

Industry Side:

Rhizoctonia and Botrytis For Your Spring Plants Cleary's Leads The Way

Compiled by Dr. C. C. Powell, Plant Health Advisory Services

The two most common pathogens found on annual and perennial spring transplants are Rhizoctonia and Botrytis. They both cause a crown rot and lower leaf blight. Botrytis will proceed to cause a flower blight as the plants mature.

Botrytis produces telltale brown spores over the affected tissue if conditions are warm and damp, and the air is still. Rhizoctonia, which does not produce spores, sometimes can be diagnosed by looking for strands of fungal growth over dead tissue. If no spores are produced, it is difficult to tell which pathogen is involved. A strategy that will control both diseases is usually the best approach when diagnosis is uncertain.

It is this problem with field diagnosis that makes the treatment with Cleary's 3336 and Protect T/O as a tank mix so useful to growers. Cleary's 3336 is the best systemic fungicide available for the control of Rhizoctonia, and will control Botrytis if resistance is not present in your greenhouse. Protect T/O is a superior contact/protectant fungicide for both Rhizoctonia and Botrytis. Used together with a good spreader/sticker, these fungicides can keep both pathogens and the diseases they cause under season-long control.

In a recent grower trial, three products, Cleary's 3336, Protect T/O and Clearspray T/O (spreader/sticker) were applied as a tank mix to a wide range of spring plant every two weeks. The program was begun after Botrytis was epidemic in the greenhouse, especially on geraniums. After four applications, both Rhizoctonia and Botrytis were completely gone.

Regular treatments with this combination of fungicides works because it is a steadfast, preventive approach. The early treatments soon after transplanting are particularly important because these applications deposit the fungicides on the older foliage and the stems, where initial infections occur. As the plants mature, it is difficult to place fungicide on the surface of these leaves and stems. The use of a latex based spreader/sticker such as Clearspray T/O at 2 to 4 ounces per 100 gallons prolongs the fungicide barrier that is applied during these early applications.

Cleary's 3336 is labeled non-specifically on all flowers and ornamentals. There are three plants, Easter cactus, Boston ivy and Boston fern, that we do not recommend for 3336 treatment. Always refer to the label for specific use instructions.

Over 100 common ornamental plants are listed on the Protect T/O label, including most annual and perennial spring crops. Users should note, however, that marigolds are not listed on the Protect T/O label. The label was developed from a careful review of research using mancozeb fungicides. This research indicated that mancozeb caused a burning of marigold foliage.

It is important to apply these fungicides with full coverage spraying equipment. When this is done, a visible residue of the fungicides

will remain after the spray has dried. Your inspection of this residue will be your best way to evaluate the spraying effectiveness. If you are getting excessive spotting, adjust the sprayer to deliver finer droplets and use a bit more Clearspray T/O.

Under Bench Treatments for Greenhouse Insect and Disease Management

The area under the greenhouse bench has often been mentioned as an area of concern when considering sanitation for disease and insect management. Disease causing pathogens can survive in damp spots or in weeds under benches. Certain stages in the life cycle of insects take place on the soil or gravel beneath the benches as well.

One other concern that has recently come to our attention from a well known grower has been the residual chemical contamination under the benches. Many fertilizer and pesticide chemicals drip or leach onto and into this area. While there, they undergo photo and bacterial degradation, and various other chemical reactions. The new chemicals formed may be volatile, and could vaporize upwards and damage your crops.

Under the bench treatment once or twice year with Cleary's D-TOX liquid activated charcoal has been shown to neutralize or tie up almost all of the chemicals found in the under bench environment. One of the immediate changes you may note will be the elimination of odors that you had thought were "normal" for the greenhouse. D-TOX liquid is a dustless form of activated charcoal that is easily applied through an injector. There is no dust!

Two other under bench treatments have been shown to be of value. Cleary's Limestone F will serve to raise the pH of the under bench soil or gravel. When this is done, algal growth is impeded and thrips pupal emergence is somewhat lessened. In addition, alkaline hydrolysis of residual pesticides is enhanced. The Limestone F is almost colorless when applied and is easy to apply through an injector. Use it diluted 1:1 in the stock tank of a 1:100 injector. Keep the stock tank well agitated. Apply 100 gallons of the final suspension over 1000 square feet.

Cleary's Knox Out® GH is a microencapsulated form of diazinon that is very effective for thrips control in the greenhouse. When the thrips population gets very high, it has been found that under bench treatments with Knox Out® will help lessen the emergence of thrips from their pupae. This can be a valuable additional tool in bringing a high thrips population under control as quickly as possible. Fungus gnats will also be controlled with this application.

This one-two-three program of under the bench treatments will enhance the cleanliness of the greenhouse environment and will provide several positive benefits to enhance the quality of your crops. Be sure and apply the treatments as three separate operations a day or two apart.

Using Clearspray T/O as a Spray Adjuvant

We have repeatedly mentioned the use of Clearspray T/O, a latex based adjuvant, as a superior spreader/sticker for use with our preventive fungicide programs involving Protect T/O and 3336. Since announcing this use, we have heard from many growers who have found it to work well.

Two questions are commonly asked. The first is, how much Clearspray T/O should be used. We recommend only 2 to 4 ounces per 100 gallons of made up spray. You may note that older labels of Clearspray T/O give a rate for the product when used as an anti-transpirant. This rate is one gallon per 100 gallons. It is not necessary to use this much Clearspray T/O when using it as a spreader/sticker! You should observe the effect of your actions soon after spraying. If the water droplets are beading on the foliage, use a bit more Clearspray T/O. Add it last to an almost full spray tank. Keep agitating the suspension during the application.

The other question that is often asked is that of using Clearspray T/O with other products. We have no evidence that Clearspray T/O would be any better or worse than any other non-ionic spreader/sticker in a general tank mix. On the other hand, since this is a new spreader/sticker approach, there can be no general recommendations coming forth at this time. As with any spreader/sticker adjuvant recipe that you might wish to use, try it on a few plants, wait a week, and check for safety.

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