PLANT DISEASE REPORT

Penn State Plant Disease Clinic

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Sample: Cyclamen (*Cyclamen persicum*)

Sample Location: Potter County, PA

Fusarium Wilt and Corm Rot of Cyclamen

Caused by the fungus *Fusarium oxysporum f. sp. cyclaminis*, fusarium wilt is one of the most common diseases of cyclamen. This fungus is only known to infect *C. persicum*. The development of disease is highly dependent on inoculum levels and growing conditions.

Leaves turn yellow and wilt, often one by one until the entire plant collapses. The most distinctive symptom is the purple, reddish-brown to black vascular discoloration of the corm. The corm remains firm unless soft rot bacteria invade. A root rot may also occur.

Control of this disease is difficult since there are no resistant cyclamen cultivars and chemical controls alone will not eradicate the problem. The best approach is to plant in sanitized media and monitor the crop frequently. Removing any diseased plant material reduces the chance of spreading the pathogen through water splashing or insects. Spread can also be reduced by controlling greenhouse insects such as fungus gnats.

Fungicides, including Benzimidazoles and Thiophanate-methyl, can provide some control. Adjusting environmental factors such as pH, nitrogen fertilizer source, and chloride nutrition may also help to suppress disease development.

Increasing pH levels of growing media to above 6.0 has been shown to inhibit disease, however some experiments have shown no inhibition when pH is increased. Managing nitrogen fertilizer source can be effective since nitrate nitrogen suppresses disease while ammonium nitrogen enhances it. Some research has also shown that a single application of 0.25-0.5g NaCl per liter of growth media will suppress disease and produce healthier plants. Disease suppression has also been achieved with the use of non-pathogenic *Fusarium* strains as well as other biological controls in combination with fungicide treatments. The most effective controls integrate several methods including using sterile growth media, fungicide applications, and modifying environmental conditions to suppress disease.