

Peppermint (*Mentha x piperita*) Response to Tiafenacil and Saflufenacil Applied Postharvest.

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One factor limiting production of mint is competition from weeds, but herbicide options are limited. Trials were conducted in the horticultural greenhouses at Purdue University, West Lafayette, IN, to determine the tolerance to tiafenacil and saflufenacil. Peppermint established in 20 cm diameter pots in different timings (0, 5, 10, 15 and 20 days prior to herbicide application), then sprayed at 50 and 100 g ai ha⁻¹ (T50, T100, S50 and S100, respectively). Each harvest timing also had a non-treated control. Visible crop injuries on a scale of 0 to 100% were taken at 0.5, 1, 2, 4 and 7 weeks after treatment (WAT), height was taken at 4 and 7 WAT, and biomass reduction was evaluated at 7 WAT. The greatest injury (≥80%) was observed at 1 and 2 WAT from T100. At 7 WAT, injury from T100 (27%) was similar to T50 and S100 (15%). The greatest reduction in height (37%) occurred at 4 WAT from T100. Compared to the non-treated control, biomass was reduced 50% by T100 with greater biomass reduction in mint harvested 15 or 20 days before application. T50 and S100 resulted in similar biomass reduction. Overall, tiafenacil at 100 g ai ha⁻¹ caused the greatest injury when herbicides were applied ≤10 days post-harvest, at 1 to 2 WAT, but yield was ultimately reduced the most by applications made 15 to 20 days after harvest. These results suggest that, despite short-term crop injury, applications made ≤10 days post-harvest have less long-term impact on mint plant response.