

2021 Miller Research Potato Pest Management Field Day

Jeff Miller, Trent Taysom, Scott Anderson, Cheryn Suarez, Shaura Miller, and Terry Miller
Koy Chandler, Orrin Wiese, Logan Mickelsen, Matt Miller, Adam Miller, Dennis Isaak, and Tim Miller

Pink Rot

Effect of phosphite fungicide program timing and interval between treatment and irrigation on pink rot development.

| Trt | Treatment | Description | Pink Rot Incidence (%) | | |
|-----|-----------------|-------------------------|------------------------|--------------------|--------------------|
| | | | Natural 2018 | Inoculated 2019 | Inoculated 2020 |
| 1 | Untreated check | | 9.4 a | 73 a | 68 bc |
| 2 | Resist 57 | Full emergence, 24-hr | 9.4 a | 34 c | 25 d |
| 3 | Resist 57 | Dime-size tubers, 24-hr | 6.0 b | 32 cd | 25 d |
| 4 | Resist 57 | Row closure, 24-hr | 4.7 b | 24 d | 8 e |
| 5 | Resist 57 | Dime-size tubers, 48-hr | 6.0 b | 30 cd | 20 d |
| 3 | Resist 57 | Dime-size tubers, 24-hr | 6.0 b | 32 cd | 25 d |
| 6 | Resist 57 | Dime-size tubers, 12-hr | 5.5 b | 33 c | 23 d |
| 7 | Resist 57 | Dime-size tubers, 6-hr | 6.6 ab | 55 b | 62 c |

Phosphite fungicide program: Resist 57, 10 pt/acre, 3 applications two weeks apart. Description refers to the plant growth stage when the program was started.

Take home message: When using a phosphite-based fungicide program, be sure to allow at least 12 hours between application and irrigation to maximize product efficacy.

Fusarium Dry Rot

Effect of inoculum concentration of *Fusarium sambucinum* on Fusarium dry rot on Clearwater Russet.

| Treatment | Non-Inoculated | <i>Fusarium sambucinum</i> -Inoculated | | |
|---|----------------|--|--------|--------|
| | | Low | Medium | High |
| Untreated check | 19 cde | 57 b | 51 b | 89 a |
| 6% MZ dust, 1 lb/cwt | | 13 def | 11 ef | 14 def |
| CruiserMaxx Vibrance, 0.5 fl oz/cwt | | 9 f | 14 def | 16 def |
| CruiserMaxx Vibrance, 0.5 fl oz/cwt + 6% MZ dust, 1 lb/cwt | | 19 cde | 20 cd | 16 def |

Effect of fludioxonil-sensitive and fludioxonil-resistant isolates of *Fusarium sambucinum* on Fusarium dry rot on Clearwater Russet.

| Description | | | | | Dry Rot Incidence | |
|-------------|--|------------|---------------------|--------|-------------------|-----------------|
| Rating Unit | | | | | Fludi-Sensitive | Fludi-Resistant |
| Trt | Treatment | Rate | Unit | Code | | |
| 1,2 | Untreated Check | | | | 74 a | 42 b |
| 3,4 | Maxim 4 FS | 0.08 | fl oz/cwt | A | 18 d | 49 b |
| 5,6 | Salient 372 FS | 0.103 | fl oz/cwt | A | 9 de | 8 e |
| 7,8 | MZ Dust | 16 | oz/cwt | B | 29 c | 12 de |
| 9,10 | Maxim MZ | 0.5 | lb/cwt | B | 11 de | 14 de |
| 11,12 | CruiserMaxx Potato Extreme | 0.31 | fl oz/cwt | A | 15 de | 8 e |
| 13,14 | CruiserMaxx Vibrance Potato | 0.5 | fl oz/cwt | A | 6 e | 11 de |
| 15,16 | Emesto Silver | 0.31 | fl oz/cwt | A | 6 e | 9 de |
| 17,18 | CruiserMaxx Potato Extreme MZ Dust | 0.31 16 | fl oz/cwt oz/cwt | A B | 12 de | 10 de |
| 19,20 | CruiserMaxx Vibrance Potato MZ Dust | 0.5 16 | fl oz/cwt oz/cwt | A B | 8 e | 11 de |
| 21,22 | Emesto Silver MZ Dust | 0.31 16 | fl oz/cwt oz/cwt | A B | 9 de | 12 de |

Fludi = fludioxonil, the active ingredient in Maxim, Spirato, STartUP Fludi and similar products.

Special thanks for Dr. Kasia Duellman and Christy Christian at the University of Idaho for supplying the *Fusarium* isolates used in this trial.

Take Home Message: Most of the seed treatments tested were similar in efficacy for managing Fusarium dry rot caused by fludioxonil-sensitive and fludioxonil-resistant isolates.

