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Potato Seed Treatments and Soil Applications During Planting

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Do not use treated seed for food, feed, or fodder.

Potato seed treatment often receives less attention within a whole-season disease control program. Ensuring that seed piece is properly suberized and treated leads to a more consistent and healthier plant stand. Slowly warming the seed potatoes to 50-55°F before handling and using sharp knives while cutting minimizes bruising. After cutting, storing seeds at 50-55°F for minimum of three days with good air circulation and relative humidity promotes wound healing, and therefore reduces disease risk. However, wound healing speeds up the physiological aging of the seed, therefore the duration of storage for wound healing needs to be adjusted carefully. Some seed treatment agents require immediate planting after treatment; therefore, it is recommended to follow the product label and plan accordingly. It's crucial to apply the suitable treatment material correctly; excessive chemical application could be harmful, particularly if it builds up in the tuber eyes, while insufficient coverage may not fully shield the seed piece. Nowadays, numerous seed treatments are designed with carriers such as Douglas fir or alder bark, which have been noted to enhance the healing of the cut surface. Consider using the combination products containing mancozeb and cymoxanil for seed lots that are at risk of late blight infection.

Treatment of seed pieces with fungicides will not, by itself, control seed piece decay caused by bacteria. To minimize the surface spread of bacterial pathogens, it is recommended to speed up pile drying and desiccate surface bacteria. The conditions that promote wound healing, good air circulation and 50-55°F air temperature, in addition to limiting pile height, helps reduce surface spread of the bacterial pathogens.

CAUTION: Dip treatments may spread pathogens to seed pieces that were previously not affected; therefore, dip treatments are not recommended.

Chemical: Fludioxonil

Remarks: Fungicide Resistance Group 12. The reentry interval is 12 hours.

Trade Name	Rate of product	Comments
Maxim PSP	0.5 lb/100 lbs of seed	
Spirato 480 FS	0.08-0.16 fl oz/100 lbs of seed	Spirato 480 FS seed treatments must be made through specific types of equipment. Contact the manufacturer for information. For seed potato production, follow additional instructions in the label.

Chemical: Fludioxonil + Mancozeb

Remarks: Fungicide Resistance Group 12 + M3. The reentry interval is 24 hours.

Trade Name	Rate of product	Comments
Maxim MZ	0.5 lb/100 lbs of seed	

Chemical: Fludioxonil + Difenoconazole + Sedaxane + Thiamethoxam

Remarks: Fungicide Resistance Group 12 + 7 + 3 plus neonicotinoid insecticide Resistance Group 4A. The reentry interval is 12 hours.

Trade Name	Rate of product	Comments
Cruiser Maxx Vibrance Potato	0.5 fl oz/100 lbs of seed	See label for ai/year recommendations.

Chemical: Mandipropamid + Difenoconazole + Sedaxane

Remarks: Fungicide Resistance Group 3 + 40 + 7.

Trade Name	Rate of product	Comments
Vibrance Ultra Potato	0.50 fl oz in 2-4 fl oz slurry mixture/100 lbs of seed	In high humidity, it is advisable to use drying fans on the treated potato seed pieces. If possible, allow treated tubers to dry during transit and plant the same day as treatment after potatoes have been cut.

Chemical: Penflufen + Prothioconazole

Remarks: Fungicide Resistance Group 7 + 3. The reentry interval is 12 hours.

Trade Name	Rate of product	Comments
Emesto Silver	0.31 oz./100 lbs of seed	As part of the seed cutting and treating process, application of an inert absorbent ingredient is recommended to improve suberization.

Chemical: Flutolanil

Remarks: Fungicide Resistance Group 7. The reentry interval is 12 hours.

Trade Name	Rate of product	Comments
Moncut SC	16-25 fl oz/acre. See label for label in furrow application rates for each row width.	Apply as in-furrow spray by directing spray uniformly around and over the seed piece in a 4-8 inch band prior to covering with soil. prior to covering with soil.

Chemical: Flutolanil + Mancozeb

Remarks: Fungicide Resistance Group 7 + M3. The reentry interval is 24 hours.

Trade Name	Rate of product	Comments
MonCoat MZ	0.75-1.0 lb/100 lbs of seed	Apply to the seed pieces immediately after cutting. Use dispensing equipment that will give thorough coverage of the dust to the cut seed-piece surfaces.

Chemical: Mancozeb

Remarks: Fungicide Resistance Group M3. The reentry interval is 24 hours.

Trade Name	Rate of product	Comments
Potato Seed Treater PS	1.0 lb/100 lbs of seed	Plant as soon after treatment as possible. Provides some control of late blight and <i>Fusarium</i> spp. on cut seed.

Chemical: Mefenoxam

Fungicide Resistance Group 4. The reentry interval is 48 hours. Do not apply more than the maximum yearly total application rate for the active ingredient as stated on the label of the product containing the lowest yearly total on that crop.

Trade Name	Rate of product	Comments
Ridomil Gold SL	0.42 oz/1000 linear feet	For use only at planting. Do not use dribble (admire) applicators. Apply at a 6-8 inch band.
Ultra Flourish	0.84 oz/1000 linear feet	For use only at planting. Do not use dribble (admire) applicators. Apply at a 6-8 inch band.

