



DAHLIA DISEASES

JUNE 29, 2025

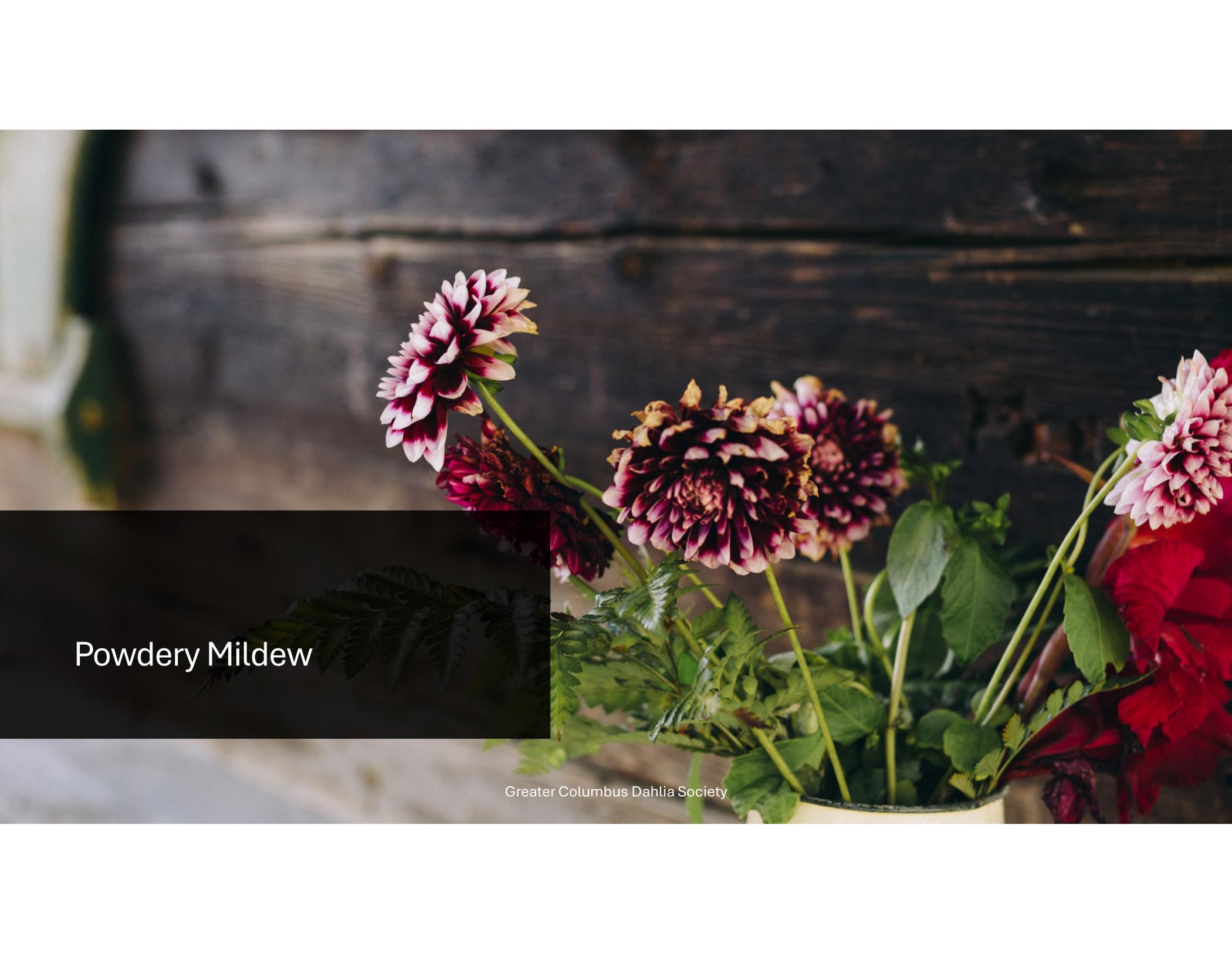


AGENDA

- I. Fungal Diseases
- II. Viral Diseases
- III. Bacterial Diseases
- IV. Treatments
- V. Test your knowledge!



