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Dr. Sanjay Shah, Editor

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This quarterly's articles:

Training for Comprehensive Nutrient Management Planning for Technical Service Providers in Florida

Rao Mylavarapu and Susan Curry (*University of Florida*)

The University of Florida has been providing training for Technical Service Providers (TSP) and other interested individuals in one of three subjects (Nutrient Management, Land Treatment Practices, and Manure and Wastewater Handling and Storage) related to Comprehensive Nutrient Management Planning (USDA-NRCS Technical Guidance). In this course, participants receive training and are eligible for certification in Nutrient Management and Land Treatment Practices. Also, educational programs dealing with the rationale, concepts, and particulars of nutrient management are targeted at farmers and ranchers, agency officials, decision-makers, and other citizens who wish to become knowledgeable in nutrient management problems and solutions in Florida.

So far, Eight *Nutrient Management - Florida Practicum Training Courses* were held in Okeechobee (South Florida) and in Live Oak and Gainesville (North Florida). These courses were intended for those seeking certification to complete Comprehensive Nutrient Management Plans (Nutrient Management & Land Treatment Practice Elements), Conservation Plans, and Nutrient Management Plans. These courses were provided at no charge to candidates who were actively seeking certification.

More than 180 participants have been trained through this project to date. The participants include personnel from various state agencies and private industry/consulting firms including Certified Crop Advisers. Presenters for the course include personnel from the Institute of Food and Agricultural Sciences (IFAS) at the University of Florida, Natural Resources Conservation Service (state and national personnel), The Water Management Districts and the Florida Department of Environmental Protection. Topics typically covered at these trainings included: Policies, Planning Process & Certifications, CAFO/AFO regulations, Soils of Florida, Using a Soil Survey, Manure, Soil and Plant Tissue Diagnostic Testing, Animal Manures & Wastewaters, Nutrient Management Plan & Land Treatment Practices, Bio-Security, the Phosphorus Index, Nutrient Movement & Losses, Municipal Wastes and Trace Elements, the Florida Dairy Business, Feed Management, AFOPro & Manure Manager. Each trainee was provided a course notebook consisting of presentations, notes and reference materials, a workbook with exercises and forms for the Nutrient Management plan, and a CD-ROM with electronic copies of the presentations and a more comprehensive reference section.

Field visits to local dairies (Figure 1, next page) provided the hands-on practicum part of the training. Trainees collected baseline data for a Nutrient Management Plan and went through a Phosphorus Index assessment for a field. Soils were examined using soil survey data, soils map and by taking

Figure 1. Participants visit a local dairy

deep soil samples (Figure 2) at several locations. The assessment and calculations in determining the Florida Phosphorus Index (P-Index) by subgroups was discussed with the whole class. The phosphorus retention of the soil was considered using both the soil profile and soil textural characteristics. The importance of site specific analysis of soil characteristics with regard to P retention capacities was emphasized and demonstrated. The trainees collected information about field inventories and land uses, identification of sensitive areas, cropping history and rotations, resources available, and current management practices and land treatments. Economic sustainability along with environmental safeguards was emphasized. Nutrient Management Plans for these dairies were developed by each trainee.

Figure 2. Participants collecting soil samples

These presentations were well received by the participants. The participants liked the mixture of science, theory and practice. Overall program ratings at the end of the trainings showed an average rating of 4.8 out of 5 for the instructors and 4.6 out of 5 for the program. Knowledge gain which is determined by pre and post test scoring ranged between +20% and +48% with an average of 29%. The training sessions typically receive up to 15 CEUs in Nutrient Management, Soil and Water Management, and Crop Management.

Participants successfully completing this course with an 80% or higher on the post-test were required to submit one Nutrient Management Plan to NRCS for approval. Following approval they will be certified Nutrient Management Planners.
In Florida, Nutrient Management Plans have been developed for 148,561 acres of agricultural production area in fiscal year 2003 and for 216,077 acres in 2004. Currently there are a total of 40 CNMPs in progress.

Preparations for the next class are underway. The course will be conducted in Gainesville in May or June of 2006. For more information or to register for this course contact Susan Curry, Educational Coordinator, PO Box 110290, University of Florida, Gainesville, FL 32611-0290 at scurry@ufl.edu or call 352-392-1951 Ext. 252.

Animal Waste Education Requirements in the Southern Region

Mark Risse (University of Georgia)

With the increasing importance of reducing environmental impacts and the development of regulations for most confined animal feeding operations, education of the individuals that are responsible for manure management is critical. While the Federal NPDES regulations do not require operator certification or education for CAFO permit holders, many State regulations have imposed educational requirements on either producers or nutrient management planners. The purpose of this article is to summarize educational requirements for CAFO permit holders in the Southern Region and to discuss some possibilities for cooperative efforts to meet some of these requirements. This was accomplished by surveying the Southern Region waste management team representative for each state and compiling these results.

