INTRODUCTION

- Stripe rust infestation of wheat affects the active photosynthetic area of the leaf that is actively involved in the physical control of the reflectance, absorption and transmittance of solar radiation.
- In the visible part of the spectrum (400-700nm), plant pigmentation controls the energy-matter interaction. This results in high absorption, low reflection, and nearly zero transmittance of the energy-matter.
- While in the near-infrared (NIR) part of the spectrum (700-1350 nm) the plant internal leaf structure controls the energy-matter interaction. This results in high reflectance and transmittance, but very low absorption.
- The normalized difference vegetation index (NDVI) vegetative index takes advantage of the reflectance in the red region that is due to chlorophyll absorption and the NIR due to the high transmittance that capture NIR reflectance from deep within a vegetation canopy.
- Therefore, NDVI measurements can be used to provide an objective measurement of stripe rust infestation and level of control, because the reflectance of a healthy leaf is greater compared to an infected leaf.

OBJECTIVE

- In this study, we examine the use of NDVI measurements to determine the level of stripe rust control following fungicide application for a resistant and a susceptible wheat variety.