

Insect/Disease Information

VEGETABLES

Blossom End Rot



Blossom-end rot can show up at any stage of a tomato's growth, but is most commonly seen near harvest. Initially, a small water-soaked lesion will show up at the blossom end of the fruit, and will enlarge and darken as the fruit develops. The lesion eventually becomes flattened, black, and leathery.

Blossom-end rot is an abiotic disease associated with a decrease in water and low concentration of calcium in the fruit. Calcium is required for normal cell growth, and if a plant is growing rapidly due to optimal conditions, and then is suddenly deprived of water, the demand for calcium exceeds the supply. The tissues of the fruit at the blossom end will then break down.

Calcium availability can also be affected by excessive soil moisture fluctuations, rapid vegetative growth due to excessive nitrogen fertilization, high soil salinity, or destruction of roots by cultivating the soil too close to the root zone.

Treatment: If you suspect blossom-end rot, be diligent about maintaining adequate and even soil moisture, and mulch soil if necessary. Be careful when cultivating soil, and use a fertilizer low in nitrogen and high in phosphorus (4-12-4 or 5-20-5) to alleviate the problem; foliage can also be sprayed with a calcium chloride solution, until a balanced soil moisture is established. Note that calcium chloride can be phytotoxic if applied too frequently or in excessive amounts.

Sap Beetles in Sweet Corn



If you peel away the husk of your corn and find small white larvae inside the corn kernels, this is most likely the dusky sap beetle. Sap beetles are very attracted to overripe or fermenting fruits and vegetables, or may take advantage of damaged corn to gain entry inside the husk. Adults feed on the kernels, and lay eggs inside the husk. Larvae tunnel in and out of the kernels. Corn that is not overripe or is free from damage is usually not attacked.

Sevin, Lannate (methomyl), or a pyrethroid will all control sap beetles, but only where the insecticide can contact the adult or larva. Direct the spray to the ear zone, covering the tip where sap beetles enter the ear.

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Bacterial Bulb Decay of Onion



Howard F. Schwartz, CSU, bugwood.org

Information from USU Plant Pathologist, Claudia Nischwitz:

The Utah Plant Pest Diagnostic Lab recently received a sample of onions that had started rotting in the field. The disease was identified as *Enterobacter cloacae*, a facultative anaerobic bacterium (meaning it can grow under low oxygen conditions). It is not normally a serious disease to worry about, but the weather this season (a cool wet spring followed by hot dry summer) may have been a contributing factor.

On diseased plants, the inner scales of the onion bulb turn brown to black and have a putrid smell. The bacterium is commonly found on plant material, human skin, and in the environment (soil, sewage, manure etc). It is considered an opportunistic pathogen of onions that causes infection when conditions for its growth are good and plants are stressed, for example, by high temperature.

Enterobacter cloacae has been associated with soft rot of mature onion bulbs in Washington state, California and Colorado. Infection in these states was associated with very high temperatures (around 100° F). For root rot of ginger, it has been suggested that waterlogged soil or very high humidity in addition to high temperatures could create a suitable environment for infection by *Enterobacter cloacae*.

Tomato fruitworm/Corn earworm



Whitney Cranshaw, CSU, bugwood.org

We have had reports of tomato fruitworm in tomato fruits. This is the same species as corn earworm (just called a different name), and can also feed on peppers. Moth populations in northern Utah are increasing due to wind storms that have recently occurred, blowing more moths up from the south.

Spinosad (many brands) works well on lepidopteran larvae like the tomato fruitworm, but it does nothing on worms already within the fruit. If you are seeing fruitworms in tomatoes, start applying spinosad every 5-7 days through harvest. Focus on fruits higher up and on the outside of the plant where females prefer to lay eggs. Spinosad may be applied up to 1 day before harvest.

If you have any corn still in the silking stage, you can prevent corn earworm larvae from entering the corn by spraying (or rubbing) the silk with 1 part *Bacillus thuringiensis* (many brands) to 20 parts pure oil (mineral, corn, or soybean). Start this treatment when pollination is almost complete, which is when the silk tips have begun to wilt and turn brown.

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