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Yields of the Field Experiments 1952

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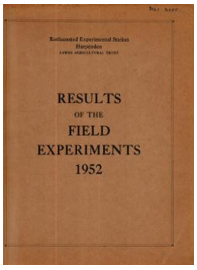

52/BF/1 Market Garden - Woburn

Rothamsted Research

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52/Bf/1.1

WOBURN MARKET GARDEN EXPERIMENT

Organic manures and nitrochalk - Lansome 1952 the 11th year.

The present cropping comprises two series, each carrying in turn the crops of a two course rotation: 1st year - Globe beet followed by Spring cabbages; 2nd year - Leeks.

System of replication (each series): 4 randomized blocks of 10 plots each, certain interactions being confounded with block differences.

Area of each plot: 0.0125 acre.

Treatments applied to each crop:

Organic manures: Dung; sewage sludge compost; sewage sludge (West Middlesex); vegetable compost, each at 10 and 20 tons per acre.

Nitrochalk; None; 0.3 cwt N per acre on plots receiving organic manure. None; 0.3, 0.6, 0.9 cwt N per acre on plots not receiving organic manure. The last two rates are applied in two equal dressings.

Basal manuring per acre to each crop: 0.3 cwt P_2O_5; 0.3 cwt K_2O, applied as granular fertilizer (13% P_2O_5; 13% K_2O).

Cultivations, etc.:

Globe beet. Organic manures applied and ploughed in: Apr 1. Nitrochalk applied (first dressing to 0.6 and 0.9 N plots): Apr 23. Basal manure applied: Apr 25. Seed drilled at 13 lb per acre: Apr 26. Dusted against flea beetle: May 1-17. Singled: June 12. Second application of nitrochalk to 0.6 and 0.9 N plots: June 13. Lifted: July 11-Sept 24. Variety: Detroit.

Spring cabbages 1952-53. Organic manures applied and ploughed in: Sept 25, 1952. Basal manures applied: Sept 26. Cabbages planted (calomel treated) and watered in, 2½ cwt of 5% D.D.T. dust broadcast before planting: Sept 29. Owing to damage by birds cabbages had to be ploughed in: Mar 12, 1953. Variety: Durham Early.

Leeks 1952-53. Organic manures applied and ploughed in: July 8, 1952. Basal manures and nitrochalk applied (first dressing to 0.6 and 0.9 N plots): July 30. Leeks planted and watered in: Aug 5-7. Second dressing of nitrochalk to 0.6 and 0.9 N plots: Sept 12. Harvested: Feb 6-Apr 16, 1953. Variety: Musselburgh.

Standard errors per plot:

Globe beet, saleable bulbs: 1.29 tons per acre or 17.1% (17 d.f.)

Leeks, saleable produce: 0.470 tons per acre or 12.6% (17 d.f.)

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Summary of Results

Globe Beet

Organic Manures	Level of manuring (tons per acre)	Nitrochalk, cwt N per acre: None	0.3	0.6	0.9	Mean
Saleable bulbs: tons per acre			(±0.911)			(±0.644)
None		1.59	4.88	7.63	4.24	3.24*
Dung	10	4.98	9.58			7.28
	20	9.74	9.60			9.67
Sludge compost	10	6.01	6.69			6.35
	20	7.06	9.56			8.32
Sludge	10	8.78	9.88			9.33
	20	8.37	8.18			8.27
Vegetable compost	10	7.30	8.60			7.95
	20	6.84	10.81			8.83
Mean (±0.322)		7.39†	9.11†			7.52
Total produce: tons per acre						
None		5.68	9.84	12.77	7.32	7.76*
Dung	10	7.73	14.06			10.89
	20	14.91	15.04			14.97
Sludge compost	10	11.11	9.92			10.52
	20	10.82	14.88			12.85
Sludge	10	14.00	16.88			15.44
	20	12.62	11.88			12.24
Vegetable compost	10	11.82	12.64			12.23
	20	9.97	16.03			13.00
Mean		11.62†	13.91†			11.99
Plant number: thousands per acre						
None		95.4	98.7	110.5	51.4	97.1*
Dung	10	60.1	93.0			76.5
	20	102.3	86.9			94.6
Sludge compost	10	113.4	61.2			87.3
	20	76.4	97.3			86.8
Sludge	10	100.2	130.2			115.2
	20	87.6	60.5			74.0
Vegetable compost	10	86.2	93.3			90.8
	20	64.5	102.6			83.5
Mean		86.6†	90.6†			88.7

* Mean over None and 0.3 cwt N per acre only.
† Excluding 'No organics'.

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Leeks

Organic Manures	Level of manuring (tons per acre)	Nitrochalk, cwt N per acre: None	0.3	0.6	0.9	Mean
		Saleable produce: tons per acre				
		(±0.332)				(±0.235)
None		1.94	3.09	3.52	2.93	2.52*
Dung	10	3.98	3.83			3.90
	20	4.44	5.03			4.73
Sludge compost	10	3.48	4.05			3.77
	20	3.71	4.01			3.86
Sludge	10	3.09	3.44			3.27
	20	3.24	3.30			3.27
Vegetable compost	10	4.10	4.20			4.15
	20	4.54	4.53			4.53
Mean (±0.117)		3.82†	4.05†			3.72
		Percentage saleable (by number)				
None		87.1	92.9	93.5	92.2	90.0*
Dung	10	95.6	94.9			95.2
	20	97.1	97.6			97.4
Sludge compost	10	94.3	95.5			94.9
	20	95.7	95.6			95.7
Sludge	10	94.5	94.9			94.7
	20	93.1	94.7			93.9
Vegetable compost	10	98.1	95.7			96.9
	20	96.2	97.2			96.7
Mean		95.6†	95.8†			94.8

* Mean over None and 0.3 cwt N per acre only.
† Excluding 'No organics'.

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