Integrated Nutrient Management Program Work Group
Minutes July 9, 2002


Hadrian Cook and Jeremy Wilson (UK)

Hadrian Cook – Hydrologist Imperial College at Wye
Hadrian is visiting Ithaca until October 2002, working with WRI on watershed twinning studies. Key areas of interest are:

- Protection of water from nitrate contamination.
- Hydrology and management of grazing marshes, watermeadows and floodplain meadows.
- Utilization organic wastes in agriculture.
- Watershed management to control diffuse pollution

Overheads:

- One study area is Walland Marsh in East Sussex. In the 1500’s the marsh was reclaimed with ditching and artificial drainage. Fertilization and plowing mobilize N. Drainage provides preferential flows, resulting in eutrophication.
- Government program to pay for fertilizer free buffer strips (about 200 pound /ha). 5 meters in width.
- Model for land vulnerability – GIS spacial prediction model.
- Flood plain water meadow – old irrigation system. Silt and P trap. Purpose is to force early grass growth
- P loading is a serious but overlooked problem (“P is new N”) 
- Public drinking water supply is 1/3 from ground water. In some areas as high as 90% of supply from ground water.

Jeremy Wilson – Dairy Farmer in Kent, UK

- Farm description: 200 acres on chalk as shallow as 6 inches from surface in areas. On top of Ottinger aquifer. Milk quota of 940,000 liters with fat adjustment is over 1 million litters.
- History of nutrient management regulation in UK and farm implementation:
  - In ‘60’s – ‘80’s government incentives to expand production.
  - In late ‘80’s some point source events got government interested in regulating farm manure – start manure system inspection. Government cost sharing for manure storage. Farm areas are zoned for hydrologic sensitivity. Jeremy installs 120,000 liter “weeping wall” separator and storage. Silage affluent, barn yard and roof water all collected.
  - In ‘90s extension is “privatized”. College ag research limited to molecular work.
  - 1991 EU directive : 50 ppm nitrate in water at top 1 meter ground. in NSZ (nitrogen sensitive zones).
  - ‘90s Dairy Farm Assurance Program set up by milk marketers. Codes of good agricultural practices. 15 different quality assurance programs maintained by each milk marketing group.
  - ’96-97 UK evaluation of CNCPS.
Dairy Fellows visit – Tom Overton and Mike VanAmburg.

Due to labor issues, low milk price, flood, Jeremy sells cows. Came to Cornell Nutrition Workshop at Miner Inst. and to Friday morning modeling meeting.

Start working with Wye College. Either all UK or 80% will be considered NVZ. Difficult getting information from government about UK implementation of EU nitrate directives. Limit on manure N/ha: 240 kg/ha grazing land

210 kg/ha arable land will drop to 170 kg/ha in December 2002.

Can use fertilizer to increase N to crop requirements.

At Royal (farm show) DEFRA (Department of Agriculture equivalent) gave some implementation info: late in July 2002, map will be available showing NVZs. Can’t spread on arable land Sept to Nov. Can’t spread on shallow (< 40 cm over chalk) soils. Can’t spread on flooded or frozen ground.

N available for crop calculations require manual calculations including soil N index

Ran into Cropware – looking for economic improvement with better allocation.

December 19th 2002 is due date for EU N directive compliance.

Meeting objects met:

Ideas for collaboration:

- Evaluation of cuNMP on English farm(s). Minimum 3 year time frame. Funding sources?
- Climatic parameterization for UK
- Soil parameterization ("host") for England and Wales
- N and P status of soils and determination of nitrate leaching
- Policy white paper – should we adopt EU directive?

Next Meeting:

August 2, 2002 12:00 – 1:30 Dr. Di Hong - "Dairying and the environment: An overview of research at Lincoln University, New Zealand".

Addition from Elaine Dalrymple:

“I misspoke yesterday when I said that grass filter strips along cropland had to be 50 feet in width in NYS. When I came back to the office, I double checked with John Wickham who is our grazing specialist and does alot with riparian buffers. A grassed filter strip along cropland can be 20 feet. If it is along pasture it needs to be wider, I believe between 35 and 50 feet which doesn't make alot of sense but that is how the reg presently reads. When building riparian buffers, they need to be 50 feet and that is what I had in my head. The buffer includes a grassed filter strip but a farmer does not always have to build the entire riparian buffer for a BMP to reduce phosphorus; a filter strip may be enough. I am sorry for the misinformation. I hope this is Larry Geohring's right e-mail. When I did the conversion from $lbs. per hectare ($200 lbs./ha) received as payment for the filter strip in England to dollars per acre I think it comes out to about $150-$200 per acre. I think that would get the attention of NY farmers although my husband who is a dairy farmer thinks it should be about $600. He also still thinks it will take too much land out of production and I want to start doing some of those calculations now that we are running the P index on fields. I like
the filter strip idea but getting farmers to implement may take some
time. I also agreed with the English farmer that naming and shaming
isn't the way to go to convince farmers to comply. I found yesterdays
meeting most stimulating and thank you for including me. The Hadrian
fellow said he wants to meet with Jim Curatolo of the Upper
Susquehanna Coalition again and I called Jim to let him know that. As
Keith knows, the USC has a project looking at ephemeral wetlands and
the water meadow relates to some extent. I think there are alot of
wet meadows on farms that can be used as filter areas. Elaine in
Schuyler"