. Sprayed, 'Nitro-Chalk' applied - 2nd half dressing: Apr 30. Combine harvested: Sept 14. Variety: Cappelle. Previous crops: Spring wheat 1963, potatoes 1964.

65/C/4.2

Broadmead II (W): Chisel ploughed twice: Oct 17 and 19, 1964.
PK applied: Oct 20. Seed drilled at 180lb: Oct 22.
'Nitro-chalk' applied - 1st half dressing: Apr 6, 1965,
2nd half dressing: Apr 27. Sprayed: May 6. Combine
harvested: Sept 15. Variety: Cappelle. Previous crops:
Barley 1963, potatoes 1964.

- NOTES: (1) For previous year's results see 'Results' 64/C/5.
(2) Green crop and grain and straw samples were taken for NPK
and dry matter determination.
(3) On Whittlocks (R) two plots FOPL1 and FOBR11 were damaged
by birds. Estimated values have been used in the analysis.
Severe lodging had occurred by June on all plots except those
receiving no fertiliser in 1965.

Standard errors per plot. Grain:

Whittlocks (R): 2.72 or 8.7% (19 d.f.)
Broadmead (W): 3.39 or 10.9% (21 d.f.)

65/C/4.3

SUMMARY OF RESULTS

GRAIN

	WHEATFLOCKS (R)				BROADMEAD II (W)			
	B	P	BR	Mean	B	P	BR	Mean
		(± 1.57)		(± 0.91)		(± 1.96)		(± 1.13)
F0	33.6	32.7	29.1	31.8	38.9	37.5	35.2	37.2
F1	31.0	33.2	33.3	32.5	26.4	26.8	31.4	28.2
F2	28.6	30.4	28.4	29.2	27.6	27.9	24.6	26.7
Mean	31.1	32.1	30.2	31.2	31.0	30.7	30.4	30.7
		(± 0.91)				(± 1.13)		
	L1	L2	L3		L1	L2	L3	
		(± 1.57)				(± 1.96)		
F0	30.3	32.1	33.0		41.7	37.4	32.6	
F1	33.6	32.5	31.4		29.6	27.7	27.1	
F2	29.3	29.0	29.1		26.5	28.3	25.2	
Mean	31.1	31.2	31.2		32.6	31.1	28.3	
		(± 0.91)				(± 1.13)		
		(± 1.57)				(± 1.96)		
B	29.0	32.0	32.4		31.3	33.2	28.5	
P	32.0	31.2	33.1		32.0	32.2	27.9	
BR	32.3	30.4	28.0		34.6	28.0	28.5	

Plots receiving no fertiliser in 1964

	F0	F1	F2	Mean	F0	F1	F2	Mean
	24.1	36.2	31.7	31.2	42.9	28.8	24.3	30.7
		(± 1.57)				(± 1.96)		

General mean 31.1

31.0

Mean D.M. %: 78.2

79.3

65/C/4.4

STRAW

	WHITTLOCKS (R)				BROADMEAD II (W)			
	B	P	BR	Mean	B	P	BR	Mean
F0	40.8	37.4	32.1	36.8	35.7	36.7	38.9	37.1
F1	45.0	44.1	50.4	46.5	26.7	33.1	27.9	29.2
F2	42.6	44.3	49.4	45.5	37.4	33.7	37.9	36.3
Mean	42.8	41.9	44.0	42.9	33.3	34.5	34.9	34.2

	I1	I2	I3		I1	I2	I3
F0	27.9	36.0	46.4		35.7	40.1	35.5
F1	46.5	50.0	43.0		26.2	31.5	29.9
F2	47.7	46.9	41.8		30.4	38.1	40.4
Mean	40.7	44.3	43.8		30.8	36.6	35.3

B	40.9	45.2	42.4		27.1	36.4	36.4
P	39.9	44.1	41.9		33.4	38.1	31.9
BR	41.4	43.6	47.0		31.9	35.3	37.6

Plots receiving no fertiliser in 1964

	F0	F1	F2	Mean	F0	F1	F2	Mean
	28.9	41.7	39.4	42.9	38.1	32.7	34.0	34.2

General mean 42.2 34.4

Mean D.M. %: 78.2 79.4