Project Abstract

Project Title:	**Integrated Management of FHB and DON in Soft Winter Wheat and Winter Barley in MI**	
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The Objectives of this FHB Management Coordinated Project (MGMT_CP) are to:

1) Evaluate the integrated effects of fungicide treatment and genetic resistance on FHB and DON in all major grain classes, with emphasis on new combination fungicides, Prosaro Pro® and Sphaerex®.
2) Compare the efficacy of Prosaro Pro and Sphaerex to that of Prosaro®, Caramba®, and Miravis Ace®.
3) Generate data to further quantify the economic benefit of FHB and DON management programs.
4) Generate data to validate and advance the development of FHB risk prediction models.

In this funding cycle, we propose integrated management (IM) and uniform fungicide (UFT) trials in wheat and barley that would allow us to evaluate new combinations of AIs either as pre- or tank-mixtures or as sequentially applied treatments. For the wheat IM trial, all PIs will conduct inoculated experiments consisting of least two cultivars with different levels of resistance to FHB subjected to at least five fungicide treatments, all applied at Feekes 10.5.1, plus two untreated checks. The treatments will be: **1)** In inoculated check, **2)** non-inoculated check, **3)** Prosaro, **4)** Miravis Ace, **5)** Prosaro Pro, and **6)** Sphaerex. A subset of the PIs will also conduct inoculated UFTs. For the UFT, separate plots of a susceptible cultivar will be subjected to at least nine fungicide treatments plus an untreated check: **1)** Inoculated check, **2)** Prosaro, **3)** Caramba, **4)** Miravis Ace, **5)** Prosaro Pro, **6)** Sphaerex, **7)** Miravis Ace fb tebuconazole; **8)** Miravis Ace fb Prosaro Pro, **9)** Miravis Ace fb Sphaerex. Treatments 2-6 and the first application of treatments 7-9 will be made at Feekes 10.5.1, whereas the second applications will be made 4-6 days later.