

UPDATE ON CONTROLLING VINCA DISEASES

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Vincas (*Catharanthus roseus*) remain an important crop for many bedding plant 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. *Rhizoctonia* on the other hand causes a stem rot primarily that attacks young seedlings most commonly.

Over the past 18 months we have looked at a number of new chemicals for control of vinca diseases caused by *Phytophthora* and *Rhizoctonia*. In addition, we have evaluated some of the newer cultivars for resistance to these fungal pathogens. The following report summarizes our results.

A single test was run with both diseases on seven cultivars of vinca. Only slight disease developed on any plants inoculated with *Rhizoctonia*, while moderate -severe disease developed on some cultivars inoculated with *Phytophthora* (Table 1). This test indicates that Burgundy Pearl may be a good choice for minimizing both diseases.

Four fungicide trials were conducted with *Rhizoctonia* stem rot on vinca. Comparisons were made of standards such as 3336 and Terraclor with biologicals like RootShield and Companion, and newer products such as Enable and Chipco 26GT. Table 2 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 7-14 day interval. The only product that was not applied this way was Dithane, which was applied as a "sprenc" to minimize root contact. Mancozeb is usually damaging to the roots of bedding plants.

The best fungicides overall have been Medallion, Terraclor and 3336. Enable also provided excellent control. This is a fungicide being researched by Rohm & Haas. The two biological control products were tested a single time only. Companion is a bacterium while RootShield 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.

Each year we are faced with new cultivars of familiar plants as well as new diseases and new fungicides. 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. Reaction of seven vinca cultivars to *Phytophthora* aerial blight and *Rhizoctonia* stem rot.

<u>Cultivar</u>	<u>Phytophthora*</u>	<u>Rhizoctonia</u>
Burgundy Pearl	2.1 abcd**	1.0 a
Pacifica Burgundy	3.6 e	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.

Table 2. Efficacy of some fungicides for control of *Rhizoctonia* stem rot on vincas.

<u>Fungicide</u>	<u>Active ingredient</u>	<u>Rate</u>	<u>Results</u>
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	Iprodione	1.5 quart	Excellent
Companion	<i>Bacillus</i>	1 pint	Poor (not enough colonization time)
Dithane Rainshield	Mancozeb	1.5 lb	Poor (caused phytotoxicity)
Enable	Fenbuconazole	3 oz	Excellent
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</i>	2-8 oz	Poor
Terraclor	PCNB	4-6 oz	Good-excellent
Terraguard	Triflumizole	3 oz	Very good

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