I. FUNGAL DISEASES



Powdery Mildew

Greater Columbus Dahlia Society

POWDERY MILDEW - HOW DOES IT SPREAD AND WHAT DOES IT LOOK LIKE?

1. Thrives in warm, dry conditions with cool, humid nights
2. Spread:
 - a. Through airborne spores that are carried by wind
 - b. Dispersed by water, insects, or even through contact with infected plant debris.
3. What does it look like?
 - a. White, powdery growth on surface of leaves
 - b. Wilting leaves
 - c. Stunted growth





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A photograph of several dahlias in a pot, with a dark rectangular overlay on the left side containing the word 'Mold'. The dahlias are in various stages of bloom, with colors ranging from deep purple to light pink. The background is a dark, textured surface, possibly wood. The text 'Mold' is written in white on the dark overlay.

Mold

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MOLD - HOW DOES IT SPREAD AND WHAT DOES IT LOOK LIKE?



Primarily caused by excessive moisture and humidity during storage.

- Spread:
 - Through air via fungal spores
 - Through contaminated storage material or by hand
- What does it look like?
 - Greenish-blue “fuzzy” mold



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TREATMENT: PREVENTION...

- ❖ Remove dead or dying tissue from plants
- ❖ Clean refuse from around garden
- ❖ Avoid overhead watering and excessive moisture
- ❖ Do not overfertilize
- ❖ Space adequately to allow for good airflow
- ❖ Use **Cinnamon** as a natural way to prevent mold on tubers

TREATMENT: FUNGICIDES...

- ❖ Protectant (preventative) – applied to healthy tissue surface prior to infection. Stays on leaf surface.
 - Multiple applications every 7-10 days (READ LABEL!)
 - Use BEFORE infection occurs.
 - EXAMPLE: Draconil, Bionide
- ❖ Systemic – Can prevent infection and often can cure/eradicate fungus. They are absorbed by the plant and move throughout its tissues.
 - Apply one well-timed application, generally (READ LABEL!)
 - EXAMPLE: Bayer's Bayleton FLO



