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Yields of the Field Experiments 1957

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57/W/BD/1 Green Manuring

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57/Bd/1.1

GREEN MANURING EXPERIMENT

Woburn Stackyard - 1957, the 4th 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 1956 (for early potatoes 1957): Trefoil at 30 lb per acre, ryegrass at 40 lb per acre, undersown: Apr 23, 1956. Varieties: Trefoil-English; Ryegrass-Western Wolths.

Early potatoes: Straw applied to "fallow" plots only: Aug 29, 1956. "Fallow" plots ploughed: Aug 30 and Nov 13. Straw applied to ryegrass and trefoil plots: Sept 4. All plots ploughed: Jan 29 and Feb 19, 1957. 'Nitro-Chalk' and basal fertilizers applied: Mar 26. Potatoes mechanically planted: Mar 29. Earthed up: Apr 26. Lifted: July 9-10. Variety: Ulster Chieftain.

Green manures after early potatoes 1956 (for barley 1957): Trefoil at 30 lb per acre, ryegrass at 40 lb per acre, sown: July 31, 1956. Varieties: Trefoil-English; Ryegrass-Western Wolths.

Barley: "Fallow" and "early" green manure plots ploughed: Nov 19, 1956. "Late" green manure plots ploughed: Feb 21, 1957. Ground chalk at 20 cwt per acre applied: Feb 27. 'Nitro-Chalk' applied: Mar 14. Seed drilled at 2½ bushels per acre: Mar 18. Trefoil and ryegrass undersown: May 11. Harvested: Aug 7. Variety: Herta.

Standard errors per plot:

Potatoes. Total tubers: 0.307 tons per acre or 10.0% (18 d.f.)
Barley. Grain: 3.55 cwt per acre or 19.2% (20 d.f.)

Errata to "Results of the Field Experiments" 1955 and 1956. Pages 55/Bd/1.2 and 56/Bd/1.3. Levels of N: cwt per acre (including basal) to potatoes should be 0.6 and 1.2, not 0.23 and 0.46.

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

	Green manure	Ploughed in	Dry matter	Nitrogen
<u>For early</u> <u>Potatoes</u>	Trefoil		18.9	0.594
	Ryegrass		14.3	0.285
<u>For Barley</u>	Trefoil	Early	21.0	0.656
	Ryegrass	Early	16.0	0.273
	Trefoil	Late	8.3	0.274
	Ryegrass	Late	14.0	0.247

57/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 1953: tons per acre		Mean
	None	1½	0.6	1.2	None	10	
<u>Excluding plots fallow under old scheme</u>							
Undersown green manures for potatoes	(±0.109)		(±0.109)		(±0.109)		(±0.077)
None	2.94	3.11	3.02	3.02	2.90	3.15	3.02
	(±0.154)		(±0.154)		(±0.154)		(±0.109)
Trefoil	3.18	3.09	3.12	3.16	2.93	3.35	3.14
Ryegrass	3.14	3.03	3.34	2.83	2.80	3.37	3.08
Straw: tons per acre			(±0.109)		(±0.109)		(±0.077)
None			3.11	2.99	2.79	3.31	3.05
1½			3.14	3.03	2.98	3.20	3.09
N: cwt per acre (including basal)							
0.6					2.97	3.29	3.13
1.2					2.80	3.22	3.01
Mean (±0.077)					2.88	3.25	3.07
<u>Plots fallow under old scheme</u>							
Straw: tons per acre			(±0.217)		(±0.217)		(±0.154)
None			2.96	3.33	3.23	3.05	3.14
1½			3.08	2.94	2.90	3.12	3.01
N: cwt per acre (including basal)							
0.6					2.87	3.17	3.02
1.2					3.27	3.00	3.13
Mean (±0.154)					3.07	3.09	3.08
Old scheme	Undersown green manures for potatoes		None		Trefoil		Mean
	Fallow		None		Ryegrass		
			Excluding fallow				
	3.08	3.02	3.14	3.08			3.07
	(±0.109)	(±0.077)	(±0.109)				

Barley, grain: cwt per acre

	Green manures		N: cwt per acre (including basal) 0.23	Dung to cabbages 1952: tons per acre	Mean
	Ploughed in Early	In barley for potatoes None			
<u>Excluding plots fallow under old scheme</u>					
Green manures after potatoes for barley					
Trefoil	18.8	18.9	17.5	17.7	(±0.89) 18.1
Ryegrass	20.1	21.8	18.6	19.4	20.7
	(±1.26)	(±1.26)	(±1.26)	(±1.26)	
Green manures ploughed in					
Early	20.8	20.8	17.7	18.2	19.5
Late	19.9	19.9	18.4	18.9	19.3
Green manures in barley for potatoes					
None			19.6	20.0	20.4
Undersown			16.5	17.1	18.4
N: cwt per acre (including basal)					
0.23			21.1	20.7	18.1
0.46			20.2	19.7	20.7
Mean (±0.89)				18.5	19.4
<u>Plots fallow under old scheme</u>					
Green manures after potatoes for barley					
None					(±1.78)
Fallow	15.2	18.1	0.23	11.6	14.0
	(±1.26)	(±0.89)	0.46	14.6	16.4
Old scheme					
	18.1	20.7			
			Mean (±1.78)	13.1	15.2
				17.3	
					57/Ba/1.3

∞ 9

Barley, straw: cwt per acre

	Green manures		In barley for potatoes	N: cwt per acre (including basal)	Dung to cabbages 1952: tons per acre		Mean
	Ploughed in	None			None	10	
	Early	Late	Undersown	0.23	0.46		
<u>Excluding plots fallow under old scheme</u>							
Green manures after potatoes for barley							
Trefoil	14.2	13.3	12.7	13.0	14.5	13.3	13.7
Ryegrass	15.2	15.9	14.3	14.1	17.0	14.6	15.5
Green manures ploughed in							
Early			13.3	13.4	16.0	13.9	14.7
Late			13.7	13.6	15.5	13.9	14.6
Green manures in barley for potatoes							
None				15.2	16.4	15.2	15.8
Undersown				11.9	15.2	12.6	13.5
N: cwt per acre (including basal)							
0.23						13.0	13.5
0.46						14.9	15.8
Mean						13.9	14.6
<u>Plots fallow under old scheme</u>							
Green manures after potatoes for barley							
None							
Fallow							
Ryegrass							
Excluding fallow							
Mean							
Old scheme	11.1	13.7	15.5			9.1	10.4
						10.4	11.8
Mean						9.8	11.1

57/Ba/1.4

91