

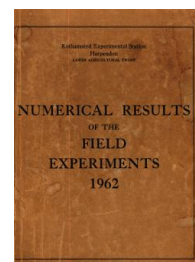
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Yields of the Field Experiments 1962

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62/W/B/5 Market Garden Soil

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62/B/5.1

WOBURN MARKET GARDEN EXPERIMENT

Organic manures, N,P,K and Mg - Lansome Field 1962, the 21st year of the experiment, the 2nd year with revised treatments.

Further revised treatments commencing 1962:-

Vegetable compost replaced by dung at the same two rates (C&D) (1&2).
Vegetable compost last applied for early potatoes only, 1962.

The following treatments are now discontinued:

Sewage sludge (S)

Sewage sludge compost (T)

The following additional treatments and alterations are now in operation:-

N to plots of former S and T treatments: The plots are split* for an alternating test of none v 0.9 cwt N per acre as 'Nitro-Chalk'. These plots receive PK at the lower rate of K_2O .

Magnesium sulphate test: This is no longer applied to globe beet.

*For potatoes and leeks the sub plots so formed lie at right angles to the sub plots for the magnesium sulphate test.

1962 globe beet, 1st crop only:

Depth of sowing of globe beet seed (to columns of 4 half-plots):
Shallow - $\frac{3}{4}$ "; deep - $1\frac{1}{2}$ ".

Area of each sub plot (acres): 0.0063. Area harvested (acres):

Leeks - 0.0011; early potatoes (sub-plots) - 0.0023; globe beet -
1st harvest (sub plots) - 0.0012; 2nd harvest - 0.0044.

Note: The results for the 1962 - 63 leeks will be included in the 1963 report.

Cultivations, etc.:

Leeks 1961 - 62. Organic manures and NPK applied, plots ploughed: July 26, 1961. Second half of NPK applied, leeks planted: July 27. Magnesium sulphate applied: July 28. Harvested: Jan 8 - Mar 8, 1962. Variety: Musselburgh.

Early potatoes. Ploughed: Sept 7, 1961. PK applied: Nov 21. Organic manures applied, plots ploughed second time: Nov 22. N and second half of PK applied, potatoes machine planted: Mar 22, 1962. Earthed up: June 14. Lifted: July 23. Variety: Arran Pilot.

Globe beet. Ground chalk applied at 20 cwt per acre, organic manures and NPK applied, plots ploughed: Apr 6, 1962. Second half of NPK applied, seed drilled at 11 lb per acre: Apr 27. Singled: June 19. Lifted: July 12. Cultivated with thistle bar and harrow: July 13. Seed drilled at 12 lb per acre: July 17. Sprayed against black aphid with demeton methyl at 6 fluid oz in 40 gallons per acre: Aug 28. Sprayed against cutworms with dieldrin at 4 pints in 40 gallons per acre: Sept 8. Singled: Sept 17. Lifted: Nov 26. Variety: Detroit.

*Harvested early because of much bolting.

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Standard errors per plot.

Leeks 1961 - 62. Saleable produce.

1st lifting

Whole plot: 0.569 tons per acre or 9.3% (15 d.f.)

Sub plot: 0.456 tons per acre or 7.5% (16 d.f.)

2nd lifting

Whole plot: 0.593 tons per acre or 9.5% (15 d.f.)

Sub plot: 0.489 tons per acre or 7.8% (16 d.f.)

Mean of 2 liftings

Whole plot: 0.441 tons per acre or 7.2% (15 d.f.)

Sub plot: 0.373 tons per acre or 6.1% (16 d.f.)

Errata to "Numerical Results of the Field Experiments" 1961, pages 61/B/5.3 - 5.8. The rates of application tons per acre of vegetable compost should read "5 and 10" not "10 and 20" for leeks and "10 and 20" not "5 and 10" for early potatoes and globe beet.

