

Wetting agents improve turfgrass quality in sting nematode-infested putting greens

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Introduction

Plant-parasitic nematodes such as sting nematode (*Belonolaimus longicaudatus*) are destructive to amenity turfgrasses. Sting nematodes are particularly damaging to grasses that are managed intensely such as golf course putting greens. Low mowing heights, heavy traffic/play, and expectations of “firm and fast” conditions stress golf course putting greens, making them far more susceptible to sting nematode damage. There are two primary putting green grass species in Arkansas—creeping bentgrass and ultradwarf bermudagrass. Sting nematodes can infect and damage either species, making sting nematode one of the most concerning pests to golf course superintendents in Arkansas. Therefore, turfgrass researchers at the University of Arkansas have invested a considerable amount of effort into managing plant-parasitic nematodes over the last 3 years, including a regionwide survey (**Figure 1**) and numerous chemical control trials.

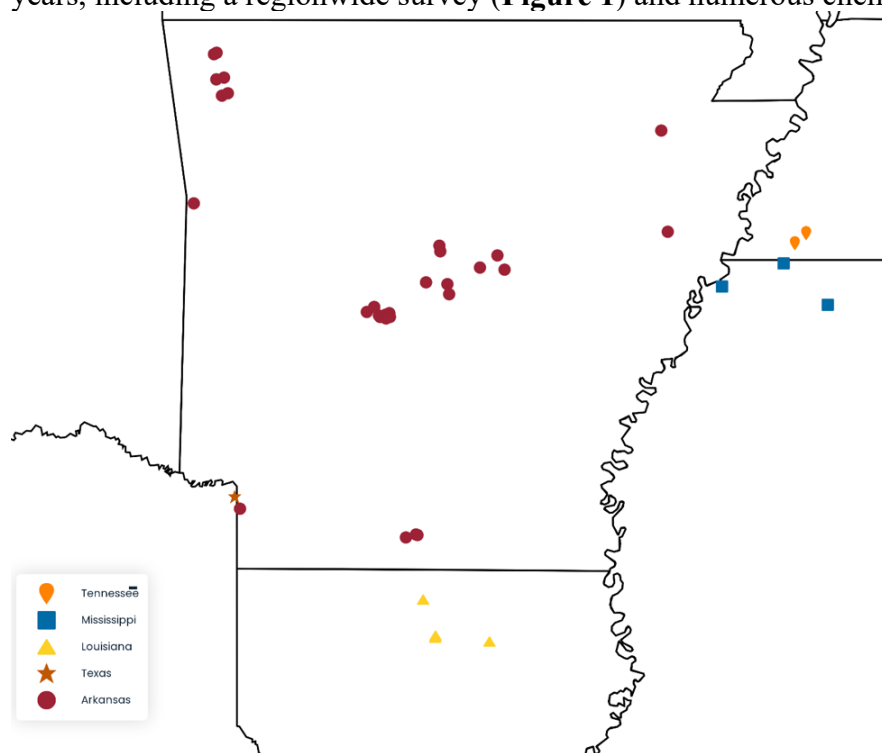


Figure 1. Locations of golf courses sampled for turfgrass nematode survey (map courtesy of Mike Battaglia).

One recent trial conducted in Conway, AR focused on the influence of wetting agents on turfgrass quality in sting nematode-infested bermudagrass putting greens. Wetting agents regulate and improve soil moisture distribution, enhance turfgrass drought tolerance, and ameliorate localized dry spot. Sting nematodes aggressively feed on bermudagrass roots, thereby compromising the plant's ability to uptake essential moisture. We hypothesized that wetting agents would improve turfgrass quality in sting nematode-infested bermudagrass putting greens by allowing the plant greater access to soil moisture, even with a compromised root system.

Research Findings

The trial was conducted on a ‘Champion’ ultradwarf bermudagrass putting green nursery in Conway, AR from 30 Sep 2025 until 18 May 2026. Three wetting agents, one nematicide, and a nontreated control were included as treatments in this study (**Table 1**). The wetting agents and nematicide were applied twice in the fall (30 Sep 2025 and 05 Nov 2025) and twice in the spring (06 Apr 2026 and 05 May 2026), and the treatments were irrigated in post-application. Plots were assessed nine times throughout the trial period, but only data from the final assessment (18 May 2026) will be presented in this article.

