

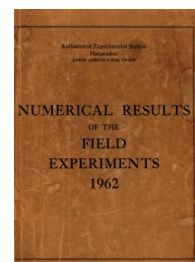
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Yields of the Field Experiments 1962

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62/R/B/2 and 62/W/B/2 Reference Plots

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62/B/2.1

REFERENCE PLOTS

ROTHAMSTED (R) GREAT FIELD IV

WOBURN (W) STACKYARD SERIES C 1962

The effects of N,P,K and Dung (R and 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 and W) and soft fruit (W).

Cultivations, etc.:

Great Field IV (R):-

Winter wheat: Dug by hand: Sept 18, 1961. P,K,Mg,Ca and S applied and seed drilled: Oct 9. First N dressings applied: Mar 13, 1962. Second N dressings and trace element spray applied: May 1.

Harvested: Aug 29. Variety: Cappelle.

Kale: Dung applied, all plots dug by hand: Nov 30, 1961. P,K,Mg,Ca and S and first dressings of N applied, all plots rotary cultivated, seed sown: Mar 22, 1962. Second dressing of N applied: June 12. Trace element spray applied: July 2. Harvested: Nov 20.

Variety: Thousand Head.

Barley: Dug by hand: Dec 8, 1961. N,P,K,Mg,Ca and S applied and rotary cultivated in, seed drilled: Mar 20, 1962. Trace element spray applied: May 18. Harvested: Aug 24. Variety: Proctor.

Grass - clover ley: Undersown in barley: Mar 9, 1961. N,P,K,Mg,Ca and S applied: Mar 12, 1962. Trace element spray applied: May 1. Cut four times: Oct 31, June 12, Aug 1 and Oct 10. Varieties: S22 Italian Ryegrass and Dorset Marl Red Clover.

Potatoes: Dung applied: Nov 30, 1961. Dug by hand: Dec 7. P,K,Mg,Ca and S and first dressing of N applied and setts planted: Mar 22, 1962. Second dressing of N applied: June 12. Trace element spray applied: July 2. Harvested: Aug 25* and Sept 17.** Variety: King Edward.

Permanent grass: Dung applied: Nov 30, 1961. P and K and first N dressing applied: Mar 12, 1962. Second N dressing applied: June 12. Cut twice: June 12 and Oct 4.

Stackyard Series C (W):-

Oats: Hydrated lime applied at 25 cwt per acre: Oct 30, 1961. Rotary cultivated: Mar 2, 1962. Hydrated lime applied at 25 cwt per acre P and K and first dressing of N applied, seed drilled: Mar 5. Resown because of pheasant damage: Apr 26. Second N dressing applied: May 10. Harvested: Aug 27. Variety: Condor.

Sugar beet: Dung applied, all plots dug by hand: Feb 6, 1962. Hydrated lime applied at 25 cwt per acre: Mar 2. P and K and first N dressing applied and rotary cultivated in, seed sown: Mar 26. Second N dressing applied: June 7. Harvested: Oct 18. Variety: Klein E.

* All plots without K, ** remainder.

+ Insert " : Mar 2."

62/B/2.2

- Barley: Hydrated lime applied at 25 cwt per acre: Oct 30, 1961.
Rotary cultivated: Mar 2, 1962. Hydrated lime applied at 25 cwt per acre⁺ P and K and first N dressing applied and rotary cultivated in, seed drilled: Mar 5. Resown because of pheasant damage: Apr 14. Second N dressing applied: May 10. Harvested: Aug 16. Variety: Proctor.
- Grass - clover ley: Undersown in barley: Mar 8, 1961. Hydrated lime applied at 25 cwt per acre: Mar 2, 1962. N,P and K applied: Mar 9. Cut four times: Oct 23, June 7, July 31 and Sept 27. Varieties: S22 Italian Ryegrass and Dorset Marl Red Clover.
- Potatoes: Dung applied, all plots dug by hand: Feb 6, 1962. Hydrated lime applied at 25 cwt per acre: Mar 2. P and K and first N dressing applied and rotary cultivated in, setts planted: Mar 26. Second N dressing applied: June 7. Harvested: Sept 18. Variety: King Edward.
- Permanent grass: Dung applied: Feb 6, 1962. Hydrated lime applied at 25 cwt per acre; Mar 2. P and K and first N dressing applied: Mar 9. Second N dressing applied: June 7. Cut twice: June 7 and Sept 27.
- Soft fruit: Dung applied: Feb 6, 1962. N,P and K applied: Mar 9. Varieties: Blackcurrants - Wellington XXX; Gooseberry - Careless; Strawberry - Cambridge Vigour.

Note: For details of the previous years' results, and for rates of fertilisers etc., see "Results of the Field Experiments" 58/Bc/1, 59/Bc/1, 60/B/3 and 61/B/2.

Addendum to "Results of the Field Experiments" 61/B/2.1: sowing date for winter wheat - Oct 7, 1960.

⁺Insert ": Mar 2."

