

Evaluation of in-furrow treatments for control of potato common scab in Wisconsin, 2017.

A trial was established on 1 Jun at the University of Wisconsin Extension Langlade County Research Area in Antigo to evaluate fungicides for common scab control. Two-ounce-sized seed pieces were mechanically cut from US#1 'Yukon Gold' tubers and healed for 10 days prior to planting. A randomized complete block design with four replications was used and treatment plots consisted of four, 20-ft-long rows spaced 36 in. apart with 12 in. spacing in the row. Common scab inoculum was introduced in this research field plot in each of the previous potato rotations by incorporating common-scab symptomatic tubers into the soil and applying manure to exacerbate the disease. In-furrow treatments were applied to seed and soil in an open furrow on the day of planting using a CO<sub>2</sub> backpack sprayer equipped with a single TeeJet 8002VS flat fan nozzle calibrated to deliver 12 gal/A at a boom pressure of 40 psi. After in-furrow treatments were applied, furrows were mechanically closed using hilling disks. The soil type was Antigo silt loam. Standard commercial grower practices were used for field maintenance, fertility, insect management, and prevention of early and late blight as per the production region. The total natural precipitation during the production season was 17.9 in. No supplemental irrigation was applied during the growing season. Vines were chemically killed with Verdure-X 1.5 pt/A + non-ionic surfactant on 11 and 18 Sep. The center two rows of each plot were harvested, and tubers were graded into marketable (US#1), undersize, and cull categories on 25 Sep. After undersize tubers were graded out and tubers washed, but before scabbed tubers are removed, 20 tubers from each plot were chosen randomly and assessed for scab incidence and severity (rated on a scale from 0-5 with 0 = no scab symptoms and 5 = severe symptoms cover > 80% of a tuber). Yield data were analyzed using ANOVA ( $\alpha=0.05$ ) and Fisher's LSD at  $\alpha=0.05$  (SAS Version 9.2).

Disease pressure for this trial was high, with all treatments displaying common scab incidence over 80% and severity ratings ranging from 1.53 to 3.3 across treatments. There were no significant differences among treatments for incidence or severity. There were no significant differences among treatments for marketable yield, size Bs, and culls.

Treatment and Rate/1000 row feet	Marketable Yield (cwt/A)	Size Bs (cwt)	Culls (cwt)	Common Scab Incidence (%)	Common Scab Severity (0-5)
Non-treated Control	261.7 <sup>z</sup>	9.5	79.1	98.8	3.30
Blocker 4F 10.4 fl oz	234.4	10.5	72.1	100.0	3.04
Blocker 4F 5.2 fl oz	261.1	11.9	73.6	95.0	2.53
Blocker 4F 3.3 fl oz	288.3	12.1	83.0	97.5	2.78
Blocker 4F 3.3 fl oz + HF723 3.1 fl oz	232.9	12.9	100.9	95.0	2.31
Blocker 4F 3.3 fl oz + HF723 6.2 fl oz	242.3	10.3	73.4	91.3	1.89
Blocker 4F 3.3 fl oz + AmyProtec 42 1.0 fl oz	247.8	9.7	78.2	81.3	2.19
Blocker 4F 3.3 fl oz + AMV1014 + 0.2 fl oz	238.5	9.3	58.0	88.8	1.84
Blocker 4F 3.3 fl oz + AMV1014 + 0.3 fl oz	240.5	10.4	80.0	95.0	2.94
Blocker 4F 3.3 fl oz + Quadris 2.08SC 0.8 fl oz	228.5	10.9	67.9	87.5	2.00
Blocker 4F 3.3 fl oz + Serenade ASO 4.4 fl oz	275.9	10.5	51.3	92.5	1.75
Blocker 4F 3.3 fl oz + Azteroid 1.65SC 1.0 fl oz	274.1	10.3	66.9	100.0	3.28
Omega 500F 1.1 fl oz	264.1	13.7	71.2	85.0	2.00
Double Nickel LC 1.7 fl oz	264.1	13.1	55.5	81.3	1.53

<sup>z</sup>No significant differences were determined using Fisher's LSD at  $\alpha=0.05$  (SAS Version 9.2).