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COOPERATIVE EXTENSION
Yuma Agricultural Center

Vegetable IPM Update – Matheron – Aug 8, 2018

Summer Preplant Soil Flooding to Manage Sclerotinia: Lettuce Drop: Part II.
In my last article, I presented data from research studies showing that a 3-week period of field flooding during the hot summer months of July and August was an effective cultural means of destroying virtually all sclerotia of *Sclerotinia minor* and *S. sclerotiorum* in a field, thus controlling Sclerotinia lettuce drop in future lettuce plantings. This procedure has been used in many fields in the Yuma Valley to manage Sclerotinia lettuce drop. However, some negative effects of the practice have been expressed. One concern is elevation of the water table as a result of this soil flooding procedure, particularly in areas already affected by high ground water. Also, in certain areas of the Yuma Valley, damage to the open drainage system has occurred as a result of erosion of the sides of earthen drains. These concerns led to additional field research at the Yuma Agricultural Center to reexamine and possibly refine the duration of soil wetness required to destroy sclerotia of the Sclerotinia drop pathogens. A brief summary of the results from three additional summer flooding research trials follows: **1)** 1% and 10% of sclerotia of *S. minor* and *S. sclerotiorum*, respectively, survived a 1-week flooding treatment; **2)** no sclerotia of *S. minor* survived a 2- or 3-week continuous flooding period, whereas 1 to 3% of *S. sclerotiorum* sclerotia did survive this treatment; **3)** after flooding soil for one 8-hour period for 1 to 3 weeks or two 8-hour periods for 3 consecutive weeks, from 3 to 7% of *S. minor* sclerotia and from 28 to 39% of *S. sclerotiorum* sclerotia could still germinate. This and earlier research demonstrate that the smaller sclerotia of *S. minor* are more susceptible to summer flooding compared to the larger sclerotia of *S. sclerotiorum*; therefore, a longer duration of flooding is needed for fields heavily infested with *S. sclerotiorum* in contrast to *S. minor*. Short 8-hour flooding periods were inferior to continuous flooding. The choice of duration of continuous flooding will be affected by the species of *Sclerotinia* in the field, the severity of the infestation, and other factors as well. Although summer soil flooding may not be appropriate for all ground planted to lettuce, when feasible, this cultural practice can be an effective component of an integrated disease management program for Sclerotinia lettuce drop.