NRCS Updates

Jennifer Zwicke
Environmental Engineer
NRCS, Oregon

Practice Standard Updates

- **635**: Wastewater Filter Strip was changed to Vegetated Treatment Area (VTA)
- **317**: Composting Facility was modified to include composted bedded packs
- **359**: Waste Treatment Lagoon was modified to be consistent with 2008 revisions made to Appendix 10D of the Animal Waste Management Field Handbook
- **590**: Nutrient Management Revisions include (read standard for all revisions)
  - manure sampling
  - more frequent soil sampling

CNMP Policy

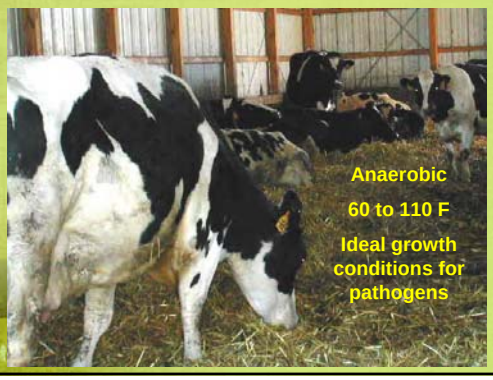
- CNMP policy is currently being rewritten and is in draft format
- Mention is made of a CNMP software called “MMP” Manure Management Planner
- Oregon has evaluated this software and determined it is not suited for use in Oregon
- Oregon NRCS promotes a software tool called Oregon OnePlan Nutrient Management Planner (ONMP)

Composted Bedded Pack Barns

What is it?

- Manure is composted in place in a loose housing facility
- Sawdust is added periodically (~ 2 to 3 times a week) to control moisture content
- Animals use the composted manure as bedding
- Different than a conventional dry pack

Compost Bedded Pack Barns NOT a Conventional Dry Pack (as shown below)



Why this alternative is attractive to producers

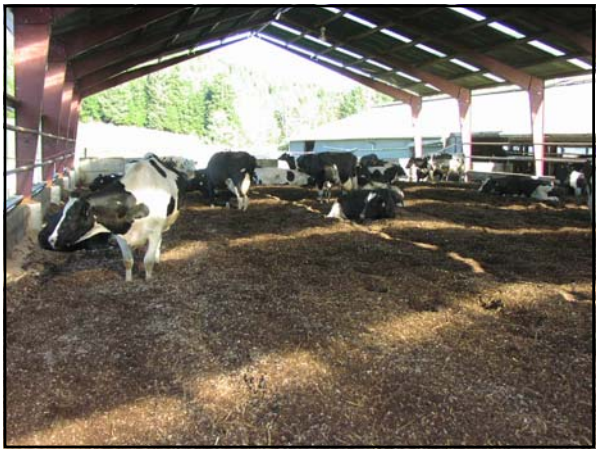
- Reduces the volume needed for liquid waste storage
  - Only need liquid storage for material that is scraped from feed alley and parlor water
- Cow comfort
  - The bedded pack is fluffy and soft and conforms to cows bodies when laying down
  - Provides good footing
- Manure stored and animals housed in same facility

General Compost Recipe

- Floor of facility is either compacted clay or concrete (literature recommends compacted clay)
- Facility Sizing: need ~85 sq ft per animal
- Initial layer of 18 to 24" of sawdust before animals are brought into facility
- Till top 10-12" twice a day: dries out the material, adds oxygen, mixes material
- Add sawdust to control moisture content of pack (general rule: add sawdust when pack starts to stick to animals)
- Keep precipitation out of facility

Case Study from Tillamook Dairy

- Greatly reduce the need for liquid storage
- Increase cow comfort has lead to healthier cows
- The pack gets 4' to 6' high
- Concrete walls on 2 sides contain compost
- Shape compost to create ramps for animals and equipment to get on and off pack
- Reduced injury incidents of animals
- Potentially more milk is produced from healthier happy cows (need one more year of data)
- Similar energy requirements of scraping alleys
- Empty facility once a year (took 14 hours)



What's Next

- Allow EQIP practice payments for the structural components involved in a composted bedded pack barn to Dairy producers under Practice Standard 317 Composting Facility
- Compost Facility Standard (317) has been updated
- Compost Bedded Pack Barns will need to be addressed in a CNMP to address nutrients and to meet requirements of ODA
- Involve NRCS National Manure Management Team

Oregon Manure Tour 2008

- Bill Boyd, Manure Management Team Leader visited Oregon and toured 8 facilities on west side
- Generally storing/composting manure on an earthern surface is not new
- Concept of a bedded pack is not new
- No known water quality violations
- Variations of a CBP works for sheep, pigs, and beef cattle

Swine: Deep Bedded Pack

- Need considerably more bedding than dairy bedded packs
- Pack is not tilled
- Animals rooting in bedding "stirs" the pack
- Sprinkle corn in pack to aide in even/consistent composting
- Animals are less likely to fight
- Including a watering facility is challenging

Beef Cattle: CBP

- Manure from watering and feeding facilities is handled separately
- Used only a portion of the year
- Addresses resource concerns related to soil compaction and field regrowth that occurs during winter grazing

Composted Bedded Pack Studies

- http://www.or.nrcs.usda.gov/technical/engineering/environmental_engineering/index.html#Compost
- Ohio NRCS is currently conducting a study that will be completed in 2010

Addressing Resource Concerns

- Water Quality
  - minimizing liquid storage reduces risk of water quality contamination
  - improved manure handling
- Energy
  - Reduces the need for handling large amounts of liquid waste
    - reduced costs for pumping liquid and applying or hauling liquid waste
    - Lessens need for agitation in liquid storage
    - No need for mechanical separation of liquid/solid waste

Addressing Resource Concerns

- Air Quality
  - compost has less foul odors compared to a liquid storage tank
- Nutrient Management
  - better control of the timing of nutrient application and
  - potential for soil quality improvement through the distribution of the organic matter

Questions

- The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.