

FIELD EXPERIMENTS 1955

Crop: Potatoes (Craig's Royal)

Field: Outside Trial at:-  
J. J. A. Kendall, Esq.,  
The Grove,  
Ingham,  
Near Stalham.

Experiment: Level of Manuring.

*(Near Tree Close.)*

Treatments & Layout: 3 x 3 x 3 Factorial Design, including 3 extra plots receiving no fertilizer, this giving a total of 30 plots.

Nitrogen:- 3 cwt per acre of Sulphate of Ammonia (20.6% N)

4 1/2 " " " " " " " " " "

6 " " " " " " " " " "

Phosphate:- 4 cwt per acre of Superphosphate (18% P<sub>2</sub>O<sub>5</sub>)

6 " " " " " " " " " "

8 " " " " " " " " " "

Potash:- 2 cwt per acre of Muriate of Potash (50% K<sub>2</sub>O)

3 " " " " " " " " " "

4 " " " " " " " " " "

Plot Size:- Treatment: 8 rows @ 28" x 10 yd. Harvest:- 6 rows x 8 yd.

MANURING

Manuring with dates of: Fertilizer treatments applied on 14th April on the ridges immediately before planting.

Date of Drilling: April 14th Variety: Craig's Royal Seed Rate:

Date of Scoring for Vigour: July 13th.

Date of Harvest: November 3rd.

Remarks (previous cropping, cultivations, etc.)

The Potatoes followed Barley. (1954)

Harvesting was by spinner.

Riddle Sizes:- 1 1/4" and 1".

1953 Cropping :- Wheat. (Straw ploughed in & supplemented with S/A)

1952 " :- Sugar Beet (Tops ploughed in)

1951 " :- Barley (Straw ploughed in)

1954 Soil Analysis :-

p.H. :- 7.8

Organic Matter :- 1.9

P<sub>2</sub>O<sub>5</sub> :- low

K<sub>2</sub>O :- low.

Note Book No.

Results of Grain's Royal Trial

Total Yield in tons per acre

Nitrogen S/A in cwt/acre	Superphosphate in cwt/acre			Nitrogen Means
	4	6	8	
3	9.0	10.6	10.6	10.1
4½	10.3	11.2	10.4	10.6
6	9.6	10.7	11.2	10.5
				N.S.
	Muriate of Potash in cwt/acre			
	2	3	4	
3	10.2	9.4	10.6	
4½	10.1	10.6	11.1	
6	9.8	10.8	10.9	
Superphosphate in cwt/acre				Phosphate Means
4	9.4	9.4	10.1	9.6
6	10.3	10.6	11.7	10.8
8	10.4	10.9	10.8	10.7
Potash Means	10.0	10.3	10.9	N.S.
				N.S.

Mean Yield of Control Plots:- 3.6 tons per acre.  
Coefficient of Variations:- 9.42%

Yield of Ware only in tons per acre (Top Riddle Size = 1½")

Nitrogen S/A in cwt/acre	Superphosphate in cwt/acre			Nitrogen Means
	4	6	8	
3	8.8	10.2	10.5	9.8
4½	9.8	10.8	10.0	10.2
6	9.4	10.4	10.6	10.1
				N.S.
	Muriate of Potash in cwt/acre			
	2	3	4	
3	9.9	9.1	10.3	
4½	9.8	10.2	10.7	
6	9.5	10.4	10.6	
Superphosphate in cwt/acre				Phosphate Means
4	9.1	9.1	9.8	9.3
6	10.0	10.1	11.3	10.5
8	10.1	10.5	10.4	10.3
Potash Means	9.7	9.9	10.5	N.S.

Mean Yield of Control Plots:- 3.4 tons per acre.  
Coefficient of Variations:- 10.05%

Results of Analysis for Linear and Curvature Effects

Linear Effects in tons per acre

<u>Factor</u>	<u>Total Yield</u>	<u>Ware Only</u>
N	+ 0.44	+ 0.40
P	+ 1.07 *	+ 0.95 *
K	+ 0.85	+ 0.77
Value required for Significance	0.88	0.87

There was a significant linear response between the bottom and top levels of Phosphate only. No curvature main effects or linear interactions were significant.

Scores (0-10) for Vigour in July

Nitrogen S/A in cwt/acre	Superphosphate in cwt/acre			Nitrogen Means
	4	6	8	
3	4½	6	6	5½
4½	5½	6½	6	6
6	5	6	7	6
	Muriate of Potash in cwt/acre			
	2	3	4	
3	5½	5	6	
4½	5½	6	6	
6	5½	6½	6	
Superphosphate in cwt/acre				Phosphate Means
4	4½	5	5½	5
6	5½	6	6½	6
8	6	6½	6	6
Potash Means	5½	6	6	