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Yields of the Field Experiments 1961

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61/R/C/3 Grass Species Testing N and K - Spring Wheat (Test Crop)

Rothamsted Research

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61/C/3.1

SPRING WHEAT

Residues of grass species, testing N and K - Harwood's Piece 1961 - the 4th year.

Design: 4 blocks of 12 plots each, plots being split into 3 for the application of N.

Area of each sub plot: 0.0029 acres. Area harvested: 0.0019 acres.

Treatments:

Whole plots: All combinations of:-

Grass species sown in spring 1958:

S37 Cocksfoot at 30 lb per acre

S215 Meadow Fescue at 30 lb per acre

S24 Perennial Ryegrass at 25 lb per acre

Timothy "Scotia" at 20 lb per acre

(C)
(M)
(R)
(T)

Nitrogen (applied 1958-1960): None; 0.3; 0.6 cwt N per acre as 'Nitro-Chalk', applied for each cut.

Potassium: None; 1; 2; 3 cwt K₂O per acre as potassium bicarbonate.

Sub plots:

Nitrogen: None; 0.5; 1.0 cwt N per acre as 'Nitro-Chalk'.

Basal dressing: 2½ cwt per acre triple superphosphate combine drilled (see below).

Cultivations, etc.: Ploughed: Aug 30, 1960. Rotary cultivated: Oct 13. Cappelle winter wheat combine drilled at 3 bushels per acre with triple superphosphate at 1½ cwt per acre: Oct 17. Winter wheat failed, ploughed in: Feb 9, 1961. Potassium bicarbonate applied, seed drilled at 3 bushels per acre with triple superphosphate at 1½ cwt per acre, 'Nitro-Chalk' applied: Mar 16. Sprayed with CMPP at 4 pints in 50 gallons per acre: May 19. Harvested: Aug 22. Variety: Jufy I.

Note: For details of the previous years' results see 'Results of the Field Experiments' 58/Cg/3, 59/Cg/3 and 60/Ci/2.

Standard errors per plot. Grain (at 85% dry matter)

Whole plot: 1.66 cwt per acre or 6.1% (15 d.f.)

Sub plot: 2.52 cwt per acre or 9.2% (78 d.f.)

61/C/3.2

Summary of ResultsSpecies of grass, 1958 - 60

	C	M	R	T	Mean
<u>Grain (at 85% dry matter): cwt per acre</u>					
N: cwt per acre 1958 - 60		(± 0.83)			(± 0.41)
None	23.9	28.4	28.8	22.0	25.8
0.3	23.8	26.7	29.4	24.4	26.1
0.6	30.1	31.0	31.0	28.4	30.1
K ₂ O: cwt per acre 1961		(± 0.96)			(± 0.48)
None	27.2	27.3	28.9	24.9	27.1
1	26.2	27.1	29.4	25.3	27.0
2	24.9	30.5	30.1	24.7	27.5
3	25.3	29.9	30.6	24.8	27.7
N: cwt per acre 1961		(± 0.73) ⁽¹⁾	(± 0.76) ⁽²⁾		(± 0.36)
None	18.4	20.8	21.7	18.4	19.8
0.5	27.0	29.4	31.7	26.4	28.6
1.0	32.3	35.9	35.8	30.1	33.5
Mean (± 0.48)	25.9	28.7	29.7	25.0	27.3

- (1) For use in vertical and interaction comparisons
 (2) For use in horizontal and diagonal comparisons

61/C/3.3

Grain (at 85% dry matter): cwt per acre

N: cwt per acre, 1958 - 60

	None	0.3	0.6
K ₂ O: cwt per acre 1961	(±0.83)		
None	26.0	25.9	29.4
1	25.6	25.8	29.7
2	25.4	26.6	30.7
3	26.2	26.0	30.8
N: cwt per acre 1961	(±0.63) ⁽¹⁾ (±0.66) ⁽²⁾		
None	18.7	18.4	22.4
0.5	26.3	27.2	32.4
1.0	32.3	32.7	35.6

K₂O: cwt per acre, 1961

	None	1	2	3
N: cwt per acre 1961	(±0.73) ⁽¹⁾ (±0.76) ⁽²⁾			
None	18.8	19.3	20.7	20.6
0.5	28.9	28.9	28.7	28.0
1.0	33.7	32.8	33.3	34.4

(1) For use in vertical and interaction comparisons

(2) For use in horizontal and diagonal comparisons

Mean dry matter % as harvested: 78.6

61/C/3.4

Species of grass, 1958 - 60

	C	M	R	T	Mean
<u>Straw (at 85% dry matter): cwt per acre</u>					
N: cwt per acre 1958 - 60					
None	28.3	35.2	34.2	26.1	30.9
0.3	27.4	33.5	36.3	31.1	32.1
0.6	36.8	39.4	40.9	37.4	38.6
K ₂ O: cwt per acre 1961					
None	32.7	32.9	34.2	31.9	32.9
1	30.4	34.8	35.8	32.7	33.4
2	29.3	37.4	39.9	31.0	34.4
3	30.8	38.9	38.6	30.5	34.7
N: cwt per acre 1961					
None	19.6	23.0	24.5	20.5	21.9
0.5	32.5	36.5	40.1	33.7	35.7
1.0	40.3	48.6	46.8	40.4	44.0
Mean	30.8	36.0	37.1	31.5	33.9

61/0/3.5

Straw (at 85% dry matter): cwt per acre

N: cwt per acre, 1958 - 60

	None	0.3	0.6
<u>K₂O: cwt per acre</u> 1961			
None	31.5	30.5	36.8
1	30.8	31.0	38.6
2	30.1	33.5	39.6
3	31.3	33.3	39.5
<u>N: cwt per acre</u> 1961			
None	20.0	19.8	25.8
0.5	31.5	33.5	42.2
1.0	41.3	42.9	47.8

K₂O: cwt per acre, 1961

	None	1	2	3
<u>N: cwt per acre</u> 1961				
None	20.5	21.1	22.8	23.1
0.5	34.9	36.7	36.1	35.2
1.0	43.4	42.5	44.3	45.9

Mean dry matter % as harvested: 64.5