

## Update: Ontario Turfgrass Research Foundation Funding Agreement 2023

Project Title: Evaluation of overseeding sports fields with new species and cultivars.

Principle Researcher: Dr. Eric Lyons

Research Facility: University of Guelph

Project Commencement: April 1, 2022      Expected Project Completion: March 31, 2025

Update period: April, 2022 to December 8, 2023

Total OTRF 2022 Investment: \$20,000      Total Project Request: \$60,000

Total OTRF 2023 Investment: \$20,000 - No invoice received yet. UoG contacted

### Objective 1:

Determine the effectiveness of tetraploid perennial ryegrass, turf-type tall fescue, fast germinating Kentucky bluegrass in a sports field overseeding program in a northern continental climate.

### Objective 2:

Determine the effectiveness of dormant Kentucky bluegrass overseeding to maintain desirable levels of Kentucky bluegrass on sports fields northern continental climates.

To achieve the objectives field plots were laid out at the Guelph Turfgrass Institute that included treatments to satisfy both objectives. Two complete experiments have been started at this time, Experiment A, started in 2022 and Experiment B started in 2023. A highlight of activities for Experiment A (Figure 1) and Experiment B (Figure 2).

Treatments included 6 overseeding treatments with 2 wear levels with and without an allowable weed control in Ontario (Table 1). The weed control was included to increase the knowledge of how this would integrate into sports field management protocols from different municipalities. Seed was obtained free of cost from seed suppliers. The OMAFRA Alliance program has agreed to the in-kind costs of plot maintenance for this project.

Project has been managed by technical support and summer students.

Pre-treatment weed and species counts were conducted on the individual plots in 2022. In 2023 a pre-treatment assessment of weed and species counts were conducted for the whole of the plot and yearly will follow. Yearly point quadrats will be completed along with regular visual ratings to track weed encroachment, turf cover, and species composition. Data for Experiment A one year into the experiment is shown. Overseeding treatments are not showing differences from each other yet, as is expected as overseeding is a process that takes time to observe difference. Experience from previous years is that overseeding does not produce immediate results and we should start to see differences between the overseeding plots in the coming years. The allowable weed control reduced weeds as expected (Figure 3, 4). There are differences in weeds as affected by wear, with high wear reducing weed populations compared to the low wear treatment (Figure 5).

We were able to garner matching funds in the amount of 7,000 from a summer experiential program to supplement the salaries of the summer research for both 2022 and 2023.

