

**PEPPERMINT *Mentha piperita***  
**Rust/Powdery Mildew Control**

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**Evaluation of the efficacy of selected fungicides to control rust and powdery mildew on peppermint 2001**

The experiment was conducted in a commercial peppermint field near Beloit, WI. The field was established in Apr 2000 and there was extensive rust development in the crop that summer. The field was treated according to standard commercial practices with the exception that the grower did not apply fungicide to the experimental plot area. Plot dimensions were 16 ft by 19 ft with four replications. Experimental treatments were mixed in 1.75 gal water and applied with a backpack sprayer equipped with a 4-nozzle hand boom, and XR11003VS nozzles delivering approximately 33 GPA. Application and harvest dates were: June 15 (initial fungicide application), July 20 (first harvest of mint hay), August 24 (second fungicide application, after mint regrowth), October 26 (second harvest). Foliar disease severity was rated for four areas in each plot (each approximately 3 ft x 3 ft) on July 13, August 24 and October 11, using the Horsfall-Barratt system. For the first harvest, July 20, a 15-ft-wide swath was cut through each plot using commercial equipment and a 10-ft-long section of the resulting windrow from the center of each plot was weighed. For the second harvest, October 26, a 7.5-ft-wide swath was cut through each plot using a hand sickle bar mower and the hay harvested from this area (75 ft by 16 ft) was weighed.

Virtually no foliar disease pressure was observed in this trial, likely a result of high temperatures and prevailing dry weather. Treatment with fungicide sprays did not affect disease development or yield of green hay in either harvest. Designated plots received a later application of Tilt, Nova or Quadris on August 24. At first frost, there were no visible differences between any of the treatments. These plots will be remarked in 2002 for observation of emergence, plant stand and incidence of foliar diseases.

Treatment and rate - formulated product and active ingredient, (in [ ])	Number of sprays & application schedule		Rust Severity (%) <sup>1</sup>			Yield (Ton/A)		
	#	Pre-harvest	After harvest & regrowth	Jul 13	Aug 24	Oct 11	Jul 20 <sup>2</sup>	Oct 26 <sup>3</sup>
1. Untreated				3.9	0.1	2.8	12.6	2.1
2. Nova, 5 oz	1	◆		1.8	0.0	2.6	11.6	2.0
3. Tilt, 4 fl oz	1	◆		1.6	0.0	2.3	14.4	2.0
4. Quadris, 6.2 fl oz	1	◆		1.5	0.1	3.1	13.0	2.2
5. Tilt, 4 fl oz Nova, 5 oz	2	◆	◆	1.5	0.0	2.5	14.5	2.0
6. Nova, 5 oz Tilt, 4 fl oz	2	◆	◆	1.5	0.1	2.6	14.6	1.8
7. Nova, 5 oz Quadris, 6.2 fl oz	2	◆	◆	1.6	0.0	3.1	14.3	2.3
8. Quadris, 6.2 fl oz	1		◆	2.2	0.1	2.9	15.0	2.4
Pr > F <sup>4</sup>				< 0.01	0.70	0.55	0.20	0.13
LSD <sup>4</sup>				0.9	NS	NS	NS	NS

1 Rust severity was rated on a Horsfall-Barratt scale of 0 (no infection) to 11 (all foliage and stems dead). Ratings were converted to percentages.

2 A 15-ft-wide swath was cut through all plots. A 10-ft-long section of the windrowed hay was weighed from each plot. Yield for this 150-ft<sup>2</sup> area was converted to Ton/A.

3 A 7.5-ft-wide swath was cut through all plots. A 16-ft-long section of the windrowed hay was weighed from each plot. Yield for this 120-ft<sup>2</sup> area was converted to Ton/A.

4 Analysis of variance was performed on data, and Fisher's protected least significant difference (LSD) was calculated. NS = not significant at  $P = 0.10$ .

