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Yields of the Field Experiments 1967

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67/R/EBR/C/18 and 67/R/EBS/C/18 Formalin and N - 2 Sites - Winter Wheat

Rothamsted Research

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67/c/18.1

WINTER WHEAT

(EBR, EBS)

Effects of formalin and nitrogen, Pastures (pathogen free 1965), and Little Knott I (pathogen infected 1965) 1967, the third year.

Design (each field) 4 x 2 x 2 x 2 x 2 (half replicate) confounded design in 2 blocks of 8 plots split into 2 (Pastures) and in 4 blocks of 8 plots (Little Knott I).

Area of each plot:

Little Knott I: 0.0032. Area harvested: 0.0024.
Pastures (sub plot): 0.0016. Area harvested: 0.0008.

Treatments:

All combinations of:-

Whole plots: 1. N: None (N0), 0.5 (N1), 1.0 (N2), 1.5 (N3) cwt as 'Nitro-Chalk' applied in 1965, 1966 and 1967.
(Pastures) 2. Formalin (applied 1965): None (650), sprayed with a 38% solution of formaldehyde at 266 gals in 3700 gals (65F).

Sub plots: 3. Formalin as 1965, applied 1966: (660) and (66F).
(Pastures) 4. Formalin as 1966, applied in 5800 gals in 1967: (670) and (67F).
5. Time of application (1967): To wheat stubble (E), after cultivations (L).

Basal applications: 560 lb (0:20:20) broadcast by hand (both fields).

Little Knott I: 20 cwt ground chalk. Weedkiller (both fields):
Dichlorprop/MCPA (Cornox RK Extra at 6 pints in 40 gals).

Cultivations, etc.:-

Pastures: Formalin applied to FE plots: Sept 9, 1966. Ploughed: Sept 27. Formalin applied to FL plots, basal PK fertiliser applied: Sept 29. Plots rotary cultivated, seed drilled at 180 lb: Oct 25. 'Nitro-Chalk' applied (1st half dressing): Mar 14, 1967. Weedkiller applied: Apr 17. 'Nitro-Chalk' applied (2nd half dressing): Apr 18. Harvested: Aug 18. Variety: Cappelle.

67/c/18.2

Little Knott I: Formalin applied to FE plots: Sept 9, 1966.
Ground chalk applied: Sept 16. Ploughed: Sept 27. Formalin
applied to FL plots, basal PK fertiliser applied: Sept 29.
Plots rotary cultivated seed drilled at 180 lb: Oct 25.
'Nitro-Chalk' applied (1st half dressing): Mar 14, 1967.
Weedkiller applied: Apr 17. 'Nitro-Chalk' applied (2nd
half dressing): Apr 18. Harvested: Aug 18. Variety:
Cappelle.

- Notes: (1) Samples of grain and straw were taken at harvest for
determination of N percentage.
(2) For previous years' results see 'Results' 65/C/29 and
66/C/22.

67/c/18.3

SUMMARY OF RESULTS

PASTURES

	NO	N1	N2	N3	Mean
GRAIN					
Mean	26.1	31.8	30.9	31.1	30.0
650	26.3	32.7	33.5	29.2	30.4
65F	26.0	31.0	28.3	33.0	29.6
660	27.3	36.6	29.8	32.6	31.6
66F	25.0	27.1	32.0	29.5	28.4
670	20.4	28.5	33.9	33.6	30.4
67FE	27.7	35.6	29.8	35.2	29.7
67FL	36.1	34.7	26.0	21.9	29.5
STRAW					
Mean	43.4	62.7	68.2	75.7	62.5
650	43.6	65.0	67.7	73.8	62.6
65F	43.1	60.5	68.7	77.5	62.4
660	46.8	69.0	68.7	80.1	66.2
66F	40.0	56.5	67.7	71.2	58.8
670	35.6	57.3	66.9	71.5	57.8
67FE	44.8	67.4	63.8	80.7	64.2
67FL	57.6	68.9	75.3	78.9	70.1

Mean D.M. %: Grain: 78.5
 Straw: 73.4

67/c/18.4

LITTLE KNOTT I

	NO	N1	N2	N3	Mean
GRAIN					
Mean	14.9	24.5	28.0	28.2	23.9
650	14.1	23.9	28.6	27.7	23.6
65F	15.6	25.1	27.5	28.5	24.2
660	22.9	30.2	32.3	34.8	30.0
66F	6.9	18.7	23.8	21.5	17.7
670	13.0	21.6	30.1	27.8	23.1
67FE	17.1	25.7	22.8	24.8	22.6
67FL	16.5	29.0	29.0	32.3	26.7
STRAW					
Mean	20.7	39.3	42.1	46.1	37.0
650	19.5	39.3	39.6	44.3	35.7
65F	21.9	39.3	44.5	47.9	38.4
660	24.8	44.0	45.6	51.6	41.5
66F	16.6	34.6	38.6	40.6	32.6
670	17.9	35.4	43.0	39.7	34.0
67FE	22.2	45.1	38.4	54.5	40.1
67FL	24.9	41.3	43.8	50.6	40.1

Mean D.M. %: Grain: 81.7
Straw: 73.6