



Research Report

Date: Fall 2021- Spring 2022

Title: Fall and Spring Evaluation of Armorex and Bac-Pack for Control of Root Knot Nematodes in Bermudagrass

Location: Providence CC, Charlotte NC, USA

Principal Investigators: Dr. Bruce Martin

Crop: Turfgrass **Cultivar:** Bermuda 'Champion'

Abstract:

The purpose of this trial was to evaluate the efficacy of Armorex¹ and Bac-Pack² in treating root-knot nematodes in bermudagrass. Plots of bermudagrass received applications of Armorex, Bac-Pack, Armorex and Bac-Pack, and results were compared to a control group.

Methods:

Experimental plots of bermudagrass received the following treatment programs shown in Figure 1. Each plot was then assessed for color, density, and quality from 10/18/2021-5/13/2022. Nematode counts were also taken from each plot using the sugar flotation method as well as the mist extraction method from 10/18/2021-4/29/2022.

Figure 1.

Treatment	Rate	Application Description
Control	n/a	untreated
Armorex	7.35fl oz/1000 ft ²	Spray 1 day 0 Spray 2 day 21
Bac-Pack	0.75fl oz/1000 ft ²	Spray 1 day 7 Spray 2 day 28 Spray 3 day 140 Spray 4 day 161
Armorex + Bac-Pack	Armorex (7.35fl oz/1000 ft ²) Bac-Pack (0.75fl oz/1000 ft ²)	Spray 1 day 0 (Armorex) Spray 2 day 7 (Bac-Pack) Spray 3 day 21 (Armorex) Spray 4 day 28 (Bac-Pack) Spray 5 day 133 (Armorex) Spray 6 day 140 (Bac-Pack) Spray 7 day 154 (Armorex) Spray 8 day 161 (Bac-Pack)

¹Armorex is an OMRI listed, minimum risk pesticide manufactured by Soil Technologies Corp. in Fairfield, Iowa

²Bac-Pack is an OMRI listed microbial inoculant manufactured by Soil Technologies Corp. in Fairfield, Iowa.

Results:

Results from this trial demonstrated the treatment that utilized both Armorex and Bac-Pack alternately had the most desirable results for the color, density, and quality of grass.

Figure 2.

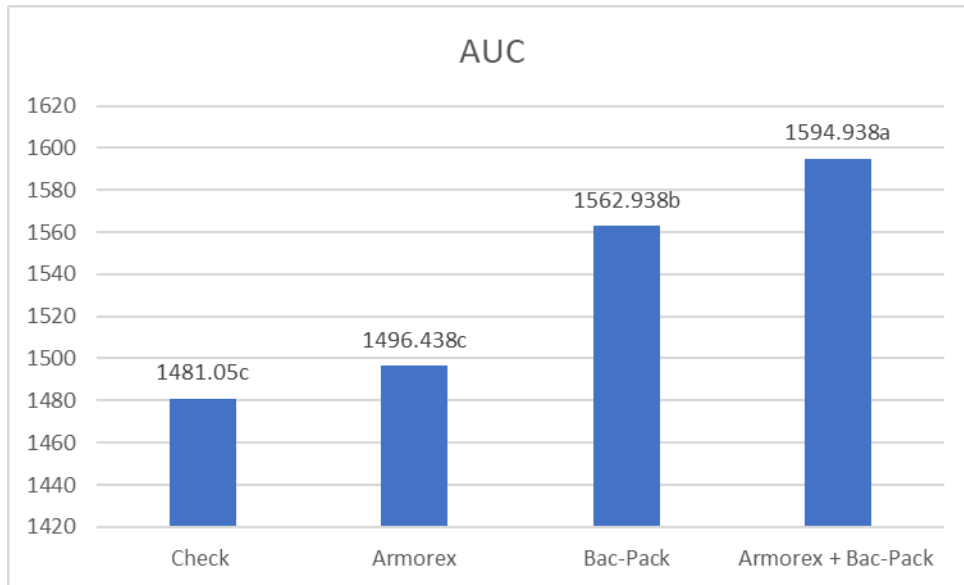


Figure 3.

