**Using Physiological and Hormone Indicators to Develop a Novel Winter Preparatory Strategy for Winter Wheat**

*Research by Dr. Emily Holm with Dr. Eric Olson, Dennis Pennington*

**2023 Report: Using Physiological and Hormone Indicators to Develop a Novel Winter Preparatory Strategy for Winter Wheat – Year 1**

This first-time project for Dr. Emily Holm, MSU assistant professor of plant/turf physiology, addressed the problem of winterkill in winter wheat. Her ultimate goals were to develop innovative ways to prepare wheat for better winter survival, and understand wheat traits associated with winter survival such that they could potentially be emphasized in future varietal breeding.

Holm’s lab team in the Plant, Soil, and Microbial Sciences Department selected 11 winter wheat varieties from different regional origins, and evaluated them in 2019-2020. They looked at the wheat’s tolerance to low temperatures when encased in ice and not encased in ice, and evaluated the plants for recovery from the cold treatment. This was to simulate winterkill.

Holm tested whether plant protective treatments or plant growth regulators (PGRs) had an impact on damage or recovery; this work was inconclusive. The author concluded more research was needed.

Click below to review the 2023 final written report on this project.

* 2023 Report: Using Physiological and Hormone Indicators to Develop a Novel Winter Preparatory Management Strategy for Winter Wheat