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Yields of the Field Experiments 1948

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48/CD/1 Potatoes - Organics

Rothamsted Research

Rothamsted Research (1949) *48/CD/1 Potatoes - Organics* ; Yields Of The Field Experiments 1948, pp 77 - 79

48/Ca/1.1

POTATOES.

Effects of various dungs, of additional straw to dung, of rotted bracken, and of sulphate of ammonia and muriate of potash.

RP - Sawyers II, 1948

System of replication: 5 x 5 lattice square in 3 replicates, plots split into two for application of nitrogen and potash, the interaction of these being confounded with whole plots.

Area of each sub-plot 0.0126 acre.

Treatments:

Of the 25 whole plots in each replicate, 3 received no organic manures, and the remaining 22 were treated with the following organic manures, applied at two rates: rotted bracken (B) and ten dungs: from bullock boxes:- fresh, made with normal and heavy litter (W and X), and stored (12 months under cover) made with normal and heavy litter (R and S): from straw bale yards:- fresh made with normal and heavy litter (Y and Z), stored (12 months in open) made with normal and heavy litter (A and K) and stored (12 months in open) low ration, and low ration plus sulphate of ammonia to straw (T and V).

Rates of application: The rotted bracken (B) and the fresh normal dung from boxes (W) at 8 and 16 tons per acre, dungs X, Y, Z, R, S, A and K at weights produced by the same quantity of feeding stuffs as 8 and 16 tons of fresh normal dung from boxes, and dungs T and V at the same rates as Z.

48/Ca/1.2

		Actual rates of application		Litter Straw
		Tons per acre		lbs/head/day
		Level 1	Level 2	
Dungs	W	8.00	16.00	10.6
	X	6.90	13.81	20.3
	Y	8.74	17.49	10.4
	Z	8.21	16.42	20.9
	R	2.65	5.31	9.1
	S	2.74	5.49	18.3
	A	3.04	6.09	9.3
	K	3.66	7.33	17.3
	T and V	3.66	7.33	16.2

Sulphate of ammonia: None, 0.6 cwt N per acre
 Muriate of potash: None, 1.0 cwt K₂O per acre

Basal Manuring: 3.75 cwt. Superphosphate per acre

Cultivations, etc: Ploughed: during Jan. Cultivated: Mar.16
 Harrowed: Mar. 25. Ridged: Apr.23-24. Superphosphate
 drilled, sulphate of ammonia and muriate of potash applied
 Apr.26. Organics applied: Apr.29-30. Potatoes planted
 and covered in: Apr. 30-May 1. Rolled down ridges: May 6
 Harrowed: May 25. Grubbed: June 15. Weeded and earthed
 up: July 2-3. Sprayed with "Perinox": Aug.10. Sprayed
 to kill off haulm: Sept.15. Lifted: Oct.1-4. Variety:
 Majestic (Scotch A). Previous crop: Barley.

Standard errors per plot:

Total tubers, per whole plot, 0.661 tons per acre or 5.28%
 (24 d.f.)
 per sub-plot, 0.983 tons per acre or 7.84%
 (29 d.f.)

Total tubers: tons per acre

Organic Manure	Mean Yield		Response to N		Response to K		Mean Yield	Response to N		Averaging over two levels of organic matter
	1	2	1	2	1	2		N	K	
	Level		N		K			Response		
None										
							(±0.438)		(±0.851)	(±0.602)
Fresh (boxes) normal litter	10.44	12.85	-0.21	3.81	10.44	12.85	(1)	0.21	3.81	(2)
Fresh (boxes) heavy litter	12.16	13.05	0.04	1.73	12.16	13.05	(1)	0.72	0.82	(2)
Fresh (yards) normal litter	12.44	12.55	1.42	0.96	12.44	12.55	(1)	1.96	1.31	(2)
Fresh (yards) heavy litter	12.03	12.50	-0.02	0.56	12.03	12.50	(1)	0.56	-0.11	(2)
Stored (boxes) normal litter	11.94	13.43	0.65	0.08	11.94	13.43	(1)	0.65	-0.20	(2)
Stored (boxes) heavy litter	12.99	13.50	1.52	0.44	12.99	13.50	(1)	1.85	0.14	(2)
Stored (yards) normal litter	13.08	12.81	0.34	0.60	13.08	12.81	(1)	0.96	0.21	(2)
Stored (yards) heavy litter	12.06	13.25	1.07	0.46	12.06	13.25	(1)	1.54	1.07	(2)
Stored (yards) low feeding	13.41	13.51	0.75	0.52	13.41	13.51	(1)	1.02	0.76	(2)
As above with Sulphate of Ammonia	12.39	13.15	0.27	0.20	12.39	13.15	(1)	1.68	0.65	(2)
Hotbed bracken	13.17	12.61	1.04	0.11	13.17	12.61	(1)	1.77	0.59	(2)
			0.84	0.31				0.37	0.22	

Standard errors (1) ±0.253 (2) ±0.466

48/ca/ 1.3