

FIELD EXPERIMENTS 1963

Crop: Potatoes Field: Gravel Pit

Experiment: Compaction and Fertiliser Trial

Treatments and Layout: Split plot with five replications

- Main Treatments:
1. Placed with $\frac{1}{3}$ of fertiliser inside planting share in contact with tubers and remainder in bands either side of seed.
 2. Sideband placement either side of seed.
 3. Fertiliser broadcast on surface ahead of planter - not worked in,

Sub Treatments: Either compacted by tractor wheels or not compacted.

Plot Size; Treatment 17^x x 4 rows at 30"
Harvest 17^x x 2 " " "

Manuring with dates of: 12 cwt per acre 13:13:20

Dates of drilling: 22nd, 23rd April Variety: King Edward

Date of Emergence Counts: 13th, 20th May

Date of Vigour Scores: 1st July

Date of Harvest: 9th October (acid spray 7th September)

Remarks (previous cropping, cultivations, etc.)

- 1962 Winter barley
- 1961 Sugar beet
- 1960 Peas

Potatoes

Compaction x Fertiliser - King Edward

Emergence - Vigour Scores

A. Emergence Counts

	13 May	%	20 May	%	27 May	%	4 June	%	10 June	%	
Loose } $\frac{1}{3} \frac{1}{3} \frac{1}{3}$	Side	20	5.9	99	29.1	212	62.3	257	75.6	274	80.6
	Side	36	10.6	149	43.8	239	70.3	270	79.4	291	85.6
	Broad	42	12.3	162	47.6	255	75.0	294	86.4	304	89.4
Loose	98	9.6	410	40.2	706	69.2	821	80.4	869	85.2	
Compact } $\frac{1}{3} \frac{1}{3} \frac{1}{3}$	Side	18	5.3	102	30.0	217	63.8	260	76.4	270	79.4
	Side	39	11.5	158	46.4	258	75.8	278	81.7	289	85.0
	Broad	14	4.1	129	37.9	226	66.4	281	82.6	297	87.3
Compacted	71	7.0	389	38.1	701	68.7	819	80.3	856	83.9	
$\frac{1}{3} \frac{1}{3} \frac{1}{3}$	Side	38	5.6	201	29.5	429	63.1	517	76.0	544	80.0
	Side	75	11.0	307	45.1	497	73.1	548	80.6	580	85.3
	Broad	56	8.2	291	42.8	481	70.7	575	84.5	601	88.3

Max. (Theoretically) Interaction 340
 Fertiliser 680
 Compaction 1020 } 17 yd. plots

B. Vigour Scores (1 - 10 inc. vigour)

	17 June	25 June	1 July	
Loose } $\frac{1}{3} \frac{1}{3} \frac{1}{3}$	Side	7.0	8.0	9.0
	Side	7.8	8.4	9.6
	Broad	8.8	8.8	8.6
Loose	7.9	8.3	9.1	
Compact } $\frac{1}{3} \frac{1}{3} \frac{1}{3}$	Side	7.2	8.0	9.0
	Side	8.2	9.0	10.0
	Broad	8.2	8.4	8.6
Compacted	7.9	8.5	9.2	
$\frac{1}{3} \frac{1}{3} \frac{1}{3}$	Side	7.1	8.0	9.0
	Side	8.0	8.7	9.8
	Broad	8.5	8.6	8.6

Gravel Pit

Potatoes

1963

Compaction and Fertiliser Trial

Results

Total Yield in tons per acre

	$\frac{1}{3} \frac{1}{3} \frac{1}{3}$	Sideband	Broadcast	Compacted v. Loose Means
Compacted	14.7	16.9	14.8	15.5
Loose	13.6	14.9	15.8	14.8
Mean, Method of Fertiliser Application N.S.	14.2	15.9	15.3	N.S.

S.E. as % G.M. 11.8%

Yield of Ware over 2" in tons per acre

	$\frac{1}{3} \frac{1}{3} \frac{1}{3}$	Sideband	Broadcast	Compacted v. Loose Means
Compacted	10.5	12.3	10.5	11.1
Loose	9.6	10.9	11.6	10.7
Mean, Method of Fertiliser Application N.S.	10.0	11.6	11.1	N.S.

S.E. as % of G.M. 17%

% Ware over 2"

(angular transformations)

	$\frac{1}{3} \frac{1}{3} \frac{1}{3}$	Sideband	Broadcast	Means
Compacted	70.7(57.4)	72.5(58.5)	70.7(57.2)	71.3(57.7)
Loose	70.6(57.2)	72.8(58.6)	73.6(59.1)	72.3(58.3)
Means	70.7(57.3)	72.6(58.5)	72.1(58.2)	(N.S.)

(S.E. as % G.M. 5.4)