

2001 PROTOCOL FOR EVALUATION OF SEED PIECE TREATMENTS FOR CONTROL OF SEED PIECE DECAY ON POTATO

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Location: San Luis Valley Research Center, Center, CO

Cultivar: Russet Norkotah, cut seed, 2-4 oz.

Objective: To evaluate the efficacy of various seed piece treatments in preventing disease and seed piece decay.

Treatments: All treatments applied directly to fresh cut seed and planted within twenty-four hours.

1. Control, no treatment
2. Maxim MZ
3. Tops MZ
4. Evolve
5. A12778
6. A12534
7. A12777
8. A12919
9. PCC553
10. PCC553-1
11. PCC553-2
12. PCC553-3

Planted: May 16, 2001

Plot Design: Randomized complete block

Plot Size: 1 - 25 foot row per treatment per replication

Plant Spacing: 12 inches

Row Spacing: 34 inches

Replications: Four

Irrigation: Solid set sprinkler, rate based on ET

Fertilizer: 80N-60P-40K, 40N through sprinkler

Herbicide: Dual Magnum, 1.33 pt/A + Matrix, 1.5 oz/A

Insecticide: Leverage 2.7, 3.75 floz/A

Fungicides: Dithane DF, 2.0 lb/A + Bravo WS, 1.5 pt/A + Quadris, 15.4 floz/A

Vine Killer: Sulfuric acid on August 31, 2001

Harvested: September 18, 2001

DATA

Stand: 1-25 foot row/treatment/replication, counts taken 40 days after planting.

Seed piece decay: Soft-rot and dry-rot combined rated 0-100, where 0 = no decay and 100 = complete decay; 4 seed pieces/treatment/replication.

Rhizoctonia stem canker: Percent stems infected; 4 plants/treatment/replication.

Blackleg: Percent stems infected; 4 plants/treatment/replication.

Plant vigor: Rated 1-5, where 1 = poor and 5 = good; 4 plants/treatment/replication.

Stems: Average number of stems per plant; 4 plants/treatment/replication.

Tuber set: Average number of tubers per plant at full set; 3 plants/treatment/replication.

Yield: 1-18 foot row per treatment per replication, total yield expressed in cwt/A.

Grade: By hand, percent tubers by weight in lbs and tuber # < 4 oz, 4-10 oz, > 10 oz, US #2's, and culls.

Black scurf severity index: Mean percent of the affected tuber surface area, 10 8-10 oz tubers per treatment per replication multiplied by the severity of the sclerotia, where 1 = small sclerotia and 3 = large sclerotia.

