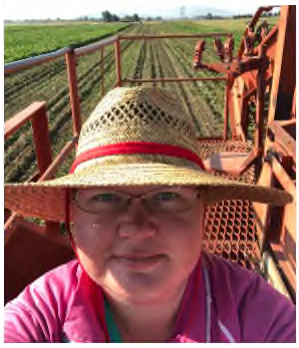
Welcome to the 2022 Miller Research Potato Pest Management Seminar

Thank You!

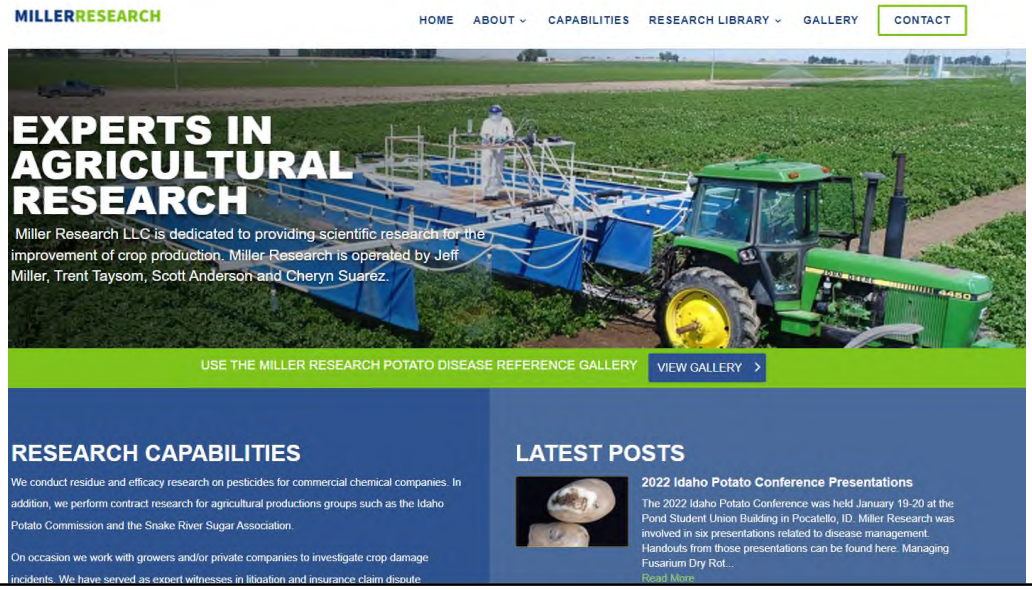
Dr. Nora Olsen and the University of Idaho Potato Storage Research Team

