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73/W/CS/89 - Dazomet & Organic Matter - Potatoes

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73/W/CS/89

DAZOMET AND ORGANIC MATTER

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

Sponsor: A.G. Whitehead.

The second year, potatoes.

For previous year see 72/W/CS/89(t).

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 applied in 1972 (in presence of 1510 kg (13:13:20) in 1973) | MANURE |
| None | None |
| Farmyard manure, 63.3 tonnes | FYM |
| Peat, 36.2 tonnes (12.6 tonnes D.M.) + PK equivalent to that in farmyard manure (172 kg P2O5, 433 kg K2O) | Peat+PK |
| Fertiliser, PK equivalent to that in farmyard manure | PK |
| 2. Dazomet (applied cumulatively 1972 and 1973) kg | DAZOMET |
| 0 | 0 |
| 336 | 336 |

Basal applications: Manures: (13:13:20) at 1510 kg. Weedkiller: Linuron at 1.7 kg plus paraquat at 0.56 kg ion in 280 l. Fungicide with insecticide: Mancozeb at 1.3 kg plus demeton-s-methyl at 0.25 kg in 390 l. Fungicide: Mancozeb at 1.3 kg in 390 l on the first occasion and in 370 l on the second occasion.

Variety: Pentland Crown.

73/W/CS/89

Cultivations, etc.:- Ploughed: 8 Nov, 1972. Dazomet applied, all plots rotary cultivated: 28 Feb, 1973. Basal NPK applied: 28 Mar. Rotary cultivated, potatoes planted: 5 Apr. Weedkiller applied: 9 May. Grubbed: 1 June. Fungicide with insecticide applied: 4 July. Fungicide applied: 25 July, 13 Aug. Haulm mechanically destroyed: 21 Aug. Lifted: 5 Sept.

- NOTES: 1. Soil samples were taken in autumn 1972 and after harvest 1973 for cyst and egg counts of *Heterodera rostochiensis*.
 2. The yields of the DAZOMET 0 plots were extremely poor because of severe infestation by potato cyst nematodes and weeds. Separate analyses were made for DAZOMET 0 and DAZOMET 336 plots and standard errors are presented for the latter only.

Standard error per plot. DAZOMET 336 only:
 Ware tubers, over 3.81 cm (1.5 inch)riddle: tonnes/hectare:
 3.20 or 10.2 % (6 d.f.)

TABLES OF MEANS

WARE TUBERS OVER 3.81 CM (1.5 INCH) RIDDLE: TONNES/HECTARE

| | MANURE | | | | Mean |
|---------|--------|------|---------|------|------|
| | None | FYM | Peat+PK | PK | |
| DAZOMET | | | | | |
| 0 | 0.3 | 0.3 | 0.2 | 0.4 | 0.3 |
| 336 | 35.7 | 29.5 | 31.7 | 28.1 | 31.3 |

STANDARD ERROR OF DIFFERENCES DAZOMET 336 only

MANURE

2.61