II. VIRAL DISEASES



Dahlia Mosaic Virus

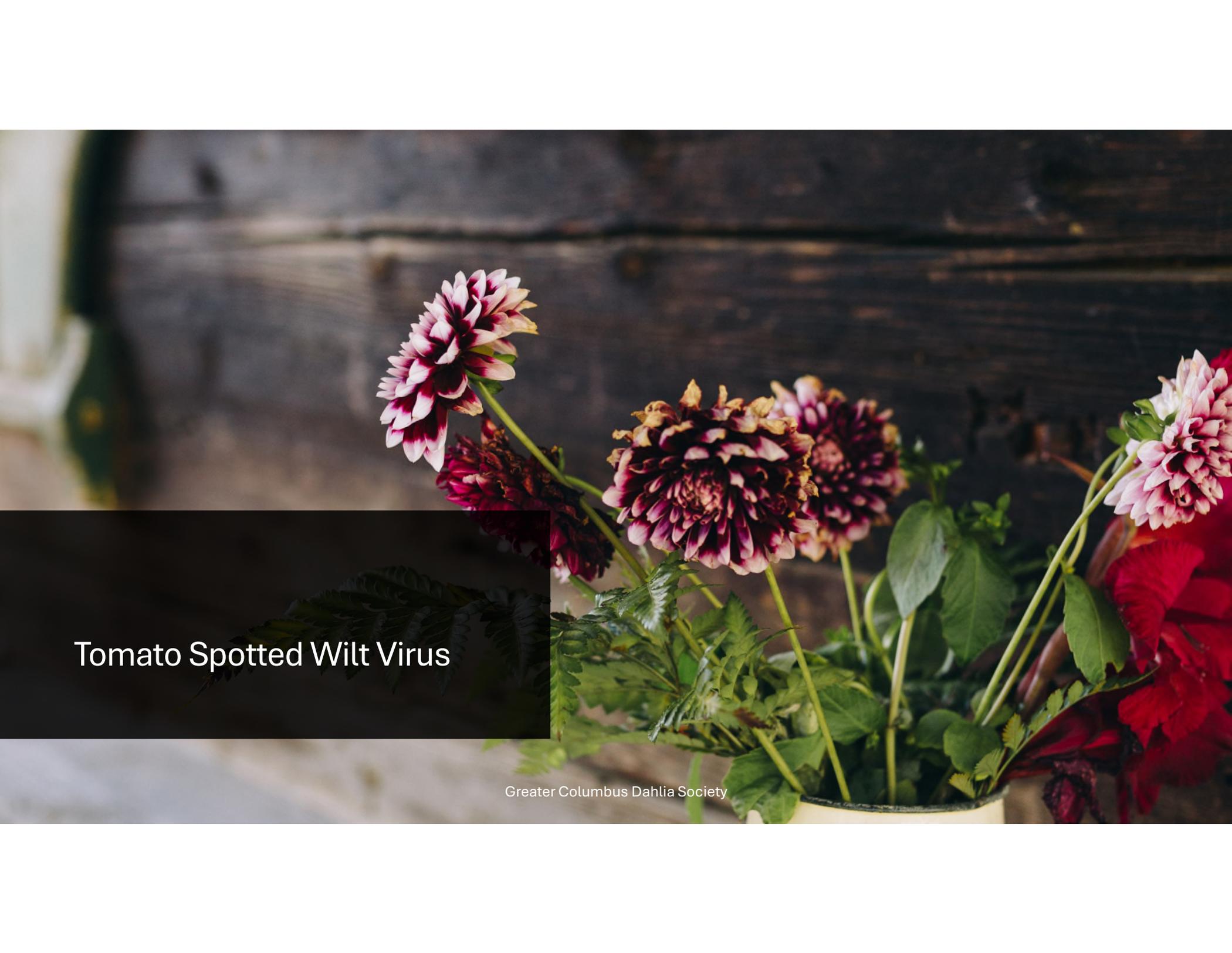
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DMV - HOW DOES IT SPREAD AND WHAT DOES IT LOOK LIKE?

1. Once infected, the tuber and all leaves will not outgrow the disease.
 - Spreads most commonly by:
 - a. Insects
 - b. Through sap on contaminated tools
 - What does it look like?
 - “Vein Clearing” – Chlorophyll loss following leaf veins
 - Distorted leaves
 - Severely stunted new growth







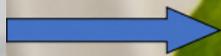
Tomato Spotted Wilt Virus

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TSWV - HOW DOES IT SPREAD AND WHAT DOES IT LOOK LIKE?



- Spreads most commonly by:
 - Thrips
 - Cutting tools
- What does it look like?
 - Yellow-green mosaic patterns
 - Concentric rings on leaves
 - Wavy lines on leaves (Fanleaf)
 - Netting



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Tobacco Streak Virus

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TSV - HOW DOES IT SPREAD AND WHAT DOES IT LOOK LIKE?

- Spreads most commonly by:
 - a. Thrips
 - b. Cutting tools
- What does it look like?
 - a. Mosaic Pattern
 - b. Leaf distortion
 - c. Stunted growth
 - d. Black streaks on stem
 - e. Yellow splotches on leaves





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TREATMENT: PREVENTION...

- ❖ Remove dead or dying tissue from plants
- ❖ Clean refuse from around garden
- ❖ Do not overfertilize
- ❖ Space adequately to allow for good airflow

TREATMENT: PREVENTION - PEST MANAGEMENT...

