VIRUSES IN CHILLI AFFECTED BY A DISORDER IN THE DRY ZONE

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Sap transmissible viruses were isolated from chilli samples from Maha Illuppallama, Polonnaruwa, Hettipola and Bulnewa affected by the disorder occurring in the dry zone characterised by pronounced leaf abnormalities.

Two types of particles were found in these isolates, spheres c. 30 nm of the cucumovirus types and flexuous filaments of the potyvirus type.

Isolates with spherical particles had a similar host range infecting numerous solanaceous hosts including several Nicotiana species. They induced local lesions in species of Chenopodium and chocolate brown spots in Vigna unguiculata cv. Black Eye, this characteristic reaction identifying them as cucumber mosaic virus (CMV).

The isolates with filamentous particles differed sharply in their host range suggesting the presence of two distinct viruses. One of them induced stunting and systemic leaf symptoms of blister mottle and leaf reduction in Physalis floridana, systemic leaf symptoms of yellow green mottling, wrinkling, curling, leaf size reduction and the development of filiform leaves in Nicandra physaloides, and conspicuous foliar symptoms in several species of Nicotiana including N. tabacum cvs White Burley, Xanthi, Samsun, Bright Yellow and Turkish, N. occidentalis, N. debneyi and N. benthamiana. The other failed to infect any of these hosts except N. tabacum cv. White Burley. Their possible identity as strains of potato virus Y, potato virus A, tobacco etch virus or pepper veinal mottle virus is being pursued.

All isolates infected several chilli and kochchi cultivars causing leaf symptoms of mottling, curling, buckling and distortion, mild reactions being observed in the chilli cultivars MI 1 and MI 2 and severe reactions in the sensitive kochchi cultivar Sudu Kochchi (S 287). However, none of these cultivars developed the syndrome characteristic of the dry zone chilli disorder indicating that these viruses are not its cause.