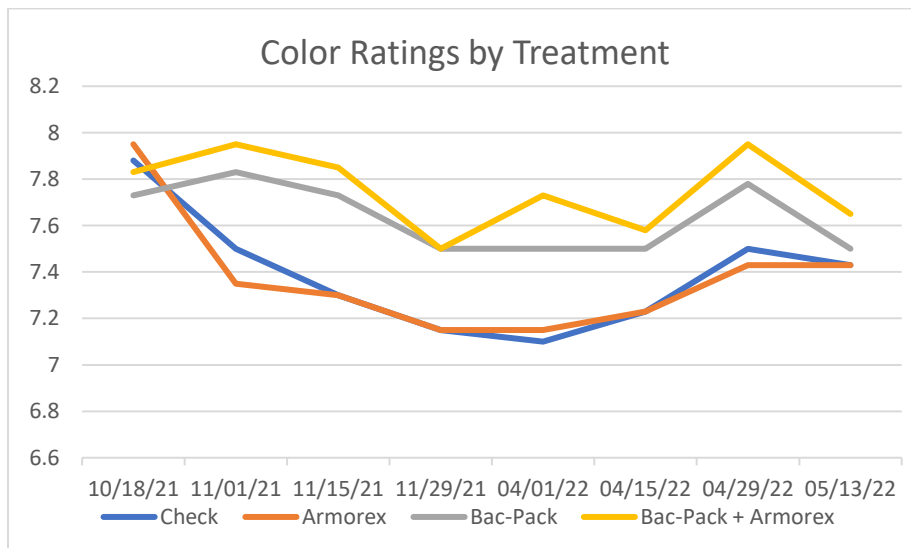


Figure 4.

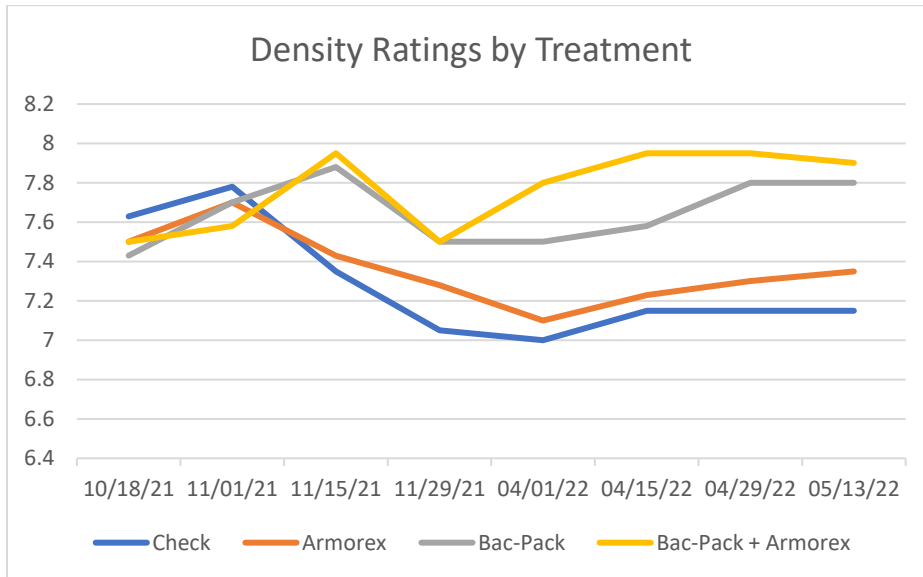


Figure 5.

