

2017 RESEARCH UPDATE FOR AG PROFESSIONALS | WASECA, KASSON, LAMBERTON, WILLMAR AND MORRIS

Abstracts

WHAT DID WE LEARN FROM ON-FARM STRIP TRIALS IN 2016?

Dr. Daniel Kaiser

On-farm strip trials harvested with combine yield monitors can be used to gather data related to the management of fertilizers. If set up properly, simple comparisons between treatments can be made effectively scaling up small research plot work into field size demonstrations. In addition, simple yes/no comparisons can be used to gather data related to crop response to specific nutrients or fertilizer sources. In 2016 two studies were established on farmer fields. Study 1 was a simple yes/no comparison of strips with and without boron applied on six fields. Plant and soil samples were collected from each field to assess the accuracy of plant and soil tests for B for the prediction of yield. Study 2 consisted of four nitrogen rate trials where variable rates of N were applied in one or two strips across the field in order to generate a N rate response curve within the field. Pro's and cons of the study designs will be discussed along with the data collected to showcase how this data can be incorporated into current guidelines for nitrogen and boron for corn production.

NEW AND NOTEWORTHY FACTS AND SPECULATION ON KEY SOYBEAN AND CORN DISEASES

Dr. Dean Malvick

Minnesota in 2016 had plentiful rain and high corn and soybean yields in many areas. Circumstances were also favorable in some locales for diseases that influenced yields. This session will discuss corn and soybean diseases that occurred in Minnesota in 2016, and provide research updates on key diseases, especially white mold, SDS, and Rhizoctonia root rot for soybean and NCLB and Goss's wilt of corn. We will also discuss what is known about bacterial leaf streak of corn, which was confirmed in the U.S. and Minnesota for the first time in 2016.

MANAGING INSECT PESTS OF SOYBEAN: INSECTICIDE-RESISTANT APHIDS AND OTHER CHALLENGES

Dr. Robert Koch

Management of insect pests in soybean is complicated by new challenges. This presentation will provide an update on status of insecticide resistance in soybean aphid, review challenges posed by other pests, and discuss potential impacts of recent regulatory actions on available insecticides. The role of integrated pest management (IPM) in mitigating these challenges will be discussed.

ARE INSECTICIDES AN OPTION? PERFORMANCE, SCOUTING AND THRESHOLDS FOR KEY CORN INSECTS

Dr. Kenneth Ostlie

Squeezing crop budgets have many growers re-thinking their use of Bt traits and turning towards insecticides. In this presentation, insecticide options are discussed along with key concepts regarding their use. What kind of efficacy can you expect? What are the benefits and downsides of insecticides? Getting the most out of your insecticide or Bt investment usually requires info on insect populations or risk! I'll also review scouting procedures and associated action thresholds.

WEEDS ARE ADAPTABLE BUT ARE WE ADAPTING?

Dr. Jeffrey Gunsolus

Weeds by their very nature are genetically diverse and readily adapt to our current weed management practices. This presentation will update you on adaptations of some of our most important weed species and discuss how existing, emerging and possible future management practices can contribute to protecting crop yield.