

INMC Meeting Notes

January 9, 2020

Members present: Michael Shepherd, Joe Hudyncia, David Hardy, David Crouse, Stephanie Kulesza, Luke Gatiboni, Deanna Osmond, Ramesh, Ravella, Rob Austin and Christine Lawson

1. RYE and N rate for corn and wheat discussion (Deanna)

It was agreed that N rates are appropriate for both corn and wheat so the discussion revolved around yield increases in the RYE database. RYE assumes the top 10% of growers' best three out of five years of yield. We discussed the information below, which was presented at the September 2019 meeting. We had asked David Crouse to develop an updated RYE data base to review maximum and minimum yields after adding yield to each crop. During the January meeting the INMC reviewed the data Dr. Crouse had prepared.

From the September 2019 Meeting

Wheat: Shelby Rajkovich's work was presented (4 site years wheat). We looked at optimum N rates which were about the same or lower than RYE N rates. Johns soils wheat yield increased 60 bu/ac, while Portsmouth soil wheat yield increased 80 bu/ac, and Lloyd soil (two years of data) wheat yield increased 50 bu/ac over RYE yield. Data from Engoke demonstrated Plymouth soil wheat yield increased 30 and 60 bu/ac, while Goldsboro soil wheat yield increased 55 and 15 bu/ac over RYE. With the 60 site year of data trials from the five-year N rate trial, yield increase was 15 bu/ac. Lastly the average yield for the variety trial data is 84 bu/ac. The average yield increase of our data using the linear plateau model and looking at additional data suggests an increase of 50 bu/ac for wheat.

Corn: Shelby Rajkovich's work was presented (6 site years of corn). We looked at optimum N rates which were about the same or lower than RYE N rates. Lynchburg soil corn yield increased 50 bu/ac, while Portsmouth soil corn yields increased 25 bu/ac. The Lloyd soil one year had a 25 bu/ac increase but another year the yield difference was -60 bu/ac (drought year). On the Comus soil corn yields and RYE were the same, while the Codorus soil yield increase was 80 bu/ac greater than RYE. We also looked at variety trial data and data from our recent five-year N rate study and from this study we found corn was about 30 bu/ac greater than RYE. For corn, we know that yield increases an average about 2 bu/yr based just on genetics and it's been about 10 years since we've updated the RYE table so this would be 20 bu/ac. The average yield increase of our data using the linear plateau model and looking at additional data suggests an increase of 30 bu/ac corn.

Three sources of data indicated that corn yield should be increased by 30 bu/ac: Rajkovich data, yearly increases based on new genetics, and data from our 5-year N rate study. Therefore corn yields will be increased by 30 bu/ac. The Rajkovich wheat data had only two years of linear-plateau information (the other two years were linear) and we also used the four site years from the Engoke's data (all linear plateau N response trials). The average increase in yield was 45

bu/ac. Although the five-year N rate trial suggested yield increases or around 15 bu/ac, the data were limited by only coastal plain production. The committee determined that wheat yields should be increased by 45 bu/ac statewide. Since yield is increasing but N rates are staying the same, N factors will change downward.

2. Deanna, Luke, Steph, and Rob will develop a fact sheet on the RYE methodology
3. Nutrient Management Training –March 9-13, 2020 (Steph) and October 5-9, 2020 (Steph). Steph and Luke expect to have all on-line pre-training recorded by the end of 2020.
4. Dairy groups need recertification training in Western NC and Steph will work with Michael.
5. All 2020 INMC meetings are cancelled until we have an agenda item.