



Fighting Off Fall Pansy and Viola Diseases

GGSPRO Tech Tip

Few crops can compete with the performance of pansies and violas during the fall season! For many regions, fall pansies are a landscape staple, providing impressive color through the autumn and winter months. In northern regions, pansies provide fresh fall colors and can overwinter to provide an early burst of color in the spring. Plant breeders have ensured there's a lot to enjoy: a myriad of colors, flower sizes, and new plant habits. From the grower perspective, pansies also provide a welcome profit center that's independent of spring.

Even with improved genetics, pansies are still a cool-season crop. Fall-flowering crops are typically started when the weather is quite warm, even hot, and therein lies the challenge from a disease-prevention standpoint. Two diseases of the root and crown area earn mentions for being particularly challenging for fall pansy production: Thielaviopsis and Phytophthora.

Black Root Rot: Thielaviopsis

Thielaviopsis, also known as Black Root Rot, is a devigorating disease of pansies that is inhibited to some extent at a soil pH below 5.8. Warning signs include roots that darken and are reluctant to grow out of the original plug. Infestations are often random in appearance with stunted pansies right alongside plants that are thriving. Unless you have a microscope and can identify Thielaviopsis spores in the roots, suspicious plants should be sent to a plant diagnostic lab for a positive identification.



Pansy, Thielaviopsis

Plants infected with *Thielaviopsis* cannot be salvaged, meaning fungicide treatments can only be used to protect adjacent healthy plants. Given the susceptibility of pansies and the environmental stresses early in production, GGSPro recommends a preventative fungicide drench soon after transplanting. The products we recommend for *Thielaviopsis* also control *Rhizoctonia*.

Phytophthora

Phytophthora is seldom found in winter/spring-grown pansies but can cause substantial losses in late summer and early fall. Warm temperatures and abundant splashing water favor this fast-moving algae. The *Phytophthora* zoospores (swimming stage) can readily move about and enter healthy plants via the drain holes in pots and flats. For this reason, growing the crop up off the ground is very desirable. Benches are ideal; however, inverted flats or 1" PVC pipes under the flats will serve the purpose.

Effective fungicides may be applied to address *Phytophthora*, but to be successful it's important to reduce the risk for spread. Learning to identify the early symptoms as well as the conditions that make disease expression more likely is also key. Watch for sudden stem constriction and collapse at the crown. Rootshield Plus is a fungal-based preventative fungicide that includes *Phytophthora* prevention due to the addition of a second strain of *Trichoderma* to the original formulation. It's also labeled for the prevention of *Thielaviopsis*. Chemical control options appear in the table below.

Pansy Care: Additional things to look for:



Pansy, Anthracnose (Colletotrichum sp.)

Anthracnose

Anthracnose symptoms on pansies generally appear as large necrotic and chlorotic lesions that are somewhat irregularly shaped. Often, faint concentric rings can be detected within the necrotic tissue. Botrytis can be especially problematic as early blooms begin to senesce and "melt," sometimes involving adjacent foliage. *Cercospora* often manifests itself with dark purple spots, some of which have tan centers, giving rise to the "fish-eye" description.

Pythium is another water mold that can cause root rot in fall pansies. Over-fertilization, poor drainage that leads to containers in standing water after heavy rains and irrigations and heat stress can predispose fall pansies to this common foe.

Foliar diseases become more prevalent as the crop progresses and the weather cools. Anthracnose (*Colletotrichum*), Botrytis, and *Cercospora* are among the troublemakers.



Pansy, Cercospora

Much more information on these and other diseases that affect pansies is available through GGSPro and the GGSPro 5th Edition Reference Guide, which includes cultural and chemical controls, as well as helpful diagnostic pictures.

The tables below also contain fungicide suggestions.

Products for Pansies Root and Crown Diseases

Apply as soil drenches except as noted.

