

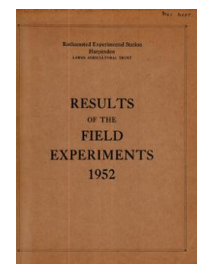
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Yields of the Field Experiments 1952

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52/BD/1 Green Manuring - Woburn

Rothamsted Research

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52/Bd/1.1

GREEN MANURING EXPERIMENT

Woburn Stackyard - 1952, the 16th year

For details of treatments etc. see "Results of Field Experiments 1939-47". Since 1950 the fallow, lupin and ryegrass plots of the cabbage crop have been split into two for early and late planting.

Cultivations, etc.:

Green manures. Clover and ryegrass undersown in barley: Apr 18, 1951. Ploughed fallow, lupin and rape plots: Sept 17, 1951 and Jan 6, 1952. Sulphate of ammonia applied: Apr 3. Rape sown: Apr 17. Lupins drilled: Apr 19. Rape dusted with D.D.T: Apr 26 and May 17.

Cabbages. Dung and straw applied to fallow, clover and ryegrass plots, and ploughed in: May 13, 1952. Dung and straw applied to lupin and rape plots, ploughed in: June 23. Basal fertilizers applied: June 24. Cabbages planted and watered in (calomel treated): June 24. Sprayed with Parathion: July 30 and Sept 5. Harvested: Nov 11, 1952 - Mar 18, 1953. Variety: January King.

Barley. Ploughed: Mar 20, 1952. Chalk (46 cwt per acre) applied: Mar 26. Sulphate of ammonia applied: Apr 15. Seed drilled at 3 bushels per acre: Apr 16. Clover and ryegrass undersown: Apr 17. Harvested: Aug 15. Variety: Plumage Archer.

Standard errors per plot:

Cabbages, weight of headed cabbages: 0.383 tons per acre or
28.3% (9 d.f.)

Barley, grain: 2.24 cwt per acre or 24.3% (9 d.f.)

52/Bd/1.2

Summary of Results

Cabbages

	Green Manure				Rye- grass	Mean
	None	Lupins	Clover	Rape		
Weight of headed cabbages: tons per acre						
			(±0.309)		(±0.138)	
No Dung	1.40	1.62	3.14	0.11	1.38	1.53
Dung	3.31	2.30	4.39	1.59	2.64	2.85
No Straw	2.56	1.93	3.71	0.92	1.98	2.22
Straw	2.15	2.00	3.82	0.78	2.04	2.16
Sulph. amm.						
2 cwt per acre	2.27	1.56	3.54	0.74	1.53	1.93
4 cwt per acre	2.44	2.36	4.00	0.96	2.48	2.45
Sulph. amm. to green manure						
Low	2.09	1.70	4.22	0.67	1.86	2.11
High	2.62	2.22	3.32	1.03	2.16	2.27
Mean (±0.219)	2.36	1.96	3.77	0.85	2.01	2.19

Total produce: tons per acre

No Dung	4.43	4.29	6.28	2.44	4.46	4.38
Dung	6.57	5.08	7.46	4.50	5.59	5.84
No Straw	5.68	4.70	6.70	3.62	5.06	5.15
Straw	5.32	4.66	7.04	3.32	4.99	5.07
Sulph. amm.						
2 cwt per acre	5.62	4.30	6.78	3.20	4.46	4.87
4 cwt per acre	5.38	5.06	6.95	3.74	5.58	5.34
Sulph. amm. to green manure						
Low	5.14	4.38	7.24	2.93	4.79	4.89
High	5.86	4.99	6.50	4.01	5.26	5.32
Mean	5.50	4.68	6.87	3.47	5.02	5.11

52/Bd/1.3

Cabbages

	Green Manure					Mean
	None	Lupins	Clover	Rape	Rye-grass	
Headed cabbages as percentage of total number						
No Dung	19.0	24.3	36.0	2.7	20.0	20.4
Dung	36.8	30.6	44.0	23.8	34.0	33.8
No Straw	29.6	27.8	40.6	14.6	25.8	27.7
Straw	26.1	27.0	39.4	11.9	28.2	26.5
Sulph. amm.						
2 cwt per acre	28.4	21.2	37.4	11.0	22.6	24.1
4 cwt per acre	27.3	33.7	42.6	15.4	31.4	30.1
Sulph. amm. to green manure						
Low	23.6	26.0	45.4	11.0	27.1	26.6
High	32.1	28.8	34.7	15.4	26.9	27.6
Mean	27.9	27.4	40.0	13.2	27.0	27.1

Differential Responses

Response to	Mean	Dung		Straw		Sulph. Amm. cwt per acre		Sulph. Amm. to green manure	
		Abs.	Pres.	Abs.	Pres.	2	4	Low	High

Weight of headed cabbages: tons per acre

	(± 0.196)			(± 0.280)					
	Mean	Abs.	Pres.	Abs.	Pres.	2	4	Low	High
Dung	+1.31	-	-	+1.08	+1.54	+1.51	+1.11	+0.98	+1.64
Straw	-0.06	-0.29	+0.17	-	-	+0.23	-0.35	-0.42	+0.30
Sulph. amm.	+0.52	+0.72	+0.32	+0.81	+0.23	-	-	+0.87	+0.17
Sulph. amm. to green manure	+0.16	-0.17	+0.49	-0.20	+0.52	+0.51	-0.19	-	-

