

Start early with your strongest fungicides to protect onions against *Stemphylium* leaf blight

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Spots and blights on the leaves can get in the way of good onion growth. In Michigan and other eastern production regions, producers wage a yearly battle to protect onions from various foliar diseases. Purple blotch used to be a common disease of onion leaves in the northeast U.S. but *Stemphylium* leaf blight has now become the most formidable opponent for many onion producers. *Stemphylium* leaf blight is caused by a fungal pathogen of the same name (*Stemphylium vesicarium*).

Early symptoms of *Stemphylium* leaf blight can be difficult to diagnose. Tip burn may be associated with herbicide damage but can also be a first symptom of disease. The brown spots of *Stemphylium* leaf blight are small at first but increase in size, extending down the leaf. These elongated lesions can appear similar to symptoms of bacterial stalk and leaf blight. An accurate diagnosis can be obtained by sending plant samples with symptoms to a University diagnostic lab. In healthy onions the oldest onion leaves die first. However, premature leaf death resulting in a mid-season loss of green leaf tissue is typical of *Stemphylium* leaf blight. Without healthy foliage, bulb size is reduced and so is total yield.

Many of the fungicides that were historically used to manage purple blotch do not adequately protect against *Stemphylium* leaf blight. Field research from Michigan State University has shown that the *Stemphylium* leaf blight pathogen is resistant to fungicides classified as strobilurins such as azoxystrobin, picoxystrobin, pyraclostrobin, and trifloxystrobin. On the other hand, Omega SC, Luna Tranquility SC, Miravis Prime SC, Tilt SL, and Luna Experience SC effectively limit *Stemphylium* leaf blight. Our research has also shown that fungicide programs to protect the onion's foliage from *Stemphylium* leaf blight should begin when plants are young (by the 5- to 7-leaf stage) and include highly effective products at the front end of the season to prevent the pathogen from becoming too well established (**Figure 1**). Protecting the onion leaves early in the season helps to ensure that the plants have a fighting chance to reach maturity and achieve their full yield potential.

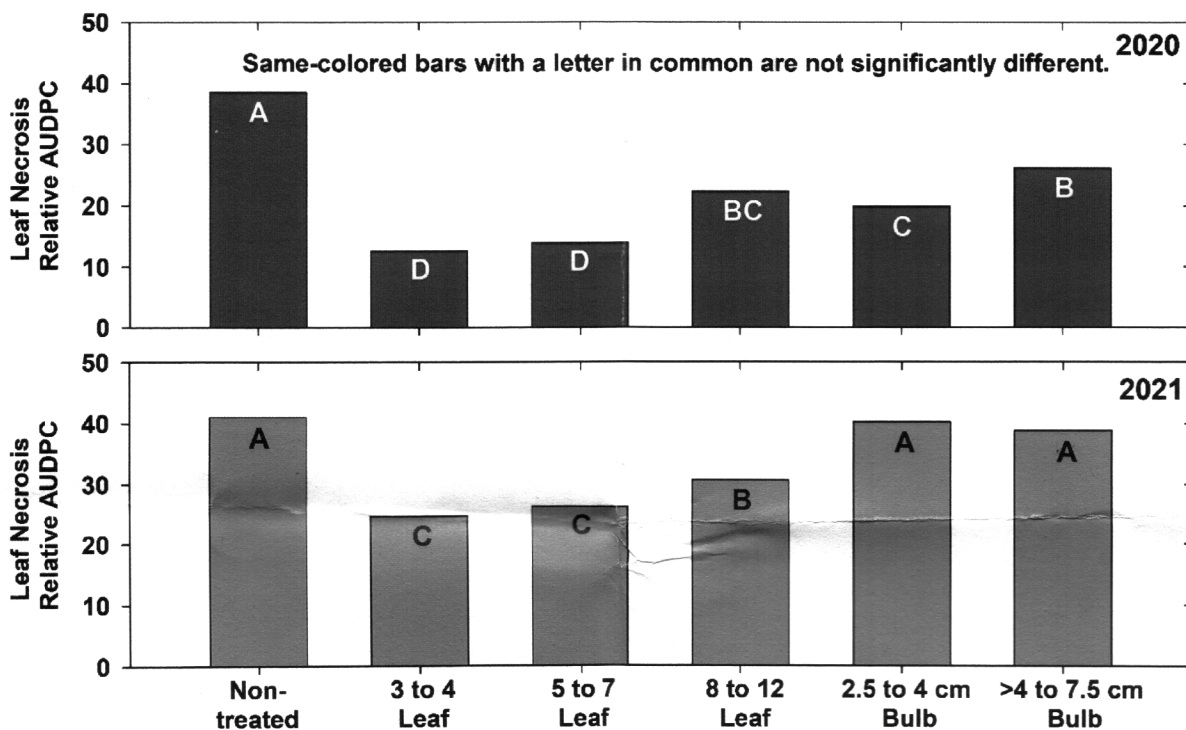


Figure 1. *Stemphylium* leaf blight fungicides applied by onion growth stage in 2020 (top) and 2021 (bottom). Fungicides were initiated according to five growth stages and then applied as part of a rotational program every 7-days. The non-treated plots received no fungicide.