

2002 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 Selection 8, cut seed, 2-4 oz.
- Objective:** To evaluate the efficacy of various seed piece treatments in preventing disease and seed piece decay.
- Treatments:**
1. Control, no treatment
 2. A12534 @ 4 oz.wt.pr./cwt (on seed)
 3. A12534 @ 8 oz.wt.pr./cwt (on seed)
 4. A12534 @ 4 oz.wt.pr./cwt (on seed) + Quadris @ 25 oz./A (In-Furrow)
 5. Quadris @ 25 oz./A (In-Furrow)
 6. Tops MZ 8.5 DS (on seed)
 7. Moncoat MZ 7.5 DP (on seed)
 8. PCC553-1 (on seed)
 9. PCC553-1 Mixed Blend (on seed)
 10. PCC553-1 Mixed Blend Plus (on seed)
 11. Blocker @ 7.5 pt./A (In-Furrow)
- Application:** In-Furrow treatments were applied using an R & D CO₂ charged backpack sprayer at 35 PSI, with one XR 8002VS nozzle, at 10 gallons/acre as a directed in-furrow application. On seed treatments were applied directly to fresh cut seed and planted within twenty-four hours.
- Planted:** May 8, 2002
- Plot Design:** Randomized complete block
- Plot Size:** 1 - 40 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-70P-40K-18S-1Zn, preplant, 40N through sprinkler after tuber set
- Herbicide:** Matrix, 1.5 oz./A + Eptam, 4.5 pt./A
- Insecticide:** None
- Fungicide:** Quadris, 8.0 oz./A + Dithane, 2.0 lb./A (2 applications)
- Vine Killer:** Beat vines on September 3, 2002
- Harvested:** September 16, 2002

DATA

- Stand:** 1-40 foot row/treatment/replication, counts taken 41 days after planting.
- Seed piece decay:** Soft-rot and dry-rot combined rated 0-100, where 0 = no decay and 100 = complete decay; 5 seed pieces/treatment/replication.
- Rhizoctonia stem canker:** Percent stems infected; 5 plants/treatment/replication.
- Blackleg:** Percent stems infected; 5 plants/treatment/replication.
- Plant vigor:** Rated 1-5, where 1 = poor and 5 = good; 5 plants/treatment/replication.
- Stems:** Average number of stems per plant; 5 plants/treatment/replication.
- Tuber set:** Average number of tubers per plant at full set; 5 plants/treatment/replication.
- Yield:** 1-30 foot row per treatment per replication, total yield expressed in cwt/A.
- Grade:** By hand, percent tubers by weight in pounds and tuber no. < 4 oz., 4-6 oz., 6-10 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.