



The Aphid: A Virus Vector

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Due to their rapid development and explosive rate of reproduction, aphids rank among the most important crop plant pests. They extract phloem sap from host plants and excrete the excess in the form of honeydew. In addition, many aphid species damage their hosts by transmitting viruses: aphids are virus vectors. Yield losses due to viral diseases are often more serious than the direct damage due to sap extraction.

The most important vector of plant viruses worldwide is the green peach aphid, *Myzus persicae*. When it leaves its winter host, the peach tree, it colonizes numerous crop plants, e.g., beets, potatoes, and vegetables, and infects them with various viruses. Other aphids, such as *Sitobion avenae*, are specific to cereals and transmit the Barley yellow dwarf virus.

In a combination of fascinating macro sequences and 3D animations, this educational film impressively illustrates the life cycle of aphids, their behavior on winter and summer hosts, and their feeding habits. The different behavior patterns during feeding probes and prolonged feeding, which influence the mode of virus transmission (non-persistent, persistent), are presented in clear, lucidly explained video sequences. A paper insert of additional references on the interactions between plant viruses and their aphid vectors during the process of virus transmission is also included.

The Aphid: A Virus Vector addresses a wide audience, including lecturers, students of agronomy, biology, ecology and their related disciplines, as well as governmental and non-governmental advisory bodies, and last but not least, farmers.



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