Dickeya dianthicola in dahlias

Dickeya dianthicola is a serious bacteria that can cause tuber rot, wilting and significant yield losses in a number of crops, including potatoes, some species of ornamental flowers, globe artichoke and chicory.

Farm biosecurity is essential

Symptoms in dahlia tubers and plants

- Poor emergence.
- Plant growth may be restricted.
- Weight of tubers produced can be reduced by up to 56%.
- Stems of infected dahlia plants are darker green than healthy plants.
- Hot and dry conditions cause wilting of infected plants.
- If conditions are perfect for plant growth, plants may not show overt disease symptoms, but will produce infected daughter tubers.
- Even large, healthy-looking tubers may be infected.
- Infected tubers may rot, especially when wet.
- Experiments show that some dahlia varieties are much more susceptible to Dickeya than others, ranging from 9%-56% crop loss depending on variety (although variety names that were tested were not available).

Dickeya dianthicola has been causing losses in dahlia crops overseas for many years. The information on this fact sheet has been sourced from recent research at the University of Wageningen in Holland.

For current updates on Dickeya dianthicola in Western Australia, visit agric.wa.gov.au/ddianthicola
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Pathways for spread

- Dickeya is readily transferred from infected plants to healthy plants on blades used for cutting the tops of dahlias, and the disease spreads after soil cultivation.
- Overhead irrigation can spread the disease, especially after flowers are cut or if foliage is damaged.
- If healthy planting material is used, disease should be minimal.

How to prevent spread

To minimise the impact of Dickeya dianthicola in dahlias:

- Use healthy planting material. Do not plant any tubers showing signs of rotting.
- Ensure all blades and equipment used on dahlias are sterilised frequently.
- Ensure gloves are clean.
- Consider using drip irrigation rather than overhead watering.
- Maintain clean work and storage areas.
- Ensure good ventilation when dahlia tubers are stored. Mesh bags or bins can assist with this.
- Avoid mechanical damage to tubers and plants as wounds can provide a route for bacteria to enter the plant.

Image right: poor emergence in dahlia crop

Photo credits: PPO Bloembollen (Flower Bulb Research Unit of the Applied Plant Research, Netherlands)

More information on farm biosecurity

- Visit agric.wa.gov.au/ddianthicola for information sheets on decontamination and destruction/disposal
- Visit farmbiosecurity.com.au

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