Fungicide	MOA	Comments	Item Number
Thielaviopsis			
Affirm	19	Chemigation label approved	71-1129
Cleary's 3336 EG	1	Max label rate, re-apply in 3 weeks	71-2550
Cleary's 3336 F	1	Max label rate, re-apply in 3 weeks	71-2575
Medallion	12	2 oz per 100 gals rate	71-16502
Mural	7 & 11	Broad-spectrum control	71-1690
OHP 6672 F	1	Max label rate, re-apply in 3 weeks	71-2670
OHP 6672 WSP	1	Max label rate, re-apply in 3 weeks	71-2672
Orkestra Intrinsic	7 & 11	Broad-spectrum control	71-2200
Rootshield Plus G	UN	Pre-incorporation	71-27911
Rootshield Plus WP	UN	Best applied at time of transplant	71-27951

Fungicide	MOA	Comments	Item Number	
Spirato GHN	12	Formerly called Emblem	71-1570	
Fungicide	MOA	P= Pythium Ph= Phytophthora	Comments	Item Number
Actinovate SP	NC	P	Best applied at the time of transplant	71-1118
Adorn	43	Ph	Foliar spray or drench	71-1130
Areca	33	Ph	Foliar spray, avoid open bloom	71-1180
Aliette	33	Ph	Foliar spray, avoid open bloom	71-11352
Banrot	1 & 14	P, Ph	Soil drench, use max label rate	71-1210
Broadform	7 & 11	Ph	Foliar spray aerial Phytophthora only	72-1290
Fenstop	11	P, Ph	Foliar spray or drench	71-14801
Fosphite	33	Ph	Foliar spray or drench	71-1520
Heritage	11	Ph	Foliar spray or drench, preventative	71-1400
Kleengrow	NC	P, Ph	Do not combine with fertilizer	74-21151
Micora	40	Ph	Foliar spray or drench	71-1655

Fungicide	MOA	Comments	Item Number
Orkestra Intrinsic	7 & 11	Ph	New product, trial for plant safety 71-2200
Orvego	40 & 45	Ph	Foliar spray or drench 71-2300
Phostrol	33	Ph	Foliar spray or drench 71-1520
Rootshield G	NC	P	Pre-incorporation 0
Rootshield WP	NC	P	Best applied at the time of transplant 71-27901
Rootshield Plus G	NC	P, Ph	Pre-incorporation 71-27911
Rootshield Plus WP	NC	P, Ph	Best applied at the time of transplant 71-27951
Segovis	U15	Ph	Foliar spray or drench 71-3100
Segway	21	P, Ph	Foliar spray or drench 71-31101
Stature SC	40	Ph	Foliar spray or drench 71-14652
Subdue MAXX	4	P, Ph	Some resistance reported 71-2978
Terrazole L	14	P, Ph	Stronger vs Pythium 71-3025
Truban EC	14	P, Ph	Stronger vs Pythium, no tank mixing 71-3070

Fungicide	MOA	Comments	Item Number
Truban WP	14	P, Ph	Stronger vs Pythium 71-3065

Products for Common Pansies Foliar Diseases

Fungicide	MOA	Anthracnose	Botrytis	Cercospora	Item Number
Affirm	19		x	x	71-1129
Astun	7		x		71-1190
BotryStop	NC		x		71-1260
Broadform	7 & 11	x	x	x	71-1290
Camelot O	M1	x		x	70-21202
Cease	44	x	x	x	71-13301
Daconil Ultrex	M5	x	x	x	71-1420
Daconil Weatherstik	M5	x	x	x	3117025
Eagle	3	x		x	71-1435
Fame	11	x		x	71-1505
Grotto	M1	x		x	71-2030

Fungicide	MOA	Anthracnose	Botrytis	Cercospora	Item Number
Heritage	11	x		x	71-1400
Kalmor	M1	x		x	71-2050
Medallion	12	x	x	x	71-16502
Mural	7 & 11	x	x	x	71-1690
Nordox	M1	x		x	71-1700
Orkestra Intrinsic	7 & 11	x	x	x	71-2200
Pageant Intrinsic	7 & 11	x	x	x	71-26801
Palladium	9 & 12	x	x	x	71-2685
Phyton 35	M1	x		x	71-2737
Protect DF	M3	x	x	x	71-2748
Spirato GHN	12	x	x	x	71-1570
Triathlon BA	44	x	x	x	71-3040
Trigo	3 & 11	x	x	x	70-3035
Zerotol 2.0	NC	x	x		71-35501

Read and follow all label directions. The label is the law! Products other than those mentioned may also be safe and effective. Some pesticides may be restricted-use or unregistered in certain states.