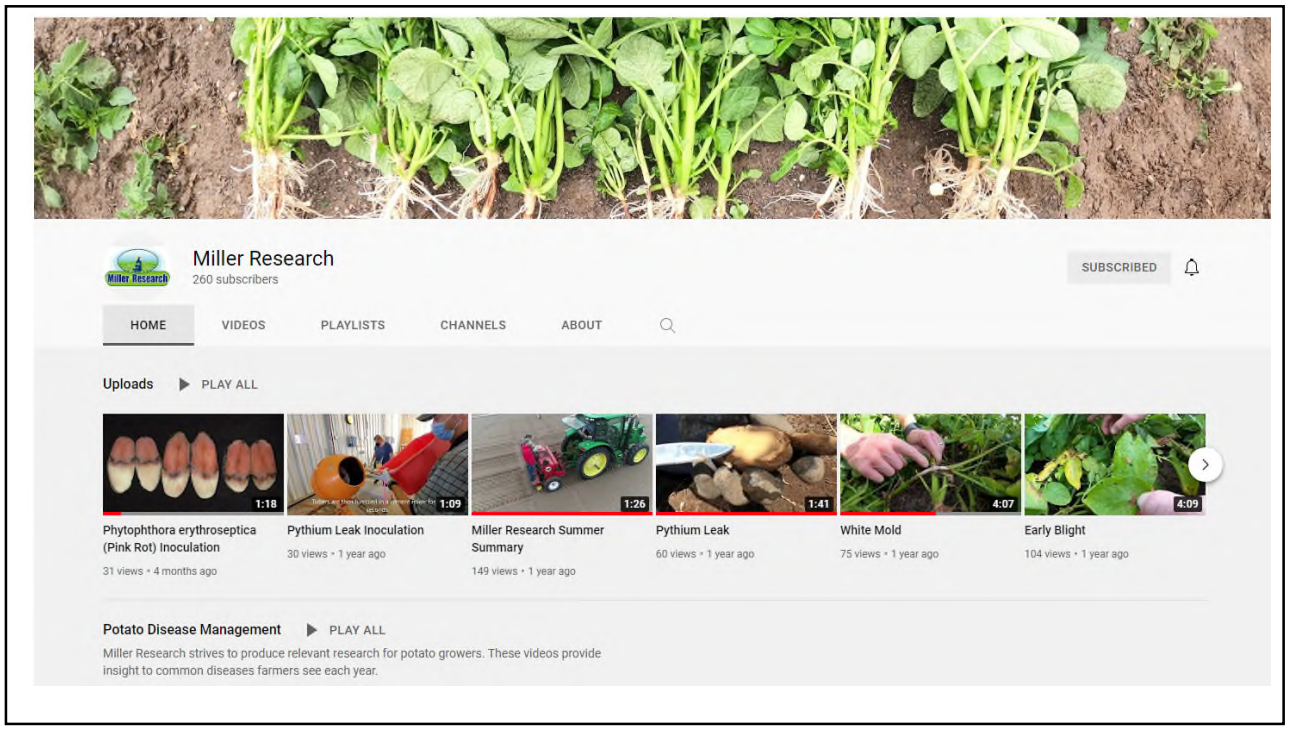
The 2021 Miller Research Team




Links to handouts and recordings

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Miller Research strives to produce relevant research for potato growers. These videos provide insight to common diseases farmers see each year.

Field Conditions

% Sand:	80	% OM:	0.91	Texture: Loamy sand	
% Silt:	13	pH:	7.1	Soil Name: Tindahay	
% Clay:	7	CEC:	8.0		

Salts (mmhos/cm)	0.4	Organic N (lb/acre)	35	Calcium (meq/100 g)	4.9
Chlorides (ppm)	7	Ammonium-N (ppm)	4.9	Magnesium (meq/100g)	1.8
Sodium (meq/100g)	0.20	Nitrate-N (ppm)	6	Zinc (ppm)	3.0
Excess Lime (%)	0.0	Phosphorus (ppm)	24	Iron (ppm)	17.2
		Potassium (ppm)	150	Manganese (ppm)	2.2
		Sulfate-S (ppm)	7	Copper (ppm)	0.9
				Boron (ppm)	0.31

