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Yields of the Field Experiments 1961

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61/R/B/2 and 61/W/B/2 Reference Plots

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61/B/2.1

REFERENCE PLOTS -

ROTHAMSTED (R) GREAT FIELD IV

WOBURN (W) STACKYARD SERIES C 1961

The effects of N,P,K and Dung (R & W), and of Mg,Ca,S and trace elements in the presence of N,P,K (R), on a sequence of five arable crops. Also the effects of N,P,K and Dung on permanent grass (R & W) and soft fruit (W).

Cultivations, etc.:

Great Field IV (R):-

Winter wheat: Dug by hand: Sept 14, 1960. P,K,Mg,Ca and S applied: Oct 7. First N dressing applied: Mar 13, 1961. Second N dressing applied: Apr 11. Harvested: Aug 9. Variety: Cappelle.

Kale: Dung applied, dug by hand: Dec 9, 1960. Rotary cultivated, first dressing of N and P,K,Mg,Ca and S applied and seed sown: Mar 20, 1961. Second dressing of N applied: May 23. Trace element spray applied: June 8. Harvested: Nov 1. Variety: Thousand Head.

Barley: Dug by hand: Dec 13, 1960. Rotary cultivated, N,P,K,Mg, Ca and S applied, seed sown on original plots: Mar 9, 1961. Seed sown on additional plots: Mar 28. Trace element spray applied: June 2. Harvested: Aug 1. Variety: Proctor.

Grass-clover ley: Undersown in barley: Mar 18, 1960. N,P,K,Mg, Ca and S applied: Mar 13, 1961. Trace element spray applied: Apr 24. Cut four times: Oct 7, May 23, July 19 and Sept 12. Varieties: S22 Italian Ryegrass and Dorset Marl Red Clover.

Potatoes: Dung applied: Dec 9, 1960. Dug by hand: Dec 13. Rotavated, first dressing of N and P,K,Mg,Ca and S applied on flat and setts planted: Mar 24, 1961. Second dressing of N applied: May 23. Trace element spray applied: June 8. Harvested: Sept 14. Variety: King Edward.

Permanent grass: Dung applied: Dec 9, 1960. First N dressing and P,K applied: Mar 2, 1961. Second N dressing applied: May 23. Cut twice: May 23 and Sept 28.

Stackyard Series C (W):-

Oats: Dug by hand: Jan 4, 1961. Rotary cultivated, first dressing of N and P,K applied and seed sown: Mar 8. Second dressing of N applied: May 5. Harvested: July 31. Variety: Condor.

Sugar beet: Dung applied, plots dug by hand: Jan 3, 1961. Rotary cultivated and first dressing of N and P,K applied and seed sown: Mar 21. Second dressing of N applied: May 24. Harvested: Oct 13. Variety: Klein E.

Barley: Dug by hand: Jan 4, 1961. Rotary cultivated, first dressing of N and P,K applied and seed sown: Mar 8. Second dressing of N applied: May 5. Harvested: July 31. Variety: Proctor.

61/B/2.2

Grass-clover ley: Undersown in barley: Mar 23, 1960. N,P and K applied: Mar 6, 1961. Cut four times: Oct 5, 1960, May 24, 1961, July 22 and Sept 20. Varieties: S22 Italian Ryegrass and Dorset Marl Broad Red Clover.

Potatoes: Dung applied, plots dug by hand: Jan 3, 1961. Rotary cultivated, first dressing of N and P,K applied, setts planted: Mar 21. Second dressing of N applied: May 24. Harvested: Sept 20. Variety: King Edward.

Permanent grass: Dung applied: Jan 6, 1961. First dressing of N and P,K applied: Mar 6. Cut twice: May 24 and Sept 20. Second dressing of N applied: May 24.

Soft fruit: Dung applied: Jan 6, 1961. N,P and K applied: Mar 6. Varieties: Blackcurrants - Wellington XXX; Gooseberry - Careless; Strawberry - Cambridge Vigour.

For details of the previous years results, and for rates of fertilisers etc., see "Results of the Field Experiments" 60/B/3, 59/Bc/1 and 58/Bc/1.

