

## Prevention Spread of Bacterial Disease in Commercial Nurseries in USA

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## Bacterial Diseases of Seedlings

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Bacterial Spot of Tomatoes  
 Bacterial Speck of Tomatoes

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## Preventing Spread of Bacterial Diseases

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Healthy Seeds

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## Preventing Spread of Bacterial Diseases

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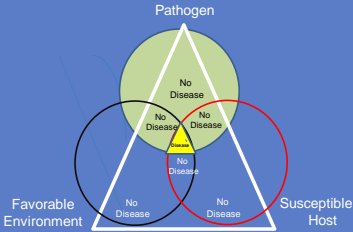
SANITATION    SANITATION    SANITATION

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## The Plant Disease Triangle

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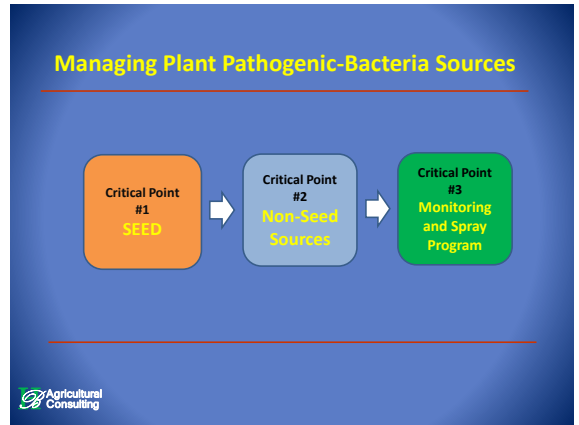
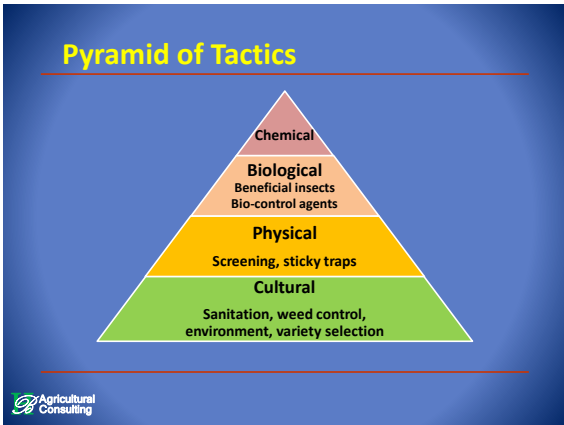
## Manager's FOCUS

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- Preventing plants from becoming infected
- They Require/implement good hygiene standards to prevent contamination

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- ### Where the Plant-pathogenic Bacteria can come from?
- SEEDS
  - Planting material, Nursery tools
  - Plant debris, Weeds, Volunteer host plants
  - Irrigation water, Air, Insects
- Agricultural Consulting

- ### Managing Plant Pathogenic-Bacteria Sources
- Parent Seeds**
    - Start with Clean Seeds
    - Use only treated seeds
  - Non-Seed Sources**
    - No plant debris, no weeds
    - No-re-circulated water
  - Monitoring and Spray Program**
    - Preventive spray program
    - Monitoring once or twice a week
- Agricultural Consulting

## Crop Monitoring

- Crop monitoring is an on-going surveillance to detect the presence of any disease at very early stage of development
- Any seedling/plant which show wilting or suspected of a disease, is removed and sent to a lab for identification/confirmation.
- If Confirmed to be a bacterial disease, the entire seedling tray is removed and destroyed.
- Trace the origin of the infection

## Nursery Sanitation Practices

- Soil/potting mix pasteurization
- Sanitize all surfaces, equipment, or tools that might come in contact with seedlings, such as benches, plant containers, cutting knives, and other associated instruments.
- Staff are instructed to wash hands after handling disease plants.

## Nursery Sanitation Practices

- There restrictions on entry and movement inside the nursery
- No food eating and spoking forbidden.
- Irrigation water is confirmed pathogen free
- Each nursery house have its own sprayer and not shared with other houses