Of the thirteen States in the region, seven have educational requirements for operators or owners of confined animal feeding operations and at least a couple have educational requirements for producers that would like to write their own nutrient management plans (Table 1 on page 5). Initial certification courses range in length from 2 ½ to 16 hrs

and at least 5 of the 7 courses require testing to complete the certification course. In every state Extension is either directly or indirectly involved in conducting the training and administering the certification program. They also all have continuing education requirements ranging from 2-4 hours per year (average of about 2 ½ hrs per year). For the most part, it appears that Extension is responsible for supplying most of this continuing education although almost every State mentioned that this is accomplished in cooperation with NRCS, commodity groups and producer organizations, state environmental agencies, and departments of agriculture. Often, one of these other organizations is responsible for approving courses that qualify as continuing education and administering the credit hours.

The educational requirements for these programs appear to be primarily met through traditional methods such as presentations at producer meetings, workshops, field days, conferences, or on-farm visits. At least two states are also currently offering some on-line course and an additional five states expressed some interest in providing these opportunities in the future.

Nutrient management planner education appeared to be less consistent across the region. In most states, NRCS, technical service providers (TSPs), or certified crop advisors (CCAs) are responsible for most of the nutrient plan development efforts and NRCS is educating/certifying the planners. Texas, North Carolina, Georgia and New Mexico indicated that Extension was very involved in the education of the nutrient management planners. Other states either were not involved or were contributing to the NRCS led efforts. In at least three of the states, producers can participate in educational programs to obtain certification to develop their own plans. Personally, I would bet that these are some of the most useful plans developed.

So what does all this mean? It appears that most of us in the region are very involved in educational programs on manure management and will continue to be involved in the future. With time, the continuing education requirements are going to constantly challenge us to develop new and innovative programs for producers and planners. Budget constraints will probably force us to cooperate across the region and with other organizations. In reality, much of the information in these educational programs is probably readily applicable to producers across the region with very minor modification. While climatic and regional differences as well as differences in State and local regulations will mandate that we review these materials to insure they are applicable to our producers, I feel we are ripe for the opportunity to move toward regional programming. I also think that we will have to migrate toward new delivery approaches. Many of these larger producers use the Internet and are requesting web-based tools and educational programs. While these are expensive to develop, they do not require travel and are ideal for regional efforts. These are some of the goals in the proposal that the Southern Region Animal Waste team recently submitted to Region 4 of EPA.

EPA Proposes to Revise Deadlines for National Pollution Discharge Elimination System (NPDES) and Effluent Limitation Guidelines (ELG) for CAFOs

Sanjay Shah (North Carolina State University) and Mark Risse (University of Georgia)

The EPA has proposed to extend three deadlines that had been issued in the 2003 CAFO rule subject to comments received by January 20, 2006. These extensions are in partial response to the order issued by the Second Circuit Court of Appeals. For more details on the order issued by the Court, the reader is referred to the Federal Register Vol. 70, No. 244, December 21, 2005 (http://www.epa.gov/fedrgstr/EPA-WATER/2005/December/Day-21/w24303.htm).

The date by which 'newly defined' CAFOs need to apply for NPDES permit is proposed to be extended from February 13, 2006 to July 31, 2007. The 'newly defined' CAFOs were not defined as CAFOs prior to April 14, 2003; examples of such CAFOs include 'dry' chicken operations; immature swine, heifer, and calf operations; and those animal feeding operations (AFO) that were entitled to the permitting exemption for discharging only in the event of a 25-year, 24-hour storm (for details, see 40 CFR 122.2).

Under the old rules there were some instances in which an AFO would not be classified as a CAFO if it made some operational changes; however, under the new rules, these operational changes may result in the AFO being classified as a CAFO. Such operations, that are not new sources, were required to seek an NPDES permit by April 13, 2006; the EPA has proposed to extend this deadline to March 30, 2007. Finally, the EPA has proposed to extend the deadline by which CAFOs must develop and implement Nutrient Management Plans (NMP) from December 31, 2006 to July 31, 2007.

One final cautionary note is that these deadline extensions apply to federally regulated facilities only. If operations are permitted under State laws, it is important to remember that these deadlines will not apply unless the State regulations are changed. Some producers see press releases about changes such as these and erroneously assume that the Federal laws supercede those State laws.

Animal Waste Management Program

The Animal Waste Management Program is one of 12 priority program areas identified by the Southern Region Water Program Planning Committee. The multi-disciplinary regional workgroup of animal waste management experts is improving animal waste management recommendations to enhance both economic and environmental outcomes in threatened and impaired watersheds. Through strengthened regional and multi-agency collaboration, the workgroup identifies gaps in knowledge and resources, defines significant research needs, and conducts strategic planning to develop appropriate educational and technology transfer tools. Questions or comments may be directed to the team leaders or the appropriate state contact.