61/B/2.3

Summary of Results
Great Field IV (R): Original plots

Treatment	cwt per acre Winter wheat Grain Straw (at 85% D.M.)	tons per acre Kale total weight	Barley Grain Straw (at 85% D.M.)	cwt per acre Ley: dry matter				tons per acre Potatoes total tubers	cwt per acre Permanent grass: dry matter		Total	
				1st cut	2nd cut	3rd cut	4th cut		1st cut	2nd cut		
None	32.1	44.6	18.2	15.9	11.4	40.3	23.3	14.2	89.2	11.6	14.1	25.7
N ₁	32.2	48.8	32.2	31.1	8.1	49.6	16.2	9.1	83.0	20.7	15.0	35.7
P	29.4	42.9	30.1	25.3	13.4	42.2	15.2	9.7	80.5	13.6	10.6	24.2
N ₁ P	35.2	55.8	36.0	35.2	6.5	51.1	13.1	8.8	79.5	27.4	16.6	44.0
K	34.1	50.1	24.5	20.4	13.1	40.4	32.1	17.8	103.4	13.8	13.3	27.1
N ₁ K	45.3	75.8	18.4	16.8	13.1	59.5	26.3	17.0	115.9	40.6	19.4	60.0
PK	36.1	59.6	28.1	23.2	19.7	50.1	40.2	20.3	130.3	22.5	15.6	38.1
N ₁ PK	50.6	100.0	38.2	41.6	14.2	61.4	28.5	15.1	119.2	40.3	14.6	54.9
N ₂ PK	45.8	94.1	41.4	44.9	11.8	68.5	19.1	12.8	112.2	44.3	19.0	63.3
D	37.9	69.1	35.6	31.1	17.2	53.7	34.3	17.5	122.7	33.7	10.4	44.1
N ₁ PKD	35.1	91.6	43.1	48.8	15.5	64.6	28.7	17.2	126.0	55.6	19.0	74.6
N ₂ PKD	41.2	103.2	42.9	57.9	13.8	72.1	22.7	15.2	123.8	61.3	20.3	81.6
Mean dry matter % as harvested:	78.3	57.8	76.1	50.6	16.6	23.3	26.9	26.0	23.2	24.7	25.9	25.3

61/B/2.4

Great Field IV (R): Additional plots

Treatment	cwt per acre Winter wheat Grain Straw (at 85% D.M.)		tons per acre Kale total weight	Barley Grain Straw (at 85% D.M.)	cwt per acre Ley: dry matter				tons per acre Potatoes total tubers	
	44.9	68.1			1st cut	2nd cut	3rd cut	4th cut		Total
None	44.9	68.1	12.16	23.2 18.6	10.8	34.9	13.3	11.7	70.7	3.30
N ₂ PK	47.5	93.8	23.26	36.5 45.5	14.1	66.6	19.8	11.1	111.6	10.16
N ₂ PK Mg Ca	50.1	106.8	22.40	39.9 49.8	11.4	57.3	17.8	12.3	98.8	10.66
N ₂ PK Mg S	46.7	104.4	24.31	31.3 41.4	12.4	56.5	19.0	16.6	104.5	9.98
N ₂ PK Ca S	47.2	100.8	22.40	33.5 45.3	13.7	63.9	18.7	16.2	112.5	9.76
N ₂ PK Mg Ca S	37.1	111.6	20.84	38.2 45.5	16.5	58.8	18.6	9.7	103.6	11.14
N ₂ PK Mg Ca S TE	43.2	95.5	24.14	36.8 45.1	13.2	56.9	16.6	14.4	101.1	10.31
Mean dry matter % as harvested:	80.1	65.0		79.1 50.3	16.4	22.6	27.1	27.0	23.3	

%

Mean dry matter
as harvested:

61/B/2.5

Stackyard Series C (W)

Treatment	cwt per acre Oats Grain Straw (at 85% D.M.)	tons per acre Sugar beet roots washed	Barley Grain (at 85% D.M.)	cwt per acre Ley: dry matter 1st cut 2nd cut 3rd cut 4th cut Total	tons per acre Potatoes total tubers	cwt per acre Permanent grass: dry matter 1st cut 2nd cut Total
None	23.3 28.7	14.42	21.2 19.4	23.7 39.2 26.7 13.9 103.5	5.90	43.8 5.7 49.5
N ₁	28.4 37.1	14.76	23.2 24.0	22.3 47.2 21.2 13.9 104.6	6.38	57.6 15.6 73.2
P	20.4 24.0	14.35	18.6 18.0	23.9 35.8 20.5 13.3 93.5	7.62	42.2 7.6 49.8
N ₁ P	28.8 35.2	15.62	27.1 29.3	24.9 43.8 15.8 13.1 97.6	6.96	59.6 16.0 75.6
K	24.5 31.8	14.42	20.0 19.1	24.4 38.7 22.4 14.9 100.4	7.70	44.7 6.6 51.3
N ₁ K	26.0 34.4	15.40	27.5 31.9	22.1 51.5 14.0 13.6 101.2	8.78	61.9 17.2 79.1
PK	20.7 26.8	15.03	20.9 19.5	23.4 40.6 22.3 13.0 99.3	7.26	42.3 7.7 50.0
N ₁ PK	26.0 39.5	16.39	25.6 30.7	25.2 51.9 23.1 16.2 116.4	7.68	63.4 18.6 82.0
N ₂ PK	27.3 41.9	18.12	31.3 36.4	20.0 50.2 16.8 14.7 101.7	8.82	51.9 20.9 72.8
D	25.8 30.8	19.50	22.9 22.2	24.4 44.4 19.1 12.3 100.2	11.67	45.7 9.6 55.3
N ₁ PKD	31.1 38.2	21.26	29.4 31.1	24.7 51.3 18.5 15.0 109.5	15.26	59.7 19.7 79.4
N ₂ PKD	27.3 32.1	20.77	32.2 42.2	22.2 54.7 17.9 14.0 108.8	15.20	61.7 24.9 86.6
Mean dry matter % as harvested:	73.7 50.1		83.5 75.4	12.5 28.2 30.4 20.4 22.9		24.9 28.9 26.9