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Yields of the Field Experiments 1967

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67/R/LM/C/1 K, Mg and Na - Barley

Rothamsted Research

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67/C/1.1

LEVELS OF K AND Mg

(LM)

K and Mg - Rothamsted Sawyers I - the 9th year, barley.

For details of treatments, etc. see 'Results' 66/C/1, and for previous years' results see 'Results' 60/Ci/3, 61/C/7, 62/C/6, 63/C/1, 64/C/1, 65/C/1, 66/C/1.

Area of each plot: 0.0209. Area harvested: 0.0139.

Basal applications: 0.5 cwt P₂O₅ as triple superphosphate in seedbed, 0.5 cwt N as 'Nitro-Chalk' in seedbed. Weedkiller: Mecoprop/2,4-D (Methoxone Extra at 6 pints in 30 gals).

Cultivations, etc.: Ploughed: Jan 18, 1967. K, Mg and Na fertilisers applied: Feb 24. 'Nitro-Chalk' and triple superphosphate applied: Mar 3. Seed drilled at 140 lb: Mar 7. Weedkiller applied: May 12. Combine harvested: Aug 22. Variety: Maris Badger.

NOTE: On June 2 green crop samples were taken for determination of the percentages of K, Na, Ca and Mg. Soil samples were taken for pH and exchangeable cation measurements.

Standard error per plot (Pooled).
Grain: 4.96 or 17.1% (34 d.f.)

SUMMARY OF RESULTS

BARLEY. GRAIN

BLOCKS RECEIVING SODIUM TREATMENTS

	MgO	Mg1	Mg2	KO	K1	K2	NaO	NaCl	NaC	Mean
Ca1	18.5	22.8	26.4	12.5	(±1.65)* 25.3	29.8	24.7	24.3	18.7	22.6
Ca2	30.6	32.6	35.2	25.0	37.2	36.2	33.2	33.1	32.1	32.8
Mean (±1.17)	24.6	27.7	30.8	18.8	31.3	33.0	29.0	28.7	25.3	27.7
	KO	K1	K2	NaO	NaCl	NaC	NaO	NaCl	NaC	
MgO	16.9	(±2.02) 26.7	30.1	24.5	(±2.02) 26.8	22.4	21.2	(±2.02) 19.4	15.6	
Mg1	18.4	32.5	32.2	29.6	29.5	23.8	31.0	31.8	31.0	
Mg2	21.1	34.6	36.8	32.8	29.8	29.8	34.7	34.8	29.5	

* For use in horizontal and interaction comparisons

Mean D.M. %: 80.2

67/C/1.2

BARLEY. STRAW

BLOCKS RECEIVING SODIUM TREATMENTS

	MgO	Mg1	Mg2	KO	K1	K2	NaO	NaCl	NaC	Mean
Ca1	11.9	12.2	12.9	7.8	13.3	15.9	13.4	12.7	10.8	12.3
Ca2	18.3	19.6	20.9	14.7	21.6	22.4	20.8	19.8	18.1	19.6
Mean	15.1	15.9	16.9	11.3	17.5	19.2	17.1	16.3	14.5	16.0

	KO	K1	K2	NaO	NaCl	NaC	NaO	NaCl	NaC
MgO	11.2	15.8	18.4	14.7	16.2	14.4	12.3	11.4	10.0
Mg1	10.3	17.9	19.6	18.0	16.4	13.4	17.4	18.6	16.4
Mg2	12.3	18.7	19.6	18.7	16.4	15.6	21.8	18.8	17.0

Mean D.M. %: 80.9

67/c/1.3

67/c/1.4

BARLEY. GRAIN

BLOCKS NOT RECEIVING SODIUM TREATMENTS

	K0	K1	K2	MgO	Mg1	Mg2	Mean
Ca1	20.9	(± 2.86)*	36.0	25.8	(± 2.86)*	34.6	30.8
Ca2	26.5	35.5	33.5	32.4	32.0	34.2	34.4
		43.3			36.7		
					(± 3.50)		(± 2.02)
		K0		16.0	28.3	26.8	23.7
		K1		37.0	42.8	38.3	39.4
		K2		34.3	31.9	38.0	34.7
		Mean (± 2.02)		29.1	34.3	34.4	32.6

* For use in horizontal and interaction comparisons

BARLEY. STRAW

BLOCKS NOT RECEIVING SODIUM TREATMENTS

	K0	K1	K2	Mg0	Mg1	Mg2	Mean
Ca1	11.2	19.1	22.0	14.4	17.9	20.0	17.4
Ca2	16.1	27.8	21.1	21.9	23.2	19.9	21.7
		K0		9.0	17.6	14.3	13.6
		K1		21.1	25.3	24.0	23.5
		K2		24.3	18.8	21.6	21.6
		Mean		18.1	20.6	20.0	19.5

67/C/1.5