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Agriculture and Natural Resources
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UCCE

Kern County Vegetable Crops

August 2023

Rainfall alert for tomatoes – August 18, 2023

Faced with the risk of rainfall in the coming days, it is worthwhile to consider making a fungicide application in advance of the rain to reduce the risk of black mold fruit rot (*Alternaria alternata*). Black mold is common in processing tomatoes, but we need to keep disease incidence low. The fruit can be heavily damaged within four to five days following a period of rain and high humidity, significantly impacting fruit quality and paid tons.

With rain, humidity and moderate temperatures, there is also risk of late blight (*Phytophthora infestans*).

Late blight, while not common in California, does occasionally occur and can have devastating consequences in terms of yield loss. In May 2019, heavy rains resulted in severe late blight in early- planted tomato fields. Nearby fields that had been treated with fungicides were not affected.

UC advisor Gene Miyao and others have conducted fungicide trials over many years, looking at many different timings and products. The fungicides have provided consistent benefits but have their limitations as well.

Some things to consider in your decision, with a focus on black mold fruit rot:

- Post rain-fall applications are not nearly as effective as those made in advance of the rain.
- There are many options of fungicides which have efficacy against black mold, including the fungicides in FRAC groups 11, 7 and some of the fungicides in group 3. You may have already used one of these as part of your powdery mildew control program.
- Chlorothalonil (Bravo and other products) remains one of the most effective materials for black mold control. Chlorothalonil is also effective against late blight. Late blight-specific fungicides (FRAC groups 4, 27, 28, 40, 43 and others) are generally more effective than chlorothalonil, but many of these lack activity against black mold. If you want to reduce the risk of both diseases with one product, use either chlorothalonil or a product that includes a group 11 fungicide.
- In the absence of rain, optimum timings are one to two sprays 6 and 4 weeks before anticipated harvest. Additional applications are generally not warranted.
- In deciding which fields to prioritize, focus on fields with non-EFS/-EFH varieties, fields at higher risk due to sunburn damage, and fields which have not had a black mold fungicide applied in the previous two weeks.
- Consult with your PCA regarding rates, treatments, and timings. Discuss materials and timing already used this season in determining the need for additional applications.
- As usual, good coverage is important for fungicide efficacy.
- Always read and follow the label guidelines.

Unfortunately, there are limitations to what fungicides can do. Research has shown even the best materials typically reduce black mold incidence by half (e.g., from 12% to 6% of the fruit affected).
Timely harvest remains a critical factor to reducing the risk of losses to fruit rot. The longer ripe fruit sits in the field, the greater the risk of rot. In addition, fungicides are not likely to stand up against a period of multiple days of rain or high humidity.

Fingers crossed, let's hope that this storm ends up not producing as much rain as forecast.

Late blight in Kern County tomatoes in 2019. Photo by Scott Stoddard

Black mold fruit rot. Photo by Gene Miyao

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