Nitrogen is the single most expensive but responsive nutrient in winter wheat. However, much of the research and recommendations on the economic optimum N rates at many universities including in Ontario is limited and quite old. Many top wheat growers in Ontario are consistently achieving winter wheat yields over 100 bu/ac with top management practices with respect to seeding date, seeding rates, depth of planting, use of fungicides, use of starter P, higher nitrogen rates, and in some cases, split N timing. As producers pursue higher wheat yields using improved management techniques, current N recommendations may not be sufficient. A recent four-year Ontario study challenged current recommended N rates and resulted in revision to the most economic N rate. The results of these studies clearly indicate a nitrogen × fungicide interaction, and in 2014, trials were initiated to investigate this interaction further.

**Methods**

Multiple nitrogen rates were applied to generate nitrogen response curves and determination of maximum economic return to N (MER-N). Additional treatments...