

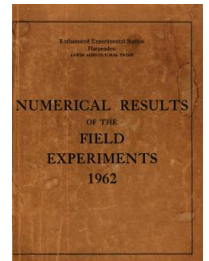
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Yields of the Field Experiments 1962

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62/R/A/4 Agdell - Grass and Multiple Crops

Rothamsted Research

Rothamsted Research (1963) *62/R/A/4 Agdell - Grass and Multiple Crops ; Yields Of The Field Experiments 1962*, pp 10 - 14 - DOI: <https://doi.org/10.23637/ERADOC-1-164>

62/A/4.1

GRASS AND MULTIPLE CROPPING AND DIRECT AND RESIDUAL P

AGDELL 1962

For history, treatments, etc., see "Details of the Classical and Long Term Experiments" 1956.

Multiple cropping 1962

The experiment carried out in 1961 on plots 1, 3 and 5 was repeated on the arable halves of plots 2, 4 and 6 of the old rotation. The areas carrying strip crops in 1961 were bare fallowed. Yields were taken from the cocksfoot ley sown in 1960.

Area of each sub plot (acres): 0.0050. Area harvested (acres)
Grass - 0.0023, barley and sugar beet - 0.0038, potatoes - 0.0050.

Cultivations, etc.:

Grass. 'Nitro-Chalk' applied: Mar 19, 1962. Cut 3 times: June 6, Aug 20 and Oct 2. 'Nitro-Chalk' applied after 2nd cut.

Fallow areas. Ploughed: Nov 4, 1961. Rotary cultivated: June 20, 1962.

Microplots. Fertilisers applied for ploughing in: Oct 12, 1961. Ploughed: Oct 21.

Barley. Seedbed fertilisers applied, seed drilled at $2\frac{1}{2}$ bushels per acre: Mar 21, 1962. Sprayed with CMPP at 5 pints in 50 gallons per acre: May 9. Harvested: Aug 22. Variety: Proctor.

Potatoes. K applied after ploughing: Feb 23, 1962. Ridged, fertilisers applied in bouts, potatoes planted: Apr 27. Sprayed twice with demeton methyl at 12 fluid oz in 50 gallons per acre: June 14 and Aug 17. Sprayed four times with copper oxychloride fungicide at 2.3 lb Cu in 40 gallons per acre: July 19, Aug 1, Aug 10 and Sept 5. Lifted: Oct 8. Variety: Majestic (chitted).

Sugar beet. K applied after ploughing: Feb 23, 1962. Seedbed fertilisers applied, seed drilled at 10 lb per acre: Mar 21. Singled: May 30. Sprayed four times with demeton methyl at 12 fluid oz in 50 gallons per acre: June 14, June 29, July 7 and Aug 17. Lifted: Oct 5. Variety: Klein E (rubbed and graded seed).

Errata to 'Numerical Results of the Field Experiments 1961'.

(1) Page 61/A/4.2 sugar beet. 2nd line of page should read:

'..... seed drilled at 10 lb per acre (rubbed and graded)!'.

(2) Page 61/A/4.3. All yields of Barley straw should be halved.

62/A/4.2

Summary of Results

Manure to turnips until 1948 Plot Rotation	Mineral manure*				Mineral* and nitrogenous manure+		Mean
	None since 1848		no nitrogen				
	5	6	3	4	1	2	
	Fallow	Clover	Fallow	Clover	Fallow	Clover	
<u>Grass dry matter: cwt per acre</u>							
1st cut	22.7	15.7	41.0	35.5	39.9	39.1	32.3
2nd cut	13.8	12.3	19.2	18.7	19.6	20.7	17.4
3rd cut	3.8	2.4	7.2	5.8	10.3	8.9	6.4
Total of 3 cuts	40.3	30.5	67.4	60.0	69.9	68.8	56.2

Mean dry matter % as cut: 1st cut 26.2
2nd cut 24.5
3rd cut 18.7
Total of 3 cuts 23.1

*P, K, Na, Mg.

†Rape dust (or castor meal + ammonium sulphate).

62/A/4.3

<u>Clover rotation only</u>				
Manure to turnips until 1948 Plot	None since 1848 6	Mineral* manure no nitrogen 4	Mineral* and nitrogenous manure ⁺ 2	Mean
<u>Barley, Grain (at 85% dry matter): cwt per acre</u>				
<u>P₂O₅ cwt per acre</u>				
None	25.0	34.5	31.5	30.3
Ploughed in				
0.75	33.6	36.6	26.5	32.2
1.50	34.0	35.7	31.4	33.7
Broadcast				
0.75	29.4	36.0	25.7	30.4
1.50	28.4	35.5	29.6	31.2
$\frac{1}{2}$ Ploughed in $\frac{1}{2}$ Broadcast				
1.50	33.0	31.4	26.5	30.3
3.00	33.5	36.7	28.2	32.8
Mean	30.2	35.1	28.9	31.4

