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Yields of the Field Experiments 1964

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64/R/B/2 and 64/W/B/2 Reference Plots (Ra, Rg, Wra)

Rothamsted Research

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64/B/2.1

REFERENCE PLOTS

ROTHAMSTED (R) GREAT FIELD IV

and

WOBURN (W) STACKYARD SERIES C, 1964

(RA and WRA)

For details of previous years' results, and for rates of fertilisers, etc., see 'Results' 58/Bc/1, 59/Bc/1, 60/B/3, 61/B/2, 62/B/2, 63/B/2. For sitka spruce see 63/B/2.

Cultivations, etc.:

Great Field IV (R):-

- Winter wheat: Dug by hand: Sept 16, 1963. P,K,Mg,Ca and S applied and seed drilled: Oct 4. First N dressings applied: Mar 10, 1964. Second N dressings applied: Apr 15. Trace element spray applied: Apr 29. Harvested: Aug 14.
- Kale: Dung applied: Nov 4, 1963. Dug by hand: Nov 9. P,K,Mg,Ca and S and first N dressings applied: Mar 10, 1964. Rotary cultivated, seed drilled: Apr 8. Second N dressings applied: May 27. Trace element spray applied: June 11. Harvested: Nov 3.
- Barley: Dug by hand: Nov 28, 1963. N,P,K,Mg,Ca and S applied, rotary cultivated, seed drilled: Mar 10, 1964. Trace element spray applied: May 23. Harvested: Aug 13.
- Grass-clover ley: Undersown in barley: Apr 20, 1963. N,P,K,Mg,Ca and S applied: Mar 10, 1964. Trace element spray applied: Apr 29. Cut four times: Oct 30, 1963, May 20, 1964, July 7 and Sept 7.
- Potatoes: Dung applied: Nov 4, 1963. Dug by hand: Nov 8. Mg applied: Mar 10, 1964. First N dressing, P,K,Ca and S applied: Apr 15, 1964. All plots rotary cultivated, setts planted: Apr 29. Second N dressing applied: May 27. Trace element spray applied: June 11. Harvested: Plots receiving no K (where haulm died early) - Aug 8, remainder - Sept 4.
- Permanent grass: Dung applied: Jan 24, 1964. P,K and first N dressing applied: Mar 10. Second N dressing applied: May 22. Third N dressing applied: July 16. Cut three times: May 20, July 16, Oct 29.

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Stackyard Series C (W):-

Oats: P, K and first N dressing applied, rotary cultivated, seed drilled: Mar 9, 1964. Second N dressing applied: May 5. Sprayed with mecoprop at 2.4 lb in 50 gals: May 14. Harvested: Aug 10.

Sugar beet: Dung applied, plots dug by hand: Dec 5, 1963. P,K and first N dressing applied, all plots rotary cultivated, seed drilled: Apr 10, 1964. Second N dressing applied: May 29. Singled: May 26. Sprayed four times with dimethoate at 3 fluid oz in 40 gals: June 8, June 25, Aug 6, Aug 21. Harvested: Oct 13.

Barley: P,K and first N dressing applied, all plots rotary cultivated, seed drilled: Mar 9, 1964. Second N dressing applied: May 29. Crop eaten by rooks: July 8.

Grass-clover ley: Undersown in barley: Apr 22, 1963. N,P and K applied: Mar 9, 1964. Cut four times: Oct 22, 1963, May 22, 1964, July 21, Sept 11.

Potatoes: Dung applied, plots dug by hand: Dec 6, 1963. P,K and first N dressing applied, all plots rotary cultivated, setts planted: Apr 10, 1964. Second N dressing applied: May 29. Sprayed with dimethoate at 3 fluid oz in 40 gals: June 8. Sprayed with copper oxychloride fungicide at 2.3 lb Cu in 40 gals: July 3. Sprayed with dimethoate at 3 fluid oz in 40 gals: July 6. Harvested: Sept 3.

Permanent grass: Dung applied: Jan 26, 1964. P,K and first N dressing applied: Feb 20. Second N dressing applied: May 29. Third N dressing applied: July 23. Cut three times: May 25, July 21 and Oct 30.

Soft fruit: Dung applied: Dec 6, 1963. NPK applied: Feb 20, 1964. Forked over frequently to remove weeds.

Sitka spruce: No spruce litter was applied in 1964. Formalin applied: Dec 17, 1963. All manures (other than N) dug in: Mar 23, 1964. Seed sown: Apr 7. N top-dressed: July 1, 27 and Aug 28.

NOTE. Samples were taken for determination of dry matter of tops and roots separately, and for N, P, K, Ca, Mg in total crop.

Erratum to 'Results' 63/B/2.6: Under Treatments - the spruce litter was applied in 1961, 1962 and 1963.

Standard errors per plot. Sitka spruce:
Mean height: 0.216 inches or 16.7% (13 d.f.)
Plant number: 164.8 per sq yard or 14.7% (13 d.f.)

