

RESEARCH NOTES

PRESENCE OF TOMATO AUCUBA-MOSAIC VIRUS IN PUERTO RICO

Tobacco-mosaic virus (*Marmor tabaci* var. *vulgare*, Holmes) occurs quite frequently on tomatoes in Puerto Rico, causing what is generally known as common tomato mosaic.

While making a routine inspection of a tomato-breeding plot at the Main Station farm, our attention was called to a disease widely disseminated throughout the field which appeared to be quite similar to common tomato mosaic, except that the light areas in the mottled leaves were larger and intensified in color. In severe cases the whole leaf surface was pale-yellow with small dark-green, raised or blisterlike patches scattered in the lighter areas.

The possibility that the mosaic observed was not caused by the tobacco-mosaic virus, but by the strain of this virus known as the *aucuba* strain was taken into consideration. Although the two viruses produce very similar symptoms on a number of plants, they can be distinguished by their reaction on two differential hosts, *Nicotiana silvestris* and *N. tabacum*.

On *N. silvestris* the type-virus produces faint chlorotic spots on the inoculated leaves followed by systemic invasion of the plant and mottling of the other leaves. The *aucuba*-mosaic virus produces necrotic lesions on the inoculated leaf without further spread of the virus. On *N. tabacum* both viruses produce the same symptoms as on *N. silvestris*.

In order to determine whether the mosaic affecting our tomatoes was caused by either the *aucuba*-mosaic or the common tomato-mosaic viruses, leaves from affected tomato plants were brought to the laboratory, ground, and inoculated with the use of carborundum on *N. silvestris*, *N. tabacum* var. Virginia, and *Lycopersicon esculentum* var. Marglobe.

The symptoms produced on the Marglobe tomato were the same as observed in the field-infected tomatoes. On *N. silvestris* and *N. tabacum* the reaction was typical of the *aucuba* strain of the tobacco-mosaic virus.

The presence of the tomato *aucuba*-mosaic virus strain and its immunological identity with the type-virus were further confirmed by carrying out cross-immunity tests on *N. silvestris* which, as Kunkel¹ has shown, demonstrate that the *aucuba* virus present on the tomatoes under study is a strain of the common tobacco-mosaic virus and not a different entity.

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¹ Kunkel, L. O., Studies on acquired immunity with tobacco and *aucuba* mosaic, *Phytopath* 24 437-66, 1934.