

Monosporascus root rot

What is *Monosporascus* root rot?

Monosporascus Root Rot and Vine Decline of Melons (MRR/VD) can also be referred to as sudden wilt, sudden death, melon collapse, Monosporascus wilt, and black pepper root rot. This soilborne disease is caused by the fungal pathogen *Monosporascus cannonballus* which infects the roots of most cucurbits. Losses from Monosporascus root rot can be quite extensive in melons causing widespread infection. Below ground damage to the root system occurs throughout the growing season and, typically within a week or two of harvest the vines wilt or collapse completely.

What should I look for?

Look for early season stunting of the plant and a gradual death of the leaves. More obvious above ground symptoms are not usually apparent until much later in the season when within weeks of harvest older crown leaves begin to turn yellow/chlorotic and die with symptoms advancing rapidly. In heavily infected crops most of the canopy will collapse within weeks of the first symptoms.

The primary symptoms are necrosis of the small roots and lesions on the larger roots where black, spherical, fungal fruiting bodies are visible along the entire length the roots late in the season. This colonization appears to be limited to the root as fruit and foliage are not infected directly.

How does it spread?

The spread of the pathogen is primarily through contaminated soil or crop debris (cultivation, flooding, wind, erosion). Airborne spread of the pathogen is unlikely and there is no evidence that the pathogen is seed borne or systemic in the plant. The spores can survive in soil or plant debris until the next planting season or, in the absence of a host, may survive for many years in a dormant state.



A field of rockmelon collapsing from *Monosporascus* root rot

Gerald Holmes, www.bugwood.org



Heavily infected rockmelon tap root with large numbers of perithecia (fruiting structure)

Gerald Holmes, www.bugwood.org



Melon vines can die late in the season and leave fruit to sunburn

Gerald Holmes, www.bugwood.org



Where is it now?

M. cannonballus has been reported in many melon production regions around the world including throughout America, the Middle East, India, Japan, Taiwan, Korea and parts of Europe.

How can I protect my farm from *Monosporascus* root rot?

Check your vineyard frequently for the presence of any unhealthy plants or unusual symptoms and ensure that all staff and visitors adhere to on farm biosecurity and hygiene practices. Use clean propagation material, disinfect tools and equipment used on your farm and remove old plant material and fruit from the production area.



Gerald Holmes, www.bugwood.org

Dead melon vines and scorched and collapsed fruit can occur just prior to harvest

If you see anything unusual, call the Exotic Plant Pest Hotline



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