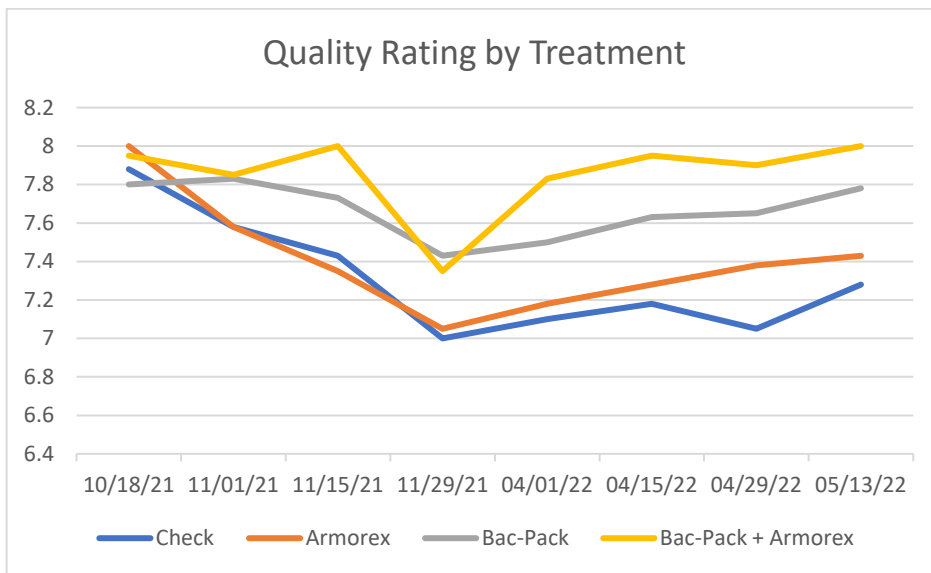


Figure 6.

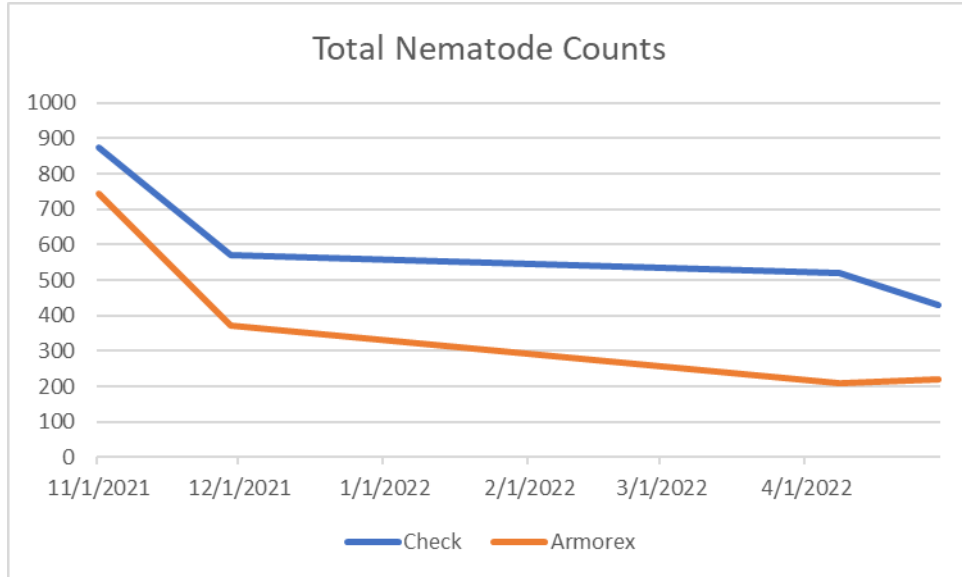


Figure 7.

