

2013 Standard Seed Treatment (2700 Series)

Location: Inkster, ND
Plot design: 2 rows X 30 ft. X 4 reps; RCBD
Planting date: June 18, 2013
Row width: 36 inches
Plant spacing: 14 inches
Cultivar: Russet Burbank

Fertilizer: Broadcast: 61#N, 200#K, 30#S; June 3
Starter: 29#N, 100#P; June 18
Sidedress: 63#N; June 29

Herbicide: Prowl (2 pts/a) + Sencor (0.5 lb/a) + Matrix (1.5 oz/a); July 1

Insecticide: Admire Pro (8.7 oz/a); IF at plant
Reaper (12 oz/a) + Activator 90 (2 pt/100 gal); August 8
Kaiso (2 oz/a); August 22
Blackhawk (3.3 oz/a); August 27

In-furrow appl. method: In-furrow treatments applied using a planter-mounted CO₂ sprayer with single nozzle directed at seed piece (6501 tips, 8 GPA).

| | | |
|-------------------------------------|-----------|---------------------------------------|
| Fungicide application dates: | July 19 | Manzate (2 lbs/a) |
| | July 25 | Bravo Zn (2.125 pt/a) |
| | August 1 | Headline (9 oz/a) + Manzate (2 lbs/a) |
| | August 8 | Bravo Zn (2.125 pt/a) |
| | August 14 | Endura (2.5 oz/a) + Manzate (2 lbs/a) |
| | August 20 | Bravo Zn (2.125 pt/a) |
| | August 27 | Scala (7 oz/a) + Manzate (2 lbs/a) |
| | Sept. 3 | Echo Zn (2.125 pt/a) |
| | Sept. 9 | Dithane (2 lbs/a) |

Vinekill: Rotobeat; October 9

Harvest: October 17 (row A), October 31-November 1 (row B)

Grade: November 14 - 22

Post-harvest tuber evaluation: January 9 – 23, 2014 (69 – 83 DAH)

Stand: Number emerged of 25 planted: July 12, July 15, July 19 (24, 27, 31 DAP)

Data: Field ratings: July 30 (42 DAP)

Vigor: 1-4; 1 = low, 4 = high

Decay: Percent decay of seed piece; 0 = no decay, 100 = complete decay

Stems: total number of stems

Stems with Rhizoctonia: number of stems with visible lesions due to Rhizoctonia

Stolons: total number of stolons

Stolons with Rhizoctonia: number of stolons with visible lesions due to Rhizoctonia

Yield: total yield in hundredweight (cwt)

Grade: Commercial grade by Ag World Support Systems, Grand Forks, ND

Post-harvest tuber evaluation: 25 tuber sample rated for % total rhizoc of tuber surface.

