

ABSTRACT FORM

AMERICAN SOCIETY OF SUGAR BEET TECHNOLOGISTS
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AT THE MEETING

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Jacobsen, B.J.* and Andrea Braun, Department of Plant Pathology, Montana State University, Bozeman, MT 59717-0286. - Cercospora leafspot of sugarbeet: sensitivity to benomyl of Montana isolates and biological control.

Thirty-seven field isolates were collected from the Sidney, MT sugar district in July-August 1994 to determine whether benzimidazole fungicide resistance was present. All isolates proved to be sensitive to 1,10, and 100 ppm benomyl in agar assays. Based on this survey producers should find benzimidazole fungicides effective. *Bacillus* sp. were selectively isolated from the phyllosphere of *Cercospora* infected leaves and were assayed for in-vitro and in-vivo antagonism. In-vivo experiments were done in a growth chamber at 24-25C with 3 *Bacillus cereus* isolates, 5 cultivars and 1% chitin or 1% beta-glucan food base foliar habitat modifiers. There was a significant isolate x food base x cultivar interaction. Isolate BAC-B provided 0-93% control with 80% on Monohikari, 48% on M403, 66% on B-1996, 93% on HH82 and 54% on HH88 with the 1% chitin food base. Isolate BAC-J provided 23-95% control with these same cultivars. When all cultivars were considered BAC-B provided the best control (68.2%) with the chitin food base and BAC-J gave the best control with the beta-glucan (72.3%) followed by chitin (62.3%) followed by water (49.7%). HH82 plants sprayed with maneb @ 200 ppm had 98% control. Biological control with *Bacillus* sp was found to vary with cultivar and food base carrier system.

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