

## 2002 PROTOCOL FOR EVALUATION OF FUNGICIDES APPLIED AT PLANTING FOR CONTROL OF RHIZOCTONIA 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 In-furrow treatments in preventing disease and seed piece decay.

**Treatments:**

1. Control, no treatment
2. Maxim 4FS @ 0.04 fl.oz./cwt (on seed)
3. Maxim 4FS @ 0.08 fl.oz./cwt (on seed)
4. Maxim MZ 10.1 DP (on seed)
5. Moncoat MZ 7.5 DP (on seed)
6. Tops MZ 8.5 DS (on seed)
7. Maxim 4FS @ 0.04 fl.oz./cwt (on seed) + Mancozeb (on seed)
8. Maxim MZ 10.1 DP (on seed) + Quadris @ 25 oz./A (In-furrow)
9. Moncoat MZ 7.5 DP (on seed) + Quadris @ 25 oz./A (In-furrow)
10. Tops MZ 8.5 DS (on seed) + Quadris @ 25 oz./A (In-furrow)
11. Moncut 70 DF @ 0.75 lb./A (In-furrow)
12. Moncut 70 DF @ 1.0 lb./A (In-furrow)

**Application:** In-Furrow treatments were applied using an R & D CO<sub>2</sub> 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 7, 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 13 & 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.