

Controlling Vinca Diseases

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Annual vinca (*Catharanthus roseus*) remains an important crop for many bedding producers as well as homeowners and landscapers. They are colorful and heat tolerant making them an excellent choice for southern landscapes. Unfortunately, they are subject to many diseases that can occur during production or in the landscape. *Phytophthora parasitica* and *Rhizoctonia solani* cause two of the most common diseases. *Phytophthora* causes an aerial blight that can be devastating once introduced into a ground bed since it can persist in the soil and attack many other bedding plants. *Rhizoctonia* on the other hand causes a stem rot primarily that attacks young seedlings most commonly.

During the past few years we have looked at a number of new chemicals for control of vinca diseases caused by *Rhizoctonia*. Four fungicide trials were conducted with *Rhizoctonia* stem rot on vinca. Comparisons were made of standards such as 3336, Chipco 26GT and Terraclor with biological products like PlantShield and Companion. Table 1 shows the results of these four trials. The fungicides were applied as soil drenches at about 1 pint/square foot of surface area. They were applied once before inoculation with *Rhizoctonia* and sometimes 2 more times on a 7 or 14-day interval. The only product that was not applied this way was Dithane, which was applied as a "sprench" to minimize root contact. Mancozebs are usually damaging to the roots of bedding plants. The amount of mancozeb in Junction is relatively low, making it act most like a copper product. Our tests have shown many copper products to be safely drenched on some plants. Be sure to test all product safety on your crops under your conditions before launching into large scale use.

The best fungicides overall continue to be Medallion, Terraclor and 3336. The two biological control products were tested a single time only. Companion is a bacterium while PlantShield is a fungus. The failure of Companion in this trial may be due to insufficient time between application and infection with *Rhizoctonia*. A minimum of 7 days is recommended and our test allowed only 3 days. RootShield did not work well in this trial, probably due to the very low rates of use. This product has been very effective in other trials when we used 16 oz/100 gal as a drench but is usually better on *Rhizoctonia* root rot than on *Rhizoctonia* stem rot.

A couple of years ago we have evaluated some of the newer cultivars inoculated with *Phytophthora* and *Rhizoctonia* (Table 2). This test indicates that Burgundy Pearl may be a good choice for minimizing both diseases. Each year we are faced with new cultivars of familiar plants as well as new diseases and new fungicides. Happily choices for the grower appear to be increasing instead of decreasing. The best control strategy is still to prevent the disease through a combination of cultural, biological, and chemical techniques. Chase Research Gardens will continue to bring you the most up to date information on ornamental disease control.

Table 1. Efficacy of some fungicides on Rhizoctonia stem rot on Vinca.

<i>Fungicide</i>	<i>Active Ingredient</i>	<i>Rate</i>	<i>Results</i>
3336	Thiophanate methyl	8-24 oz	Poor-excellent
Banrot	Thiophanate methyl and etridiazole	8 oz	Poor
Camelot	Copper hydroxide	1-5 pint	Poor
Chipco 26GT or Chipco 26019	Iprodione	1.5 quart	Excellent
Companion	<i>Bacillus subtilis</i>	1 pint	Poor (not enough colonization time)
Dithane Rainshield	Mancozeb	1.5 lb	Poor (caused phytotoxicity)
Junction	Mancozeb and copper hydroxide	1.5-3 lb	Very Good
Kocide TNO	Copper Hydroxide	2 lb	Poor
Medallion	Fludioxinil	1 oz	Excellent
RootShield	<i>Trichoderma harzianum</i>	2-8 oz	Poor
Terraclor	PCNB	4-6 oz	Good-excellent
Terraguard	Triflumizole	3 oz	Very good

Table 2. Reaction of seven vinca cultivars to Phytophthora aerial blight and Rhizoctonia stem rot.

Cultivars	Phytophthora	Rhizoctonia
Burgundy Pearl	2.1 abcd**	1.0 a
Pacifica Burgundy	3.6 c	1.3 a
Pacifica Coral	3.3 de	1.0 a
Pacifica Red	1.8 ab	1.9 ab
Pacifica White	2.6 bcde	1.5 ab
Victory Red	1.8 ab	1.6 ab
Victory White	2.8 bcde	1.0 a

* Lower numbers represent lower disease. The plants were rated on the following scale: 1 = no disease (healthy), 2 = slight disease, 3 = moderate disease, 4 = severe disease, and 5 = dead.

** Numbers in the same column followed by the same letter were not significantly different.