2013 Standard Seed Treatment
Inkster Series 2700

| Treatment | | Rate | Application | Cooperator | Jul 5 | Jul 12 | Jul 19 |
|--------------------------|--------------------------------------|--|-------------------|------------|-------|--------|--------|
| 2701 | Non-treated | - | - | Control | 89.5 | 96.0 | 93.0 |
| 2702 | Penthiopyrad | 0.5 g ai / cwt | Seed | Sumitomo | 92.0 | 96.0 | 93.0 |
| 2703 | Penthiopyrad | 0.25 g ai / cwt | Seed | Sumitomo | 92.0 | 94.5 | 93.0 |
| 2704 | Penthiopyrad | 0.1 g ai / cwt | Seed | Sumitomo | 91.0 | 92.5 | 94.0 |
| 2705 | Penthiopyrad | 0.05 g ai / cwt | Seed | Sumitomo | 93.0 | 93.5 | 92.5 |
| 2706 | Penthiopyrad | 0.025 g ai / cwt | Seed | Sumitomo | 92.0 | 98.5 | 96.5 |
| 2707 | Vertisan | 24.0 fl oz / a | In-furrow | BASF | 95.5 | 98.0 | 97.0 |
| 2708 | Priaxor | 6.74 fl oz / a | In-furrow | BASF | 95.5 | 98.0 | 96.0 |
| 2709 | Priaxor | 8.0 fl oz / a | In-furrow | BASF | 92.5 | 95.0 | 95.0 |
| 2710 | WE 1042-2 | 1.0 lb / cwt | Seed | Weco | 92.0 | 95.5 | 94.5 |
| 2711 | WE 1043-1 | 1.0 lb / cwt | Seed | Weco | 93.5 | 98.5 | 94.5 |
| 2712 | Maxim 4FS + WE 1042-2 | 0.08 fl oz / cwt + 1.0 lb / cwt | Seed | Weco | 87.0 | 91.0 | 94.0 |
| 2713 | Quadris | 12.4 fl oz / a | In-furrow | | 95.0 | 98.0 | 95.5 |
| 2714 | Vertisan | 1 fl oz / 1000 row ft | In-furrow | | 88.5 | 94.0 | 96.5 |
| 2715 | Confidential | | | | 92.5 | 93.5 | 94.5 |
| 2716 | Confidential | | | | 80.0 | 85.5 | 88.5 |
| 2717 | Confidential | | | | 91.0 | 95.0 | 92.0 |
| 2718 | Confidential | | | | 95.0 | 95.0 | 94.0 |
| 2719 | Confidential | | | | 93.5 | 96.5 | 96.0 |
| 2720 | Confidential | | | | 70.0 | 78.0 | 73.5 |
| 2721 | Confidential | | | | 76.0 | 81.0 | 80.0 |
| 2722 | Spirato 480 FS | 0.08 fl oz / cwt | Seed | Nufarm | 77.5 | 82.0 | 80.5 |
| 2723 | ST-Methyl 540 FS + Spirato 480 FS | 0.35 fl oz / cwt + 0.08 fl oz / cwt | Seed | Nufarm | 88.5 | 92.0 | 93.0 |
| 2724 | ST-Methyl 540 FS + Spirato 480 FS | 0.5 fl oz / cwt + 0.08 fl oz / cwt | Seed | Nufarm | 94.5 | 95.5 | 94.0 |
| 2725 | ST-Methyl 540 FS + Spirato 480 FS | 0.7 fl oz / cwt + 0.08 fl oz / cwt | Seed | Nufarm | 90.5 | 93.5 | 96.5 |
| 2726 | Transformer | 128.0 fl oz / a | In-furrow | Oro Agri | 94.0 | 98.0 | 97.5 |
| 2727 | Transformer + Priaxor | 32.0 fl oz / a + 8.0 fl oz / a | In-furrow | Oro Agri | 92.0 | 98.0 | 92.5 |
| 2728 | Transformer + Priaxor | 128.0 fl oz / a + 8.0 fl oz / a | In-furrow | Oro Agri | 92.0 | 97.0 | 95.5 |
| 2729 | Maxim 4 FS | 0.08 fl oz / cwt | Seed | Nufarm | 92.5 | 95.0 | 94.5 |
| 2730 | Quadris | 9.0 fl oz / a | In-furrow | BASF | 95.0 | 96.5 | 96.0 |
| 2731 | Maxim 4 FS Quadris | 0.08 fl oz / cwt 9.0 fl oz / a | Seed In-furrow | Control | 85.5 | 92.0 | 89.5 |
| 2732 | Moncut | 12.0 oz / a | In-furrow | BASF | 93.5 | 97.0 | 95.5 |
| 2733 | Moncoat MZ | 1.0 lb / cwt | Seed | Valent | 96.5 | 97.0 | 96.5 |
| 2734 | Maxim MZ | 0.5 lb / cwt | Seed | Valent | 94.5 | 97.0 | 97.0 |
| 2735 | Moncut | 0.79 oz / 1000 row ft | In-furrow | Control | 89.5 | 94.5 | 93.5 |
| 2736 | 6% Mancozeb | 1.0 lb / cwt | Seed | Control | 96.0 | 97.5 | 98.0 |
| LSD _{p>0.05} | | | | | 6.44 | 4.87 | 6.02 |

