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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. ^{Drilled?} 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		tons per acre		cwt per acre				tons per acre		cwt per acre	
	Winter wheat Grain Straw (at 85% D.M.)	Kale total weight	Barley Grain Straw (at 85% D.M.)	Leys: dry matter 1st cut 2nd cut 3rd cut 4th cut	Total	1st cut	2nd cut	3rd cut	4th cut	Potatoes total tubers	Permanent grass: dry matter 1st cut 2nd cut	Total
None	32.1	44.6	18.2	11.4	40.3	23.3	14.2	89.2	2.34	11.6	14.1	25.7
N ₁	32.2	48.8	32.2	8.1	49.6	16.2	9.1	83.0	2.10	20.7	15.0	35.7
P	29.4	42.9	30.1	13.4	42.2	15.2	9.7	80.5	2.02	13.6	10.6	24.2
N ₁ P	35.2	55.8	36.0	6.5	51.1	13.1	8.8	79.5	1.54	27.4	16.6	44.0
K	34.1	50.1	24.5	13.1	40.4	32.1	17.8	103.4	7.29	13.8	13.3	27.1
N ₁ K	45.3	75.8	18.4	13.1	59.5	26.3	17.0	115.9	6.56	40.6	19.4	60.0
N ₁ PK	36.1	59.6	28.1	19.7	50.1	40.2	20.3	130.3	7.18	22.5	15.6	38.1
N ₁ PK	50.6	100.0	38.2	14.2	61.4	28.5	15.1	119.2	8.27	40.3	14.6	54.9
N ₂ PK	45.8	94.1	41.4	11.8	68.5	19.1	12.8	112.2	10.18	44.3	19.0	63.3
D	37.9	69.1	35.6	17.2	53.7	34.3	17.5	122.7	10.90	33.7	10.4	44.1
N ₁ PKD	35.1	91.6	43.1	15.5	64.6	28.7	17.2	126.0	15.14	55.6	19.0	74.6
N ₂ PKD	41.2	103.2	42.9	13.8	72.1	22.7	15.2	123.8	15.62	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		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	
	Winter wheat Grain Straw (at 85% D.M.)	Wheat Straw (at 85% D.M.)		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 23.3

61/B/2.5

Stackyard Series C (W)

Treatment	cwt per acre		tons per acre Sugar beet roots washed	Barley		cwt per acre Ley: dry matter				tons per acre Potatoes total tubers	cwt per acre Permanent grass: dry matter		
	Oats Grain (at 85% D.M.)	Straw (at 85% D.M.)		Grain (at 85% D.M.)	Straw (at 85% D.M.)	1st cut	2nd cut	3rd cut	4th cut		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	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	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	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	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	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	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	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	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	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	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	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	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