<u>Barley, Straw (at 85% dry matter): cwt per acre</u>				
<u>P₂O₅ cwt per acre</u>				
None	19.2	30.3	27.2	25.6
Ploughed in				
0.75	30.2	36.3	29.3	31.9
1.50	33.3	37.1	33.6	34.7
Broadcast				
0.75	23.5	31.4	28.6	27.8
1.50	28.0	40.5	31.5	33.3
$\frac{1}{2}$ Ploughed in $\frac{1}{2}$ Broadcast				
1.50	31.6	33.9	33.1	32.9
3.00	35.0	40.9	34.0	36.6
Mean	27.5	35.1	30.6	31.0

Mean dry matter % as harvested: Grain 78.0
Straw 50.7

*P, K, Na, Mg.

⁺Rape dust (or castor meal + ammonium sulphate).

62/A/4.4

Manure to turnips until 1948 Plot	<u>Clover rotation only</u>			Mean
	None since 1848 6	Mineral* manure no nitrogen 4	Mineral* and nitrogenous manure+ 2	

Potatoes, Total tubers: tons per acre

<u>P₂O₅ cwt per acre</u>				
None	7.23	12.38	15.81	11.81
Ploughed in				
0.75	9.14	14.29	15.34	12.92
1.50	11.16	11.18	13.70	12.01
Broadcast				
0.75	8.86	12.43	17.89	13.06
1.50	10.26	19.69	17.58	15.84
$\frac{1}{2}$ Ploughed in $\frac{1}{2}$ Broadcast				
1.50	10.54	16.40	18.13	15.02
3.00	10.68	14.40	19.20	14.76
Mean	9.39	14.14	16.68	13.40

Sugar beet, Roots (washed): tons per acre

<u>P₂O₅ cwt per acre</u>				
None	19.30	20.85	19.53	19.89
Ploughed in				
0.75	21.80	22.62	20.43	21.62
1.50	20.96	24.26	23.72	22.98
Broadcast				
0.75	20.00	21.50	19.80	20.43
1.50	20.26	20.62	22.54	21.14
$\frac{1}{2}$ Ploughed in $\frac{1}{2}$ Broadcast				
1.50	20.88	23.70	23.32	22.63
3.00	21.84	23.53	19.98	21.78
Mean	20.54	22.24	21.11	21.30

Sugar beet, Sugar percentage

<u>P₂O₅ cwt per acre</u>				
None	16.2	16.2	16.0	16.1
Ploughed in				
0.75	16.7	16.4	16.2	16.4
1.50	16.0	16.4	16.3	16.2
Broadcast				
0.75	16.0	16.3	16.3	16.2
1.50	16.4	16.8	16.0	16.4
$\frac{1}{2}$ Ploughed in $\frac{1}{2}$ Broadcast				
1.50	15.9	16.7	16.1	16.2
3.00	17.0	16.2	16.5	16.6
Mean	16.3	16.4	16.2	16.3

*P, K, Na, Mg.

+Rape dust (or castor meal + ammonium sulphate).

62/A/4.5

<u>Clover rotation only</u>				
Manure to turnips until 1948 Plot	None since 1848 6	Mineral* manure no nitrogen 4	Mineral* and nitrogenous manure + 2	Mean
<u>Sugar beet, Total sugar: cwt per acre</u>				
<u>P₂O₅ cwt per acre</u>				
None	62.4	67.2	62.6	64.1
Ploughed in				
0.75	72.7	74.1	66.3	71.0
1.50	67.2	79.5	77.2	74.6
Broadcast				
0.75	64.2	70.2	64.6	66.3
1.50	66.3	69.2	72.1	69.2
$\frac{1}{2}$ Ploughed in $\frac{1}{2}$ Broadcast				
1.50	66.5	79.0	75.3	73.6
3.00	74.4	76.2	66.1	72.2
Mean	67.0	72.8	68.4	69.4

<u>Sugar beet, Tops: tons per acre</u>				
<u>P₂O₅ cwt per acre</u>				
None	20.79	23.94	23.14	22.62
Ploughed in				
0.75	22.22	22.10	18.00	20.77
1.50	25.32	24.96	26.10	25.46
Broadcast				
0.75	23.31	23.32	19.70	22.11
1.50	21.33	19.73	25.02	22.03
$\frac{1}{2}$ Ploughed in $\frac{1}{2}$ Broadcast				
1.50	23.63	22.48	24.61	23.57
3.00	22.07	24.00	19.29	21.79
Mean	22.43	23.06	22.38	22.62

*P, K, Na, Mg.

+Rape dust (or castor meal + ammonium sulphate).