Integrated Nutrient Management Program Work Group
MINUTES March 5, 2004

Attending:  Bob Gravani, Quirine Ketterings, Karl Czymmek, Caroline Rasmussen, Greg Albrecht, Shawn Bosard, Jim Curatolo, Mary Jane Porter, Susan Darling, Beth Boyer, Dave Bouldin, Dale Dewing, Danny Fox, Peter Wright, Melissa Yearick, Chris Yearick, Janice Thies, Allison Hornor, Dan Olmstead, Jean Bonhotal, Tibor Horvath, Patrick McDonough, Hussni Mohammed, Yung-Fu Chang, Jeff Melkonian, Luis Tedeschi, Susan Wade, Belinda Thompson, Leslie Phelps, Betsy Bihn, Keith Porter.

Pathogen contamination associated with animal agriculture:
Susan Wade Power Point – see http://www.inmpwt.cce.cornell.edu/documents/PP%203_5_04%20Wade.pdf
Handout: Research Concerning Human Pathogens and Environmental Issues Related to Composting of Non-Green Feedstocks see: http://www.inmpwt.cce.cornell.edu/documents/Handout%203_5_04%20McDonough.pdf

• Several interest areas in College of Veterinary Medicine concerning this topic:
  o Susan Wade – parasites and ag related research;
  o Pat McDonough – microbial pathogen research;
  o Belinda Thompson – veterinary extension;
  o Sue Stehman – ag applications; New York State Cattle Health Assurance Program (NYSCHAPs);
  o Yung-Fu Chang - molecular microbiology;
  o Hussni Mohammed – epidemiology.

• In 1990, Susan Wade started working with NYS watershed. Interest in waterborne pathogens especially Giardia and Cryptosporidium Parvum (CP).
  o These organisms have a “direct lifecycle” – ingest -> infection. Have found that the best way to kill is heating and ultraviolet light. Giardia is found in cattle of all ages but especially young stock less than 6 months old. Animals may or may not show symptoms. Crypto more common in animals 1 month of age or younger.
  o Study of 212 farms found Giardia on all farms and CP on all but small farms. Risk factors associated with Giardia – continuous water, no ventilation, saw dust bedding.
  o New York City Watershed Wildlife Project - trapped wild animals in various land uses in watershed. Prevalence in wildlife from agricultural land use was usually higher than cattle.
    ▪ Giardia - 52 to 71 % prevalence in red back vole, white footed mouse, chipmunk, meadow vole, muskrat, rat, and beaver.
    ▪ CP – Fish, birds and many mammals infected.

• Pat McDonough studying bacterial pathogens.
  o Concern is drug resistant strains in cattle: Salmonella enteritica var Typhimurium DT104. It is virulent, transmitted through feed, waterfowl, and migratory songbirds.

- Martin Culick - Update on Offhous case.
  - Settlement agreement reached October 2003 that pays about $700 to each landowner in Bennett Heights and precludes future lawsuits against farm.
  - Research group including Susan Darling and Steve Smith have started study of health department records and temporal/spatial relationships using GIS tools.
  - Tibor Horvath, Karl Czymmek, Harold VanEs visited site last fall. Manure application was over 1000 feet from wells. Farm was following recommended practices. We have nothing in our “risk tool kit” to prevent this type of event. Many questions remain about well depths, installation, and casing.
  - The subdivision rules have been changed so that developers can add homes to a subdivision without adding septic or water => greater risk of groundwater contamination.

- Belinda Thompson: “this methodology (used in Offhous Case) is not advanced enough to draw conclusions”.
  - Katherine Field, Oregon State Univ., bacterial source tracking research used as basis for identifying cattle as contaminate source. Fragmented DNA from human and cattle bacterial species compared in studies. What about humans exposed to cattle or cattle exposed to humans or to other species? Number of samples not reported. Belinda has kindly sent me copies of the following papers:

If you would like copies of these papers, please email me (cnr2@cornell.edu).
• What is legal status of this type of testing? No random or blind testing done. No chain of custody. Testing done in diagnostic labs and with research procedures → whole bunch of questions.
  o Web link to NYS testing labs provided by Sue Stehman: http://www.wadsworth.org/labcert/elap/elap.html
  o List of certified environmental labs in Mass. at: http://www.inmpwt.cce.cornell.edu/documents/Handout2%203_5_04%20certlabs_environment.pdf

• Suggested: Fact Sheet – couple of pages outlining recommended SOPS, best science linking manure and human health. Need to identify sample handing and timing protocols.
  o Insurance companies, Ag and Markets, Farm Bureau, NEDPA all have interest in this issue.
  o Education of rural land owners important. D. Bouldin: consensus is that microbes don’t go far from disposal site. NYCHPS informs farm community. Is there a similar structure to inform non-farm rural community? Ag needs to have an effective reaction to “I’m sick and it’s your fault.”
  o E. Bihn: Cornell Good Agricultural Practices Program has crisis management guidelines for growers; directed to fruit and vegetable producers.
  o See Ontario (CA) web site.
  o Fact sheet can list resources, labs available for testing.

• Action: proposed working subgroup to work on Fact Sheet.

**Next meetings:**

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<td>Friday April 23 348 Morrison</td>
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