Crookston Location

2016 RESEARCH UPDATE FOR AG PROFESSIONALS

Abstracts

SMALL GRAINS VARIETY UPDATE

Dr. Jochum Wiersma

In this presentation the results of the state variety trials for spring wheat, barley, and winter rye will be presented and strength and weaknesses of new public and private releases will be discussed. The presentation will include an in-depth discussion on yield stability and economic returns.

ALL THE BUG NEWS FIT TO PRINT

Dr. Ian MacRae

This presentation will include an overview of current and proposed insecticide regulatory changes effecting growers in Northwestern Minnesota. In addition there will be a review of the utilization of current remote sensing technology in assessing economically significant crop insect populations. Finally the presentation will include an update of the proposed changes by the FAA concerning the used of Drones in agricultural field crop scouting and insect assessment.

POPULATION DYNAMICS OF BARLEY YELLOW DWARF IN MINNESOTA AND BEYOND

Dr. Madeleine Smith

Barley yellow dwarf (BYD) is an economically important disease of small grains worldwide. Symptoms of leaf yellowing can often be confused for nutrient deficiencies in the absence of other symptoms such as stunting. Transmitted by a range of aphid species which move up from the southern US, BYD has become more prevalent in Minnesota in the last few years. The viruses that cause BYD have several strains which impact the transmission efficiency of the virus by the aphid species it resides in. Work is underway as part of a regional plant pathology collaboration to determine the prevalence of theses viral strains in an effort to focus breeding programs on incorporating the right resistances in to their germplasm and future varietal releases.

ARE SULFUR DEFICIENCIES BECOMING MORE COMMON IN NORTHERN MINNESOTA

Dr. Dan Kaiser

Crops in Minnesota have been responding to sulfur more consistently the past two years. Research over the past eight years has indicated that sulfur responses are tied to cropping rotations and the amount of soil organic matter in the surface soil. Since most soils in Northwest Minnesota contain higher amounts of soil organic matter it is assumed that the likelihood of a response to sulfur would be low except for in situations where the soils are sandy and tend to rapidly leach sulfate out of the rooting zone. This presentation will highlight what we currently know about sulfur and present data on spring wheat, corn and soybean response to sulfur in the region. While the amount of sulfur needed to increase yield has been shown to be small, eliminating costs in years of low commodity prices is warranted especially if there is little chance that the nutrient will increase yield. Other current research on nitrogen and
micronutrients will be discussed as an update to current research work being conducted in the region on soil fertility

**SOYBEAN CYST NEMATODE RESEARCH UPDATE**

Dr. Phillip Glogoza

A review of the status of Soybean cyst nematode in NW MN will be presented. The 2-year study on seed treatments and their impact on SCN will be summarized. There will be comments regarding SCN sampling and field variability of infestations in the context of general management and research plot work.