

Climate change is causing hotter summers, milder winters, and a longer frost-free season. Precipitation amounts are increasing and storms are becoming more intense.

These changes will increase pest and disease pressures due to the introduction of new pests, changing pest and disease distributions and lifecycles, reduced overwinter mortality, and enhanced conditions for disease growth.

## Key Climate Change Impacts:

### Rising pest pressures

Weakened plants

More frequent use of pesticides

Potential environmental and health concerns



### Increased precipitation

Removal of biopesticides by rainfall

More frequent use of pesticides

Reduced benefits



**Biopesticides for  
Fungal and  
Bacterial  
Disease  
Management in  
Horticultural Crops**



## Key Adaptation Strategy

Biopesticides help prevent disease resistance, have shorter restricted entry intervals, and do not linger in the environment, offering less exposure and harm to humans and the environment.

### Implement biopesticides into an integrated pest management (IPM) program

- Use proactively or as a control measure during early stages of pest pressures
- Undertake regular scouting and crop monitoring

### Use proper timing to maximize efficacy and reduce the risk of the biopesticide residue being washed away by rain

- **Sulphur:** Can cause phytotoxicity when temperatures are above 32°C
- **Copper:** Precipitation events or rapid plant growth may remove product residue reducing the protection period
- **Trichoderma:** Soil temperatures must be above 10°C
- **Fungicides Not Classified (Oils, Bicarbonates, Peroxides, etc.):** Sensitive to weather conditions such as temperature, humidity, and rainfall