2013 Standard Seed Treatment
Inkster Series 2700

| Treatment | Rate | Application | Cooperator | % stem Rhizoc | % stem girdled | % stolon Rhizoc | % stolon girdled | vigor | decay | |
|--------------|-----------------------------------|-------------------------------------|------------|---------------|----------------|-----------------|------------------|-------|-------|-------|
| 2701 | Non-treated | - | - | Control | 45.3 | 10.3 | 28.3 | 7.6 | 2.5 | 57.0 |
| 2702 | Penthiopyrad | 0.5 g ai / cwt | Seed | Sumitomo | 50.1 | 16.1 | 14.5 | 2.6 | 2.2 | 67.8 |
| 2703 | Penthiopyrad | 0.25 g ai / cwt | Seed | Sumitomo | 72.2 | 7.0 | 12.7 | 4.2 | 2.2 | 39.3 |
| 2704 | Penthiopyrad | 0.1 g ai / cwt | Seed | Sumitomo | 52.3 | 14.4 | 10.9 | 0.0 | 2.8 | 47.8 |
| 2705 | Penthiopyrad | 0.05 g ai / cwt | Seed | Sumitomo | 58.5 | 17.8 | 15.9 | 1.1 | 2.5 | 55.5 |
| 2706 | Penthiopyrad | 0.025 g ai / cwt | Seed | Sumitomo | 47.9 | 12.9 | 20.3 | 4.9 | 2.5 | 42.5 |
| 2707 | Vertisan | 24.0 fl oz / a | In-furrow | BASF | 53.5 | 9.5 | 10.5 | 2.9 | 2.6 | 44.3 |
| 2708 | Priaxor | 6.74 fl oz / a | In-furrow | BASF | 48.9 | 14.4 | 20.6 | 7.6 | 2.3 | 38.8 |
| 2709 | Priaxor | 8.0 fl oz / a | In-furrow | BASF | 67.0 | 8.8 | 17.5 | 6.2 | 2.5 | 37.5 |
| 2710 | WE 1042-2 | 1.0 lb / cwt | Seed | Weco | 53.5 | 15.3 | 10.2 | 0.0 | 2.4 | 50.5 |
| 2711 | WE 1043-1 | 1.0 lb / cwt | Seed | Weco | 61.1 | 27.0 | 23.9 | 7.8 | 2.4 | 49.5 |
| 2712 | Maxim 4FS + WE 1042-2 | 0.08 fl oz / cwt + 1.0 lb / cwt | Seed | Weco | 44.1 | 13.0 | 13.1 | 2.8 | 2.6 | 72.5 |
| 2713 | Quadris | 12.4 fl oz / a | In-furrow | | 45.3 | 19.2 | 39.0 | 8.4 | 1.6 | 51.0 |
| 2714 | Vertisan | fl oz / 1000 row | In-furrow | | 67.1 | 14.5 | 21.4 | 5.4 | 2.3 | 66.3 |
| 2715 | Confidential | | | | 36.0 | 9.9 | 11.2 | 0.0 | 2.8 | 58.6 |
| 2716 | Confidential | | | | 74.9 | 26.7 | 30.9 | 5.1 | 2.1 | 83.8 |
| 2717 | Confidential | | | | 43.6 | 25.2 | 23.7 | 5.2 | 2.7 | 64.3 |
