June 27, 2001, INM Work Team Meeting: Minutes

Attendance: Ray Bryant, Harold van Es, Johannes Lehmann, Danny Fox, Luis Tedeschi, Tom Tylutki, Greg Albrecht

Basic Theme: Discussion of potential areas for nutrient management research and extension, led by Ray Bryant.

1. The potential extension and research benefits of distributing and teaching the use of simple GPS units, penetrometers, CARDI meters, soil probes, etc. (i.e. an extension/research tool kit) for soil, nutrient, pest, and forage management are high. Brief discussion emphasized georeferencing more field observations and research.

2. Modeling
   a. Nitrogen, phosphorus, soil, and pathogen management decisions should be increasingly supported/driven by spatial and temporal models
   b. Many applicable models for the Northeast are under development/refinement
      i. CU Civil and Environmental Engineering: Christine Schoemaker et al.
         1. HSPF (http://water.usgs.gov/software/hspf.html) and SWAT (http://www.brc.tamus.edu/swat/) models
      ii. Elliott Snyderman et al. (sp?)
         1. GWLF (http://www.epa.state.oh.us/dsw/tmdl/SugarCrDraftTMDLApp1.pdf) (Development by Doug Haith et al. in BEE)
      iii. CU Biological and Environmental Engineering: Tammo Steenhuis et al.
         1. SMR (http://aben.cals.cornell.edu/swlab/gis-variable/~GIS-variable.htm)
      iv. CU Crop and Soil Science: Harold van Es et al.
         1. Using EPIC model (http://www.brc.tamus.edu/epic/introduction/index.html) to refine in-season side-dress N rate recommendations
   c. The INM Work Team should organize a modeling/research retreat in Fall 2001, including the various modelers and researchers, as a forum for:
      i. Sharing the latest approaches pursued by each group
      ii. Discussing what research is necessary for model improvement
      iii. Minimizing overlap / maximizing compatibility / discuss integration of efforts
   d. Complete and maintain digital soil surveys
   e. Improve digital elevation models
   f. Utilize models to assess BMPs

3. Continue research on basic management
   a. e.g. starter P fertilizer recommendation refinement
   b. N side-dress management
   c. Pathogen management
   d. Etc.

4. The INM Work Team should promote its successes and current tools on campus and in the field