

EVALUATION OF FUNGICIDES FOR CONTROL OF PINK ROT ON POTATO, 2004

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Location: San Luis Valley Research Center, Center, CO

Cultivar: Russet Norkotah selection 8, cut seed, 2-4 oz.

Objective: To evaluate the efficacy of various fungicides in controlling pink rot in potato.

Application: In-Furrow treatments were applied using an R & D CO₂ charged backpack sprayer at 35 PSI, with two XR 8002VS nozzle, at 10 gallons/acre as a directed in-furrow application. Foliar treatments were applied using an R & D CO₂ charged backpack sprayer at 35 PSI, with two XR 8002VS nozzles, at 20 gallons/acre. Foliar applications were scheduled on a weekly basis (i.e. 1 = week 1, 2 = week 2).

Program	Infurrow		Foliar (Foliar applications began on July 9, 2004)		
	Products	Rate	Products	Rate	Application Schedule
1.	Control, no treatment	-	Control, no	-	-
2.	Reason	300 g.ai./HA	Reason	300 g.ai./HA	1,3
			Bond	0.1 % V/V	1
			Dithane 75DF	680 g.ai./A	2,5
3.	Ridomil Gold 4EC	0.21 oz./1000 row ft.	Ridomil Gold 4EC	3.23 fl.oz./A	1
			Dithane 75DF	680 g.ai./A	1,2,3,5
4.	Omega	16.0 fl.oz./A	No Treatment		
5.	Omega	32.0 fl.oz./A	No Treatment		
6.	Ridomil Gold 4EC	0.42 fl.oz./1000 row ft.	No Treatment		
7.	No Treatment		Ridomil Gold 4EC	0.42 fl.oz./1000 row ft.	(At emergence)
8.	No Treatment		Ridomil Gold 4EC	3.23 fl.oz./A	1,3

Planted: May 5, 2004

Plot Design: Randomized complete block

Plot Size: 2 - 20 foot rows per treatment per replication

Plant Spacing: 12 inches

Row Spacing: 34 inches

Replications: Four

Irrigation: Solid set sprinkler, rate based on ET

Fertilizer: 80N-60P-40K-25S-2.5Zn, preplant, 20N through sprinkler after tuber set

Herbicide: Sencor, 0.66 lb./A + Dual Magnum, 1.5 pt./A + Spartan, 2.66 oz./A

Insecticide: None

Vine Killer: Mechanically removed on September 2, 2004

Harvested: September 13 & 14, 2004

DATA

Disease: Percent tubers with pink rot at harvest and at grading and after harvest by challenge inoculation. The plot received an additional 7.0 inches of water over the course of a month (August 4th to September 9th) to induce pink rot.

Yield: 2-20 foot row per treatment per replication, total yield expressed as cwt/A.

Grade: By hand, percent tubers by weight in pounds < 4 oz., 4-10 oz., > 10 oz., US #2's, and culls.

Table 1. Effects of products, applied at planting and in season for control of pink rot, on tuber yield and quality in the cultivar Russet Norkotah Selection 8, San Luis Valley, Colorado, 2004.

Program	Infurrow	Foliar (Foliar applications began on July 9, 2004)		Percent ^a					
		Products/Rate	Application Schedule ^c	< 4 oz.	4-10 oz.	> 10 oz.	US #2s	Culls	Cwt/A ^b
1.	Control, no treatment	Control, no treatment	-	8.6	41.1	48.7	0.0	1.6	354.3
2.	Reason @ 300 g.ai./HA	Reason @ 300 g.ai./HA	1,3	7.7	40.7	51.0	0.6	0.1	368.3
		Bond @ 0.1% V/V	1						
		Dithane 75DF @ 680 g.ai./A	2,5						
3.	Ridomil Gold 4EC @ 0.21 fl.oz./1000 rowft.	Ridomil Gold 4EC @ 3.23 fl.oz./A	1	8.8	42.7	47.2	0.7	0.8	319.2
		Dithane 75DF @ 680 g.ai./A	1,2,3,5						
4.	Omega @ 16.0 fl.oz./A	No Treatment		10.7	45.9	42.0	0.9	0.5	304.5
5.	Omega @ 32.0 fl.oz./A	No Treatment		9.3	46.6	43.6	0.1	0.5	316.2
6.	Ridomil Gold 4EC @ 0.42 fl.oz./1000 rowft.	No Treatment		10.7	44.1	43.4	0.3	1.6	366.1
7.	No Treatment	Ridomil Gold 4EC @ 0.42 fl.oz./1000 rowft.	(At emergence)	7.4	40.5	50.7	0.3	1.2	364.9
8.	No Treatment	Ridomil Gold 4EC @ 3.23 fl.oz./A	1,3	9.1	40.8	49.0	0.0	1.1	321.9
LSD(P=0.05)				NS	NS	NS	NS	NS	NS

^a Based on tuber weight in pounds, mean of four replications.

^b Total yield expressed as hundred weight per acre, 2-20 foot rows per treatment per replication, mean of four replications.

^c Foliar applications were scheduled on a weekly basis (i.e. 1 = week 1, 2 = week 2).

Table 2. Effects of products, applied at planting and in season, on pink rot in the cultivar Russet Norkotah Selection 8, San Luis Valley, Colorado, 2004.

Program	Infurrow	Foliar (Foliar applications began on July 9, 2004)		Incidence of tuber rot ^a	Pink Rot ^b
		Products/Rate	Products/Rate		
1.	Control, no treatment	Control, no treatment	-	1.55	60.0 a
2.	Reason @ 300 g.ai./HA	Reason @ 300 g.ai./HA	1,3	0.06	-
		Bond @ 0.1% V/V	1		
		Dithane 75DF @ 680 g.ai./A	2,5		
3.	Ridomil Gold 4EC @ 0.21 fl.oz./1000 rowft.	Ridomil Gold 4EC @ 3.23 fl.oz./A	1	0.41	0.0 b
		Dithane 75DF @ 680 g.ai./A	1,2,3,5		
4.	Omega @ 16.0 fl.oz./A	No Treatment		0.25	-
5.	Omega @ 32.0 fl.oz./A	No Treatment		1.36	-
6.	Ridomil Gold 4EC @ 0.42 fl.oz./1000 rowft.	No Treatment		1.22	2.5 b
7.	No Treatment	Ridomil Gold 4EC @ 0.42 fl.oz./ 1000 rowft.	(At emergence)	0.53	21.7 b
8.	No Treatment	Ridomil Gold 4EC @ 3.23 fl.oz./A	1,3	0.15	7.5 b
LSD(P=0.05)				NS	24.76

^a Combined mean percent by weight of tubers showing water rot at harvest and at grading, four replications.

^b Percent tubers showing pink rot by post harvest tuber challenge inoculation, assays conducted by Dr. Gary Secor at North Dakota State University- Fargo, average of five tubers/treatment/replication.

^c Foliar applications were scheduled on a weekly basis (i.e. 1 = week 1, 2 = week 2).

Means followed by the same letters are not significantly different at P=0.05.

Effect of Ridomil Applications on Pink Rot in Tuber Challenge Inoculations in Russet Norkotah, Colorado, 2004