| 2718 | Confidential | | | | 34.1 | 4.2 | 8.8 | 0.3 | 2.5 | 32.3 |
| 2719 | Confidential | | | | 57.8 | 5.6 | 15.4 | 1.2 | 2.2 | 35.3 |
| 2720 | Confidential | | | | 57.8 | 19.3 | 6.7 | 1.3 | 2.0 | 80.0 |
| 2721 | Confidential | | | | 76.3 | 22.6 | 16.2 | 8.9 | 2.1 | 74.0 |
| 2722 | Spirato 480 FS | 0.08 fl oz / cwt | Seed | Nufarm | 59.0 | 20.3 | 16.2 | 2.5 | 2.0 | 76.0 |
| 2723 | ST-Methyl 540 FS + Spirato 480 FS | 0.35 fl oz / cwt + 0.08 fl oz / cwt | Seed | Nufarm | 56.0 | 16.5 | 19.7 | 4.6 | 2.2 | 53.8 |
| 2724 | ST-Methyl 540 FS + Spirato 480 FS | 0.5 fl oz / cwt + 0.08 fl oz / cwt | Seed | Nufarm | 56.8 | 10.5 | 15.2 | 2.3 | 2.4 | 40.5 |
| 2725 | ST-Methyl 540 FS + Spirato 480 FS | 0.7 fl oz / cwt + 0.08 fl oz / cwt | Seed | Nufarm | 50.6 | 9.2 | 18.2 | 1.7 | 2.5 | 66.8 |
| 2726 | Transformer | 128.0 fl oz / a | In-furrow | Oro Agri | 43.1 | 7.6 | 8.1 | 4.1 | 2.4 | 60.3 |
| 2727 | Transformer + Priaxor | 32.0 fl oz / a + 8.0 fl oz / a | In-furrow | Oro Agri | 37.8 | 10.6 | 11.7 | 2.9 | 2.6 | 48.0 |
| 2728 | Transformer + Priaxor | 128.0 fl oz / a + 8.0 fl oz / a | In-furrow | Oro Agri | 54.0 | 10.8 | 24.5 | 4.7 | 2.7 | 50.8 |
| 2729 | Maxim 4 FS | 0.08 fl oz / cwt | Seed | Nufarm | 57.9 | 8.7 | 10.2 | 1.9 | 2.8 | 79.3 |
| 2730 | Quadris | 9.0 fl oz / a | In-furrow | BASF | 61.7 | 11.7 | 19.0 | 1.4 | 2.5 | 52.0 |
| 2731 | Maxim 4 FS | 0.08 fl oz / cwt | Seed | Control | 53.1 | 23.5 | 16.2 | 5.0 | 2.6 | 89.3 |
| 2732 | Quadris | 9.0 fl oz / a | In-furrow | BASF | 51.7 | 19.2 | 8.0 | 0.0 | 2.5 | 47.8 |
| 2733 | Moncoat MZ | 1.0 lb / cwt | Seed | Valent | 66.9 | 15.9 | 14.0 | 1.9 | 2.4 | 43.0 |
| 2734 | Maxim MZ | 0.5 lb / cwt | Seed | Valent | 39.6 | 0.0 | 14.5 | 1.0 | 2.5 | 35.0 |
| 2735 | Moncoat | 79 oz / 1000 row | In-furrow | Control | 58.7 | 12.5 | 13.3 | 1.0 | 2.6 | 32.8 |
| 2736 | 6% Mancozeb | 1.0 lb / cwt | Seed | Control | 63.3 | 14.9 | 23.5 | 3.7 | 2.6 | 42.8 |
| LSD $p>0.05$ | | | | | 22.24 | 15.51 | 14.88 | NS | 0.44 | 26.74 |

