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72/W/CS/89 Dazomet and Organic Matter - Potatoes

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72/W/CS/89

DAZOMET AND ORGANIC MATTER

Object: To study the effects and interactions of organic matter, inorganic fertilisers and dazomet on yield of potatoes and incidence of *Heterodera rostochiensis* - Woburn Long Mead.

Sponsor: A.G. Whitehead.

The first year, potatoes.

Design: 3 randomised blocks of 8 plots.

Whole plot dimensions: 2.84 x 6.10. Area harvested: 0.00087.

Treatments: All combinations of:-

1. Organic manures and fertilisers (T):
 - None (O)
 - Farmyard manure, 63.3 tonnes (12.6 tonnes D.M.) (D)
 - Peat, 36.2 tonnes (12.6 tonnes D.M.) + PK equivalent to that in farmyard manure (172 kg P2O5, 433 kg K2O) (P)
 - Fertiliser, PK equivalent to that in farmyard manure (172 kg P2O5, 433 kg K2O) (F)
2. Dazomet: 0, 340 kg. (DZ)

NOTE: It was intended to apply nitrogen, equivalent to that in farmyard manure to treatments (P) and (F). This application was omitted.

Basal applications: 1510 kg (13:13:20). Weedkiller: Chlorbromuron at 1.7 kg with paraquat at 0.24 kg ion in 370 l. Fungicide: Mancozeb at 1.3 kg in 430 l. Fungicide with insecticide: Mancozeb at 1.3 kg with demeton-s-methyl at 0.25 kg in 430 l.

Variety: Pentland Crown.

Cultivations, etc.: PK applied: 6 Oct, 1971. FYM, Peat applied, ploughed: 7-8 Oct. Dazomet applied, all plots rotary cultivated: 8 Dec. Ploughed: 29 Feb, 1972. Basal NPK applied: 30 Mar. Rotary cultivated, potatoes planted: 6 Apr. Weedkiller applied: 8 May. Fungicide applied: 5 July. Fungicide with insecticide applied: 26 July. Haulm mechanically destroyed: 14 Sept. Lifted: 22 Sept. Previous crops: Potatoes 1970 and 1971.

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NOTE: Soil samples were taken in November 1971, before dazomet applied, and after lifting in September for cyst and egg counts of *Heterodera rostochiensis*.

Standard error per plot.

Total tubers, tonnes/hectare: 3.05 or 10.6% (14 d.f.)

	0	1	2	3	4
(a)	0	0.8	1.6	2.4	3.2
(b)	0	0.8	1.6	2.4	3.2
(c)	0	0.8	1.6	2.4	3.2
(d)	0	0.8	1.6	2.4	3.2
(e)	0	0.8	1.6	2.4	3.2
(f)	0	0.8	1.6	2.4	3.2
(g)	0	0.8	1.6	2.4	3.2
(h)	0	0.8	1.6	2.4	3.2
(i)	0	0.8	1.6	2.4	3.2
(j)	0	0.8	1.6	2.4	3.2
(k)	0	0.8	1.6	2.4	3.2
(l)	0	0.8	1.6	2.4	3.2
(m)	0	0.8	1.6	2.4	3.2
(n)	0	0.8	1.6	2.4	3.2
(o)	0	0.8	1.6	2.4	3.2
(p)	0	0.8	1.6	2.4	3.2
(q)	0	0.8	1.6	2.4	3.2
(r)	0	0.8	1.6	2.4	3.2
(s)	0	0.8	1.6	2.4	3.2
(t)	0	0.8	1.6	2.4	3.2
(u)	0	0.8	1.6	2.4	3.2
(v)	0	0.8	1.6	2.4	3.2
(w)	0	0.8	1.6	2.4	3.2
(x)	0	0.8	1.6	2.4	3.2
(y)	0	0.8	1.6	2.4	3.2
(z)	0	0.8	1.6	2.4	3.2

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TABLES OF MEANS

T

	O	D	P	F	Mean
TOTAL TUBERS: TONNES/HECTARE					
DAZOMET: KG/HA					
0	18.3	21.4	19.4	20.6	19.9
340	37.1	36.7	36.5	40.4	37.7
Mean	27.7	29.0	28.0	30.5	28.8

STANDARD ERRORS OF DIFFERENCES

DAZOMET	T	DAZOMET T
1.24	1.76	2.49

PERCENTAGE WARE 3.81 CM (1.5 INCH) RIDDLE

DAZOMET: KG/HA					
0	85.3	92.3	87.9	90.3	88.9
340	94.1	94.8	94.7	95.6	94.8
Mean	89.7	93.5	91.3	92.9	91.9