

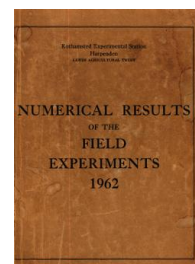
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# Yields of the Field Experiments 1962

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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 CMFP 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* no nitrogen				Mineral* and nitrogenous manure†		Mean
	None since 1848	5	6	3	4	1	
	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 <sup>†</sup> 2	Mean
<u>Barley, Grain (at 85% dry matter): cwt per acre</u>				
<u>P<sub>2</sub>O<sub>5</sub> 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>P<sub>2</sub>O<sub>5</sub> 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.

<sup>†</sup>Rape dust (or castor meal + ammonium sulphate).



62/A/4.4

<u>Clover rotation only</u>				
Manure to turnips until 1948 Plot	None since 1848 6	Mineral* manure no nitrogen 4	Mineral* and nitrogenous manure <sup>†</sup> 2	Mean
<u>Potatoes, Total tubers: tons per acre</u>				
<u>P<sub>2</sub>O<sub>5</sub> 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
<u>Sugar beet, Roots (washed): tons per acre</u>				
<u>P<sub>2</sub>O<sub>5</sub> 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
<u>Sugar beet, Sugar percentage</u>				
<u>P<sub>2</sub>O<sub>5</sub> 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.

<sup>†</sup> Rape dust (or castor meal + ammonium sulphate).



62/A/4.5

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

Sugar beet, Total sugar: cwt per acre

<u>P<sub>2</sub>O<sub>5</sub></u> cwt per acre				
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

Sugar beet, Tops: tons per acre

<u>P<sub>2</sub>O<sub>5</sub></u> cwt per acre				
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).