

UNIVERSITY OF MINNESOTA

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Department of Horticultural Science
College of Food, Agricultural and
Natural Resource Sciences

305 Alderman Hall
1970 Folwell Avenue
St. Paul, MN 55108

612-624-4742

Fax: 612-624-4941

<http://horticulture.umn.edu>

April 3, 2019

Greetings golf course superintendents:

Winter injury on turfgrass is one of the most challenging, and poorly understood, aspects of managing turfgrass in northern climates. A team of researchers from six universities (University of Minnesota, Michigan State University, University of Wisconsin, University of Massachusetts, Rutgers University, and Iowa State University), as well as turfgrass scientists from the Norwegian Institute of Bioeconomy Research, are submitting a grant proposal to the USDA Specialty Crop Research Initiative to help fund critical turfgrass winter injury research. Our objectives include monitoring conditions under ice and snow cover, developing best management practices to prevent and recover from winter injury, breeding more winter hardy turfgrass species, and exploring alternative snow mold control strategies.

However, **we need your help**. As part of our project we are proposing to collect environmental conditions during the winter on hundreds of golf courses throughout the winter. Your participation in this project would help in two ways. First, you would be providing important data for improved winter injury management for your golf course. Second, your donation of time would also be contributing towards our matching funds requirement for the proposal. The USDA requires that for every \$1 we get in funding from them, we need to raise \$1 in matching funding or in-kind donations (i.e. people's time) from other sources.

Below is a description of what a commitment to help out with this would look like. Your commitment to this project is needed before we submit the grant (due in late April), but you will only need to take the measurements if we receive the grant. We should know if the grant is awarded by mid-summer of 2019.

How you can help

We need you to commit at least one hour per week from Oct 15, 2019 through May 15, 2020 to collect data on a golf green on your course. This would be the minimum we need. If you are interested in taking data on more than one green, or for a second year, all the better!

What are you committing to do?

Before and after winter (approximately Oct. 15 and May 15) you would estimate visually the percent annual bluegrass and creeping bentgrass (or other desired turf species) on the green, and send in some pictures of the green. Between these dates, you would visit the green each week and record information such as the following: (1) snow depth at 10 locations on the green, (2) presence of standing water, and (3) presence and thickness of ice.

How does this help superintendents?

The data collected on (hopefully) hundreds of golf greens across the northern U.S., Canada, and Scandinavia will help us better understand how golf greens (and turf in general) die during the winter. This information then can be used to design and test new turfgrass management strategies before, during, and after winter. We will also use data you collect, along with satellite imagery and weather data, to help build a sensor-based winter-stress damage prediction model that can help turfgrass managers identify times of greatest turf injury risk. Turfgrass breeders can also use these results to better target traits that are affecting winter performance and biosystems experts can develop low-cost sensors that help monitor winter stresses as they are occurring.

Submitting a letter of commitment

To show your commitment to our project, we need a letter to include with the grant proposal by **the end of the day April 15, 2019**. We have provided a letter template (Word document) to use to write your letter. The following elements must be included:

1. Address letter to: Eric Watkins
University of Minnesota
1970 Folwell Ave.
St. Paul, MN 55108
2. The title of the project "WinterTurf: A holistic approach to understanding the mechanisms and mitigating the effects of winter stress on turfgrasses in northern climates"
3. Your name and role at your facility
4. The name and location (city, state) of your course
5. How many hours you are willing to commit to this project each week during the evaluation period. One green (the minimum commitment) will take about one hour, so you should also state the number of greens you are willing to monitor. For example, "*I commit to monitoring 1 green during the evaluation period. I estimate that this will take 1 hour per week for each of the 30 weeks.*"
6. The "cost" of doing this, which would be your hourly rate and cost of benefits (fringe). If you make \$25/hr with a fringe benefit rate of 18%, you would state, "*This contribution is valued at \$29.50/h.*" and calculate the total amount contributed (see letter template). Please note that we will keep this information private and it will only be viewed by the project lead and the panel reviewing the proposal.
7. Address and phone number
8. Signature
9. (Optional) It would be great if you could share an example of winter damage on your course, the impact it had, etc. and any other thoughts you have about the value of this project. Statements such as these establish the critical need for the research by our stakeholders.

We would prefer that the letter be signed and then scanned/saved as a pdf and emailed to Kristine Moncada at monc0003@umn.edu. If you need help or would prefer to send the letter another way, please contact her.

We need these letters by **April 15, 2019**. If funded, we will send further instructions for how to submit data using your phone or other device.

Thank you for your help on this project.

Dr. Eric Watkins
University of Minnesota