

**PEPPERMINT *Mentha piperita*  
Stolon Decay/White Mold**

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**INITIAL EVALUATION OF THE EFFICACY OF QUADRIS FUNGICIDE TO CONTROL WHITE MOLD/STOLON DECAY ON PEPPERMINT – 1999-2000:** Stolon decay and white mold symptoms are persistent problems on peppermint as the ground is thawing in the spring. In past studies, a complex of fungi have been isolated from affected stolons (*Sclerotinia* spp., *Rhizoctonia* spp., *Fusarium* spp and *Pythium* spp.) all of which showed some ability to infect stolon pieces in the lab recreating symptoms typical of those observed in the field. Effective control procedures do not exist at present. Quadris is a new fungicide, effective at low rates and with a wide spectrum of activity against fungi. The purpose of this preliminary study was to see if fall application of Quadris resulted in any detectable control of white mold/stolon decay with accompanying improvement in stands and yield.

The trial was conducted on a field of Black Mitcham peppermint at Jack's Pride Farms at Randolph, WI. An experiment was designed with commercial application of the fungicide at 0.76 pt/A to a 36-foot wide strip in the field (using one half of the boom on the grower's sprayer). The sprayer was turned on and off at 25-foot intervals, resulting in four untreated areas and four treated areas, with each plot 25' x 36'. Fungicide was applied on Oct. 28, 1999 at 20 GPA, using Lurmark 04F80 flat fan nozzles at 20" spacing and 35 psi, approximately 18" above the foliage. The field was plowed on Nov. 6.

Stolons were evaluated on Mar. 29, 2000 by digging an approximately 2' x 2' area at four locations in each plot. An estimate of stolon density and appearance of symptoms were recorded. Samples from each location were brought to the lab see what organisms could be isolated from affected tissue.

Percent stand was estimated for four, 1-meter square areas distributed across each plot on Jun 28 and Aug 18 and the maximum height of plants in each of the quadrants of the square meter was recorded on Aug 18. The grower cut a 12'-wide swath across each plot and total fresh weight of mint hay for a 10'-long area of this swath was recorded for each plot.

Treatment	% Stolons with Decay Symptoms 3/29 <sup>1</sup>	Stand 6/28 (% Coverage of Ground) <sup>2</sup>	Stand 8/18 (% Coverage of Ground) <sup>2</sup>	Avg. Plant Height 8/18 (cm) <sup>3</sup>	Avg. Fresh Weight of Mint Hay per Plot (lb) <sup>4</sup>
Untreated	68.9	77.0	56.1	65.6	25.5
Quadris, 0.76 pt/A	58.8	85.2	52.4	70.4	26.1
Pr > F	0.21	0.44	0.38	0.32	0.88
LSD (P=0.05)	NS	NS	NS	NS	NS

1. Stolons in an area approximately 2' x 2' were dug and evaluated for symptoms on a 0-5 scale (0=no symptoms; 1=<25% of the stolons with decay symptoms; 2=25-50%; 3=50-75%; 4=75-90%; 5=>90%. Ratings were converted to percentages.
2. A 1-m<sup>2</sup> wooden frame was dropped at four locations across the plot. % stand (coverage of the ground) was estimated for the four quarters of this meter. Data are averages of all stand estimates.
3. The height was recorded for the tallest plant in each quadrant of the wooden frame used for stand estimates
4. Yield from a 120 ft<sup>2</sup> area.

Strong differences were not noted between Quadris treated plot areas and untreated areas but there was a slight decrease in severity of decay symptoms on the stolons in early spring and a slight increase in stand in early summer in areas which had received Quadris treatment. For optimum efficacy of the fungicide, it would need to be translocated through the plant to the roots. Our application date for this trial may have been late enough that the plants had become dormant, thus minimizing the transport of the fungicide to the roots. The results suggest that it would be appropriate to establish a similar trial this year with fungicide application earlier in October.

