

Pink Rot – New Fungicides (1700 Series)

Location: Tappen, ND
Plot design: 2 rows X 25 feet X 4 replications; RCBD

Planting date: May 10, 2005
Row width: 36 inches
Seed spacing: 12 inches
Soil temperature: 61F

Cultivar: Russet Norkotah

Fertilizer: Pre-plant Incorporated: 40#N, 117#P, 270#K, 33#S, 1#B;
Banded Starter: 23#N, 69#P, 23#K, 1#Zn;
Sidedress: 123#N; May 26

Herbicide: Prowl (2.0 pt/a) + Matrix (1.5 oz / a); May 31
Matrix (1.0 oz/a); July 6

Insecticide: Platinum in-furrow (8.0 oz/a)
Asana (6.0 oz/a); July 20

Mefanoxam foliar treatment dates: July 1, 14

Fungicide application dates:	June 24	Dithane (2.0 lb/a)
	July 1	Bravo ZN (2.125 pt/a)
	July 6	Tanos (6.0 oz/a) + Manzate (1.5 lb/a)
	July 11	Bravo ZN
	July 20	Endura (3.0 oz/a) + Dithane (1.5 lb/a)
	July 26	Bravo ZN
	August 2	Tanos + Dithane (1.5 lb/a)
	August 11	Endura (4.5 oz/a) + Bravo Zn (1.0 pt/a)
	August 17	Dithane (2.0 lb/a)

Pink Rot inoculation method: Based upon the technique of R. P. Mulrooney and N. F. Gregory

Inoculum Preparation 2005

A sensitive isolate of *Phytophthora erythroseptica* were grown on clarified V8 agar (10%).

Cultures were incubated at 25 C in dark for 28 to 32 days (until oospores were produced).

First Plot Inoculation (May 10)

Contents of the culture plates (agar and fungus) were mixed with water and processed in an electric blender. A total of 160 culture plates were contained in 4000 ml of water. The resultant slurry was mixed with 5 gallons (22 liters) of vermiculate in the field at planting. This vermiculite mixture was sprinkled in-furrow at the rate of 1250 ml per 25 feet. This rate is equivalent to approximately 7-8 culture plates per 20 row feet.

Second Plot Inoculation (May 26)

Inoculum was prepared as described above, sprinkled at the base of emerged plants and covered at hilling.

Vinekill: Reglone (2.0 pt/a) + LI700 (2.0 pt/100 gal); August 25 & September 2

Harvest: September 30

Post Harvest Tuber Rot Evaluation:

Pink Rot - New Fungicides - Tappen Series 1700

Treatment	Rate	Timing	Total Yield (cwt/a)	Number of Rotten Tubers at Harvest
1701 Untreated Uninoculated			423.6	0.6
1702 Untreated Inoculated			209.2	22.8
1703 Ranman	0.21 oz / 1000 row ft	In-Furrow @ Planting	355.6	15.5
1704 Ranman	0.42 oz / 1000 row ft	In-Furrow @ Planting	396.1	9.4
1705 Ridomil Gold 4EC	0.42 oz / 1000 row ft	In-Furrow @ Planting	373.4	17.5
1706 Ridomil Gold Bravo	2.0 lb / a	Dime-Sized Tubers + 14 Days	224.2	21.9
1707 Phostrol	8.0 pt / a	In-Furrow @ Planting	323.6	15.9
LSD _{P=0.05}			54.2	7.3

Inoculate plot:

Use sensitive isolate of *P. erythroseptica*: 266-2

Both rows inoculated

Sampling:

Assess tuber rot at harvest and 30-45 DAH