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SUMMARY OF RESULTS
GREAT FIELD IV (R): ORIGINAL PLOTS

Treatment	Winter wheat GRAIN STRAW	Kale: TOTAL WEIGHT	Barley GRAIN STRAW	Ley: DRY MATTER				Total of 4 cuts	Potatoes: TOTAL TUBERS	Permanent grass: DRY MATTER			Total of 3 cuts
				1st cut	2nd cut	3rd cut	4th cut			1st cut	2nd cut	3rd cut	
None	38.8	9.46	22.5	2.7	24.2	24.4	24.4	75.7	4.25	7.4	16.9	3.8	28.1
N1	44.4	9.90	22.7	2.2	24.1	19.0	23.1	68.4	5.55	17.7	17.0	5.2	39.9
P	40.5	15.54	24.7	4.1	25.4	20.7	15.5	65.7	7.29	9.6	12.3	2.4	24.3
N1P	35.5	13.54	33.3	1.1	22.5	13.2	10.1	46.9	5.17	23.3	18.7	5.1	47.1
K	37.3	7.38	21.8	4.4	20.2	21.8	15.6	62.0	7.64	8.4	11.7	4.0	24.1
N1K	38.8	13.98	27.5	3.4	22.8	25.8	24.4	76.4	8.77	23.9	22.3	9.0	55.2
PK	42.4	14.24	26.9	8.5	33.4	36.5	28.9	107.3	10.07	11.9	16.3	3.9	32.1
N1PK	56.1	13.46	28.1	5.0	44.2	33.5	31.5	114.2	11.80	26.2	20.7	5.3	52.2
N2PK	48.4	20.66	36.9	3.5	42.4	32.1	29.8	107.8	13.11	34.9	24.1	10.7	69.7
D	50.1	15.62	27.6	7.9	36.2	32.6	26.6	103.3	11.98	38.7	16.7	4.3	59.7
N1PKD	46.8	17.10	33.2	5.2	41.7	33.2	30.5	110.6	15.46	40.0	22.5	6.4	68.9
N2PKD	45.6	25.70	39.1	3.8	54.3	30.5	30.5	119.1	16.76	38.9	19.3	7.5	65.7
Mean D.M.%:	81.8	71.6	82.6	66.9	18.1	20.6	20.1	32.2	22.8	21.1	24.2	27.5	24.3

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GREAT FIELD IV (R): ADDITIONAL PLOTS

Treatment	Winter wheat GRAIN STRAW	Kale: TOTAL WEIGHT	Barley GRAIN STRAW	1st cut	2nd cut	3rd cut	4th cut	Total of 4 cuts	Potatoes: TOTAL TUBERS
None	46.0	14.84	21.6	4.2	25.4	24.4	24.2	78.2	5.36
N2PK	40.6	28.82	47.4	2.8	36.4	21.8	21.6	82.6	15.19
N2PK Mg Ca	38.7	22.57	47.5	2.9	38.9	27.2	21.8	90.8	15.28
N2PK Mg S	41.6	25.09	45.2	2.4	39.5	24.1	25.2	91.2	15.02
N2PK Ca S	43.3	25.87	31.5	2.8	41.5	29.0	26.7	100.0	14.93
N2PK Mg Ca S	41.2	27.08	41.5	4.2	44.6	30.7	30.2	109.7	15.28
N2PK Mg Ca S TE	44.2	23.88	44.8	2.6	38.5	32.5	32.5	106.1	14.41
Mean D.M. %:	79.7		85.3	18.2	21.7	19.5	31.6	22.8	

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STACKYARD SERIES C (W)

Treatment	Oats GRAIN STRAW	Sugar beet ROOTS	Barley GRAIN STRAW	Ley: DRY MATTER				Total of 4 cuts	Potatoes:			Permanent grass:			Total of 3 cuts
				1st cut	2nd cut	3rd cut	4th cut		TOTAL TUBERS	1st cut	2nd cut	3rd cut			
None	15.3	11.02		7.3	22.8	22.0	6.4	58.5	3.47	24.8	11.6	2.1	38.5		
N1	35.4	12.47		4.0	28.1	15.9	6.0	54.0	4.40	26.8	14.4	6.5	47.7		
P	14.2	9.90		6.7	23.4	21.8	8.6	60.5	3.55	21.4	10.1	1.5	33.0		
N1P	37.9	10.48		3.8	28.0	13.1	4.8	49.7	4.24	28.8	15.7	5.5	50.0		
K	14.9	11.18		11.4	21.0	26.0	8.4	66.8	5.64	31.7	18.5	2.1	52.3		
N1K	35.8	14.66	EATEN BY BIRDS	6.9	27.3	21.5	8.5	64.2	7.56	38.4	20.6	7.9	66.9		
PK	16.1	11.74		10.9	22.9	29.1	9.0	71.9	6.32	30.2	18.4	2.1	50.7		
N1PK	33.8	17.55		10.3	31.1	18.8	8.2	68.4	9.03	35.7	19.6	7.1	62.4		
N2PK	44.1	18.46		4.4	38.0	17.6	3.9	63.9	10.26	33.5	26.2	10.2	69.9		
D	17.2	15.06		10.4	24.2	28.3	7.5	70.4	10.57	33.9	14.8	2.1	50.8		
N1PKD	36.9	17.82		10.7	36.8	23.0	6.6	77.1	13.12	35.5	22.7	9.3	67.5		
N2PKD	42.1	20.54		7.0	42.4	22.8	6.1	78.3	15.82	32.0	22.9	11.5	66.4		
Mean D.M.%:	80.1	58.6		15.8	25.1	26.8	32.6	25.1		25.5	26.3	21.8	24.5		

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SITKA SPRUCE

Treatment	MEAN HEIGHT: INCHES	PLANT NUMBER: PER SQ YARD
	(±0.153)	(±116.5)
None	1.18 (1)	1114 (2)
PK Mg	1.19	1248
NK Mg	1.33	1263
NP Mg	1.10	1083
NPK	1.36	1068
NPK Mg	1.16 (1)	1004 (2)
NPK Mg F	1.18	1317
C	1.27	1068
C NPK Mg	1.78	1233
L NPK Mg	1.61	972
Mean	1.29	1124

(1) (±0.108) (2) (±82.4)

NOTE: In September many seedlings showed characteristic needle damage caused by 'smog'.