

**Teleconference Attendees:** David Crouse, Keith Larick, Josh Spencer, Joseph Hudyncia, Colleen Hudak-Wise, Natalie Woolard, Deanna Osmond

**October 24th meeting minutes approved.**

### **Corn RYE Data**

Group thanked D Crouse for development of an Excel spreadsheet that showed impact of different proposed levels (categories) of corn yield adjustment on yield and N-factor for all soil series in Coastal Plain, Piedmont and Mountains.

The data previously presented by J. Smyth was calculated using the linear plateau model. This model is used to assess optimum N requirements in N-response studies. D. Osmond explained that since the last INMC meeting she discussed the progress towards finalizing corn RYE's with Ron Gehl. She explained that R. Gehl prefers using the quadratic plateau model which is more commonly used in the Midwest. D. Osmond's rationale for using the linear plateau model instead of the quadratic plateau was the insufficient number of data points and the complicating factor of drought stress that is typical in N.C. The linear model is more conservative and is the preference at NCSU because it fits NC growing conditions better.

D. Osmond mentioned a research paper from about 30 yrs. ago that compared 5 different models. The r-squared values were all very similar (97-98%), however the range in optimal N-rates varied widely (by up to 120 lb N/ac). The quadratic plateau model offers higher optimum N rates at the same yield level compared to the linear plateau model. Bottom line, choice of model is a subjective preference. However, R. Gehl is willing to run the data using the quadratic plateau model, to be compared to the linear plateau model completed by J. Smyth. INMC agreed to move forward and decide on preliminary recommendations based on the available data today; however, we will consider not finalizing the recommendations until results of each model can be compared. The Soil Science Department will meet to discuss the results of comparison of the linear plateau and quadratic plateau after R. Gehl has had time to complete it. Their recommendation can then be brought to the INMC for the next meeting.

### Preliminary Recommendations Using Linear Plateau:

- Adjust the yields for the mountain soils differently from piedmont and coastal plains soils based on data previously presented by J. Smyth.
- Coastal Plain – Increase Yield 18%; Decrease N Factor 18%
- Piedmont – Increase Yield 18%; Decrease N Factor 18%
- Mountain – Increase Yield 31%; Decrease N Factor 31%

D. Crouse will change the spreadsheet tab 2 "Combine CP-Piedmont Adj" to reflect a yield adjustment of 1.31 for the mountains versus the 1.44 currently used.

#### Non-river Bottom and Terrace Mountain Soils

Discussion moved to accounting for yield increase for non river bottom or terrace mountain soils because not all soils will show increased yields at this maximum rate. Current Nutrient Management Software does give yield and n-rates for some very steep slopes. It was determined that soils with slopes greater than 30% should not have yield and N recommendations provided by software. It would be the responsibility of technical specialists to use an agronomist if they need recommendations for >30% slopes. This will apply to all row crops and silage crops; would not apply to grasses.

D. Crouse said that the change in the programming of NCANAT can be done to make this happen however it is not possible for the existing Nutrient Management Software. It was agreed that new this changed should not roll out until these changes can be built into the new combined software tool.

#### **Nutrient Management Training**

D. Crouse mentioned that they will be using the new amounts, nutrient concentrations and availability coefficients tables release on 7.1.2013 for the five-day nutrient management training this December 16 - 20.