

phenoloxidases. They produced a significant increase in browning of slices without affecting PHY accumulation. F) Oxyradicals scavengers enzymes SOD and CAT slightly reduced the browning and only after 1 day of incubation. G) Phenylthiourea, a strong irreversible inhibitor of phenoloxidases, fully inhibited browning at 20 µg/slice without affecting PHY accumulation.

This clearly indicates that the metabolic events leading to PHY accumulation and to browning process are not necessarily interdependent.

### BROMINATED METABOLITES OF *PSEUDOMONAS SYRINGAE* PV. *SYRINGAE*

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The B-350 syringomycin and the B-427 syringotoxin producing strains of *Pseudomonas syringae* pv. *syringae* have been grown in the SMR-C chemically defined medium of Surico, Lavermicocca and Iacobellis (Phytopath. Medit., 27, 163-168, 1988), in which histidine chloride has been replaced by histidine base and calcium chloride by calcium nitrate. On addition of sodium bromide to the above medium some new substances were formed (HPLC), in particular, with strain B-350 the halogen-free syringomycin-E, and the bromine containing syringomycin-E and -G, and with strain B-427 the halogen-free syringotoxin and its bromine derivative (FAB-MS). In the absence of halogenides the amount of halogen-free metabolites was further increased while the halogenated derivatives were not detectable.

Data concerning the chemical characterization and the biological activity of the above metabolites will be reported.

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### PRELIMINARY RESULTS ON THE PRESENCE OF SYRINGOMYCIN-LIKE SUBSTANCES IN BEAN TISSUES INFECTED BY *PSEUDOMONAS SYRINGAE* PV. *SYRINGAE*

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Syringomycin (SR), a phytotoxin whose structure has recently been elucidated, has been reported to contribute significantly to the virulence of the different ecotypes of *Pseudomonas syringae* pv. *syringae*. Although its presence in the diseased and