Animal Waste Management Program Team

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John Chastain	Clemson University
Kristy Hill	University of Tennessee
Sam Dennis	Tennessee State University
Sam Feagley	Texas A&M University
Nelson Daniels	Prairie View A&M University

Upcoming Events and Announcements

National - International

- 2006 ASABE (The Society of engineering in the agricultural, food, and biological systems, formerly, the ASAE) Annual International Meeting, July 9-12, Portland, OR (http://www.asabe.org/meetings/aim2006/index.htm)

Statewide – Regional

- WERA 103 (Western Education/Extension Research Activity) meeting, March 22-24, Kona, HI
- North Carolina (http://www.soil.ncsu.edu/swetc/animal/animalwaste.htm): Multiple trainings on animal waste systems will be offered from March through November in Raleigh, NC; some early trainings (March-May) are listed below.
  1. March 29: Sludge evaluation and management; Calibration of traveling gun for animal waste application
  2. May 9: Calibration of traveling gun for animal waste application; Forage, waste and soil sampling
  3. May 10: Calibration of solid set for animal waste application; Forage, waste and soil sampling
  4. May 17: Solid and liquid spreader calibration with hosedrag systems; Waste sampling and interpretation
  5. May 31: Low odor waste application equipment and odor considerations
- Oklahoma (www.poultrywaste.okstate.edu): Poultry Disease Conference: Preparing for Avian Influenza; presented by Oklahoma Cooperative Extension Service with presentations of national significance; March 30, 2006; Tulsa, OK, OSU-Tulsa Auditorium

Table 1 Manure Management and Nutrient Management Educational Requirements of States in the Southern Region.

State	Operator Education Requirement	Who Administers Education	Cont. Education Required	How Educational Needs are Met	Interest in Online Courses	Nutrient Management Planner Education Requirements	Websites
AL	12 hrs of training and testing	AL Dept. Envir. Management through Extension	6hrs/yr	Extension-type presentations, NRCS or commodity meetings, field days, and some web-based training.	Yes, already doing some	NRCS or TSP's handle all NMP's	http://www.aces.edu/aawm/AFOCAFOeducation.php http://www.aces.edu/aawm
AR	4 hrs training for wet systems, 2.5 hrs for nutrient surplus areas	AR Dept. Envir. Qual. and ASWCC through Extension	2.5 hrs/yr for wet systems	Extension provides education with review by regulatory agencies	Potentially	In nutrient surplus areas, plans must be by certified planner.	http://www.aragriculture.org/agengineering/anmanmortmgmt/default.asp http://www.arnatural.org/water/nutrient_mgmt.asp
FL	None	N/A	No	Traditional extension programming. UF-IFAS and NRCS offer nutrient management planning with testing for certification by NRCS.	Yes	Certification is required for CNMP for USDA/NRCS programs, not required by Florida DEP for permit.	http://Nutrients.ifas.ufl.edu http://Edis.ifas.ufl.edu http://nfrec-sv.ifas.ufl.edu/lwtl1.htm
GA	2 day class with testing for wet systems	Extension and Dept of Ag	4hrs/2yrs	C.E. can be offered by any organization but most is delivered by Extension through meetings, workshops or on-farm visits.	Yes	Planner Certification course offered through Extension	http://agp2.org/aware/
KY	None	N/A	No	Producer organizations and Extension offer some training	Voluntary course already online	NRCS led but Extension developed content	http://www.ca.uky.edu/ENRI/nutmgt.htm
LA	None	N/A	No	LSU AgCenter and producer organizations	Little	NRCS does plans	http://www.lsuagcenter.com
MS	None	N/A	No	Permit Holder certification under consideration	No	Planners must be CCA or NRCS employee	http://www.msstate.edu/dept/poultry/miscinfo.htm http://msucares.com/environmental/water/index.html#pubs
NC	10 hrs of training with testing	Extension and Div. Water Qual.	6 hrs/ 3 yrs	Mostly traditional Extension programming	No	4 courses over 7 days with testing. Extension led.	http://www.soil.ncsu.edu/certification/index.htm http://h2o.enr.state.nc.us/tacu/training.html http://www.soil.ncsu.edu/extension/training/ http://www.soil.ncsu.edu/swetc/latdc/index.html
NM	No, unless they write their own CNMP plan	USDA-NRCS, NMSU and NM Env. Dept.	No	N/A	Yes for CEU's for CCA's	Planners or producers can attend 30 hr course with testing to write CNMP's	http://www.nm.nrcs.usda.gov/
OK	9 hrs of training with pre/post test	Extension for poultry; Dept. of Ag for swine	3 hrs/yr	Extension develops most training for poultry, Ag Department and industry lead most swine efforts	No	NRCS or TSP's	http://dasnr4.dasnr.okstate.edu/poultry/index.asp
SC	6-7 hour class with testing	Extension by legislative mandate	2 hrs/yr	Programs provided by or approved by the Manure team (Extension,NRCS, and SCDHEC)	Probably not	NRCS or TSP's	http://www.clemson.edu/camm/
TN	No	N/A	No	N/A	No	NRCS or TSP's	http://wastemgmt.ag.utk.edu/default.htm
TX	8 hrs with testing and Dairies on Edwards Aquifer	Extension and TX Commission on Env. Quality	8 hrs/ 2yrs	Educational meetings, filed days, demonstrations, conferences etc. developed by Extension	Yes	Certification Course with CE. Extension led	http://tammi.tamu.edu http://compost.tamu.edu http://nmp.tamu.edu/index.htm