TOMATO (*Lycopersicon esculentum* ‘Mountain Fresh Plus’) Bacterial spot; *Xanthomonas perforans*

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**Evaluation of pesticides for control of bacterial spot on tomato transplants in the greenhouse, 2016.**

Eight treatments were evaluated in a randomized complete block design with four replications at the Mountain Horticultural Crops Research Station greenhouse in Mills River, NC. Tomato seeds were treated with bleach before planting. Seeds were planted on 21 Apr in one flat and transplanted to 2.5 in pots on 13 May. Two treatments of six pots per treatment were placed in a tray with one row of empty cells between treatments. Treatment arrangement within the trays was randomized and trays were arranged in a randomized complete block design. Plants were spray inoculated with a suspension of *Xanthomonas perforans* at 1 x 108 colony-forming units per ml on 18 May. Treatments were applied using a 2-quart garden sprayer and treatments were applied until just before run-off. All treatments were applied on 16, 23, and 31 May; OxiDate + Aquasil (as rotated with Reglia + Cueva) was applied on 19 May. Disease assessments were made weekly using a modified Horsfall-Barratt scale. Analysis of variance was performed using the GLM procedure and means were separated by Fisher’s least significant difference test.

Disease pressure from bacterial spot was low to moderate. Regalia + Cueva alt. OxiDate + Aquasil and Kocide + Tanos provided the same level of disease control as the non-inoculated control. Mixed or alternated treatments provided significantly better control over each pesticide applied alone suggesting synergistic effects of combined active ingredients (e.g., Reglia + Cueva alt. OxiDate + Aquasil and Kocide + Tanos). No phytotoxicity was observed. Treatments are sorted by AUDPC in the table.

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| Treatment, amountz | Days after first application | AUDPCyx | |
| Water, non-inoculated control | 0,7,15 | 0 | b |
| Regalia 2.0 qt  Cueva 2.0 gal  OxiDate 2.0 1 gal/100 gal  Aquasil 0.07 gal/100 gal | 0,7  0,7  3,15  3,15 | 13 | b |
| Kocide 3000 46.1DF 1.7 lb  Tanos 50DF 8 oz | 0,7,15  0,7,15 | 16 | b |
| Cueva 2.0 gal/100gal | 0,7,15 | 26 | ab |
| Kocide 3000 46.1DF 1.7 lb | 0,7,15 | 28 | ab |
| Tanos 50DF 8 oz | 0,7,15 | 30 | ab |
| OxiDate 2.0 1 gal/100 gal  Aquasil 0.07 gal/100 gal | 0,7,15  0,7,15 | 52 | a |
| Water, inoculated control | 0,7,15 | 52 | a |
| LSDw | N/A | 34 | |

zAmount applied per A unless stated

yArea under disease progress curve

xTreatments followed by the same letter(s) within a column are not significantly different (*P*=0.05, Fisher’s least significant difference)

wFisher’s least significant difference