

# BLUEBERRY DISEASE FAST FACTS

## Mummy berry

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Figure 1



Figure 2



Figure 3



Figure 4

**What:** Mummy berry is caused by the fungus, *Monilinia vaccinii-corymbosi*, and is one of the most important blueberry diseases in New York State. If left untreated, mummy berry can reduce yields by 30-40%. Early control and detection is necessary to reduce the impact of this disease.

**When:** The fungus overwinters in infected berries, or “mummies” on the soil under bushes. Mushroom-like structures (apothecia) grow out of the mummies (Figure 1). In early spring, ascospores are released from the apothecia to infect the newly emerging leaf tissue. These spores are disseminated by wind and rain. This step is the primary or shoot blight phase of the disease. Shoot blight symptoms typically develop 2 weeks after infection. Infected shoots and leaves wilt, turn brown, and die (Figure 2). Masses of secondary spores (conidia) are produced on infected shoot surfaces (Figure 3), which then infect flower blossoms, starting the second phase of the disease.

**Where:** Mummy berry occurs in most regions where blueberries are commercially grown. This fungus only infects cultivated blueberries and a few wild blueberry species. Generally, the disease is introduced from neighboring infected plantings or from wild blueberries in nearby woods.

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## Mummy berry (*continued*)

**How:** Under moist conditions in early spring, apothecia begin to form from mummified fruit remaining on the soil surface. The apothecia slowly develop as moisture levels and temperatures rise. At low temperatures such as 35° F, spores mature slowly taking 10+ hours to release, however at an increased temperature of 61° F, apothecia take about 4hrs to fully mature.

Conidia form on infected shoots, then are carried to flower blossoms by wind and pollinating bees (who are tricked by color changes and sugar secretion into thinking that the infected leaves might be flowers). Once the fungus has been introduced to the flower, it will germinate with the pollen and slowly infect the developing fruit. Evidence of blossom infection does not appear until the fruit begins to ripen. As normal berries ripen, the infected berries begin to shrivel and turn a pinkish color. (Figure 4) These "mummy berries" become filled with fungus, and have a hard grayish white center. They fall to the ground, shrivel up becoming pumpkin-shaped, and turn dark brown or black. These serve as an inoculum source the following spring when apothecia form and disease cycle begins again.

**Control Strategies:** Mummy berry can be a difficult disease to control. An integrated pest management program including both cultural and chemical control strategies is needed for best results. The best time to achieve control of this disease is during the primary infection phase.

- Rake or disk soil beneath the blueberry bushes or cover the fallen mummy berries with a 3-4 inch mulch layer before apothecia appear in the spring.
- Apply 200lbs/A of 50% urea to burn out apothecia.
- Fungicides may be used to control this disease during both disease phases. For control of the primary infection phase applications should begin at green tip and continue on 7-10 day intervals when conditions favor infection. For secondary infection control, make applications beginning at bloom on the same type of schedule. Different fungicides are required to control primary vs. secondary infections.

For more information see *Cornell Pest Management Guidelines for Berry Crops*. Apply all pesticides according to label rates and instructions.

### References:

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