Table 1. List of treatments for sting nematode trial conducted in Conway, AR from fall 2025 through spring 2026.

Treatment #	Product Type	Product Name	Application Rate
1	Nontreated Control	Nontreated Control	Nontreated Control
2	Nematicide	Indemnify	0.195 fl.oz./1,000 ft ²
3	Wetting Agent	Excalibur	4 fl.oz./1,000 ft ²
4	Wetting Agent	Rely III	6 fl.oz./1,000 ft ²
5	Wetting Agent	TriCure AD	6 fl.oz./1,000 ft ²

Both the nematicide (Indemnify) and the three wetting agents (Excalibur, Rely III, and TriCure AD) reduced visual nematode damage in the plots (**Figure 2**). Indemnify is an industry standard nematicide that contains the active ingredient, fluopyram, which is highly efficacious against sting nematode and many other plant-parasitic nematode species. As expected, it worked in this trial by reducing nematode damage by 75.6% compared to the nontreated control. Interestingly, the three wetting agents tested in this trial also reduced nematode damage by at least 67.6% compared to the nontreated control.

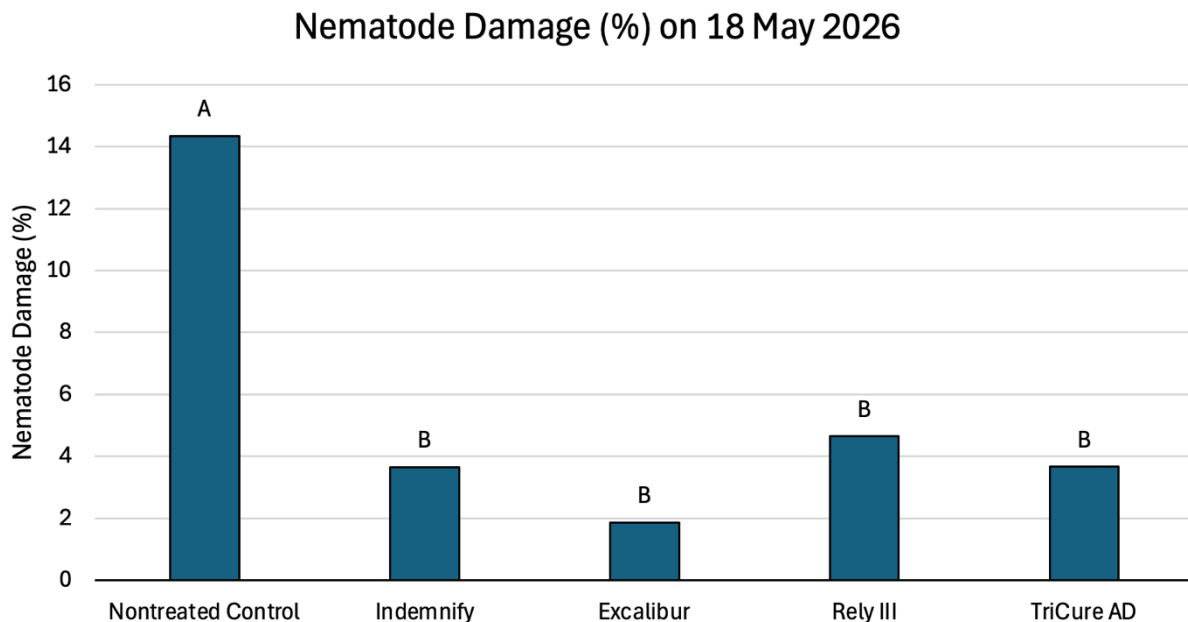


Figure 2. Influence of various nematicide and wetting agent treatments on sting nematode damage (%) in a ‘Champion’ ultradwarf bermudagrass putting green.

Beyond reducing nematode damage, both the nematicide and wetting agents also substantially improved turf quality (1 = completely dead; 6 = acceptable; 9 = excellent) as shown in **Figure 3**. Indemnify increased turf quality by 30.3% compared to the nontreated control, and the wetting agents increased turf quality by at least 28.6% compared to the nontreated control. Excalibur provided greater turf quality than Indemnify and Rely III, but all treatments were effective.