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		tons per acre			
	Winter wheat Grain Straw (at 85% D.M.)	Kale: total weight		Barley Grain Straw (at 85% D.M.)	1st cut	2nd cut	3rd cut		4th cut	1st cut		2nd cut		
None	18.1	23.2	6.94	17.6	14.6	5.6	24.7	14.4	16.3	61.0	3.31	10.3	17.0	27.3
N ₁	22.0	30.1	10.42	20.5	18.6	2.8	36.3	11.3	18.1	68.5	2.76	19.2	17.7	36.9
P	32.8	43.9	7.82	20.5	19.5	3.4	32.0	12.1	16.6	64.1	2.36	10.0	14.5	24.5
N ₁ P	29.9	37.4	17.36	25.6	23.9	2.9	31.4	7.6	13.7	55.6	2.72	23.1	19.7	42.8
K	33.1	46.5	5.90	15.3	13.8	4.6	27.9	16.7	18.6	67.8	8.48	10.5	12.9	23.4
N ₁ K	36.7	52.6	7.29	21.6	17.2	7.2	24.9	13.4	15.7	61.2	9.40	31.7	26.6	58.3
PK	38.1	51.4	10.59	18.5	17.2	6.3	49.1	20.8	25.1	101.3	12.00	15.8	20.2	36.0
N ₁ PK	42.0	55.1	15.28	31.6	28.1	6.8	49.4	19.1	25.0	100.3	13.32	36.2	18.8	55.0
N ₂ PK	38.8	60.5	19.44	34.8	34.7	7.7	43.0	13.0	21.2	84.9	12.76	38.2	27.7	65.9
D	38.6	49.8	9.20	21.6	21.1	6.4	40.2	17.6	20.6	84.8	12.94	28.3	17.2	45.5
N ₁ PKD	46.7	68.8	19.44	31.5	28.9	5.8	47.6	19.5	26.6	99.5	14.06	45.7	26.3	72.0
N ₂ PKD	42.7	65.4	24.83	30.0	40.0	7.0	50.8	13.1	20.7	91.6	17.12	48.7	27.4	76.1
Mean dry matter % as harvested:	79.3	71.9		75.8	54.1	22.0	23.4	23.8	19.7	22.2		27.8	26.0	26.9

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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				Total of 4 cuts	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				
None	39.6	51.5	11.37	19.9	14.0	7.7	33.5	15.3	20.8	77.3	6.08
N ₂ PK	48.0	81.2	19.18	38.8	41.6	7.7	48.3	10.6	12.5	79.1	15.58
N ₂ PK Mg Ca	41.8	64.4	21.79	37.8	37.8	8.0	45.3	9.3	11.6	74.2	13.96
N ₂ PK Mg S	42.5	68.9	24.40	40.9	39.5	9.4	38.9	8.4	10.5	67.2	15.52
N ₂ PK Ca S	45.6	71.9	20.22	45.3	41.8	8.9	48.3	10.5	16.4	84.1	14.84
N ₂ PK Mg Ca S	37.3	67.6	22.66	39.2	39.2	8.3	42.5	8.7	13.9	73.4	14.98
N ₂ PK Mg Ca S TE	49.2	69.2	22.14	41.5	41.5	8.3	43.4	10.4	20.4	82.5	14.28
Mean dry matter as harvested:	80.5	79.1		76.3	46.1	20.6	27.1	25.5	20.3	23.4	

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:		Total of 2 cuts	
	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		
None	12.7	10.8	10.25	10.5	8.4	10.4	28.0	7.5	16.4	62.3	5.52	30.4	10.0	40.4
N ₁	21.2	17.4	12.26	16.9	15.8	9.9	29.7	10.2	18.6	68.4	7.16	37.0	19.2	56.2
P	18.7	15.6	11.59	13.2	10.8	11.0	25.3	8.2	15.8	60.3	5.04	26.6	8.1	34.7
N ₁ P	26.1	19.5	11.36	17.3	16.5	10.3	30.1	9.1	17.1	66.6	6.68	37.8	17.0	54.8
K	14.1	12.4	10.50	12.5	10.4	12.6	29.1	7.6	20.0	69.3	7.00	31.3	14.6	45.9
N ₁ K	21.4	17.3	13.24	18.2	16.0	10.2	34.3	9.7	20.3	74.5	10.00	41.9	20.7	62.6
PK	18.5	15.3	11.85	9.4	8.8	12.9	31.7	8.7	21.6	74.9	8.32	35.5	13.7	49.2
N ₁ PK	20.9	18.4	13.64	18.4	20.5	12.8	34.9	7.1	21.1	75.9	9.24	43.1	20.8	63.9
N ₂ PK	23.3	18.5	13.14	20.5	22.4	9.8	37.3	10.1	19.6	76.8	10.92	52.5	31.0	83.5
D	16.9	13.8	13.40	14.2	12.6	12.2	32.6	8.2	20.6	73.6	12.72	39.3	11.3	50.6
N ₁ PKD	23.6	20.1	7.43*	22.2	24.7	14.9	30.2	10.3	22.4	77.8	14.91	46.9	28.7	75.6
N ₂ PKD	27.2	23.1	15.54	26.8	21.9	10.2	37.1	7.7	22.5	77.5	19.41	54.3	39.9	94.2
Mean dry matter % as harvested:	75.1	40.9		72.1	56.7	14.0	21.9	22.4	17.9	19.0		25.8	19.6	22.7

*Badly damaged by pheasants. All the other plots were affected to some extent.