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Yields of the Field Experiments 1958

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58/W/BD/1 Green Manuring

Rothamsted Research

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58/Ba/1.1

GREEN MANURING EXPERIMENT

Woburn Stackyard - 1958, the 5th year of the revised scheme.

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

Area of each plot: 0.0406 acres. Area harvested: Potatoes, 0.0221; barley, 0.0406 acres.

Cultivations, etc.:

Green manures after barley 1957 (for early potatoes 1958): Trefoil at 30 lb per acre, ryegrass at 40 lb per acre, undersown: May 11, 1957. Varieties: Trefoil-English; Ryegrass-Western Wolths. Early potatoes: Straw applied: Sept 23, 1957. "Fallow" plots ploughed: Oct 1, 1957. All plots ploughed: Feb 21, 1958. Basal fertilizer applied: Apr 14. 'Nitro-Chalk' applied, potatoes mechanically planted: Apr 15. Earthed up: June 18. Sprayed with copper fungicide at 5 lb in 80 gallons per acre: July 14. Lifted: July 29. Variety: Ulster Chieftain. Green manures after early potatoes 1957 (for barley 1958): Trefoil at 30 lb per acre, ryegrass at 40 lb per acre, sown: July 16, 1957. Varieties: Trefoil-English; Ryegrass-Western Wolths. Barley: "Fallow" plots and "early" green manure plots ploughed: Oct 12, 1957, Feb 20, 1958. "Late" green manure plots ploughed: Feb 20. Ground chalk applied at 23 cwt per acre: Mar 5. 'Nitro-Chalk' applied, seed drilled at $2\frac{1}{2}$ bushels per acre: Mar 20. Trefoil and ryegrass undersown: Apr 29. Harvested: Aug 20. Variety: Herta.

Standard errors per plot:

Potatoes. Total tubers: 1.200 tons per acre or 12.1% (18 d.f.)
Barley. Grain: 1.97 cwt per acre or 7.9% (20 d.f.)

Estimates of produce (roots and tops) of green manure crops: cwt per acre

	Green manure	Ploughed in	Dry matter	Nitrogen
<u>For early potatoes</u>	Trefoil		14.2	0.418
	Ryegrass		16.5	0.240
<u>For barley</u>	Trefoil	Early	32.8	1.170
	Ryegrass	Early	37.3	0.619
	Trefoil	Late	10.8	0.331
	Ryegrass	Late	23.1	0.417

Errata to the "Results of the Field Experiments" 1955, 1956 and 1957.

Pages 55/Bd/1.3 & 1.4; 56/Bd/1.4 & 1.5; 57/Bd/1.3 & 1.4.

Rearrange the headings of the main barley table in the order shown in 1958: the order of the means should not be altered.

The means of Trefoil and Ryegrass in the bottom left table should be altered accordingly., e.g. 55/Bd/1.3 the table should read:

25.6 37.6 (not 40.3) 36.9 (not 34.1) 34.9

58/Ba/1.2

Summary of Results

Early potatoes, total tubers: tons per acre

Straw: tons per acre		N: cwt per acre (including basal)		Dung to cabbages 1952: tons per acre		Mean
None	1½	0.6	1.2	None	10	

Excluding plots fallow under old scheme

Undersown green manures for potatoes	(±0.424)		(±0.424)		(±0.424)		(±0.300)
None	9.70	9.73	9.64	9.80	9.12	10.32	9.72
	(±0.600)		(±0.600)		(±0.600)		(±0.424)
Trefoil	11.14	10.36	10.20	11.30	9.71	11.79	10.75
Ryegrass	9.56	10.68	9.65	10.58	9.30	10.93	10.12
Straw: tons per acre			(±0.424)		(±0.424)		(±0.300)
None			9.77	10.29	9.12	10.93	10.03
1½			9.80	10.45	9.50	10.74	10.12
N: cwt per acre (including basal)							
0.6					8.92	10.64	9.78
1.2					9.71	11.03	10.37
Mean (±0.300)					9.31	10.84	10.08

Plots fallow under old scheme

Straw: tons per acre			(±0.848)		(±0.848)		(±0.600)
None			8.44	10.17	8.58	10.04	9.31
1½			8.52	10.74	8.40	10.86	9.63
N: cwt per acre (including basal)							
0.6					7.12	9.84	8.48
1.2					9.85	11.06	10.45
Mean (±0.600)					8.49	10.45	9.47

Old scheme	Undersown green manures for potatoes				Mean
	None	None	Trefoil	Ryegrass	
	Fallow	Excluding fallow			
	9.47	9.72	10.75	10.12	9.95
	(±0.424)	(±0.300)	(±0.424)		

58/Bd/1.3

Barley, grain per acre

	Green manures			N: cwt per acre (including basal)	Dung to cabbages 1953: tons per acre		Mean
	In barley for potatoes	After potatoes for barley	Rye- grass		None	10	
	None	Under- sown	Trefoil	0.23	0.46		
Excluding plots fallow under old scheme							
Green manures ploughed in Early Late	(± 0.70)	(± 0.70)		(± 0.70)	(± 0.70)		(± 0.49)
	22.2 30.6	23.4 31.2	23.6 30.7	20.8 30.0	24.7 31.8	23.7 30.7	22.8 30.9
Green manures in barley for potatoes None Undersown							
Green manures after potatoes for barley Trefoil Ryegrass							
N: cwt per acre (including basal) 0.23 0.46							
Mean (± 0.49)							
Plots fallow under old scheme							
Old scheme	Green manures after potatoes for barley			N: cwt per acre (including basal)	(± 1.40)		(± 0.99)
	None	Trefoil	Ryegrass		16.2	14.8	15.5
	Fallow	Excluding fallow	Mean		20.1	19.4	19.7
	17.6 (± 0.70)	27.1 (± 0.49)	26.6		18.2	17.0	17.6

58/Ba/1.4

Barley, straw: cwt per acre										
Green manures					N: cwt per acre (including basal)		Dung to cabbages 1953: tons per acre			
In barley for potatoes					0.23		None		10	
Under-sown					0.46		Mean			
<u>Excluding plots fallow under old scheme</u>										
Green manures ploughed in	Early	19.3	23.9	24.1	19.1	19.6	23.6	19.8	23.4	21.6
	Late	28.1	30.0	29.6	28.5	27.4	30.7	29.4	28.8	29.1
Green manures in barley for potatoes	None					21.0	26.4	23.6	23.8	23.7
	Undersown			24.5	22.9	26.0	27.9	25.5	28.4	27.0
Green manures after potatoes for barley	Trefoil			29.2	24.7			26.5	27.3	26.9
	Ryegrass					25.4	28.4	22.7	24.9	23.8
N: cwt per acre (including basal)										
0.23								23.2	23.8	23.5
0.46								25.9	28.4	27.2
Mean								24.6	26.1	25.3
<u>Plots fallow under old scheme</u>										
Old scheme	Green manures after potatoes for barley									
	None									
Fallow	Trefoil									
	Ryegrass									
Mean	Excluding fallow									
	Mean									
Old scheme	None									
	Fallow									
Mean	15.1	26.9	23.8							
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