



BACTERIAL WILT

Technical Guide

- What is Bacterial Wilt?



ENGLISH

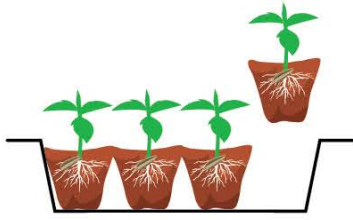
Soil-borne disease caused by the bacterium *Ralstonia solanacearum*. It affects wide host range with most number of species from Solanaceae family.



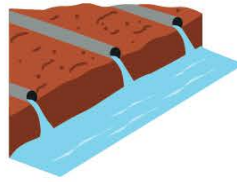
• How does it spread?



Contaminated soil



Infected seedlings



Contaminated irrigation water



Shoes, boots and human movement



Tools and equipments

Conducive conditions: High temperatures (30-35 °C), high soil moisture and poor drainage.

Entry point: Natural openings, insect or nematode damage or wounds on plants during cultivation practices (like weeding).

• What are the symptoms?

Leaves / whole plant:



Tomato



Eggplant



Early symptom: sudden wilting of 1-2 youngest leaves; one side of the plant may wilt

Advance symptom: wilting of the whole plant without yellowing



Hot Pepper



Bittergourd



Pumpkin

Stem



1



2

1. Healthy stem
2. Brownish color in infected stem

• How to monitor and diagnose?

1. Observe initial symptoms: sudden wilting of shoot tips with no yellowing.
2. Do bacterial ooze test.



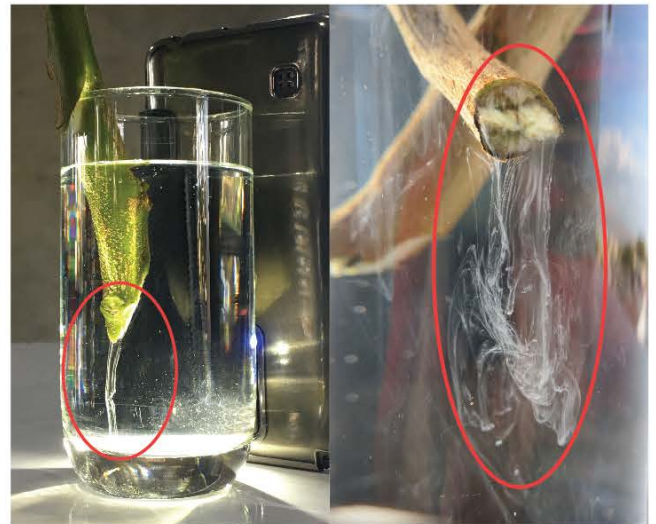
Uproot the wilted plant. Be careful not to shake the soil over the place to avoid spread of the bacterium.



Cut the base of the plant.



Suspend the stem in a transparent container with clean water.



Observe appearance of milky white bacterial ooze.

Bacterial ooze test is to confirm bacterial wilt infection. If no ooze, refer to other causes of wilting like fungus, nematode, water moulds, insects or physical & herbicide injury.

How to manage?

Integrated pest management is recommended to avoid or minimize bacterial wilt infection. No best single solution for bacterial wilt.

Prevention: How to avoid?



Avoid planting in infected fields.



Use disease-free or resistant varieties, or grafted seedlings, if available.



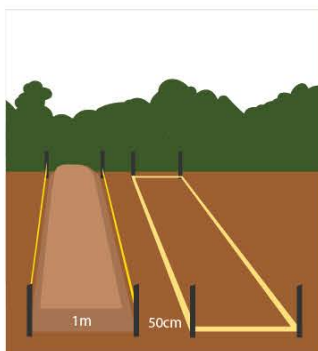
Sterilize seedling media.



Check and maintain soil pH (6.2-6.5).



Add organic matter in the soil.



Raise beds to improve drainage.



Avoid furrow irrigation.



Wash hands after handling infected plants.



Disinfect used tools.

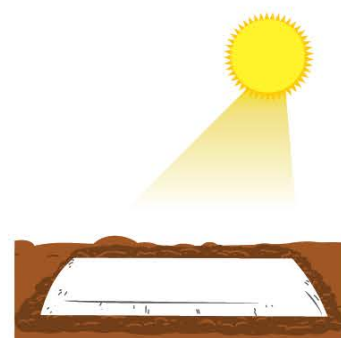


Crop rotation (3-5 years). Rice (if suitable) can help reduce *Ralstonia* with the flooding condition.

Intervention: What to do when it is present?



Uproot all infected plants and destroy (burn).



Solarization or biofumigation.