

**Abstract:** Most plant species host one or multiple pathogens. However, studies are mostly focused on simple pathosystems. These studies deal for example with the virulence of the pathogen, plant resistance or influence of the environment on the pathosystem. The occurrence of more pathogens in one plant species is taken into account only in a few studies. Most of those studies focus on the coinfection of multiple pathogens in one individual host, especially in the agriculture, so there is very little information about coexistence of more pathogens in wild plant population. This paper summarizes the general information about plant and pathogen interaction, focuses on environmental effects and finally focuses on occurrence of multiple pathogens on one plant species. From the studies it is clear, that both, abiotic (light, temperature, humidity, etc.) and biotic conditions (pollinators or pests as vectors etc.) have impact on host-pathogen interaction. During co-occurrence of multiple pathogens in one host plant, various interactions between coinfecting pathogens can occur (competition, cooperation, etc.). Resistance of plant to one pathogen can be affected by presence of other pathogens and stress factors. Finally, coinfection may also affect virulence of individual pathogens.

**Key words:** plants, pathogens, population, coinfection, virulence, resistance, biotic and abiotic environment.