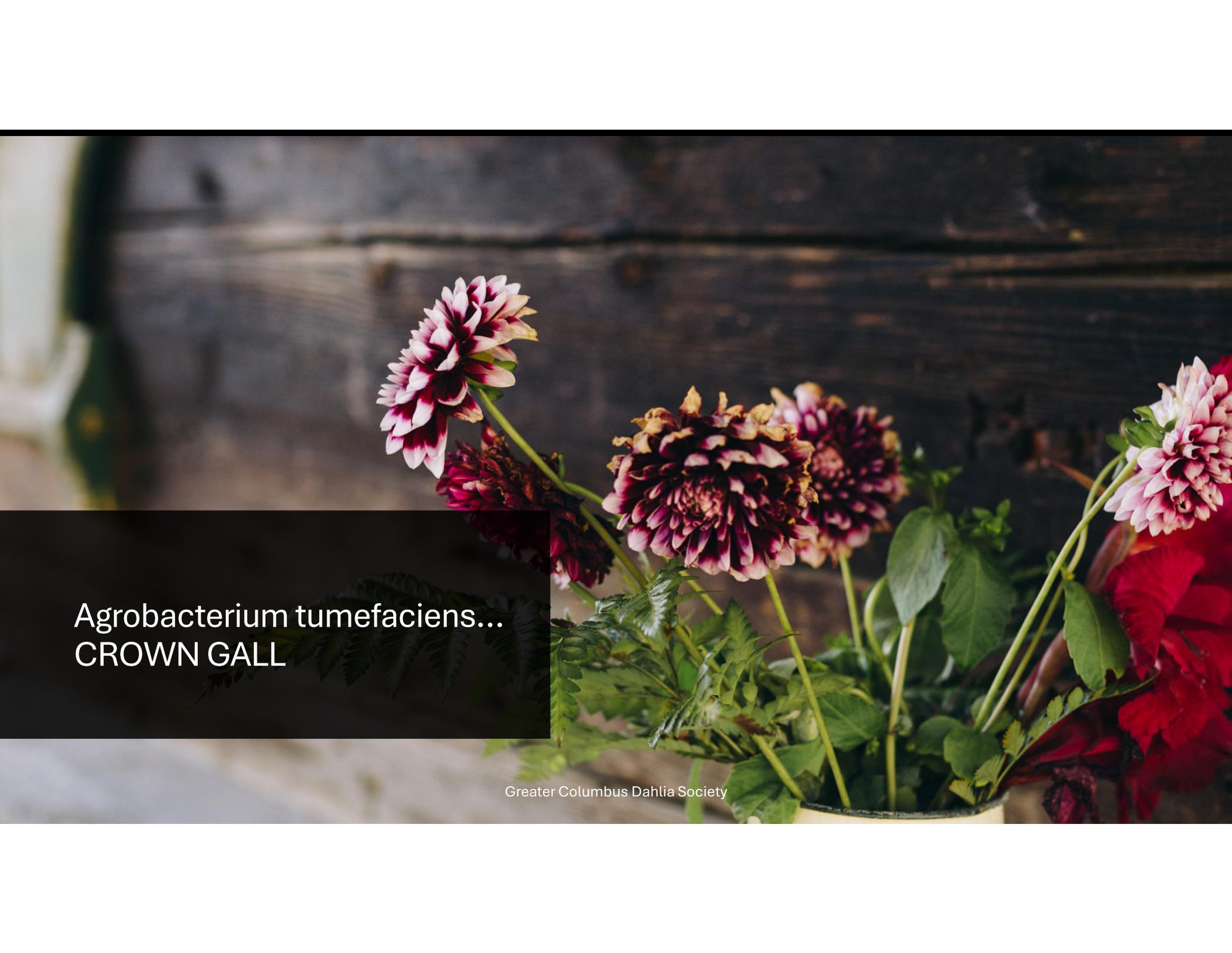
- ❖ Get rid of environments that are friendly to thrips and aphids:
 - ❖ Blue and yellow sticky cards above plant canopy attracts thrips
 - ❖ Insect Spray – Spinosad
 - ❖ Predatory mites that feed on thrips. Ex: *amblyseius cucumeris*
 - ❖ Spray with commercially available Neem Oil or Insecticidal Soap.
 - ❖ Release Lady Bugs for aphid control.
 - ❖ Pirate bug, Orius. A predator for thrips.
 - Plant an ornamental pepper “Purple Flash” with dahlias. (Provides a habitat for the insect predator pirate bug)
- ❖ Beneficial nematodes are naturally occurring microscopic organisms in the soil that inject bacteria that kills the host pest.