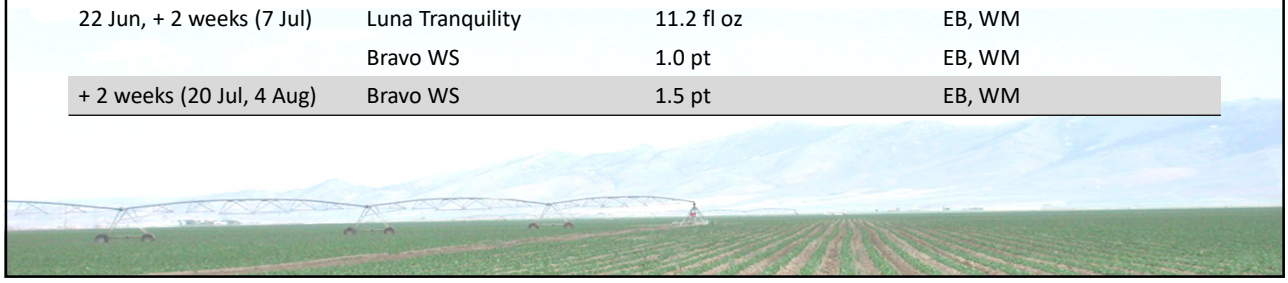
Fertility Program

Date	Fertilizer	Composition	Rate/acre	Method	Units Applied
At planting	Ammonium phosphate	11-37-0	22.5 gal	Planter/In-row	30 N, 100 P_2O_5
	Boron 10%	0-0-0-10 B	1.0 gal		1.1 B
	Zinc Ultra-Che 9% EDTA	0-0-0-10 Zn	1.0 gal		1.1 Zn
03 May	Urea	46-0-0	184 lb	Tyler air cart	85 N
	MAP	11-52-0	97 lb		10 N, 50 P_2O_5
	Muriate of Potash (KCl)	0-0-60	167 lb		100 K_2O
	Sulfate of Potash (K_2SO_4)	0-0-50-17 S	250 lb		125 K_2O, 43 S, 1 Mg
	Manganese Sulfate	0-0-0-15 S-32 Mn	16 lb		2 S, 5 Mn
04 Jun – 03 Aug	UAN	32-0-0	1.84 - 5.66 gal	Fertigation (17)	6.5 – 20.0 N per application 275 total N

N	400	Zn	1.1
P_2O_5	150	B	1.1
K_2O	225	Mg	1.0
S	45	Mn	5.0

Maintenance Program

Date	Product	Rate/Acre	Target
27 Oct 21	Sectagon-42	40 gal	Verticillium
At planting	Ridomil Gold SL	6.5 fl oz	Pink rot, leak, late blight(?)
	Verimark	13.5 fl oz	Insects
05 May 22	Tricor	0.75 pt	Weeds
	Outlook	15 fl oz	
	Prowl H2O	1.5 pt	
22 Jun, + 2 weeks (7 Jul)	Luna Tranquility	11.2 fl oz	EB, WM
	Bravo WS	1.0 pt	EB, WM
+ 2 weeks (20 Jul, 4 Aug)	Bravo WS	1.5 pt	EB, WM

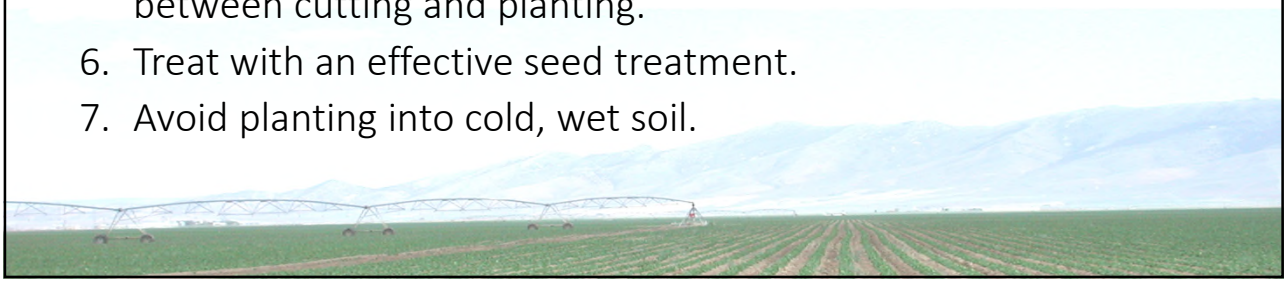


Seed Treatments for Fusarium Dry Rot Management

Jeff Miller

So what do I do to prevent seed piece decay?

1. Purchase seed with as little dry rot as possible.
2. Plant uncut seed, if possible.
3. Sterilize seed cutting equipment.
4. Sharpen seed cutting knives.
5. Ensure pre-cut seed is suberized properly OR reduce time between cutting and planting.
6. Treat with an effective seed treatment.
7. Avoid planting into cold, wet soil.



