

artificially infected in the glasshouse. The aphides, after being allowed to feed on mosaic-infected plants for at least seven days, were transferred to healthy plants, which were then enclosed in muslin cages in the manner described in a previous article (Chamberlain, 1935). After the aphides had been allowed to feed on the plants for seven to ten days the cages were removed and the plants fumigated. Control plants were treated in a similar manner, except that no aphides were transferred to them.

Results.—The results of the experiments on insect transmission are given in Table II.

Table II.—*Insect Transmission of Turnip-mosaic.*

Date of Inoculation.	Source of Inoculum.	Species inoculated.	Aphis Species.	Number of Insects transferred.	Number of Plants inoculated.	Number of Plants infected.
13/10/33 ..	Swede ..	Swede ..	<i>B. brassicae</i>	36	10	7
10/1/34 ..	" ..	" ..	" ..	20	5	3
17/7/36 ..	" ..	" ..	" ..	20	8	8
10/1/34 ..	" ..	Turnip ..	" ..	20	5	2
8/3/35 ..	" ..	Swede ..	<i>M. persicae</i> ..	10	8	8
12/5/36 ..	" ..	" ..	" ..	15	10	5
12/5/36 ..	Brussel's sprouts	" ..	" ..	20	10	7
12/5/36 ..	Cabbage ..	" ..	" ..	15	10	4
12/5/36 ..	Broccoli ..	" ..	" ..	12	10	2
12/5/36 ..	Cauliflower	" ..	" ..	20	10	6

Control plants equal in number to those inoculated all remained healthy.

These results show that turnip-mosaic is readily transmitted by both *B. brassicae* and *M. persicae*.

Seed Transmission.—Field trials carried out by Clayton (1930) with seed from mosaic-infected swede-plants indicated that the disease was not seed-carried.

The following results, although the experiment was not sufficiently large for conclusive proof, support those of Clayton's, for of 432 plants grown from seed of infected plants none developed mosaic.

Experimental Method.—Mosaic-infected swede stecklings were collected from the field and seeded in the glasshouse. Seed from these plants was sown in steam-disinfected soil and the seedlings pricked out into 4 in. pots. These were kept in an insect-free glasshouse until they had developed to the six-to-eight-leaf stage.

HOST RANGE.

The following cruciferous plants have been recorded as hosts of turnip-mosaic: Turnips (*Brassica rapa*), Chinese cabbage [Pe-tsai (*B. cernua*)], Pot-herb mustard (*B. japonica*)—(Schultz, 1921); swedes (*B. napobrassica*), charlock (*Sinapis arvensis*), *Raphanus* sp.—(Gram, 1925); Chinese cabbage [Pak-choi (*B. napus* var. *chinensis*)], white mustard (*S. alba*), black mustard (*B. nigra*), rape (*B. napus* var. *typica*), Brussel's sprouts (*B. oleracea* var. *bullata*), cauliflower (*B. oleracea* var. *botrytis*)—(Clayton, 1930); kale (*B. oleracea* var. *acephala*)—(Smith, 1935).

In New Zealand the disease has been found only on swedes, turnips, and rape. In order to determine whether other cruciferous plants were