

RHODOCOCCUS (LEAFY GALL) MANAGEMENT

Rhodococcus fascians is a bacterial pathogen causing leafy gall and is primarily vectored through splashing water and the mechanical transfer of plant sap. This pathogen has a broad host range, but several herbaceous perennials such as *Leucanthemum* and *Veronica* are especially susceptible.

Two of the most challenging aspects of managing *Rhodococcus* are:

1. Latent infections – Plants may be infected but remain asymptomatic for weeks or months.
2. Diagnostic limitations – Even symptomatic plants may yield inconclusive lab results.

This pathogen has been present within the horticulture industry for many years but does not typically cause significant crop losses. However, without effective production and sanitation practices, isolated infections can escalate into large-scale outbreaks. Once a plant is infected, there are no effective curative treatments. Typical bactericides, including copper-based products, do not control or prevent *Rhodococcus* infection. Prevention, early detection, removal and strict sanitation are essential for control of leafy gall.

Keys to Effective *Rhodococcus* Prevention and Clean Up

1. Source unrooted cuttings and young plants only from trusted, reputable suppliers.
2. Implement strict cleaning and sanitation protocols for tools, work surfaces and production areas.
3. Break “[green bridges](#)” by emptying growing areas between crops to eliminate potential pathogen reservoirs.
4. Limit splashing from overhead watering, keep foliage dry and grow containers on freely draining surfaces like mesh benches as opposed to the floor or ground.
5. Develop clear rouging and dumping protocols based on symptoms and, if possible, lab confirmation.

Scouting & Symptom Identification

Early symptoms can be subtle and easily confused with other plant issues including galls caused by *Agrobacterium*, chemical phytotoxicity, rooting hormone overapplications or foliar benzyladenine (e.g., Configure) applications.

Symptom identification tips:

- Abnormal proliferation of shoots and leaves, often forming dense rosettes or galls (Fig. 1).
- Symptoms typically originate at the stem base or crown (Fig. 1) but can appear on upper stems.
- Development can range from several weeks to months depending on crop species, environmental conditions and plant age.

Use resources like the **Ball Tech On Demand *Rhodococcus* (Leafy Gall) Diagnostic Guide** for reference photos on multiple crops.



Fig 1. Leafy gall symptoms from *Rhodococcus fascians* on *Buddleia*.
Photo Credit: Ball Helix Pathology.

Disease Management

Effective *Rhodococcus* management starts with prevention. The following are best management practices for *Rhodococcus* management and control.

Pre-Season

- Begin each season with a physically cleaned and disinfected growing area that is free of pests, weeds and organic matter/plant debris.
- Source young plant inputs from trusted suppliers and exclude symptomatic plants upon arrival.

In-Season

- Maintain good crop records including plant tags to trace back potential sources of initial infection.
- Train all employees in good sanitation practices and consider providing handwashing stations and sanitizing footbaths between growing areas.
- Sterilize or swap out tools including trimmers and knives frequently and between crops.
- Grow crops on well-drained surfaces such as mesh or wire benches as opposed to the ground or floor. While *Rhodococcus* requires a host for long-term survival, viable bacteria can survive for 60 days or more in standing leachate from infected plants.
- Limit splashing during overhead irrigation and provide conditions for rapid leaf drying via ventilation and horizontal air flow (HAF) fans.
- Train scouting staff to recognize symptoms and implement clear management protocols if a disease outbreak occurs.

Disease Outbreak Protocols

- **Scouting and rouging.** Recognize symptoms of stem and leaf proliferation. When symptoms are observed, rogue out symptomatic plants as well as adjacent plants in direct contact with symptomatic plants. If a substantial portion of the crop is symptomatic, it may be best to discard the entire crop.
- **Remove symptomatic plants.** Prior to disposal, submit a sample to a diagnostic lab for confirmation. Wear gloves and bag plants in place. Seal bags to prevent bacteria from spreading while removing infected material from the greenhouse. Dispose of all affected hard goods, fallen leaves and other crop debris. Do not compost infected plant material or reuse substrate.
- **Cleaning and sanitizing.** Once larger debris is removed and surfaces are swept, consider cleaning surfaces with pressure washers, soaps, or other products such as Strip-It. In addition to physically cleaning surfaces, utilize chemical disinfectants like quaternary ammonium compounds, hydrogen peroxide or a simple bleach solution. These disinfectants can be applied to floors, walls, benches, or other greenhouse surfaces that harbor pests and diseases.

Additional Resources

[Pscheidt, J.W. and C.M. Ocamb. 2025. Greenhouse Plants, Ornamental-Shoot Proliferation and Leafy Gall. Pacific Northwest Plant Disease Management Handbook.](#)

[Putnam, M. 2014. Demystifying *Rhodococcus fascians*. Growing Knowledge. Oregon State University.](#)

[Putnam, M.L. and M.L. Miller. 2007. *Rhodococcus fascians* in Herbaceous Perennials. *Plant Disease* 91\(9\):1064-1076.](#)

[Ball Tech on Demand. Tech Training: Breaking the Green Bridge.](#)