

Sutton's Best of All tomato-seed at the rate of $\frac{1}{14}$ oz. per box. The seed gave a germination test of 99 per cent. in ten days. Results are given in Table I:—

Table I.—Results of Experiment I: Seed sown in Untreated Soil inoculated with *Pythium ultimum*.

| Seed Dust employed. | Number of Plants emerged. | Percentage of Plants damped-off. | | Average Percentage of Plants damped-off. | Remarks on Germination. |
|------------------------------|---------------------------|----------------------------------|----------------|--|-------------------------|
| | | Pre-emergent. | Post-emergent. | | |
| Untreated seed .. | Box A = 258 | 44 | 28 | } 76 | .. |
| | Box B = 198 | 58 | 22 | | |
| Monohydrated copper sulphate | Box A = 440 | 6 | 9 | } 20 | .. |
| | Box B = 402 | 14 | 11 | | |
| "Ceresan" .. | Box A = 454 | 3 | 13 | } 21 | Slight delay. |
| | Box B = 449 | 4 | 9 | | |
| Copper carbonate .. | Box A = 463 | 1 | 12 | } 23 | Slight delay. |
| | Box B = 408 | 12 | 20 | | |
| Copper oxychloride | Box A = 407 | 13 | 15 | } 24 | .. |
| | Box B = 441 | 5 | 15 | | |
| Red copper oxide .. | Box A = 405 | 13 | 9 | } 18 | .. |
| | Box B = 428 | 8 | 5 | | |
| *Steam-disinfected soil | Box A = 469 | 0 | 0 | } 0 | Slight delay. |
| | Box B = 463 | 0 | 0 | | |

* Untreated seed was sown in steam-disinfected soil, the average germination per box being taken as representing complete germination and used as a basis on which to calculate the percentage of damping-off occurring in the seed-dust treatments. The same method of calculation was used in Experiments II, III, and IV.

EXPERIMENTS II, III, AND IV.

In these were used the seed dusts "Ceresan," "Agrosan G.," copper carbonate, and "R.D. 7312." The soil was inoculated on the 6th July, 1936, and sown on the 29th July with Sutton's Best of All tomato-seed, which gave a laboratory germination test of 99 per cent. in ten days. The seed was sown at the rate of 500 per box.

In experiment II seed was sown in steam-disinfected soil which had been subsequently inoculated with the damping-off fungus. Soil used in experiment III was untreated and inoculated with *P. ultimum*. Soil for experiment IV was untreated and uninoculated. Results are given in Tables II, III, and IV:—

Table II.—Results of Experiment II: Seed sown in Steam-disinfected Soil inoculated with *Pythium ultimum*.

| Seed Dust employed. | Number of Plants emerged. | Percentage of Plants damped-off. | | Average Percentage of Plants damped-off. | Remarks on Germination. |
|---------------------------------------|---------------------------|----------------------------------|----------------|--|-------------------------|
| | | Pre-emergent. | Post-emergent. | | |
| Untreated seed .. | Box A = 83 | 83 | 11 | } 94 | .. |
| | Box B = 64 | 87 | 7 | | |
| "Ceresan" .. | Box A = 318 | 36 | 14 | } 51 | .. |
| | Box B = 326 | 34 | 17 | | |
| Copper carbonate .. | Box A = 413 | 17 | 25 | } 39 | Slight delay. |
| | Box B = 442 | 11 | 24 | | |
| "R.D. 7312" .. | Box A = 385 | 22 | 8 | } 31 | Much delay. |
| | Box B = 367 | 26 | 6 | | |
| Steam-disinfected soil not inoculated | Box A = 500 | 0 | 0 | } 0 | .. |
| | Box B = 492 | 0 | 0 | | |