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66/R/BR/C/22 and 66/R/BS/C/22 Formalin and N - 2 Sites - Spring Wheat

Rothamsted Research

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66/C/22.1

SPRING WHEAT

(BR, BS)

Effects of formalin and nitrogen, Pastures (few pathogens), and Little Knott I (many pathogens) 1966, the second year.

Design: Pastures: 2 blocks of 8 plots split into 2.
Little Knott I: 4 blocks of 8 plots.

Area of each plot: 0.0032. Area harvested: Pastures - 0.0012,
Little Knott I - 0.0013.

Treatments:

Pastures: All combinations of:-

- Whole plots: 1. Formalin (applied 1965): None (O), sprayed with a 38% solution of formaldehyde at 266 gals in 3700 gals (R).
2. N: None (NO), 0.5 (N1), 1.0 (N2), 1.5 (N3) cwt as 'Nitro-Chalk' applied in 1965 and 1966.
Sub plots: 3. Formalin (applied 1966): None (O), sprayed with a 38% solution of formaldehyde at 266 gals in 3700 gals (F).

Little Knott I: All combinations of:-

1. Formalin (applied 1965): None (O), sprayed with a 38% solution of formaldehyde at 266 gals in 3700 gals (R).
2. Formalin as 1965, applied 1966: (O) and (F).
3. N (applied 1965 and 1966): None (NO), 0.5 (N1), 1.0 (N2), 1.5 (N3) cwt as 'Nitro-Chalk'.

Basal applications: 280 lb (0:20:20). Weedkillers:

Pastures: Ioxynil/mecoprop (Actril P at 4 pints in 40 gals).
Little Knott I: Dichlorprop/MCPA (Cornox RK Extra at 6 pints in 40 gals).

Cultivations, etc.:

Pastures: Ploughed: Nov 4, 1965. Formalin applied: Feb 18, 1966. PK basal compound and 'Nitro-Chalk' (first half dressing) applied, rotary cultivated, seed sown at 180 lb: Mar 14. 'Nitro-Chalk' applied (2nd half dressing): May 6. Weedkiller applied: May 12. Harvested: Aug 26. Variety: Kloka.

Little Knott I: Ploughed: Oct 25, 1965. Formalin applied: Feb 18, 1966. PK basal compound, 'Nitro-Chalk' (first half dressing) applied, rotary cultivated, seed drilled at 180 lb: Mar 14. 'Nitro-Chalk' applied (2nd half dressing): May 6. Weedkiller applied: May 13. Harvested: Aug 26. Variety: Kloka.

NOTES: (1) Samples of grain and straw were taken at harvest for N percentage determinations.

(2) For previous year's results see 'Results' 65/C/29.

66/c/22.2

Standard errors per plot. Dry matter:

Pastures (R): Whole plot: 2.31 or 6.3% (7 d.f.)
 Sub plot: 3.44 or 9.4% (8 d.f.)
 Little Knott I (R): 3.71 or 13.6% (14 d.f.)

SUMMARY OF RESULTS

PASTURES

GRAIN

| | NO | N1 | N2 | N3 | Mean |
|---------------------|------|----------------|------|------|----------------|
| Mean (± 1.15) | 32.7 | 39.3 | 39.1 | 34.7 | 36.5 |
| | | (± 1.63) | | | (± 0.82) |
| O | 29.5 | 39.5 | 39.3 | 36.7 | 36.3 |
| R | 35.8 | 39.1 | 38.9 | 32.8 | 36.6 |
| | | (1) and (2) | | | (± 0.86) |
| O | 28.4 | 39.2 | 39.2 | 36.0 | 35.7 |
| F | 36.9 | 39.5 | 39.0 | 33.4 | 37.2 |
| | O | R | | | |
| | | (3) and (4) | | | |
| O | 35.7 | 35.7 | | | |
| F | 36.8 | 37.6 | | | |

Mean D.M. %: 80.2

(1) (± 1.67) (3) (± 1.18) For use in horizontal and diagonal comparisons
 (2) (± 1.72) (4) (± 1.22) For use in vertical and interaction comparisons

66/C/22.3

| | | PASTURES | | | | |
|------|--|----------|------|------|------|------|
| | | STRAW | | | | |
| | | NO | N1 | N2 | N3 | Mean |
| Mean | | 42.9 | 61.1 | 61.5 | 61.1 | 56.6 |
| O | | 41.0 | 59.4 | 61.3 | 63.1 | 56.2 |
| R | | 44.8 | 62.7 | 61.7 | 59.1 | 57.1 |
| O | | 33.9 | 55.1 | 57.4 | 56.8 | 50.8 |
| F | | 51.9 | 67.0 | 65.6 | 65.4 | 62.5 |
| | | O | R | | | |
| O | | 50.8 | 50.8 | | | |
| F | | 61.6 | 63.4 | | | |

Mean D.M. %: 63.8

66/C/22.4

LITTLE KNOTT I

GRAIN

| | NO | N1 | N2 | N3 | Mean |
|---------------------|----------------|----------------|------|------|----------------|
| Mean (± 1.31) | 22.0 | 26.8 | 30.1 | 30.0 | 27.3 |
| | | (± 1.86) | | | (± 0.93) |
| O | 23.8 | 27.6 | 32.7 | 30.2 | 28.6 |
| R | 20.3 | 26.1 | 27.5 | 29.9 | 25.9 |
| O | 16.2 | 24.0 | 29.2 | 27.0 | 24.1 |
| F | 27.9 | 29.7 | 31.1 | 33.1 | 30.4 |
| | O | R | | | |
| | (± 1.31) | | | | |
| O | 26.5 | 21.6 | | | |
| F | 30.6 | 30.2 | | | |

Mean D.M. %: 81.3

66/C/22.5

LITTLE KNOTT I

STRAW

| | NO | N1 | N2 | N3 | Mean |
|------|------|------|------|------|------|
| Mean | 26.0 | 43.0 | 49.6 | 52.6 | 42.8 |
| O | 27.7 | 45.3 | 52.1 | 54.0 | 44.8 |
| R | 24.4 | 40.6 | 47.2 | 51.2 | 40.8 |
| O | 18.3 | 32.5 | 42.2 | 43.6 | 34.1 |
| F | 33.8 | 53.4 | 57.1 | 61.6 | 51.5 |
| | O | R | | | |
| O | 36.7 | 31.6 | | | |
| F | 52.9 | 50.1 | | | |

Mean D.M. %: 72.0