Pink Rot – New Fungicides (1700 Series)

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

Planting date: May 13, 2003
Row width: 36 inches
Seed spacing: 12 inches
Soil temperature: 62F

Cultivar: Russet Norkotah

Fertilizer:

Pre-plant Incorporated:	14# N, 65# P, 300# K
Banded Starter:	58# N, 159# P, 23# S
Sidedress:	71# N, 21# S; June 4
Foliar:	15# N; July 7, 15, 21, 28

Herbicide: Prowl (2 pt/a) + Matrix (1.5 oz/a); June 9

Insecticide: Platinum in-furrow (8 oz/a)

Fungicide application dates: June 30, July 7, 15, 21, 28, August 4, 11, 19, 25, 31

Fungicide application method: Fungicides were applied using a converted ATV. (55 psi; 73 gpa; 11005XR nozzles)

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

Inoculum Preparation 2003
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
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
Inoculum was prepared as described above, sprinkled at the base of emerged plants and covered at hilling.

Vinekill: Rotobeat, September 17
Harvest: September 25

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Treatments 1703-1708 and 1723-1728 are confidential

Treatment		Rate	Timing	Schedule	# of Rows	Number of Rotten Tubers at Harvest	Total Yield (cwt/a)	% Rotten Tubers - 41 Days Post Harvest
1701	Dithane	2.0 lb/a	7 day	full season	2	0.0	448.4	0.0
	Uninoculated							
1702	Dithane	2.0 lb/a	7 day	full season	2	26.5	344.3	8.1
1709	Phostrol +	10.0 pt/a +		in-furrow	2	13.0	388.1	1.3
	Ultraflourish	0.84 oz/1000 row ft		in-furrow				
	Echo Zn	2.0 pt/a	7 day	full season				
1710	Phostrol	10.0 pt/a		in-furrow	2	12.4	372.5	4.4
	Echo Zn	2.0 pt/a	7 day	full season				
1711	Echo Zn	2.0 pt/a	7 day	1,3,5,7-10	4	18.5	354.4	1.9
	Phostrol	10.0 pt/a		2,4,6				
1712	Echo Zn	2.0 pt/a		1,3,5-10	4	18.0	356.2	6.3
	Ultraflourish +	0.84 oz/1000 row ft +	7 day	2,4				
	Echo Zn	2.0 pt/a						
1713	Phostrol +	10.0 pt/a +		in-furrow	4	7.1	427.3	0.0
	Ultraflourish	0.84 oz/1000 row ft						
	Echo Zn	2.0 pt/a	7 day	1,3,5-10				
	Phostrol	10.0 pt/a		2,4				
1714	Phostrol +	10 pt/a +		in-furrow	4	7.3	437.4	1.9
	Ultraflourish	0.84 oz/1000 row ft						
	Echo Zn	2.0 pt/a	7 day	1,3,5-10				
	Ultraflourish +	0.84 oz/1000 row ft +		2,4				
	Echo Zn	2.0 pt/a						
1715	Phostrol	10 pt/a		in-furrow	4	14.4	387.7	5.6
	Echo Zn	2.0 pt/a	7 day	1,3,5,7-10				
	Phostrol	10 pt/a		2,4,6				
1716	Uninoculated				2	0.0	410.2	0.0
	Echo Zn	2.0 pt/a	7 day	full season				

Treatment		Rate	Timing	Schedule	# of Rows	Number of Rotten Tubers at Harvest	Total Yield (cwt/a)	% Rotten Tubers - 41 Days Post Harvest
1717	Reason	8.2 oz / a		in-furrow	4	20.9	346.9	3.1
	Bravo WS	1.5 pt/a	7 day	1,3,5-10				
	Reason +	8.2 oz / a +		2,4				
	Bond	0.1% v/v						
1718	Previcur	19 oz / a		in-furrow	4	23.4	366.9	3.8
	Bravo WS	1.5 pt/a	7 day	1,3,5-10				
	Previcur +	19 oz / a +		2,4				
	Bravo 720	1.5 pt/a						
1719	Ridomil Gold EC	6.0 oz /a		in-furrow	4	5.9	427.9	0.0
	Bravo WS	1.5 pt/a	7 day	1,3,5-10				
	Ridomil Gold - Bravo	2.0 lb / a		2,4				
1720	Bravo WS	1.5 pt/a		1,3,5-10	4	29.3	330.0	10.0
	Reason +	8.2 oz / a +	7 day	2,4				
	Bond	0.1% v/v						
1721	Reason +	8.2 oz / a +		1,3	4	22.8	304.8	10.6
	Bond	0.1% v/v	7 day					
	Bravo WS	1.5 pt/a		2,4-10				
1722	Reason	0.36 oz/cwt seed		seed	4	28.1	332.8	5.0
	Bravo WS	1.5 pt/a		1,3,5-10				
	Reason +	8.2 oz / a +	7 day	2,4				
	Bond	0.1% v/v						
1729	Uninoculated				2	0.0	422.1	0.0
	Echo Zn	2.0 pt/a	7 day	full season				
1730	Bravo WS	1.5 pt / a		1,5,7,8,9,10	4	19.4	326.5	7.5
	Ridomil Gold MZ	2.5 lb / a	7 day	2,4				
	Quadris	6.2 oz / a		3,6				
$LSD_{P=0.05}$						7.4	43.4	6.1

NOTE: All treatments were inuculated unless noted otherwise.

For all 4 row treatments, the center two rows were inoculated. For 2 row plots, both rows were inoculated.