Rhizoctonia Canker

In cooperation with Dr. James Woodhall, University of Idaho

Interaction between anastomosis group and in-furrow fungicide treatment for Rhizoctonia canker control.

| June 17 Treatment | Treatment Average | <i>Rhizoctonia solani</i> -Inoculated | | |
|-------------------------|----------------------|---------------------------------------|--------|----------|
| | | AG2-1 | AG3-PT | AG4 HGII |
| Untreated check | 23 a | 21 - | 25 - | 22 - |
| Elatus, 7.7 oz/acre | 10 c | 13 - | 13 - | 4 - |
| Quadris, 9.2 fl oz/acre | 10 c | 10 - | 13 - | 8 - |
| Moncut, 25 fl oz/acre | 15 b | 21 - | 16 - | 9 - |
| AG Average | | 16 A | 17 A | 10 B |

| July 14 Treatment | Treatment Average | <i>Rhizoctonia solani</i> -Inoculated | | |
|-------------------------|----------------------|---------------------------------------|--------|----------|
| | | AG2-1 | AG3-PT | AG4 HGII |
| Untreated check | 31 a | 33 - | 39 - | 21 - |
| Elatus, 7.7 oz/acre | 18 b | 23 - | 18 - | 12 - |
| Quadris, 9.2 fl oz/acre | 19 b | 25 - | 21 - | 12 - |
| Moncut, 25 fl oz/acre | 21 b | 26 - | 25 - | 14 - |
| AG Average | | 26 A | 26 A | 15 B |

Take Home Message: Fungicides performed similarly on all anastomosis groups.

Effect of in-furrow fungicides on Rhizoctonia severity and row closure.

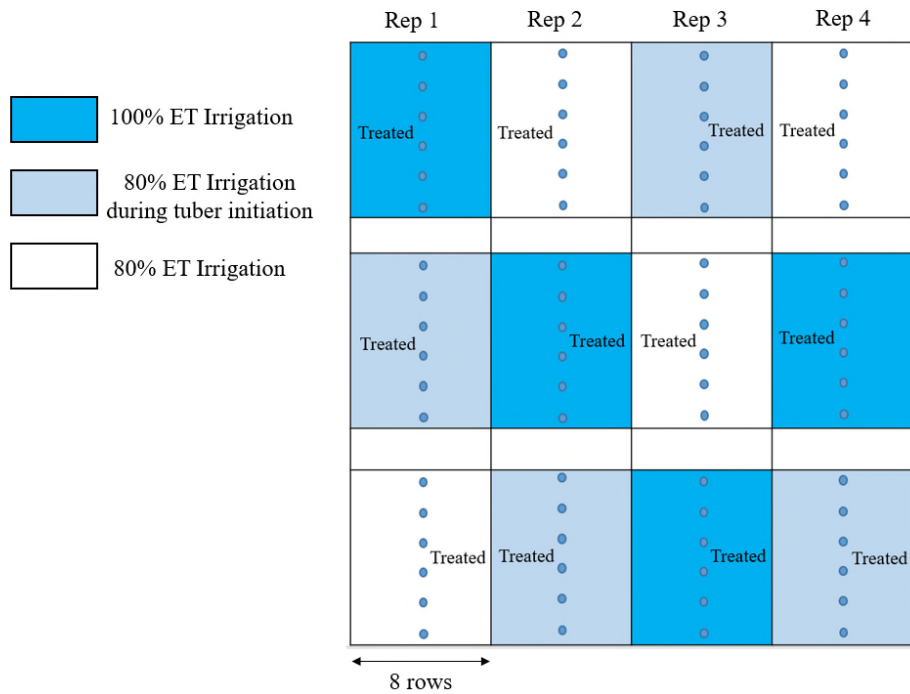
| Rating Date Days after Planting | Rhizoctonia Severity | | % Row Close June-16 53 |
|---|----------------------|---------------|------------------------------|
| | June-16 53 | July-27 94 | |
| Trt Treatment Rate Unit | | | |
| 1 Untreated | 44 - | 59 ab | 36 d |
| 2 Quadris 9.2 fl oz/a | 42 - | 50 c | 49 ab |
| 3 Priaxor 6.75 fl oz/a | 43 - | 54 bc | 43 bcd |
| 4 Excalia 2 fl oz/a | 35 - | 54 bc | 54 a |
| 5 Emesto Prime 8.8 fl oz/a | 37 - | 52 bc | 44 bc |
| 6 Emesto Prime 8.8 fl oz/a Minuet 24 fl oz/a | 42 - | 49 c | 44 bc |
| 7 Elatus 7.7 oz/a | 38 - | 57 bc | 54 a |
| 8 Howler 5 lb/a | 44 - | 66 a | 38 cd |
| 9 Theia 3 lb/a | 44 - | 54 bc | 40 cd |

Take Home Message: Rhizoctonia pressure was high in this trial. Fungicides were marginally effective in reducing disease symptoms but did increase plant growth.

Powdery Scab and Mop Top Virus

In cooperation with Dr. Nora Olsen and Dr. James Woodhall, University of Idaho

Can reduced irrigation reduce powdery scab and potato mop-top virus symptoms?



