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Abstracts of contributed papers

Analysis of acid-extractable tomato leaf proteins after infection with a viroid, two viruses and a fungus

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Gel electrophoretic analysis revealed marked alterations in the pattern of acid-extractable proteins from tomato leaves after infection with a viroid (potato spindle tuber viroid), two viruses (tobacco mosaic virus, TMV, and cucumber mosaic virus, CMV), and a fungus *(Cladosporium fulvum)* when compared with the pattern from healthy leaves.

A pathogen-specific appearance of new protein bands was only found after infection with TMV (MW 17 400 and 65 000), CMV (MW 9 000 and 8 000) and *Cladosporium fulvum* (MW 28 000). With the exception of the TMV coat protein (MW 17 400) it could not be established whether the proteins are coded for by the corresponding pathogen or by the host. Nine proteins with the apparent MW of 10 000, 11 000, 12 000, 13 000, 14,000, 25 000, 31 000, 33 000 and 38 000 showed an increase in their relative concentration which is most dramatic in the case of the protein called p14 because of its MW of 14 000. A decrease was observed in four proteins with molecular weights of 14 500, 23 000, 30 000 and 105 000. Since all these alterations could be correlated with the severity of the disease symptoms but not with the nature of the pathogen they must be considered as a general pathophysiological response of the tomato plant to infection and symptom development.

Occurrence of new soluble leaf proteins in tobacco after infection with alfalfa mosaic virus

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Up to now there is little evidence that changes in the soluble protein patterns of plants upon infection could have any effect on the recovery phenomenon. This possibility was investigated by analyzing the soluble protein fraction from leaves of *Nicotiana tabacum* L. cv. Xanthi-nc after infection with alfalfa mosaic virus.

Proteins were extracted using 0.1 M Tris-HCl buffer, pH 8.0, which in addition contained ascorbate, cysteine-HCl, and insoluble polyvinylpyrrolidone. The protein patterns were examined by polyacrylamide gel electrophoresis in the presence of SDS (1).

Differences were only recognized in low-molecular-weight proteins. Two days after inoculation an increase in two pre-existing proteins occurred in the inoculated leaves. From the third up to the seventh day two novel proteins appeared with estimated