

Station 9: Canopy Sensing for Nitrogen 4R Nutrient Stewardship Self-Guided Tour

- ✦ North Dakota and Minnesota have developed procedures using hand-held or tractor mounted active optical canopy sensors to estimate the amount of in-season N to apply to grain corn.
- ✦ We are using this study to develop yield response curves and canopy optical measures to rates of in-season UAN application.
- ✦ The aim being to recommend a canopy sensor approach and algorithm to use.
- ✦ We are determining NDVI (Normalized Difference Vegetation Index) and NDRE (Normalized Difference Red Edge Index) at corn V4 and V8 stages.
- ✦ We have found NDRE/NDVI to relate well to corn leaf nitrogen concentration.
- ✦ The relations is a bit better at V8 than V4.
- ✦ However, V8 application of in-season N seems to be too late most years in Manitoba.
- ✦ Thus we are exploring NDRE/NDVI at V4 in relation to yield response to in-season N application rates.

