Postersektion 7

Biologie der Schadorganismen – Virologie / Bakteriologie

147 - Latenz in Tobamoviren

Latency in tobamoviruses

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The genus *Tobamoviruses* comprises rod shaped, positive sense RNA viruses belonging to the family *Virgaviridae* and contain 37 species (ICTV 2019). The natural host range of tobamoviruses includes plants belonging to *Cucurbitaceae, Brassicacaeae, Solanaceae, Malvaceae, Fabaceae, Apocynaceae, Orchidaceae, Passifloraceae* and *Cactaceae* (Gaur et al. 2018). The disease symptoms can vary depending on the host plant, virus species, and environmental conditions. Economically important members of this genus include tobacco mosaic virus (TMV), tomato mosaic virus (ToMV), tomato brown rugose fruits virus (ToBRFV) and cucumber green mottle mosaic virus (CGMMV). Tobamovirus infection is generally associated with severe symptoms such as chlorosis, mosaic patterns and leaf distortion, stunting, systemic necrosis, disturbing and often terminating plant growth. Infection on fruits causes reduction in size and number, uneven ripening, corky or necrotic rings and internal necrosis, damaging product quality and leading to serious economic losses. Application of good hygiene is essential to prevent tobamovirus dissemination by mechanical transmission during plant cultivation, harvesting and processing. Furthermore, virus spread via infected seeds and pollinators has been reported (Aviv Dombrovsky and Elisheva Smith 2017; P Caciagli 2008).

While the above-mentioned tobamoviruses are easily spotted, there are some members of the same genus, which are latent. Latency is defined as the phenomenon when a virus is able to replicate and move systemically within a host without causing symptoms (Takahashi et al. 2019). Examples of latent tobamoviruses include Hibiscus latent Fort-Pierce virus (Adkins et al. 2006), Hibiscus latent Singapore virus, tobacco latent virus (Ladipo et al. 2003), Brugmansia latent virus (Scott-Brown et al. 2020) and Hoya tobamovirus-2 (Gaafar et al. 2020). It is still unknown whether the host tolerates these viruses because they can somehow escape the defense system or whether they are actually in a beneficial relationship with the host (Chofong et al. 2021). Therefore, it is seminal to study the mechanism of latency in more detail. Latent tobamoviruses may be useful tools for plant protection strategies based on cross protection or RNA interference.

148 - Soil-borne wheat mosaic virus Movement Protein: Untersuchungen zu der Lokalisation und den Interaktionen

Soil-borne wheat mosaic virus movement protein: investigating the localizations and interactions

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Bodenbürtige Getreideviren führen zur substantiellen Ernteverlusten und stellen daher eine ernstzunehmende Gefahr für die Landwirtschaft in Europa, Asien und Amerika dar. Soil-borne wheat mosaic virus (SBWMV) gehört zu den Furoviren und infiziert unteranderem Weizen, Gerste oder Reis. Das Virus wird von dem obligat vorkommenden Wurzelparasiten *Polymyxa*