OTHER FACTS ABOUT VIRUSES:

- ❖ Once infected with a virus, there is no cure, so preventative measures are critical!
 - ❖ The 2022 American Dahlia Society virus testing program found 87% of the 1334 samples analyzed were positive for at least one virus. (Note that over three-quarters of infected samples were reported to have “Excellent” foliage!)
 - ❖ Early summer and late fall when temperatures are cooler are when virus symptoms are most pronounced, generally.
 - ❖ You can plant in the same soil if disease was due to VIRUS.
 - ❖ Removing plants with disease as soon as you notice them and not using/selling/sharing tubers from those plants is the surest way to reduce the virus problem over time.
- ✓ **START CLEAN, STAY CLEAN!**



III. BACTERIAL DISEASES



Agrobacterium tumefaciens...
CROWN GALL

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CROWN GALL - HOW DOES IT SPREAD AND WHAT DOES IT LOOK LIKE?



- Spreads most commonly by:
 - Injury caused by transplanting, cutting, or rot.But also, by:
 - Insects, wind, frost, or hail.
- What does it look like?
 - Rapidly swelling of tissue or tumors below soil surface at the dahlia's crown.
 - Can be smooth or rough skinned and sometimes resemble cauliflower!
- ❖ Clay soils host the bacteria longer, upwards of 3 years (as opposed to 1-2 years).





Rhodococcus fascians...
LEAFY GALL

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LEAFY GALL - HOW DOES IT SPREAD AND WHAT DOES IT LOOK LIKE?

- Spreads most commonly by:
 - a. Injury caused by transplanting, cutting, or rot.But also, by:
 - 1) Water; not likely spread by insects
- What does it look like?
 - Prolific growth with fused stems
 - Abnormal shoot development
- ❖ Can spread to other plants like lilies and gladiolus.





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TREATMENT FOR
BACTERIAL
DISEASE...

There is **no treatment** for dahlias with bacterial disease except to discard the infected tuber and all plant parts.



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Soil treatment after detection of bacterial disease



- **Soil solarization** – In sunny climates, soil solarization can be an effective method. Cover the soil with clear plastic for several weeks during the hottest part of the year to raise soil temperature and kill pathogens.
- **Crop rotation** – Rotating your dahlia crop with less susceptible plants (like alyssum, daffodil, ornamental grass, vegetables) can help reduce the buildup of pathogens in the soil.
- **Soil removal** – If the area is small enough consider removing soil in the area.

*****Do not plant dahlias in the same location for two full years after identifying bacterial disease.*****



IV. OTHER TREATMENTS

THE BEST WAY TO TREAT DISEASE IS TO **PREVENT IT** BEFORE IT STARTS!!!

Sanitation

- ❖ Disinfect all pots, trays, and tools with one of the following for 5 minutes:
 - 10% bleach solution
 - 5 tsp. Dawn in 4c. Water
 - Bromine solution
 - Veterinary disinfectant (Vikron-S)
- ❖ Remove dead or dying tissue from plants
- ❖ Clean refuse from around garden.

OTHER METHODS OF PREVENTION...

- ❖ Avoid purchasing tubers from mass market vendors (big box stores) and Dutch-grown dahlias.
 - ❖ If you do purchase from them, quarantine and grow the plant in a pot by itself away from other dahlias for two growing seasons. (Do not let other dahlias share water run-off!)
- ✓ Dispose of infected plant material only in the trash or burn it... do NOT compost it!

**IF IN DOUBT, THROW IT
OUT!!!**

A close-up photograph of several pink flowers, likely dahlias, with many layers of delicate petals. The petals are a soft, light pink color with some darker pink veining. The background is a blurred, darker shade of pink and green. A black rectangular border is superimposed over the center of the image, containing the text "Q&A" in a simple, black, sans-serif font.

Q&A

WHAT IS IT?