Summary of Results

Organic manures	tons per acre	Mean	Mag. sulph. lb p.a.			Fertiliser			Diff.
			None	500	Diff.	None	N ₁ P ₁ K ₁	Diff.	
<u>Leeks, 1st lifting saleable produce: tons per acre</u>									
		(±0.285)	(±0.327) ⁽¹⁾	(±0.323)	(±0.403)	(±0.569)			
Dung	10	6.56	6.61	6.51	-0.10	6.56	6.56	0.00	
	20	6.63	6.61	6.66	+0.05	6.66	6.61	-0.05	
Sludge	10	6.07	6.26	5.88	-0.38	5.83	6.31	+0.48	
compost	20	6.43	6.46	6.41	-0.05	6.38	6.48	+0.10	
Sludge	10	5.15	5.10	5.20	+0.10	5.28	5.03	-0.25	
	20	5.19	5.35	5.03	-0.32	5.46	4.93	-0.53	
Vegetable	5	6.14	6.11	6.18	+0.07	5.50	6.78	+1.28	
compost	10	6.52	7.04	6.01	-1.03	6.36	6.69	+0.33	
Mean		6.09	6.19	5.98	-0.21 (±0.114)	6.00	6.17	+0.17 (±0.201)	
NPK									
	111	5.18	5.23	5.13	-0.10				
	111*	5.33	5.43	5.23	-0.20				
	211	3.97	4.32	3.62	-0.70				
	211*	4.72	4.82	4.62	-0.20				
	112	5.63	5.43	5.83	+0.40				
	112*	5.63	5.73	5.53	-0.20				
	212	4.12	4.42	3.82	-0.60				
	212*	3.92	3.62	4.22	+0.60				
Mean		4.81	4.88	4.75	-0.13				

(1) For use in vertical and diagonal comparisons.

* NPK $\frac{1}{2}$ ploughed in, $\frac{1}{2}$ in seedbed.

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Organic manures	tons per acre	Mean	Mag. sulph. lb p.a.			Fertiliser		
			None	500	Diff.	None	N ₁ P ₁ K ₁	Diff.
<u>Leeks, 2nd lifting saleable produce: tons per acre</u>								
			(±0.296)	(±3.43) ⁽¹⁾	(±0.346)	(±0.419)	(±0.593)	
Dung	10	6.33	6.41	6.26	-0.15	6.06	6.61	+0.55
	20	6.61	6.71	6.51	-0.20	7.06	6.16	-0.90
Sludge	10	5.95	5.78	6.13	+0.35	5.88	6.03	+0.15
compost	20	6.24	6.18	6.31	+0.13	6.18	6.31	+0.13
Sludge	10	5.89	5.81	5.98	+0.17	5.45	6.33	+0.88
	20	5.67	5.88	5.45	-0.43	5.71	5.63	-0.08
Vegetable	5	6.36	6.28	6.43	+0.15	5.78	6.93	+1.15
compost	10	6.87	6.86	6.88	+0.02	6.91	6.83	-0.08
Mean		6.24	6.24	6.24	0.00	6.13	6.35	+0.22
					(±0.122)			(±0.210)
NPK								
		5.08	5.02	5.13	+0.11			
111*		5.22	5.73	4.72	-1.01			
211		4.32	3.92	4.72	+0.80			
211*		4.62	4.82	4.42	-0.40			
112		4.92	4.92	4.92	0.00			
112*		6.28	6.13	6.43	+0.30			
212		3.06	3.22	2.91	-0.31			
212*		3.87	3.82	3.92	+0.10			
Mean		4.67	4.70	4.65	-0.05			

<u>Leeks, Mean of 2 liftings saleable produce: tons per acre</u>								
			(±0.221)	(±0.257) ⁽¹⁾	(±0.264)	(±0.312)	(±0.441)	
Dung	10	6.44	6.51	6.38	-0.13	6.31	6.58	+0.27
	20	6.62	6.66	6.58	-0.08	6.86	6.38	-0.48
Sludge	10	6.01	6.02	6.01	-0.01	5.86	6.17	+0.31
compost	20	6.34	6.32	6.36	+0.04	6.28	6.39	+0.11
Sludge	10	5.52	5.46	5.59	+0.13	5.37	5.68	+0.31
	20	5.43	5.62	5.24	-0.38	5.58	5.28	-0.30
Vegetable	5	6.25	6.20	6.31	+0.11	5.64	6.86	+1.22
compost	10	6.70	6.95	6.44	-0.51	6.63	6.76	+0.13
Mean		6.16	6.21	6.11	-0.10	6.06	6.26	+0.20
					(±0.093)			(±0.156)
NPK								
		5.13	5.12	5.13	+0.01			
111*		5.28	5.58	4.98	-0.60			
211		4.14	4.12	4.17	+0.05			
211*		4.67	4.82	4.52	-0.30			
112		5.28	5.18	5.38	+0.20			
112*		5.96	5.93	5.98	+0.05			
212		3.59	3.82	3.36	-0.46			
212*		3.90	3.72	4.07	-0.35			
Mean		4.74	4.79	4.70	-0.09			