Total produce: tons per acre

	Mean	Abs.	Pres.	Abs.	Pres.	2	4	Low	High
Dung	+1.46	-	-	+1.37	+1.55	+1.66	+1.26	+1.26	+1.66
Straw	-0.08	-0.17	+0.01	-	-	+0.26	-0.42	-0.44	+0.28
Sulph. amm.	+0.47	+0.67	+0.27	+0.81	+0.13	-	-	+0.66	+0.28
Sulph. amm. to green manure	+0.43	+0.23	+0.63	+0.07	+0.79	+0.62	+0.24	-	-

Headed cabbages as percentage of total number

	Mean	Abs.	Pres.	Abs.	Pres.	2	4	Low	High
Dung	+13.4	-	-	+11.9	+14.9	+17.0	+9.8	+10.8	+16.0
Straw	-1.2	-2.7	+0.3	-	-	+2.8	-5.2	-6.3	+3.9
Sulph. amm.	+6.0	+9.6	+2.4	+10.0	+2.0	-	-	+9.6	+2.4
Sulph. amm. to green manure	+1.0	-1.6	+3.6	-4.1	+6.1	+4.6	-2.6	-	-

52/Bd/1.4

Barley

	Green Manure					Rye-grass	Mean
	None	Lupins	Clover	Rape			
Grain: cwt per acre							
							(± 1.12)
							(± 0.50)
No Dung to cabbages 1951	7.0	8.7	10.3	10.3	9.8	9.2	9.2
Dung to cabbages	5.5	9.8	10.2	10.6	9.9	9.2	9.2
No Straw to cabbages 1951	5.6	9.0	10.0	10.8	8.9	8.9	8.9
Straw to cabbages	6.9	9.5	10.5	10.1	10.8	9.6	9.6
Sulph. amm. to cabbages 1951							
2 cwt per acre	7.0	9.2	10.2	10.4	8.6	9.1	9.1
4 cwt per acre	5.5	9.4	10.3	10.5	11.1	9.4	9.4
Sulph. amm. to barley							
Nil	5.0	7.1	11.1	9.3	7.1	7.9	7.9
$1\frac{1}{2}$ cwt per acre	7.5	11.4	9.5	11.6	12.6	10.5	10.5
Mean (± 0.79)	6.2	9.3	10.3	10.5	9.9	9.2	9.2

Straw: cwt per acre

No Dung to cabbages 1951	6.9	10.9	12.2	12.6	11.7	10.9	10.9
Dung to cabbages	7.6	12.0	16.3	13.4	13.5	12.5	12.5
No Straw to cabbages 1951	7.0	10.5	12.8	14.2	12.0	11.3	11.3
Straw to cabbages	7.5	12.4	15.7	11.8	13.1	12.1	12.1
Sulph. amm. to cabbages 1951							
2 cwt per acre	7.6	11.6	13.0	12.4	11.1	11.1	11.1
4 cwt per acre	6.9	11.3	15.5	13.6	14.0	12.3	12.3
Sulph. amm. to barley							
Nil	6.6	8.8	13.1	12.0	9.1	9.9	9.9
$1\frac{1}{2}$ cwt per acre	7.9	14.2	15.4	14.0	16.1	13.5	13.5
Mean	7.3	11.5	14.2	13.0	12.6	11.7	11.7

52/Bd/1.5

Barley

Differential Responses

Response to	Mean	Dung to Cabbages		Straw to Cabbages		Sulph. amm. to cabbages		Sulph. amm. to barley	
		Abs.Pres.	Abs.Pres.	Abs.Pres.	Abs.Pres.	cwt per acre	cwt per acre	cwt per acre	cwt per acre
						2	4	0	1½

Grain: cwt per acre

	(±0.71)			(±1.01)					
Dung to cabbages 1951	0.0	-	-	+0.1	-0.1	+0.6	-0.6	-1.5	+1.5
Straw to cabbages 1951	+0.7	+0.8	+0.6	-	-	-0.4	+1.8	+1.4	0.0
Sulph. amm to cabbages 1951	+0.3	+0.9	-0.3	-0.8	+1.4	-	-	+0.8	-0.2
Sulph. amm to barley	+2.6	+1.1	+4.1	+3.3	+1.9	+3.1	+2.1	-	-

Straw: cwt per acre

Dung to cabbages 1951	+1.7	-	-	+1.4	+2.0	+1.6	+1.8	-0.9	+4.3
Straw to cabbages 1951	+0.8	+0.5	+1.1	-	-	-1.1	+2.7	+0.8	+0.8
Sulph. amm to cabbages 1951	+1.1	+1.0	+1.2	-0.8	+3.0	-	-	+1.2	+1.0
Sulph. amm. to barley	+3.6	+1.0	+6.2	+3.6	+3.6	+3.7	+3.5	-	-