

Plant Pathology Seminar Series

Venturia inaequalis: The Importance, Epidemiology, and Management of a Destructive Apple Pathogen

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Abstract:

Apple scab, caused by the ascomycete fungus *Venturia inaequalis*, is one of the most common and devastating diseases of apple in temperate regions worldwide. The earliest depictions of apples with scab-like symptoms are found in paintings from the 15th and 16th centuries, but *Spilocaea pomi*, the anamorph of *V. inaequalis* was first documented by Swedish scientist Elias Fries in 1819. Apple scab infection produces lesions on leaves, blossoms and fruit, and can cause fruit drop and defoliation under high disease pressure conditions. Repeated defoliation events due to apple scab infection will increase the host tree's susceptibility to environmental and insect stressors. Trees infected in the previous seasons may also show reduced and late-returning bloom. *V. inaequalis* infection occurs in the early spring when windborne sexual spores (ascospores) are released after rainfall. Lesions resulting from infection by ascospores produce secondary inoculum (conidia), which are transmitted to apple blossoms, fruit, and leaves by wind or rain. Disease management relies primarily on planting of scab-resistant apple and crab apple varieties, and fungicide application. The extensive usage of fungicides to control apple scab has resulted in the evolution of multi-fungicide resistance in *V. inaequalis* populations. The disease symptoms of apple scab, which result in unmarketable fruit and systemic tree damage, in combination with its global distribution and multi-fungicide resistance, solidify it as one of the most economically important diseases of apple.

References:

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