

ONION (*Allium cepa* ‘Avalon’)  
Slippery skin; *Burkholderia gladioli*

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### Evaluation of efficacy of bactericides to control slippery skin of onion in Utah, 2021.

A bactericide trial was conducted at the Utah State University Research farm in Kaysville, Davis County, Utah to determine the efficacy of bactericides to manage slippery skin in onion. The soil was a Kidman sandy loam with a pH of 7.3. The trial was part of the SCRI ‘Stop the Rot’ project (Project No. 2019-51181-30013) funded by USDA. In Utah, slippery skin only occurs occasionally in storage. The trial was planted on 20 March with the variety ‘Avalon’. In row spacing was 3.75 in with 185,856 seeds / acre. No insect control was applied. The plots were hand weeded. The trial had a randomized complete block design. Each plot consisted of two 10-ft. rows 24 inches apart with drip irrigation. Each treatment was replicated four times. Applications were done weekly starting Jul 20. Each treatment was applied five times. The plots were inoculated twice with *Burkholderia gladioli* ( $1 \times 10^8$  cfu/ml) on 22 Jul and 5 Aug using a Chapin ProSeries backpack sprayer. A half hour after inoculum was applied, the plants were hand watered using a watering can to simulate overhead irrigation to wash the inoculum into the neck. Hand watering was repeated again twelve and 24 hours later. Bactericide treatments were uniformly applied across both rows five times using a backpack sprayer. Each plot received 0.5 gallon of water with product. Treatments were applied 20 Jul, 28 Jul, 3 Aug, 11 Aug, 17 Aug. Bulbs were evaluated for bacterial bulb rot after six weeks in cold storage. The trial had eight treatments. Each treatment had 0.25% v/v Wetcit as a surfactant added.

The onions in the plots were lifted 15 Sep and harvested and placed in cold storage on 22 Sep in cardboard boxes. Data analysis was done using SAS Proc Glimmix least square means. The plots were evaluated for phytotoxicity once a week and no phytotoxicity was observed. After six weeks in cold storage bulbs were cut open and evaluated for rot. There were no significant differences between treatments at  $p = 0.05$  level. This may be due to the low overall infection rate. No yield data was collected. The bulbs stayed small due to an unusually hot summer (90-100F).

Bactericides, rate	Percent bulb rot
Actigard 50WG 0.75 oz/A	29a <sup>z</sup>
Lifegard WG 4.5 oz/50 gal	22a
Nordox 2.5 lbs/A	22a
Kocide 3000-O 1.5 lbs/A	19a
Serenade OPTI 14 oz/A	25a
Aliette 2 lbs/100gal	22 a
ManKocide 2.25 lbs/A	25a
Untreated control	23a

<sup>z</sup> treatments followed by the same letter are not significantly different from each other using SAS PROC GLIMMIX.