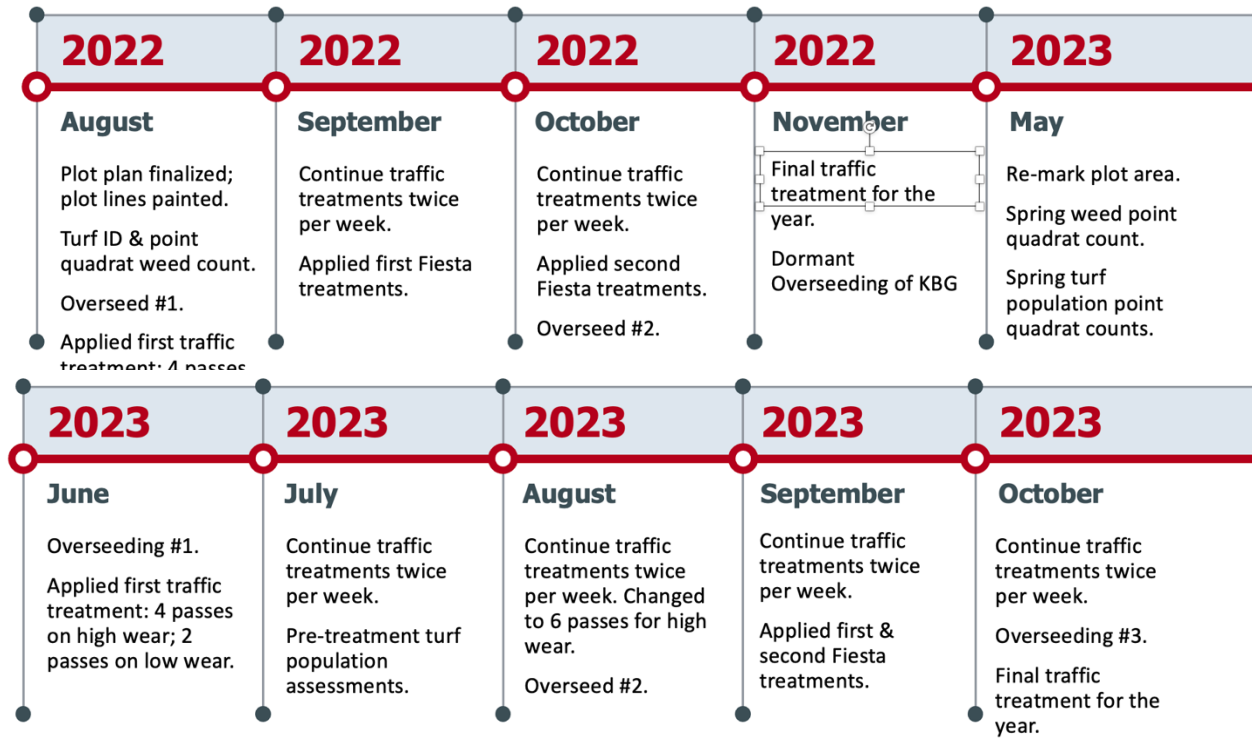


Figure 1. Timeline for Experiment A from 2022 until the October 2023. Final overseeding is included in Figure 2.

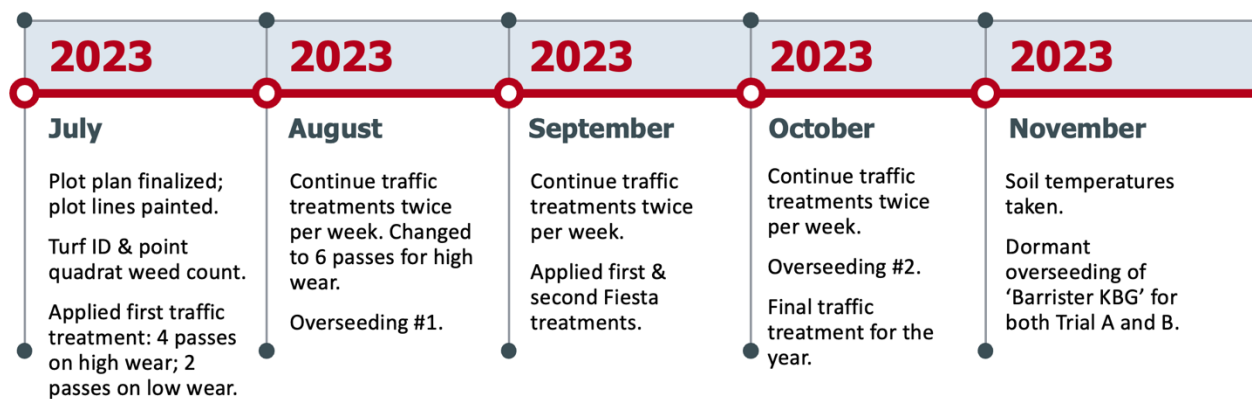


Figure 2. Timeline for Experiment B for 2023.

Table 1. Treatments in both Experiment A and Experiment B.

Overseeding Treatments	Traffic Treatments	Weed Control
Perennial ryegrass	High Wear	Fiesta
Kentucky bluegrass	Low Wear	No Fiesta
Tall fescue		
Tetraploid perennial ryegrass		
Perennial Ryegrass with Dormant KBG		
Control		

Figure 3. Dandelion populations before treatment implemented (Pre-2022) in spring of 2022 and after (Post-2023) treatments. Reduction in weeds over years is likely due to the different levels of wear which are pooled in this data.

