BALLTECH ON DEMAND™

LEAF SPOTS ON PANSIES

A few factors can cause leaf spots on pansies, so how do you know what is causing the problem and how to treat for it? Let's dive in and break this pansy leaf spotting issue down into two categories: 1) abiotic, and 2) biotic.

Abiotic Leaf Spotting: For those of you who aren't familiar with growing pansies, know that this is a low-pH-loving crop (optimal pH range is 5.5–6.0). Lots of growers use "pansy feed" fertilizer formulations, which are more acidic and drive the growing media pH down slowly over time; or alternate feeding with general-use, ammonia-based fertilizers to help keep pH low.

However, if fertilizer is mismanaged and the soil pH gets *too* low, dark spots will start to appear on leaves—this is iron (Fe) and manganese (Mn) toxicity. If low pH is not corrected promptly, leaves will become severely discolored, and necrosis will begin swallowing up affected leaves. Heavily affected leaves typically do not recover, so be sure to take the following measures to prevent this issue:

Know your water quality. Get your water tested regularly and build your fertilizer program around the needs of your crops and limitation created by your water quality.

Get in front of the problem. Monitor soil pH regularly and switch to a different fertilizer (acidic or basic) if soil pH begins drifting away from optimum.

Act quickly if pH crashes. If raising pH with a nitrate-based fertilizer is not enough, don't wait to see what happens, and apply a liming agent of some kind.

Biotic Leaf Spotting: Pansies are affected by a variety of diseases, but in this week's tip we're just focusing on foliar leaf spot diseases: Colletotrichum (anthracnose) and *Cercospora*. These pathogens favor moderate to cool temperatures and free moisture on leaves, so cooler nights and rain in the late afternoon/evening is a perfect recipe for an outbreak.

However, a common factor leading to disease that is often overlooked is low nutrition, so be sure to check your soil EC (soluble salt levels) when you are monitoring soil pH. Maintaining soil EC around 1.5 mS/cm (via Pour-Thru method for testing) and below 2.0 mS/cm will ensure your crops are receiving adequate (but not too much) fertilizer and reduce susceptibility to foliar leaf spot diseases. Below are a few key ID traits for these leaf spot diseases and how to manage them if an outbreak occurs:

Colletotrichum. Starts as small grayish/tan spots with black margins under warm, moist conditions. Spots often develop a concentric ring pattern, which can be confused with a viral disease. Lesions grow to infect stems and eventually cause the plant to collapse. Remove heavily infected plants and fallen debris to reduce spread and apply fungicide with mancozeb or thiophanate-methyl + mancozeb ASAP when symptoms first appear.

Cercospora. Purple spots with "fuzzy" margins typically start on lower leaves. If untreated, small purple spots will begin appearing on upper leaves, and older lesions will expand into irregularly shaped tan spots with purple borders. Heavy infection will cause lower leaf chlorosis followed by leaf drop and overall stunting. Remove infected plants and debris ASAP and treat with fungicide. Mancozeb + thiophanate-methyl, myclobutanil, fludioxonil, and chlorothalonil are all effective to control this pathogen.