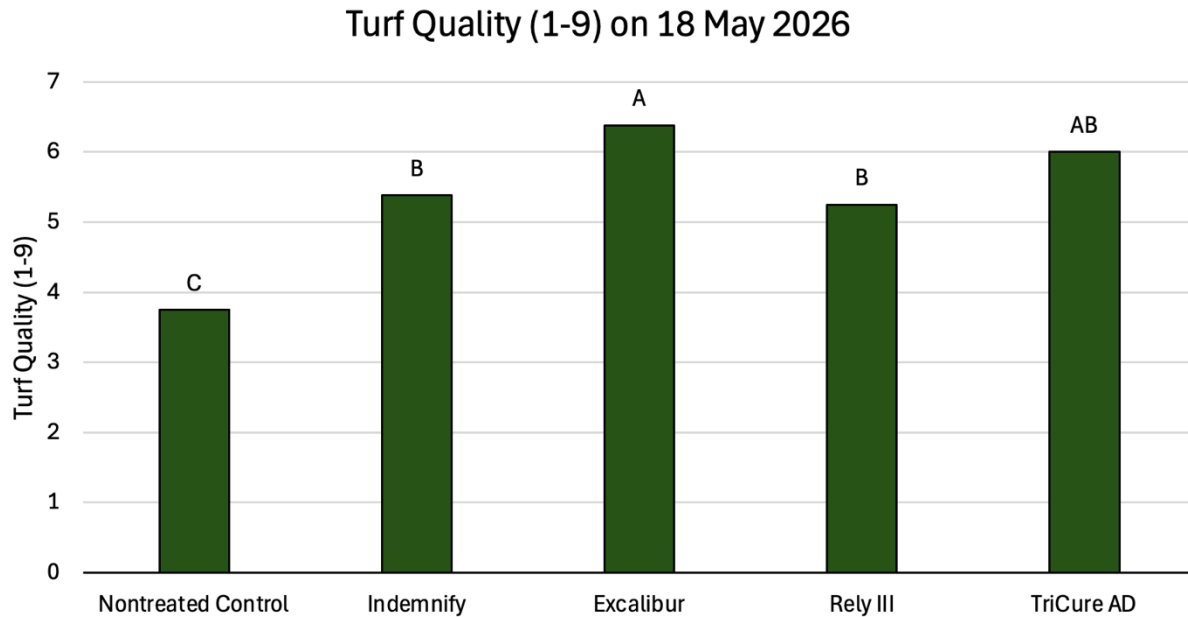


Figure 3. Influence of various nematicide and wetting agent treatments on turf quality (1-9) in a ‘Champion’ ultradwarf bermudagrass putting green.

Finally, turf color (1 = completely brown; 6 = acceptable green color; 9 = dark green color) was impacted by both nematicide and wetting agents (**Figures 4 & 5**). The wetting agents outperformed Indemnify in overall turf color, but all treatments enhanced turf color compared to the nontreated control by at least 21.5%.