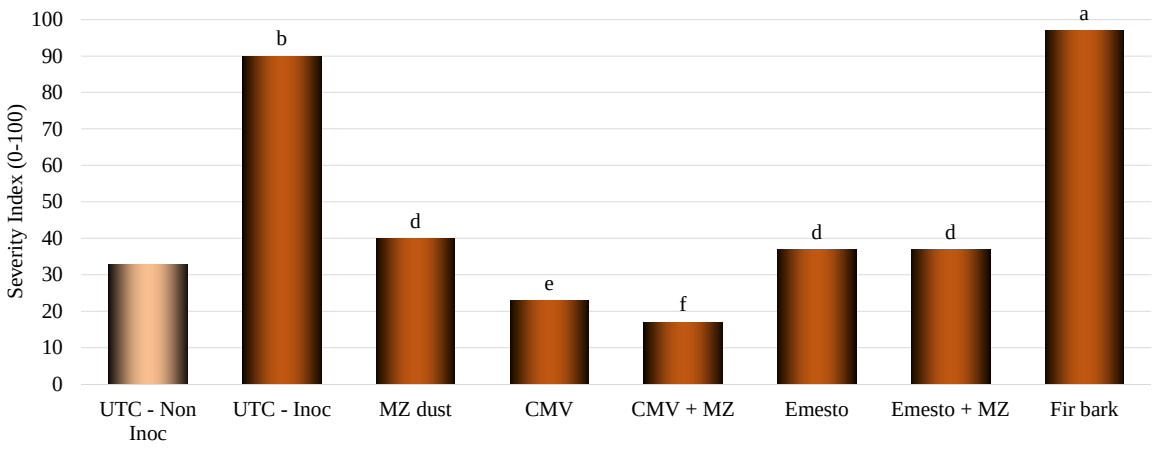
Selected Seed Treatment Options

Product	Form	M3	Group 12	Group 3	Group 7
MZ Dust	Dust	Mancozeb			
STartUP MANZB	Liquid	Mancozeb			
Maxim 4 FS	Liquid		Fludioxonil		
Maxim MZ	Dust	Mancozeb	Fludioxonil		
Moncoat MZ	Dust	Mancozeb			Flutalonil
CruiserMaxx Potato	Liquid		Fludioxonil		
Spirato	Liquid		Fludioxonil		
STartUP FLUDI	Liquid		Fludioxonil		
CruiserMaxx Potato Extreme	Liquid		Fludioxonil	Difenoconazole	
CruiserMaxx Potato Vibrance	Liquid		Fludioxonil	Difenoconazole	Sedaxane
Emesto Silver	Liquid			Prothioconazole	Penflufen
Salient	Liquid			Difenoconazole	

Fungicide resistance concerns

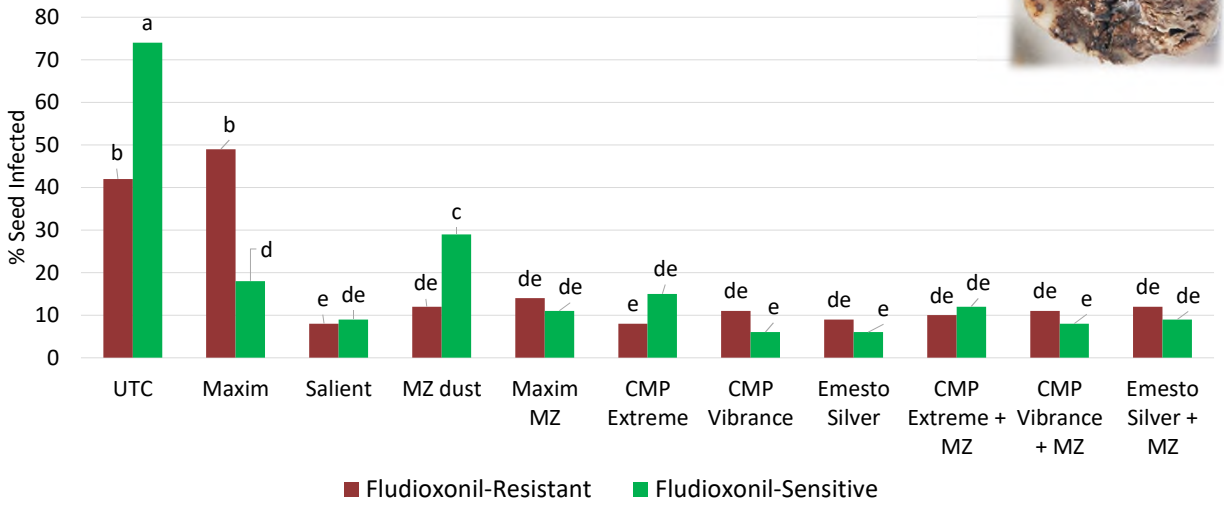
Seed Treatments for Clearwater Russet - 2020

