

# GROWERTALKS

## Columns

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### Preventing Disease in Propagation

*Tami Van Gaal*

Many growers start crops from unrooted cuttings. High humidity and warm temperatures in propagation promote rooting, but such conditions can also promote disease. Disease progression in propagation can be swift, so it's important to recognize and treat problems quickly. Preventative treatments should also be considered.

Sanitation is the first step in preventing disease in propagation. Prior to sticking the first cutting, take time to clean and sanitize benches and irrigation systems. Remove all debris and use a chemical cleaner, such as Strip-It. Rinse the chemical cleaner off the surfaces using clear water. The cleaning step is very important, but it serves as only part of the sanitation protocol. A sanitizer must also be applied. After cleaning, sanitize with KleenGrow, SaniDate 5.0 or ZeroTol 2.0. Keep the surface wet with the sanitizer for at least 10 minutes and don't rinse surfaces when using the three products mentioned above.

Everyone wants to control their production costs, but be careful about reusing materials in propagation. Never stick cuttings in reused media. If trays are reused, be sure that they've been properly cleaned and sanitized. As for hard surfaces, proper sanitation of trays and pots includes physical cleaning, chemical cleaning and application of a sanitizer. Contact your supplier for additional sanitation practices to limit the spread of disease.

Damaged tissue in the propagation area presents a strong disease risk. Often, the potential for damage can be minimized by the simple act of sticking cuttings as soon as possible. When necessary, hold cuttings under appropriate conditions to avoid tissue damage. Most importantly, keep cuttings cool until they're stuck. It's also wise to stick the most sensitive crops first. Geraniums, for example, are a special case, as they are highly sensitive to ethylene in shipping and can yellow easily. Always stick geraniums first. Minimize yellowing of geraniums by spraying with Fascination at sticking. Fewer yellow leaves mean less plant stress and less susceptibility to disease.

The most common diseases to initiate on the propagation bench include Botrytis, Phytophthora, Rhizoctonia and bacteria. Pageant Intrinsic or Mural are nice options for preventative sprays for Botrytis. If Botrytis is present, Affirm, Daconil Weather Stik and Palladium can be added to a rotation program with Pageant Intrinsic or Mural. If treating edibles, be sure to carefully read the labels for Affirm, Mural and Pageant Intrinsic to ensure inclusion of your specific crop. If your edible crop isn't specifically listed, contact your supplier for

recommendations for effective control options.

Stem cankers are often the result of a Botrytis/Rhizoctonia complex. Fortunately, Affirm and Mural are also effective against Rhizoctonia. Other options for controlling Rhizoctonia include Cleary's 3336, Emblem and Medallion. While Pageant Intrinsic is a great choice for prevention of Botrytis, its sister product, Empress Intrinsic, is better suited for prevention of Rhizoctonia. Both Intrinsic products promote overall plant health and will enhance root development in propagation. Other benefits from the Intrinsic products include greater tolerance to transplant, cold, heat and drought stress.

Phytophthora is a fast-moving disease with hallmark symptoms, including bleached or necrotic tissue moving up from the stem or petiole into the leaf. Petunias are particularly susceptible to Phytophthora and should be scouted regularly to support early detection. Segway O, Alude and Fosphite provide good control. Alude and Fosphite also encourage rooting.

Like Phytophthora, bacterial diseases can move very quickly in propagation. Tell-tale signs of a bacterial infection include slimy areas on stems and slimy leaf spots. An unpleasant odor may be observed.

Poinsettia cuttings are particularly susceptible to Erwinia early in propagation. Bacterial leaf spots often display a yellow halo around dark-colored centers. Bacterial infections in propagation are best treated with KleenGrow, ZeroTol 2.0 or with a copper product, such as Nordox.

Pythium isn't typically seen in early propagation, but may occur if excessively high rates of rooting hormones are used. Empress Intrinsic and Segway O are both good choices to treat Pythium in propagation.

Of course, growers must always read and follow all label directions. Not all products are registered for use in all states or for all crops; your supplier can help determine whether these products are labeled in your state. Products other than those mentioned here may also be safe and effective. **GT**

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