Treatment = Omega, 3 pt/acre

Foliar Fungicide Trial – Early blight/brown spot severity.

| Trt | Sponsor | A (Planting) | B (Dime-size) | C, D (Row Closure) | E (D + 14 days) | F (E + 14 days) | G (F + 14 days) | 18 Aug 21 |
|-----|-----------|-------------------|--|---|---|---|-----------------|-----------|
| 1. | MR | -- | -- | -- | -- | -- | -- | 10.9 a |
| 2. | MR | -- | -- | Luna Tranquility (11.2) Bravo WS (1)* | Luna Tranquility (11.2) Bravo WS (1)* | Bravo WS (1.5) | Bravo WS (1.5) | 3.2 e |
| 3. | Gowan | -- | -- | Luna Tranquility (11.2) Bravo WS (1)* | Provysol (4) | Zing! (32)* | Zing! (32)* | 3.3 e |
| 4. | Gowan | -- | -- | Reason (5.5) | Luna Tranquility (11.2) Bravo WS (1) | Provysol (4) | Zing! (32) | 4.1 de |
| 5. | Gowan | Velum Prime (6.5) | -- | Luna Tranquility (11.2) Bravo WS (1)* | Zing! (32)* | Zing! (32)* | Gavel (2) | 2.7 e |
| 6. | BASF | -- | -- | Endura (5.5) Provysol (4) | Endura (5.5) Provysol (4) | Bravo WS (1.5) | Bravo WS (1.5) | 2.9 e |
| 7. | BASF | Velum Prime (6.5) | -- | -- | Endura (5.5) Provysol (4) | Bravo WS (1.5) | Bravo WS (1.5) | 2.7 e |
| 8. | UPL | -- | -- | Luna Tranquility (11.2) Manzate Pro-Stick (2)* | Luna Tranquility (11.2) Manzate Pro-Stick (2)* | Oranil (1.5) | Oranil (1.5) | 2.7 e |
| 9. | UPL | -- | -- | Topsin (30) Manzate Pro-Stick (2)* | Topsin (30) Manzate Pro-Stick (2)* | Oranil (1.5) | Oranil (1.5) | 7.4 bc |
| 10. | UPL | -- | -- | Dexter Max (2.1) Manzate Pro-Stick (2)* | Dexter Max (2.1) Manzate Pro-Stick (2)* | Oranil (1.5) | Oranil (1.5) | 5.6 cd |
| 11. | UPL | -- | -- | Manzate Pro-Stick (2) | Manzate Pro-Stick (2) | Oranil (1.5) | Oranil (1.5)** | 8.7 ab |
| 12. | Valent | -- | -- | Quash (2.5) Manzate Pro-Stick (2) | Luna Tranquility (11.2) Manzate Pro-Stick (2) | Bravo WS (1.5) | Bravo WS (1.5) | 3.6 de |
| 13. | Bayer | Velum Prime (6.5) | -- | Bravo WS (1.5) | Luna Tranquility (11.2) Bravo WS (1)* | Bravo WS (1.5) | Bravo WS (1.5) | 2.7 e |
| 14. | Bayer | Velum Prime (6.5) | -- | Velum Prime (6.5) | Bravo WS (1.5) | Bravo WS (1.5) | Bravo WS (1.5) | 3.1 e |
| 15. | Bayer | -- | -- | Propulse (10) Bravo WS (1)* | Propulse (10) Bravo WS (1)* | Bravo WS (1.5) | Bravo WS (1.5) | 3.6 de |
| 16. | Syngenta | -- | -- | Miravis Prime (11.4)* | Miravis Prime (11.4)* | Bravo WS (1.5) | Bravo WS (1.5) | 2.7 e |
| 17. | Syngenta | -- | Amistar Top (10) Ridomil Gold SL (3.2)* | Miravis Prime (11.4) Ridomil Gold (3.2)* | Miravis Prime (11.4)* | Revus Top (5.5)* | Bravo WS (1.5) | 4.0 de |
| 18. | Innvictus | -- | -- | Luna Tranquility (11.2) Bravo WS (1) Wetcit (3) | Luna Tranquility (11.2) Bravo WS (1) Wetcit (3) | ICC_F2115 (14.5) ICC_A2115 (4) Wetcit (3) | Bravo WS (1.5) | 3.9 de |

The rates are given in parenthesis and are fluid ounce (fl oz)/acre for Luna Tranquility, Provysol, Zing!, Velum Prime, Topsin, Propulse, Miravis Prime, Amistar Top, Ridomil Gold SL, Revus Top, ICC_F2115; pint (pt)/acre for Bravo, Oranil; ounce (oz)/acre for Quash and Endura; pound (lb)/acre for Gavel, Manzate Pro-Stick, Dexter Max; pt/100 gallon for Wetcit.

*Mixed with the non-ionic surfactant Preference at a rate of 0.25% v/v. **An additional application of Oranil was made 14 days after application G.