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ROLE OF L-ASCORBIC ACID IN THE DEVELOPMENT OF LATENT INFECTIONS IN UNRIPE MANGOES BY *GLOEOSPORIUM MANGIFERAE*

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Gloeosporium mangiferae develops latent infections in immature mangoes and progressive anthracnose rotting takes place only when the fruit starts ripening[2]. In an attempt to explain the resistance of unripe fruit to this fungus, we earlier reported the occurrence of two antifungal compounds in the fruit tissue[2].

Further studies showed that the unripe mango fruit peel and the pulp contain three preformed antifungal components, one of which was chemically separated by column chromatography (Kieselgel 60, PF 254, merck and identified as L-ascorbic acid using an authentic sample. A solution of 1% L-ascorbic acid completely inhibited the germination of conidia of Gloeosporium mangiferae. Extraction of tissue with metaphosphoric acid followed by titrimetric assay using 2,6-dichlorophenol indophenol[1] revealed that the L-ascorbic acid was more concentrated in the peel than in the flesh and the amount in both declined during ripening. This decline was found to be much faster in the fruit inoculated with Gloeosporium mangiferae. The fate of L-ascorbic acid during the disease development was studied.

The ascorbic acid content was determined in two mango varieties showing differential anthracnose development. The amount of L-ascorbic acid was significantly higher in the more resistant variety.

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References

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