Chemical: Mefenoxam + Oxathiapiprolin

Fungicide Resistance Group 4 + 49. The reentry interval is 48 hours. Do not apply more than the maximum yearly total application rate for the active ingredient as stated on the label of the product containing the lowest yearly total on that crop.

Trade Name	Rate of product	Comments
Orondis Gold	27.8 fl oz/A	Apply as a 6-8 inch band directly over the seed pieces in the furrow, then close the furrows. Make application in 3-15 gal/A.

Chemical: Azoxystrobin

Remarks: Fungicide Resistance Group 11. The reentry interval is 4 hours.

Trade Name	Rate of product	Comments
Quadris	0.4 - 0.8 oz/1000 linear feet	Apply as a directed spray in a band 7 inches or less in 3 to 15 gallons of water per acre.

Chemical: Azoxystrobin + Benzovindiflupyr

Remarks: Fungicide Resistance Group 11+ 7. The reentry interval is 12 hours.

Trade Name	Rate of product	Comments
Elatus	0.34 - 0.5 oz/1000 linear feet	Apply as a directed spray in a narrow band over the seed piece. Minimum of 10 gallons of water per acre.

Chemical: Cymoxanil

Remarks: Fungicide Resistance Group 27. The reentry interval is 12 hours.

Trade Name	Rate of product	Comments
Curzate 60DF	0.25 oz/cwt of seed	Labeled only for late blight. Must be combined with other fungicides which have registered seed piece treatment uses in potatoes. Apply by mist seed treating equipment.

Chemical: Fluopyram

Remarks: Fungicide Resistance Group 7. The reentry interval is 12 hours.

Trade Name	Rate of product	Comments
Velum Prime	6 – 6.84 fl oz/A	Apply as an in-furrow spray during planting directed on or below seed. Also works against nematodes, white mold and early blight.

Chemical: Fluopyram + Penflufen

Remarks: Fungicide Resistance Group 7. The reentry interval is 12 hours.

Trade Name	Rate of product	Comments
Velum Rise	13 fl oz/A	Apply as an in-furrow spray at planting. Also works against nematodes, white mold and early blight.

Biological: *Bacillus subtilis*

Remarks: Fungicide Resistance Group BM02. The reentry interval is 4 hours.

Trade Name	Rate of product	Comments
Serenade ASO	2- 4 qts/acre	Biological material that performs better under low disease pressure.

Biological: *Bacillus amyloliquefaciens*

Remarks: Fungicide Resistance Group BM02. The reentry interval is 4 hours.

Trade Name	Rate of product	Comments
DoubleNickel LC	0.5- 4.5 pints/acre	Biological material that performs better under low disease pressure.
Bexfond	7-14 fl oz/acre	At sites with high soil disease infestation in the past, use the maximum listed application rate and reapply at 4- to 8-week intervals.

Biological: *Trichoderma harzianum*

Remarks: Fungicide Resistance Group BM02. The reentry interval is 4 hours. Not effective in cool (below 50°F) soils.

Trade Name	Rate of product	Comments
Rootshield Plus+ WP	Varies based on application method	

Comparison of Seed Treatments and Soil Applications During Planting According to Labels

Product	<i>Rhizoctonia</i>	<i>Fusarium</i>	Silver Scurf	Common Scab	Late Blight	Pink rot//Pythium leak	Black dot	Verticillium wilt
Maxim PSP	+	+	+	-	-	-	-	-
Spirato 480 FS	+	+	+	-	-	-	-	-
Maxim MZ	+	+	+	-	+	-	-	-
Cruiser Maxx Vibrance Potato	+	+	+	-	-	-	-	-
Vibrance Ultra Potato	+	+	+	-	+	+**	-	-
Emesto Silver	+	+	+	-	-	-	-	-
Moncut SC	+	-	-	-	-	-	-	-
MonCoat MZ	+	+	+	-	+*	-	-	-
Potato Seed Treater PS	-	+	-	-	-	-	-	-
Ridomil Gold SL	-	-	-	-	-	+	-	-
Ultra Flourish	-	-	-	-	-	+	-	-
Orondis Gold	-	-	-	-	-	+	-	-
Quadris	+	-	+	-	-	-	+	-
Elatus	+	-	+	-	-	-	+	-
Curzate 60 DF	-	-	-	-	+	-	-	-
Velum Prime	-	-	-	-	-	-	+	+
Velum Rise	+	-	-	-	-	-	+	+
Serenade ASO	+	+	-	+	-	+	+	+
DoubleNickel LC	+	+	-	-	-	+	-	+(S)
Bexfond	+	+	-	+	-	+**	-	+
Rootshield Plus+ WP	+	+	-	-	-	+	-	-

+ : Labeled. - : Not Labeled. (S): Suppression only

*: Moncoat MZ is only effective against surface late blight infection between seed piece contact. Not effective against systemic seed piece or airborne late blight infections.

** : Vibrance Ultra Potato and Bexfond are labeled for pink rot causal agent, *Phytophthora* spp., but not for Pythium leak.

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