Fusarium Seed Piece Decay Severity



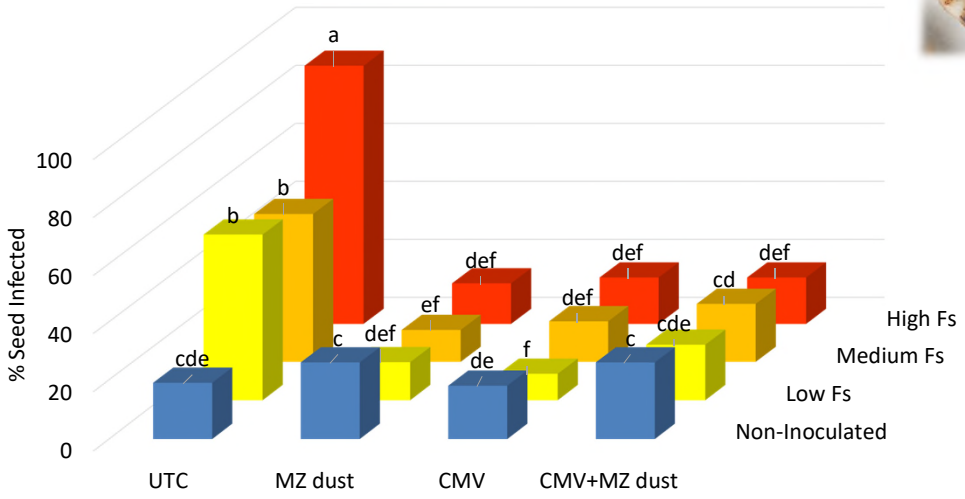
Seed Treatments for Clearwater Russet - 2021

Fusarium Seed Piece Decay Severity



Fusarium Dry Rot Incidence (%)

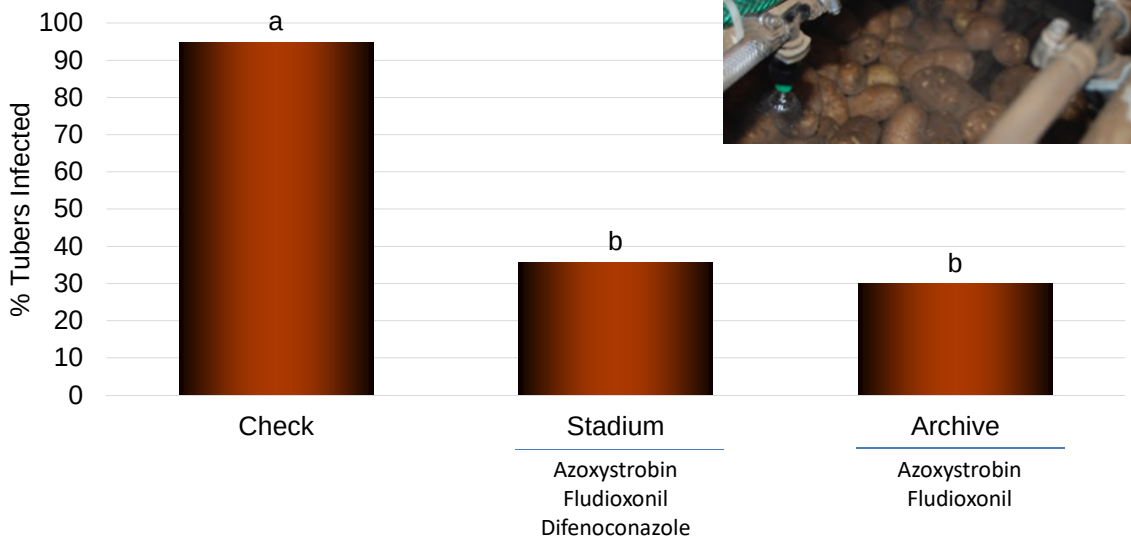
Clearwater Russet



CMV = CruiserMaxx Vibrance, 0.5 fl oz/cwt

Dry Rot Incidence in Clearwater

Post-Harvest Fungicides



Effect of Post-Harvest Fungicides on Dry Rot

Water treated Control

Stadium (1fl oz/ton)

Archive (1 fl oz /ton)

Take Home Message

- Liquid seed treatments are effective.
  - Use seed treatments with multiple active ingredients.
  - Resistance to fludioxonil present.
- Pathogen strength didn't affect seed treatment efficacy.
- Adding MZ to liquid helped in 2020 but didn't in 2021.
  - Good insurance policy, resistance management.