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THE EFFECT OF TIMING AND THE METHOD OF CONTROL ON JAPANESE STILTGRASS SEED PRODUCTION.

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ABSTRACT

Japanese stiltgrass (*Microstegium vimineum*) invades native understory vegetation in a wide range of environments encompassing full sun to full shade. As an annual plant, controlling seed production is critical for management, yet the optimal timing of control and how this is influenced by the control method is not well quantified. We were specifically interested in assessing whether controlling too early would lead to further germination or regrowth. We tested the effect of timing and method of removal on Japanese stiltgrass seed production. The treatments consisted of string-trimming, hand pulling, and applying glyphosate at a rate of 1.68 kg ae/ha. Treatments were conducted at three different times during the mid/late summer. No subsequent germination was observed, and regrowth was very limited, mainly in the string trimmed and hand pulled controlled plots. At the end of the growing season, stem and seed counts were taken. Glyphosate was the most effective treatment. While mechanical treatments greatly reduced seed production compared to controls, resprouting did lead to some seed production, which could sustain populations for subsequent years. Timing did not affect the efficacy of glyphosate, but it appears that early mechanical control leads to more seed production than later mechanical control. These results suggest that it is most effective to control Japanese stiltgrass chemically at any time mid/late summer or mechanically in late summer, prior to the formation of viable seeds.