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54/W/BF/1 Market Garden Soil

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54/Bf/1.1

WOBURN MARKET GARDEN EXPERIMENT

Organic manures and N - Lansome 1954 the 13th 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.

Note: The results for the spring cabbages 1954-55 will be included in the 1955 report.

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.

N (applied as nitrochalk): None; 0.3 cwt per acre on plots receiving organic manure. None; 0.3; 0.6; 0.9 cwt 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: Mar 31. Nitrochalk and basal fertilizers applied: May 10. Seed drilled at 13 lb per acre: May 11. Singled: June 16. Second dressing of nitrochalk: June 25. Sprayed with systemic insecticide: June 21. Harvested: Aug 13 - Sept 21. Variety: Detroit.

Leeks. Organic manures applied and ploughed in: July 22. Nitrochalk and basal fertilizers applied: July 27. Planted: Aug 3. Second dressing of nitrochalk applied: Sept 22. Harvested: Mar 8 - 31, 1955. Variety: Musselburgh.

Standard errors per plot.

Globe beet, saleable bulbs: 1.15 tons per acre or 17.3% (17 d.f.)
Leeks, saleable produce: 0.316 tons per acre or 10.8% (17 d.f.)

54/Bf/1.2

Summary of Results

Globe Beet

Organic manures	Level of manuring tons per acre	N: cwt per acre				Mean
		None	0.3	0.6	0.9	
Saleable bulbs: tons per acre						
			(±0.813)			(±0.575)
None		0.59	3.17	3.63	0.69	1.88*
Dung	10	2.86	8.47			5.66
	20	12.64	12.69			12.67
Sludge compost	10	3.35	6.93			5.14
	20	6.85	8.46			7.66
Sludge	10	6.56	6.98			6.77
	20	8.18	9.97			9.08
Vegetable compost	10	4.92	6.20			5.56
	20	6.46	13.15			9.81
Mean (±0.288)		6.48 ⁺	9.11 ⁺			6.64

Total produce: tons per acre

None		2.16	6.03	6.91	2.28	4.09*
Dung	10	5.23	13.52			9.37
	20	19.80	19.73			19.77
Sludge compost	10	6.05	11.32			8.68
	20	11.80	13.87			12.84
Sludge	10	11.67	12.28			11.97
	20	13.85	16.64			15.25
Vegetable compost	10	8.20	9.92			9.06
	20	10.42	20.56			15.49
Mean		10.88 ⁺	14.73 ⁺			11.11

Plant number: thousands per acre

None		46.3	64.8	63.2	37.9	55.6*
Dung	10	49.8	69.5			59.7
	20	82.8	75.2			79.0
Sludge compost	10	52.9	75.8			64.4
	20	72.8	66.4			69.6
Sludge	10	66.6	75.6			71.1
	20	66.9	73.0			70.0
Vegetable compost	10	59.0	64.6			61.8
	20	59.4	83.2			71.3
Mean		63.8 ⁺	72.9 ⁺			65.3

*Mean over None and 0.3 cwt N per acre only.

⁺Excluding 'No organics'.

54/Bf/1.3

		Leeks				
Organic manures	Level of manuring tons per acre	N: cwt per acre				Mean
		None	0.3	0.6	0.9	
Saleable produce: tons per acre						
		(±0.224)			(±0.158)	
None		1.09	2.08	2.47	2.61	1.58*
Dung	10	2.87	3.47			3.17
	20	3.06	3.69			3.37
Sludge compost	10	2.85	3.46			3.16
	20	3.64	3.19			3.42
Sludge	10	2.92	2.83			2.87
	20	2.87	3.29			3.08
Vegetable compost	10	2.71	3.06			2.89
	20	3.05	3.54			3.30
Mean (±0.079)		3.00 ⁺	3.32 ⁺			2.94
Percentage saleable (by number)						
None		75.3	89.2	94.9	93.4	82.2*
Dung	10	97.0	98.1			97.6
	20	97.0	96.7			96.8
Sludge compost	10	95.7	98.7			97.2
	20	99.6	95.3			97.4
Sludge	10	97.0	95.4			96.2
	20	96.0	98.7			97.3
Vegetable compost	10	93.8	95.7			94.8
	20	96.1	98.1			97.1
Mean		96.5 ⁺	97.1 ⁺			95.1

*Mean over None and 0.3 cwt N per acre only.

⁺Excluding 'No organics'.