Mold



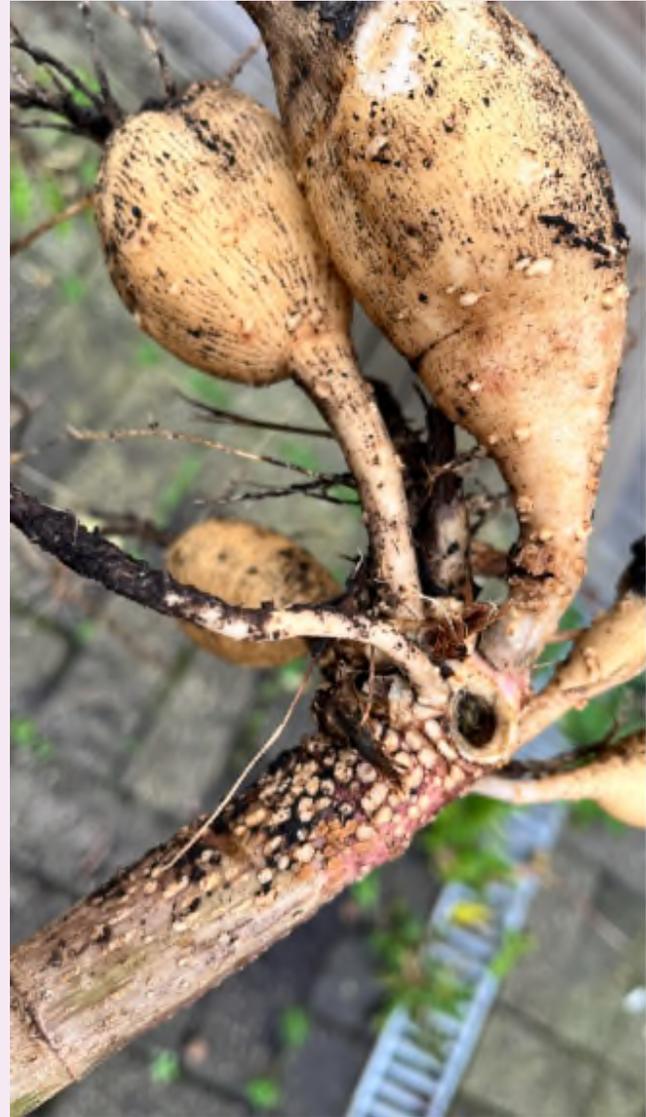
WHAT IS IT?

Leafy Gall



WHAT IS IT?

