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Numerical Results of the Field Experiments 1968

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68/C/14 Effects of Formalin and Nitrogen - W. Wheat

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68/c/14.1

WINTER WHEAT

(EBR, EBS)

Effects of formalin and nitrogen, Pastures (pathogen free 1965), and Little Knott I (pathogen infected 1965) 1968, the fourth year.

Design (each field): 4 x 2 x 2 x 2 x 2 x 2 (quarter 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: 0.0023.
Pastures (sub plot): 0.0016. Area harvested: 0.0011.

Treatments: All combinations of:-

- Whole plots: 1. N: None (N0), 0.5 (N1), 1.0 (N2), 1.5 (N3)
(Pastures) cwt applied as 'Nitro-Chalk' in 1965, 1966 and 1967 and as calcium nitrate in 1968.
2. Formalin applied 1965: (65 O) and (65 F).
Sub plots: 3. Formalin applied 1966: (66 O) and (66 F).
(Pastures) 4. Formalin applied 1967: (67 O) and (67 F).
5. Time of application (1967): To wheat stubble (E), after cultivations (L).
6. Formalin applied 1968: None (68 O), sprayed with a 38% solution of formaldehyde at 266 gals in 4220 gals (68 F).

On Little Knott I the treatments were the same, but applied to whole plots only.

Basal applications: 560 lb (0:20:20). Weedkiller: Ioxynil at 9 oz and mecoprop at 27 oz in 50 gals.

Cultivations, etc.:

Pastures: Ploughed: 18 Sept, 1967. Basal PK compound applied: 25 Sept. Formalin applied: 26 Sept. Plots rotary cultivated, seed sown at 180 lb: 24 Oct. Calcium nitrate (first half dressing) applied: 25 Mar, 1968. Weedkiller applied, calcium nitrate (second half dressing) applied: 25 Apr. Combine harvested: 30 Aug. Variety: Cappelle.

68/C/14.2

Little Knott I: Ploughed: 18 Sept, 1967. Basal PK compound applied, formalin applied: 25 Sept. Plots rotary cultivated, seed sown at 180 lb: 24 Oct. Calcium nitrate (first half dressing) applied: 25 Mar, 1968. Weedkiller applied, calcium nitrate (second half dressing) applied: 25 Apr. Combine harvested: 26 Aug. Variety: Cappelle.

- NOTES: (1) Samples of grain and straw were taken at harvest for determination of N.
(2) For previous years' results see 'Results' 65/C/29, 66/C/22, 67/C/18.
(3) Factor 5 has been ignored in the analysis.

Standard errors per plot. Grain:

Pastures (R): Pooled Whole and sub plot: 2.78 or 11.2% (8 d.f.)

Little Knott (R): 4.59 or 14.4% (6 d.f.)

68/c/14.3

SUMMARY OF RESULTS

PASTURES (R)

	NO	N1	N2	N3	Mean
GRAIN					
Mean (± 0.98)	25.9	27.7	23.6	22.1	24.8
		(± 1.39)			(± 0.69)
68 O	28.4	31.0	25.1	23.8	27.1
68 F	23.3	24.3	22.1	20.3	22.5
		(± 1.39)			(± 0.69)
67 O	24.3	27.5	23.1	23.7	24.7
67 F	27.5	27.8	24.1	20.5	25.0
		(± 1.39)			(± 0.69)
66 O	26.2	27.3	23.7	22.2	24.8
66 F	25.6	28.0	23.5	22.0	24.8
		(± 1.39)			(± 0.69)
65 O	27.5	27.2	22.5	21.3	24.6
65 F	24.3	28.2	24.7	22.9	25.0
STRAW					
Mean	30.8	41.9	41.6	37.3	37.9
68 O	32.2	42.5	41.2	36.4	38.1
68 F	29.4	41.2	42.1	38.3	37.7
67 O	33.9	44.0	43.1	35.9	39.2
67 F	27.6	39.7	40.2	38.8	36.6
66 O	31.7	40.7	41.3	36.5	37.6
66 F	29.8	43.0	42.0	38.2	38.2
65 O	31.5	41.8	40.2	34.9	37.1
65 F	30.0	41.9	43.1	39.8	38.7

Mean D.M. %: Grain: 70.2
 Straw: 69.6

68/c/14.4

LITTLE KNOTT I

	NO	N1	N2	N3	Mean
GRAIN					
Mean (± 1.62)	19.3	34.9	37.0	35.8	31.8
		(± 2.29)			(± 1.15)
68 O	18.9	33.1	35.5	37.1	31.1
68 F	19.8	36.8	38.4	34.5	32.4
		(± 2.29)			(± 1.15)
67 O	20.8	34.8	38.6	34.5	32.2
67 F	17.8	35.0	35.3	37.2	31.3
		(± 2.29)			(± 1.15)
66 O	19.2	31.4	35.0	34.8	30.1
66 F	19.4	38.5	38.9	36.8	33.4
		(± 2.29)			(± 1.15)
65 O	20.8	33.2	35.2	34.9	31.0
65 F	17.8	36.7	38.7	36.7	32.5
STRAW					
Mean	20.1	36.6	40.7	39.7	34.3
68 O	20.9	33.5	36.9	40.4	32.9
68 F	19.4	39.6	44.5	39.0	35.6
67 O	23.3	38.1	45.4	39.6	36.6
67 F	16.9	35.1	36.0	39.7	31.9
66 O	20.3	32.2	38.0	39.8	32.6
66 F	20.0	40.9	43.4	39.5	35.9
65 O	22.3	37.0	41.6	36.1	34.2
65 F	18.0	36.2	39.8	43.3	34.3
Mean D.M. %: Grain: 86.2 Straw: 69.8					