(1) For use in vertical and diagonal comparisons

* NPK $\frac{1}{2}$ ploughed in, $\frac{1}{2}$ in seedbed.

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Organic manures	tons per acre	Mean	Mag. sulph. lb p.a.			Fertiliser		
			None	500	Diff.	None	N ₁ P ₁ K ₁	Diff.
<u>Early potatoes, Total tubers: tons per acre</u>								
Dung	10	4.56	4.78	4.35	-0.43	4.41	4.71	+0.30
	20	5.30	5.30	5.30	0.00	5.06	5.55	+0.49
Vegetable compost	10	3.78	4.00	3.56	-0.44	3.50	4.06	+0.56
	20	4.63	4.71	4.56	-0.15	4.56	4.71	+0.15
Mean		4.57	4.70	4.44	-0.26	4.38	4.76	+0.38
Mag. Sulph. lb per acre								
						None	4.35	5.04
						500	4.42	4.47
NPK								
		3.36	3.68	3.05	-0.63			
		4.56	4.65	4.46	-0.19			
		2.88	2.96	2.81	-0.15			
		2.54	2.37	2.71	+0.34			
		2.91	2.62	3.20	+0.58			
		4.51	5.14	3.88	-1.26			
		2.18	2.47	1.89	-0.58			
		2.96	2.96	2.96	0.00			
Mean		3.24	3.36	3.12	-0.24			

*NPK $\frac{1}{2}$ ploughed in, $\frac{1}{2}$ in seedbed.

Dung: tons per acre	Organic manure applied 1942-61	Mean	Drilled		Diff.	Fertiliser		Diff.
			Shallow	Deep		None	N, P, K ₁	
Globe beet. 1st sowing, Total produce: tons per acre								
10	D1	4.60	4.89	4.32	-0.57	4.65	4.56	-0.09
20	D2	6.45	6.90	5.99	-0.91	6.95	5.94	-1.01
10	C1	4.69	5.08	4.30	-0.78	4.63	4.75	+0.12
20	C2	6.20	6.75	5.65	-1.10	6.57	5.83	-0.74
Mean		5.48	5.91	5.06	-0.85	5.70	5.27	-0.43
NPK								
111		2.91	2.67	3.14	+0.47			
111*		3.50	3.48	3.52	+0.04			
211		2.19	2.24	2.14	-0.10			
211*		3.50	3.14	3.86	+0.72			
112		2.45	2.90	2.00	-0.90			
112*		3.90	3.80	4.00	+0.20			
212		1.81	1.90	1.72	-0.18	5.97	5.84	
212*		3.14	3.57	2.72	-0.85	5.43	4.70	
Mean		2.92	2.96	2.89	-0.07			

*NPK $\frac{1}{2}$ ploughed in, $\frac{1}{2}$ in seedbed.

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Dung: tons per acre	Organic manure applied 1942-61	Mean	Fertiliser		Diff.
			None	N ₁ P ₁ K ₁	
<u>Globe beet. 2nd sowing. Total produce: tons per acre</u>					
10	D1	3.60	1.56	5.64	+4.08
20	D2	6.72	4.84	8.59	+3.75
10	C1	4.91	2.11	7.71	+5.60
20	C2	7.04	5.68	8.39	+2.71
Mean		5.57	3.55	7.58	+4.03

NPK	
111	2.79
111*	3.12
211	3.07
211*	2.06
112	4.32
112*	1.21
212	8.49
212*	1.71
Mean	3.35

*NPK $\frac{1}{2}$ ploughed in, $\frac{1}{2}$ in seedbed.