Lenticils



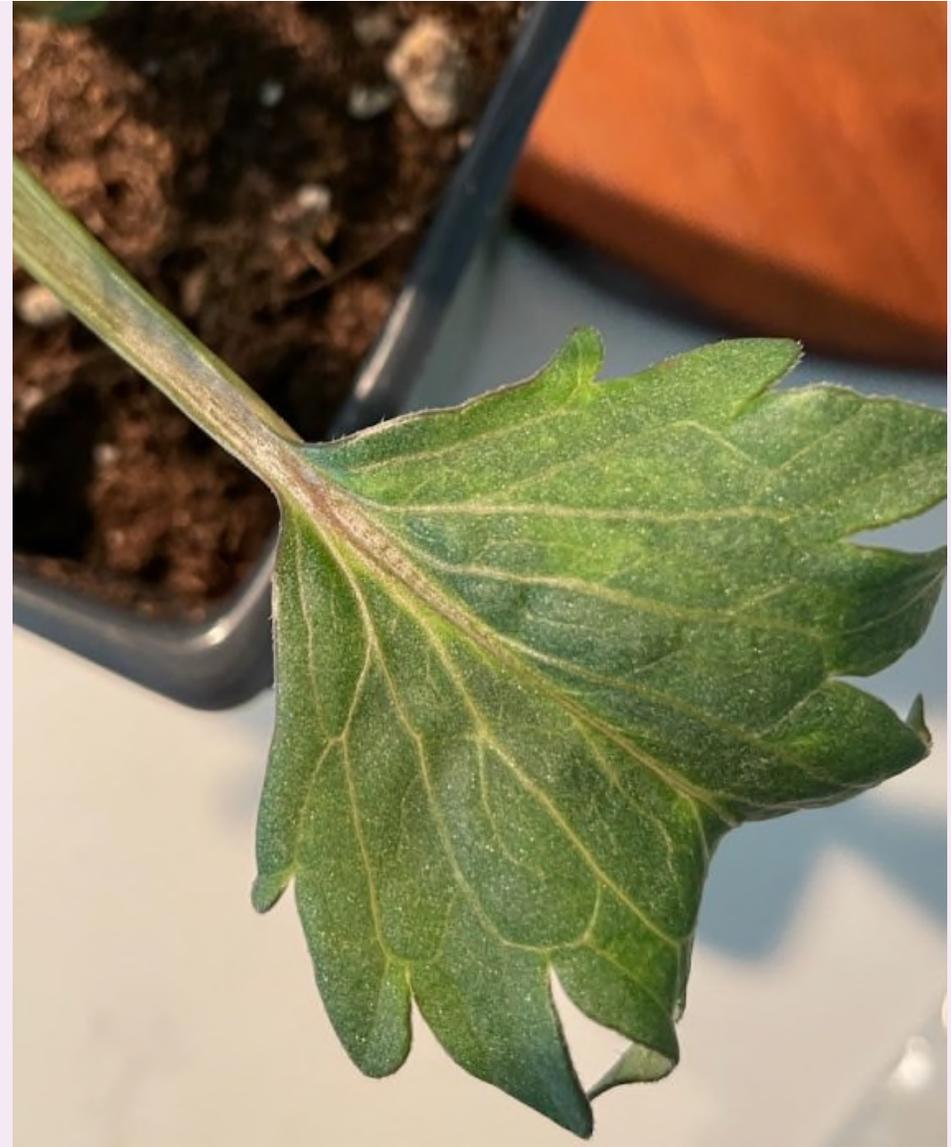
WHAT IS IT?

Powdery Mildew



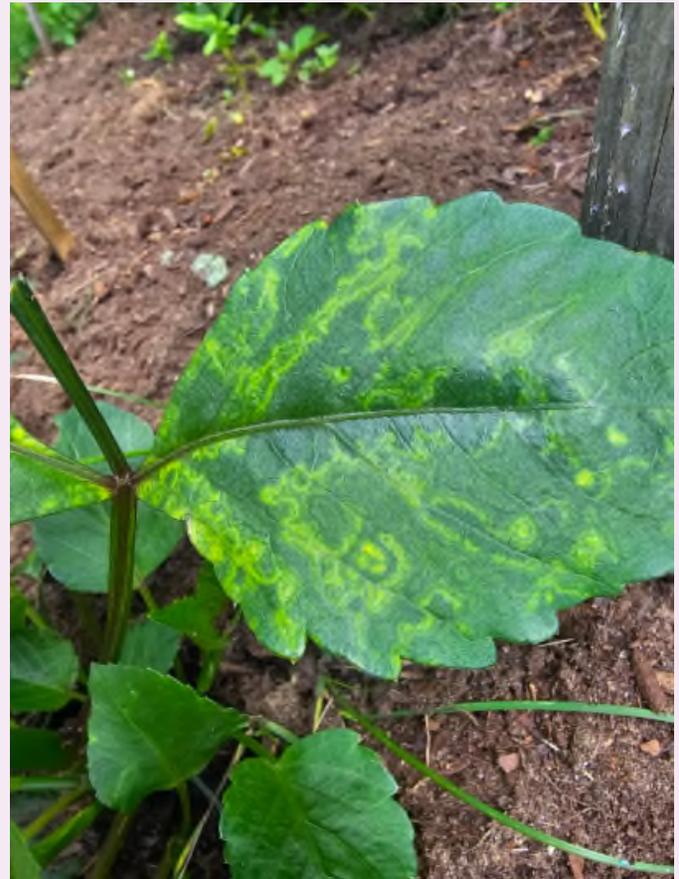
WHAT IS IT?

TSV



WHAT IS IT?

TSWV



WHAT IS IT?

DMV



WHAT IS IT?

Crown Gall

