

Serial No. C.1
(Stat. file 25IV)

FIELD EXPERIMENTS 1934

Crop: **Potatoes**

Field: **Carrs Piece**

Experiment: **Compaction and Fertiliser Trial**

Treatments & Layout: **Split plot with five replications.**

- Main Treatments:
1. Placed with $\frac{1}{2}$ of fertilizer 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 yds. x 4 rows at 30"

Harvest 17 yds. x 2 rows at 30"

Manuring with dates of: 15 cwt p.a. 15 : 15 ; 20

12 loads P.Y.M. ploughed in in autumn

planting

Date of ~~sowing~~ **sowing** 28th April Variety: **King Edward** Seed Rate:

Date of Emergence counts 20th and 27th May, 3rd and 10th June

Date of Vigour scores: 17th June

Date of Harvest 30th September, (acid sprayed 21st August)

Remarks (previous cropping, cultivations, etc.)

1963 Peas

1962 Winter Barley

1961 Sugar Beet

Blight sprays	1st	25th June - Dithane	} Aerial sprayed
	2nd	15th July - Elitane	
	3rd	21st July - Elitane	

Note Book No.

Experiments

Compaction and Fertiliser - King Edward

Emergence - Vigour Scores

A. Emergence Counts

	30th May	%	27th May	%	3rd June	%	10th June	%
LOOSE { $\frac{1}{3} \frac{1}{3} \frac{1}{3}$ Side Broad	103	30.3	192	56.4	240	70.6	266	78.2
	148	43.8	229	67.5	267	78.5	272	80.0
	234	68.8	301	88.5	308	90.6	313	92.0
LOOSE	485	47.5	722	70.8	815	79.9	881	83.4
COMPACT { $\frac{1}{3} \frac{1}{3} \frac{1}{3}$ Side Broad	147	43.8	234	66.8	264	63.3	267	64.4
	181	53.2	268	78.8	283	63.2	294	66.4
	197	57.9	298	84.7	301	68.5	301	68.5
COMPACTED	525	51.4	790	77.4	850	65.1	862	66.4
$\frac{1}{3} \frac{1}{3} \frac{1}{3}$	250	36.3	436	62.6	524	77.0	553	81.5
Side	329	46.4	497	73.0	560	80.6	566	83.2
Broad	431	63.4	589	86.5	609	88.5	614	90.2

Maximum (theoretical) Interaction 340
 Fertiliser 660
 Compaction 1020 } 17 yards plots

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

	17th June
LOOSE { $\frac{1}{3} \frac{1}{3} \frac{1}{3}$ SIDE FERT. BROADCAST	5.8 5.6 7.4
LOOSE	6.5
COMPACT { $\frac{1}{3} \frac{1}{3} \frac{1}{3}$ SIDE FERT. BROADCAST	6.0 6.2 6.8
COMPACTED	6.3
$\frac{1}{3} \frac{1}{3} \frac{1}{3}$ SIDE BROAD	5.9 5.9 7.1

Total Yield in TONS PER ACRE

	$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{4}$	Standard	Residual	Compacted v. Loose Means
Compacted	13.8	12.8	16.0	14.2
Loose	13.0	13.3	17.0	14.4
Mean, Method of Fertilizer Application	13.4	13.1	16.5	

	S.E.	S.D. or G.H.	Sig Diff. (5% point)
Whole plot means (fertilizer)	± 0.44	6.9	1.43
Sub plot means (compacted v. loose)	± 0.24	6.5	N.S.
Sub plot means at same whole plot level	± 0.42		1.28
Sub plot means at different whole plot level	± 0.53		1.63

Yield of Yare over 2" in tons/acre

	$\frac{1}{2} \text{ } \frac{1}{2}$	Sideband	Broadcast	Composted v. Loose Means
Composted	8.0	7.0	10.3	8.4
Loose	7.5	8.0	12.7	9.4
Mean, Method of Fertilizer Application	7.8	7.5	11.5	

	S.E.	S.E. as % G.M.	Sig. Diff. (5% point)
Whole plot means (fertilizer)	± 0.31	7.8	1.01
Sub plot means (composted v. loose)	± 0.21	9.0	0.64
Sub plot means at same whole plot level	± 0.36		1.11
Sub plot means at different whole plot level	± 0.40		1.24

Here over 2"

	$\frac{1}{3} \frac{1}{3} \frac{1}{3}$	Sideband	Broadcast	Compacted v. loose Means
Compacted	58.0	58.1	64.3	58.8
Loose	58.3	60.1	75.0	64.5
Mean Method of Fertiliser Application	58.2	57.1	69.7	

	S.E.	S.E. as % C.V.	sig. Diff. (5% point)
Whole plot means (fertiliser)	± 1.31	4.7	4.27
Sub plot means (compacted v. loose)	± 0.84	5.3	2.59
Sub plot means at same whole plot level	± 1.45		4.47
Sub plot means at different whole plot level	± 1.66		5.11

Yield of Yare over 1" in tons/acre

	$\frac{1}{3} \frac{1}{3} \frac{1}{3}$	Sideband	Broadcast	Compacted v. Loose Means
Compacted	12.9	12.0	15.8	13.3
Loose	12.2	12.7	16.5	13.8
Mean, Method of Fertiliser Application	12.6	12.3	15.8	

	S.E.	S.E. as % G.M.	Sig. Diff. (5% point)
Whole plot Means (Fertiliser)	± 0.40	6.6	1.30
Sub plot means (compacted v. loose)	± 0.25	6.8	0.73
Sub plot means at same whole plot level	± 0.41		1.27
Sub plot means at different whole plot level	± 0.49		1.52

2 WAY SYSTEM

	$\frac{1}{2} \frac{1}{2} \frac{1}{2}$	Standard	Broadcast	Composted vs. Loose Means
Composted	93.3	93.1	94.9	93.8
Loose	94.3	95.4	97.1	95.6
Mean Method of Fertilizer Application	93.8	94.2	96.0	

	S.E.	S.E. as % C.V.	Sig. Diff. (5% point)
Whole plot means (fertilizer)	± 0.29	0.7	0.94
Sub plot means (composted v. loose)	± 0.17	0.7	0.52
Sub plot means at same whole plot level	± 0.30		0.92
Sub plot means at different whole plot level	± 0.36		1.11