

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

- Researchers:** Richard T. Zink and Andrew Houser, Colorado State University, SLVRC
- 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 for treatments 2 through 5 started weekly on July 29. Foliar applications started on July 9th for treatment 7.
- Treatments:**
1. Control, no treatment
 2. Proprietary
 3. Proprietary
 4. Proprietary
 5. Proprietary
 6. Omega @ 16.0 fl.oz./A(IF)
 7. Ridomil Gold 4EC @ 0.21 fl.oz./1000 row ft.(IF) + Ridomil Gold 4EC @ 3.23 fl.oz./A (Foliar) + Dithane 75DF @ 680 g.ai./A (Foliar)
- 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	In-furrow Product/Rate	Foliar Product/Rate ^a	Percent ^b					Cwt/A ^c
			< 4 oz.	4-10 oz.	> 10 oz.	US #2s	Culls	
1.	Control, no treatment	-	8.6	41.1	48.7	0.0	1.6	354.3
2.	-	Proprietary	8.0	42.6	48.3	0.0	1.2	322.4
3.	-	Proprietary	9.3	38.2	50.6	0.0	2.0	336.2
4.	-	Proprietary	10.2	40.5	48.0	0.4	1.0	313.5
5.	-	Proprietary	9.4	36.8	52.3	0.3	1.2	327.4
6.	Omega @ 16.0 fl.oz./A	-	10.7	45.9	42.0	0.9	0.5	304.5
7. ^d	Ridomil Gold 4EC @ 0.21 fl.oz./1000 row ft.	Ridomil Gold 4EC @ 3.23 fl.oz./A Dithane 75DF @ 680 g.ai./A	8.8	42.7	47.2	0.7	0.8	319.2
LSD(P=0.05)			NS	NS	NS	NS	NS	NS

^a All products for treatments 2 through 5 were applied weekly starting July 29 (five applications per treatment).

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

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

^d The foliar application of Ridomil Gold was applied on July 9th and the application of Dithane 75DF was applied on July 9th, July 16th, July 26th, and August 6th.

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	In-furrow Product/Rate	Foliar Product/Rate ^a	Incidence of tuber rot ^b	Pink Rot ^c
1.	Control, no treatment	-	1.55	40.0
2.	-	Proprietary	0.51	0.0
3.	-	Proprietary	1.04	0.0
4.	-	Proprietary	0.59	60.0
5.	-	Proprietary	1.43	20.0
6.	Omega @ 16.0 fl.oz./A	-	0.25	-
7. ^d	Ridomil Gold 4EC @ 0.21 fl.oz./1000 row ft.	Ridomil Gold 4EC @ 3.23 fl.oz./A Dithane 75DF @ 680 g.ai./A	0.41	0.0
LSD(P=0.05)			NS	-

^a All products for treatments 2 through 5 were applied weekly starting July 29 (five applications per treatment).

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

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

^d The foliar application of Ridomil Gold was applied on July 9th and the application of Dithane 75DF was applied on July 9th, July 16th, July 26th, and August 6th.