Elderberry rust and leaf spot diseases are frequently found in commercial American elderberry plantings throughout the growing season in Missouri. Thus, studies were conducted to ascertain if rust infections affect plant growth, fruiting, or berry puree quality. Rust symptoms were observed in early April at 9 to 18°C, ≤ 3 h leaf wetness, and ≤ 85% relative humidity. When young, potted elderberry plants averaged 3 to 6 rust pustules/plant, vegetative growth was not adversely affected. However, field-grown elderberry plants heavily infected with rust (137 pustules/cane) lost nearly twice as many leaves as controls during the growing season, indicating rust-induced defoliation. Shoot dry weight of these heavily infected canes was also 32% less than that of controls. First and last harvest dates were advanced by the high level of rust infection on ‘Wyldewood’ elderberry canes, but not by low pustules numbers (< 6 pustules/plant) on ‘Bob Gordon’ or ‘Ozark’ plants. Similarly, berry yields were not significantly different at low infection levels, even though rust-infected ‘Bob Gordon’ plants had a 31% reduction in yield with an estimated $440/ha loss of income. Heavily-infected ‘Wyldewood’ canes had a significant loss in berry yield (47%) and potential income ($2,295/ha), assuming a conservative estimate of five canes/plant.

In another study, Colletotrichum was isolated from elderberry leaf spot lesions and identified before subsequent re-inoculation of elderberry plants with this pathogen. Three species of Colletotrichum were putatively identified as being casual agents of leaf spot indicating the diversity of species within this genus on elderberry plants.