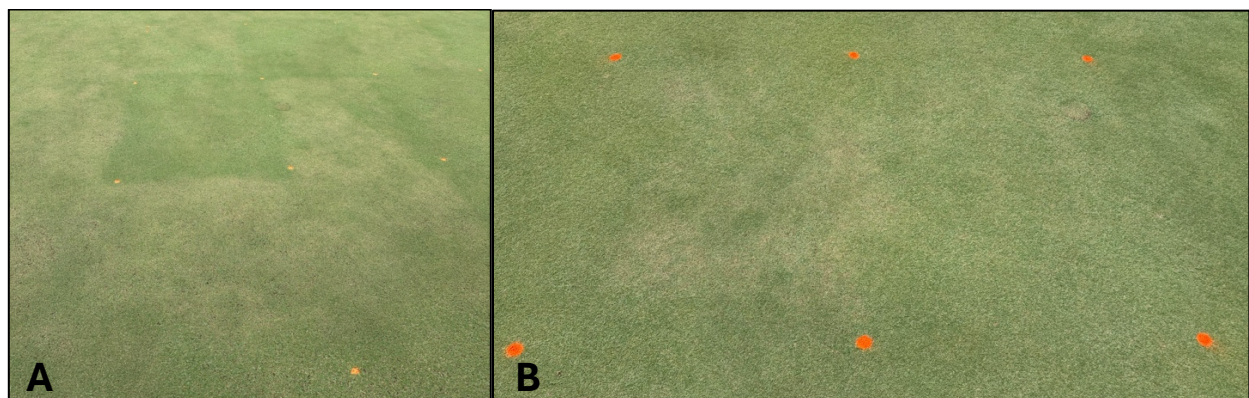


Figure 4. (A) Dark green plots were treated with a wetting agent and light green plots were not. (B) The symptomatic plot on the left was nontreated and the healthy plot on the right was treated with the nematicide Indemnify (fluopyram).

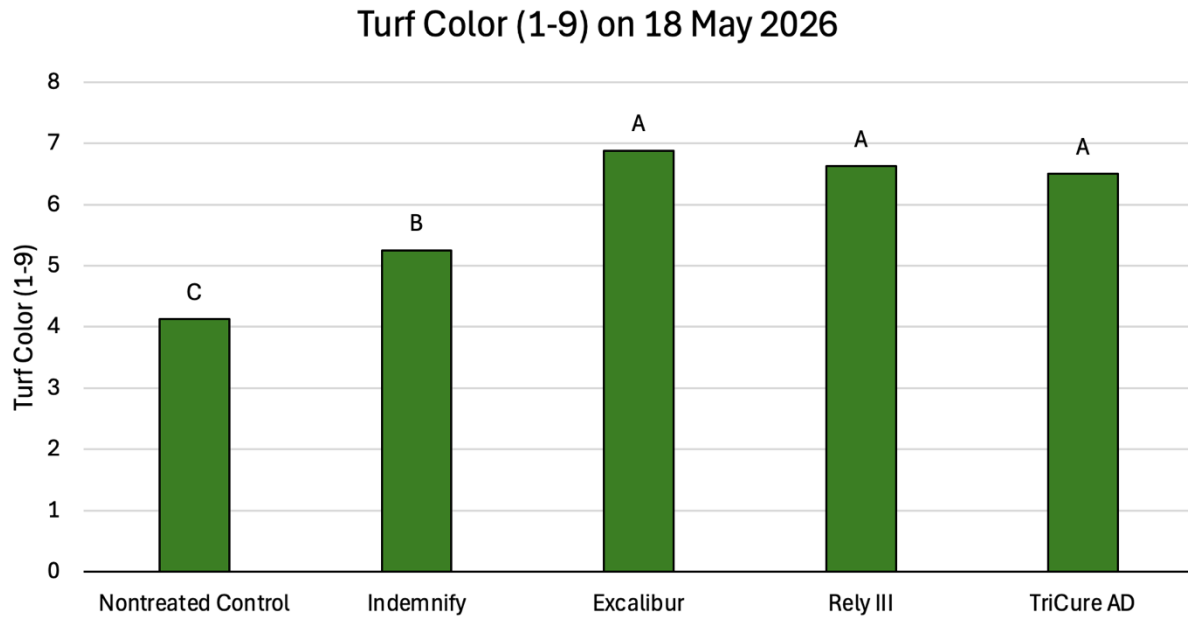


Figure 5. *Influence of various nematicide and wetting agent treatments on turf color (1-9) in a ‘Champion’ ultradwarf bermudagrass putting green.*

The results from this trial are exciting and provide golf course superintendents with additional options for improving turfgrass health when battling sting nematodes. This study also highlights the importance of combating plant-parasitic nematodes using an integrated approach. Wetting agent applications improve soil moisture and turfgrass health, providing a helpful and effective management tactic when facing sting nematode infestations. Additionally, directly combating sting nematode by deploying efficacious nematicides such as Indemnify is also a highly impactful management strategy. The ideal approach for sting nematode management in golf course putting greens, as with any turfgrass pest, is to integrate a variety of effective management practices to achieve optimum control. I hope this article was helpful, and please do not hesitate to contact me at wendellh@uark.edu for any follow-up questions about this research!