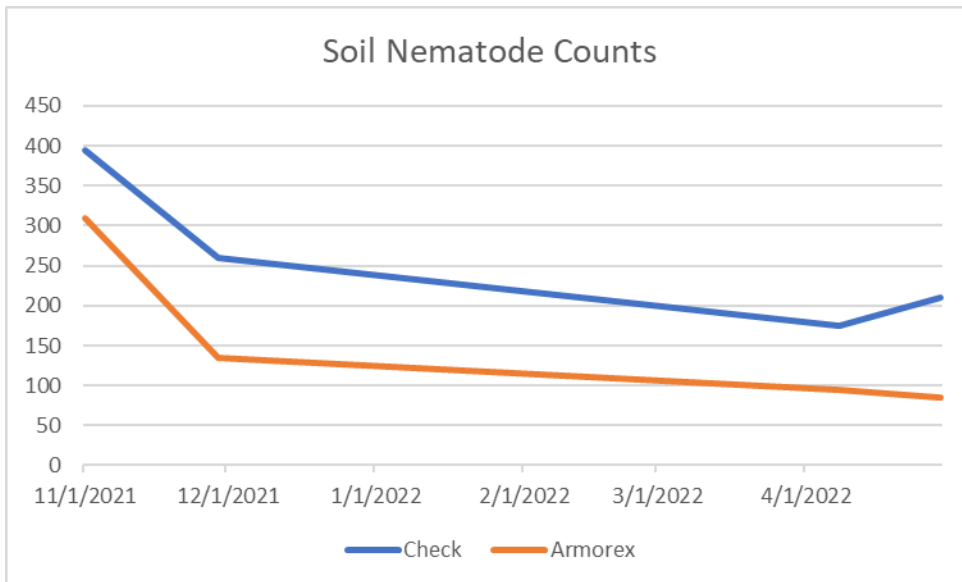


Figure 8.

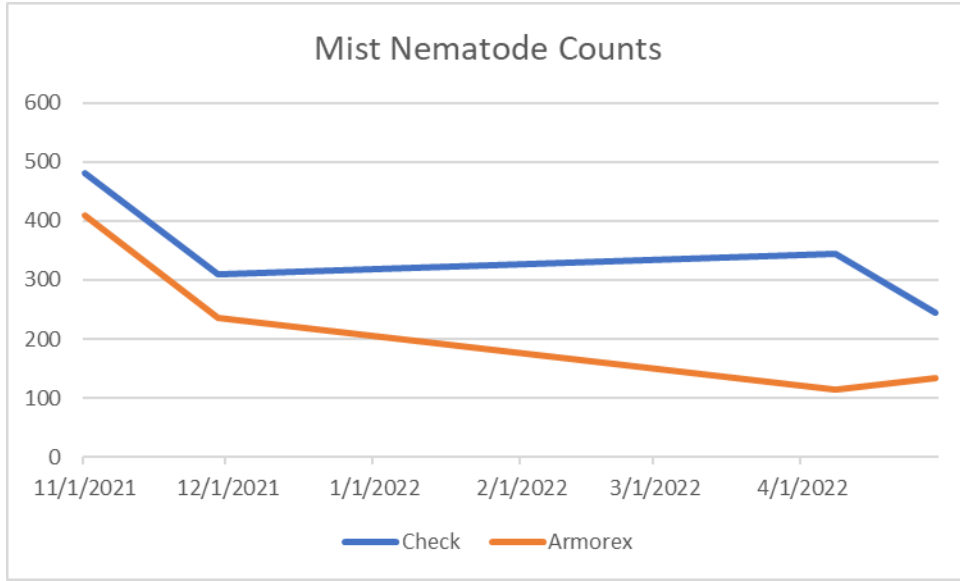


Figure 9. Untreated Check 3/23/2022



Figure 10. Armorex + Bac-Pack 3/23/2022



Figure 11. Bac-Pack 3/23/2022



N.B. Holes where nematode samples were taken show relatively little healing in the check plot compared with the Bac-Pack and Armorex/Bac-Pack plots which are closed or completely healed. Some sand is still visible in the check plots while the treated plots show little sand from topdressing.

Conclusions:

In summary, this trial showed that Armorex alone did suppress root knot nematode and that Bac-Pack alone and in a program with Armorex improved turf quality and density. The best treatment was treatment 4, Armorex followed by Bac-Pack. Based on this trial, previous trial work and feedback from golf course superintendents who have used Armorex *and* Bac-Pack, the investigators of this trial believe superintendents should consider incorporating this into their overall nematode management program.