

## CASSAVA KILLER TYLOSES : A LETHAL WEAPON.

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Tylose in xylem vessels results from an outgrowth of parenchyma cells through a pit cavity. In Cassava, tyloses occurred as a defense response to Xanthomonas campestris pv. manihotis (XCM) in susceptible and resistant cultivars. However, variations in morphological aspects of tyloses were only observed in the infected xylem of resistant plants, gradually ranging from normal globular tyloses to those showing a digit-like aspect. Such variations were associated with an increase of electron opacity of the cytoplasm. Also, electron-dense compounds were seen to be localized within the paramural space and the wall of the digit-like tyloses, and close to them in the vessel lumen. Bacteria cells located in the vicinity of these digit-like tyloses and close to these electron-dense compounds appeared to be collapsed.

These ultrastructural and cytochemical observations suggest that digit-like tyloses act as killer structures which secrete toxic molecules that may contribute to limit the pathogen progression in the resistant plant.

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