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Cowpea Aphid-Borne Mosaic Virus does not seem to be transmitted by Hand Pollination of Passion Flower

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To maximize pollination, which has direct effect on the increase of fruit yield, Brazilian passionfruit producers adopt artificial hand pollination in the orchards. This is done with the tips of the fingers, transferring pollen among flowers. Passionflower orchards are severely affected by the potyvirus *Cowpea aphid-borne mosaic virus* (CABMV), which is naturally transmitted by aphids. As this virus is easily and efficiently transmitted mechanically, the question arises whether there is a possibility of being transmitted through small wounds that can be produced in the flowers during hand pollination. Therefore, the aim of this work was to evaluate the transmission of CABMV by means of hand pollinating flowers of cultivar FB-200 and mechanically transmit the virus to passion fruit test-plants with extracts of anther and pollen collected from flowers of infected plants. Infection was assessed by means of symptoms and virus detection by PTA-ELISA and RT-PCR. Flowers of eight healthy plants, grown in a greenhouse, were pollinated for 60 days with pollen from CABMV-infected flowers. Two hundred and one flowers were pollinated, 68 fruits were obtained, and no plants were infected with the potyvirus. Extracts from CABMV-infected anthers and pollen, separately inoculated mechanically on 35 passionfruit test-plants resulted in infection of three and zero plants, respectively. Studies are under way to detect CABMV in anther and pollen samples by RT-PCR and RT-qPCR. In conclusion, CABMV hand pollination does not appear to be efficient for CABMV transmission in passionflower orchards.

Biography:

David Marques de Almeida Spadotti was Bachelor's degree in Agronomy, UNESP (2010). Master's degree in Plant Pathology, USP (2012), working on biological, molecular and serological studies of *Zucchini yellow mosaic virus*. PhD in Plant Protection, UNESP (2016) focusing on tospovirus plant diseases. Currently as postdoctoral fellow at USP, working in the management of viruses of passion flower.