

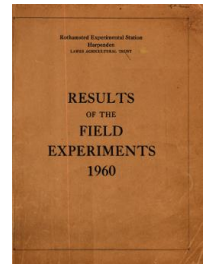
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# Yields of the Field Experiments 1960

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## 60/W/B/4 Green Manuring

### Rothamsted Research

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60/B/4.1

GREEN MANURING EXPERIMENT

Woburn Stackyard - 1960, the 7th year of the revised scheme.

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

Area of each plot (acres): 0.0406. Area harvested: Potatoes - 0.0221; barley - 0.0295.

Cultivations, etc.:

Green manures after barley 1959 (for early potatoes 1960): Trefoil at 30 lb per acre, ryegrass at 40 lb per acre, undersown: May 12, 1959, failed and resown: Aug 7. Varieties: Trefoil - English; Ryegrass - Western Wolths.

Early potatoes: Straw applied ("fallow" plots): Aug 31, 1959. "Fallow" plots ploughed: Sept 2 and Nov 24. Straw applied (green manure plots): Feb 11, 1960. All plots ploughed: Feb 23. Basal fertiliser applied: Apr 4. 'Nitro-Chalk' applied, potatoes mechanically planted: Apr 5. Earthed up: June 13. Sprayed with copper fungicide at 5 lb in 40 gallons per acre: July 16. Haulm destroyed mechanically: July 25. Lifted: July 26 and Aug 2. Variety: Ulster Chieftain.

Green manures after early potatoes 1959 (for barley 1960): Ground chalk applied at 15 cwt per acre: July 22, 1959. Trefoil at 30 lb per acre, ryegrass at 40 lb per acre, sown: Aug 1. Varieties: Trefoil - English; Ryegrass - Western Wolths.

Barley: "Fallow" plots and "early" green manure plots ploughed: Nov 23. "Late" green manure plots ploughed: Feb 10, 1960. 'Nitro-Chalk' applied: Mar 10. Seed drilled at 2½ bushels per acre: Mar 18. Trefoil and ryegrass undersown: Apr 27. Combine harvested: Aug 18. Variety: Herta.

Standard errors per plot.

Potatoes. Total tubers: 0.944 tons per acre or 8.7% (18 d.f.)  
Barley. Grain (at 85% D.M.): 2.65 cwt per acre or 10.6% (20 d.f.)

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

	Green manures	Ploughed in	Dry matter	Nitrogen
<u>For early potatoes</u>	Trefoil		2.6 (7.9)	0.085 (0.146)
	Ryegrass		10.3 (4.1)	0.160 (0.077)
<u>For barley</u>	Trefoil	Early	15.9	0.494
	Ryegrass	Early	11.6	0.312
	Trefoil	Late	15.3	0.408
	Ryegrass	Late	13.0	0.286

Note. The figures in brackets are additional amounts derived from self-sown barley.



60/B/4.2

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	(±0.334)		(±0.334)		(±0.334)		(±0.236)
None	10.43	11.12	10.20	11.34	9.92	11.63	10.78
	(±0.472)		(±0.472)		(±0.472)		(±0.334)
Trefoil	11.65	10.41	10.66	11.40	10.56	11.51	11.03
Ryegrass	10.76	11.48	10.52	11.72	10.26	11.98	11.12
Straw: tons per acre			(±0.334)		(±0.334)		(±0.236)
None			10.34	11.29	9.81	11.83	10.82
1½			10.46	11.61	10.52	11.55	11.03
N: cwt per acre (including basal)							
0.6					9.58	11.21	10.40
1.2					10.74	12.16	11.45
Mean (±0.236)					10.16	11.69	10.92

Plots fallow under old scheme

Straw: tons per acre			(±0.667)		(±0.667)		(±0.472)
None			10.49	10.25	9.94	10.80	10.37
1½			9.80	10.61	9.60	10.81	10.20
N: cwt per acre (including basal)							
0.6					9.60	10.69	10.14
1.2					9.94	10.92	10.43
Mean (±0.472)					9.77	10.80	10.28

Undersown green manures for potatoes

Old scheme	None Fallow	None Excluding fallow	Trefoil Excluding fallow	Ryegrass Excluding fallow	Mean
		10.28 (±0.334)	10.78 (±0.236)	11.03 (±0.334)	11.12

Barley, Grain (at 85% dry matter): cwt per acre

	Green manures In barley for potatoes		N: cwt per acre (including basal)		Dung to cabbages 1953: tons per acre		Mean
	Under- sown	Trefoil Rye- grass	0.23	0.46	None	10	
	Excluding plots fallow under old scheme						
Green manures ploughed in	(+0.94)		(+0.94)		(+0.94)		(+0.66)
Early	22.7	25.8	26.7	21.8	22.7	25.9	24.3
Late	25.3	29.3	28.1	26.5	27.3	27.4	27.3
Green manures in barley for potatoes							
None			26.7	21.4	22.4	25.6	24.0
Undersown			28.2	26.9	27.5	27.6	27.6
Green manures after potatoes for barley							
Trefoil					27.2	27.7	27.4
Ryegrass					22.7	25.6	24.1
N: cwt per acre (including basal)							
0.23						24.0	25.0
0.46						26.2	26.6
Mean (+0.66)					25.1	26.5	25.8
	Plots fallow under old scheme						
Green manures after potatoes for barley					N: cwt per acre (including basal)		(+1.33)
None						20.4	18.4
Fallow						24.0	22.3
Old scheme	21.3 (+0.937)	27.4 (+0.66)	24.1	24.9	Mean (+1.33)	22.2	20.3
Mean dry matter % as harvested: 81.0							21.3