2013 Standard Seed Treatment
Inkster Series 2700

% Rhizoc

| Treatment | | Rate | Application | Cooperator | Yield Cwt/a | 63-88 DAH |
|--------------------------|--------------------------------------|--|-------------------|------------|----------------|-----------|
| 2701 | Non-treated | - | - | Control | 415.7 | 1.9 |
| 2702 | Penthiopyrad | 0.5 g ai / cwt | Seed | Sumitomo | 383.3 | 2.2 |
| 2703 | Penthiopyrad | 0.25 g ai / cwt | Seed | Sumitomo | 383.3 | 0.5 |
| 2704 | Penthiopyrad | 0.1 g ai / cwt | Seed | Sumitomo | 408.8 | 0.2 |
| 2705 | Penthiopyrad | 0.05 g ai / cwt | Seed | Sumitomo | 387.1 | 0.1 |
| 2706 | Penthiopyrad | 0.025 g ai / cwt | Seed | Sumitomo | 428.3 | 1.3 |
| 2707 | Vertisan | 24.0 fl oz / a | In-furrow | BASF | 387.3 | 0.3 |
| 2708 | Priaxor | 6.74 fl oz / a | In-furrow | BASF | 403.3 | 1.1 |
| 2709 | Priaxor | 8.0 fl oz / a | In-furrow | BASF | 395.5 | 0.1 |
| 2710 | WE 1042-2 | 1.0 lb / cwt | Seed | Weco | 413.0 | 1.4 |
| 2711 | WE 1043-1 | 1.0 lb / cwt | Seed | Weco | 386.3 | 0.6 |
| 2712 | Maxim 4FS + WE 1042-2 | 0.08 fl oz / cwt + 1.0 lb / cwt | Seed | Weco | 393.5 | 1.4 |
| 2713 | Quadris | 12.4 fl oz / a | In-furrow | | 395.3 | 0.2 |
| 2714 | Vertisan | 1 fl oz / 1000 row ft | In-furrow | | 392.9 | 0.4 |
| 2715 | Confidential | | | | 381.2 | 1.2 |
| 2716 | Confidential | | | | 372.7 | 0.9 |
| 2717 | Confidential | | | | 371.3 | 0.3 |
| 2718 | Confidential | | | | 397.9 | 0.0 |
| 2719 | Confidential | | | | 385.5 | 1.2 |
| 2720 | Confidential | | | | 362.0 | 1.8 |
| 2721 | Confidential | | | | 377.2 | 0.3 |
| 2722 | Spirato 480 FS | 0.08 fl oz / cwt | Seed | Nufarm | 333.6 | 0.1 |
| 2723 | ST-Methyl 540 FS + Spirato 480 FS | 0.35 fl oz / cwt + 0.08 fl oz / cwt | Seed | Nufarm | 371.6 | 0.0 |
| 2724 | ST-Methyl 540 FS + Spirato 480 FS | 0.5 fl oz / cwt + 0.08 fl oz / cwt | Seed | Nufarm | 387.8 | 0.4 |
| 2725 | ST-Methyl 540 FS + Spirato 480 FS | 0.7 fl oz / cwt + 0.08 fl oz / cwt | Seed | Nufarm | 396.6 | 1.3 |
| 2726 | Transformer | 128.0 fl oz / a | In-furrow | Oro Agri | 393.8 | 2.8 |
| 2727 | Transformer + Priaxor | 32.0 fl oz / a + 8.0 fl oz / a | In-furrow | Oro Agri | 401.7 | 0.3 |
| 2728 | Transformer + Priaxor | 128.0 fl oz / a + 8.0 fl oz / a | In-furrow | Oro Agri | 387.7 | 0.1 |
| 2729 | Maxim 4 FS | 0.08 fl oz / cwt | Seed | Nufarm | 341.4 | 0.4 |
| 2730 | Quadris | 9.0 fl oz / a | In-furrow | BASF | 355.7 | 1.2 |
| 2731 | Maxim 4 FS Quadris | 0.08 fl oz / cwt 9.0 fl oz / a | Seed In-furrow | Control | 384.4 | 0.9 |
| 2732 | Moncut | 12.0 oz / a | In-furrow | BASF | 441.1 | 1.7 |
| 2733 | Moncoat MZ | 1.0 lb / cwt | Seed | Valent | 400.0 | 0.4 |
| 2734 | Maxim MZ | 0.5 lb / cwt | Seed | Valent | 401.1 | 0.3 |
| 2735 | Moncut | 0.79 oz / 1000 row ft | In-furrow | Control | 434.7 | 0.0 |
| 2736 | 6% Mancozeb | 1.0 lb / cwt | Seed | Control | 420.0 | 0.5 |
| LSD _{p>0.05} | | | | | 50.57 | 0.96 |