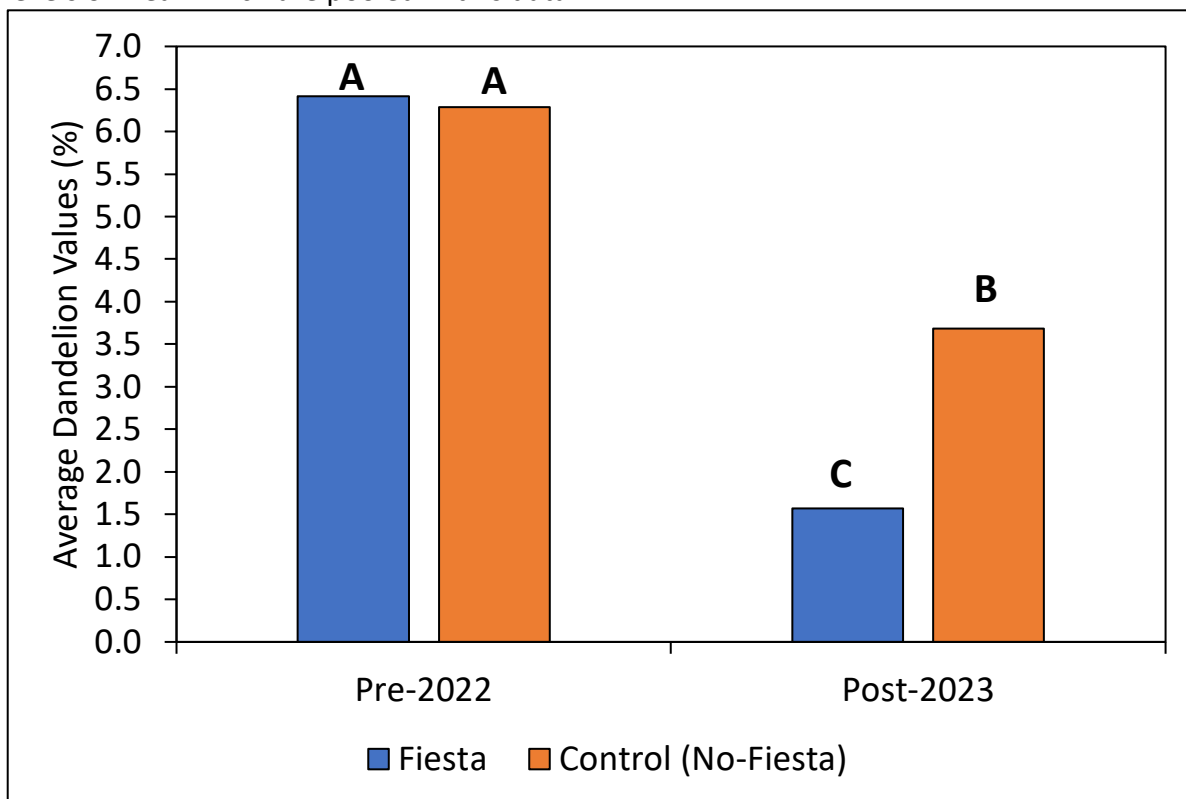


Figure 4. Black medic populations before treatment implemented (Pre-2022) in spring of 2022 and after (Post-2023) treatments. Reduction in weeds over years is likely due to the different levels of wear which are pooled in this data.

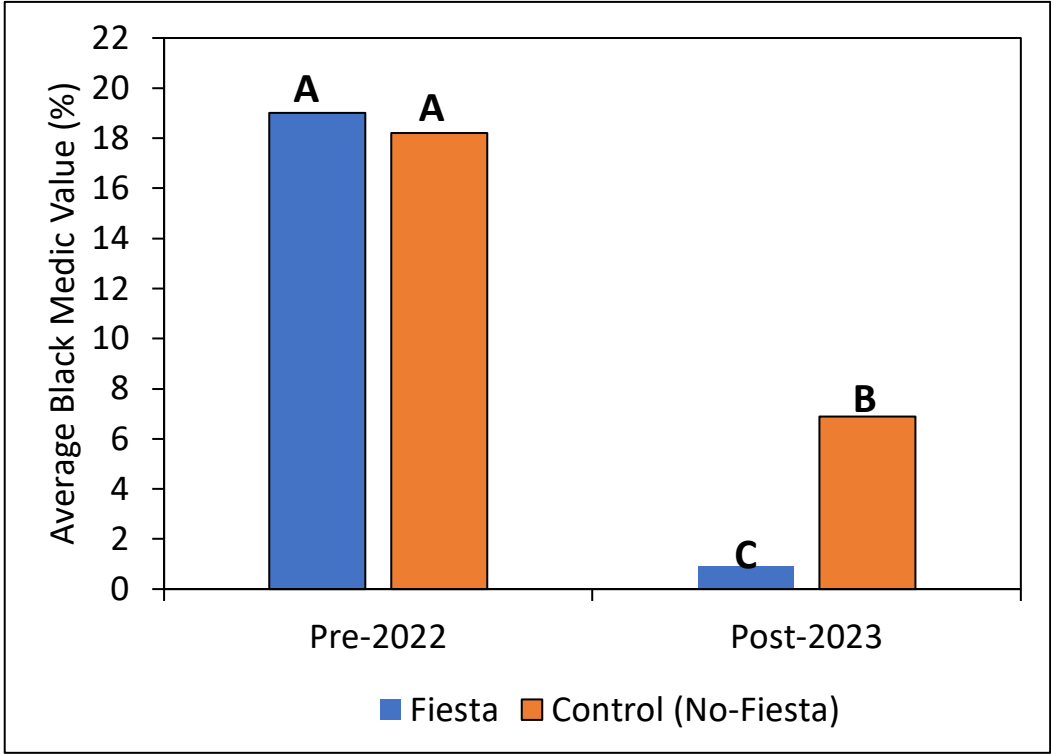


Figure 5. The effect of differences in traffic on dandelion populations in the post treatment plots.

