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NATIONAL ENGINEERING HANDBOOK SERIES
210-VI
AMENDMENT FL-13

SUBJECT: ENG – NATIONAL ENGINEERING HANDBOOK, PART 651, AGRICULTURAL
WASTE MANAGEMENT FIELD HANDBOOK FLORIDA AMENDMENT

Purpose. To supplement Section 651.0103 “State Laws and Regulations” and Section 651.0403 “Animal waste characteristics” of the National Engineering Handbook Series (NEH), Part 651, Agricultural Waste Management Field Handbook (AWMFH).

Effective Date. This amendment is effective when received.

Explanation of Changes. Section FL 651.0103 was updated to reflect the latest changes in Florida laws concerning agricultural wastes. Section FL651.0603 was updated to reflect the recent national changes in Chapter 4.

Filing Instructions. The attached amendments are to be filed in the Part 651, AWMFH.

Remove and Destroy

- FL1-i (4/98)
- FL1-5a (4/98)
- FL4-i (12/00)
- FL4-8a (4/98)
- FL4-10a (8/99)
- FL4-14(1) (12/00)

Insert Pages

NEH, Part 651, AWMFH Florida Amendment
FL-13 (April 2009)

- FL1-i (April 2009)
- FL1-5a – FL1-5b (April 2009)
- FL4-i (April 2009)
- FL4-15a - FL4-15b (April 2009)
- FL4-20a – FL4-20b (April 2009)

Make pen and ink changes on the directive tabulation sheet

Questions regarding the attached amendment should be directed to the State Conservation Engineer.

Jesse T. Wilson
State Conservation Engineer

Enclosure

DIST: A, F, ENG

Chapter 1

Laws, Regulations, Policy, and Water Quality Criteria

Contents

FL651.0103

State Laws and Regulations

FL1-5a

FL651.0103 State Laws and Regulations

Animal waste management systems are regulated by the Florida Department of Environmental Protection (FDEP) under the following rules: Chapter 62-670 Florida Administrative Code (F.A.C.) “Feedlot and Dairy Wastewater Treatment and Management Requirements” dated December 26, 1996, Chapter 62-660 F.A.C. “Industrial Wastewater Facilities” dated May 19, 1994, Chapter 62-620 F.A.C. “Wastewater Facility and Activities Permitting” dated February 17, 2009, and Chapter 62-522 F.A.C. “Groundwater Permitting and Monitoring Requirements dated April 14, 1994.

Installation of animal waste management systems may also require permits from water management districts under Chapter 40(A, B, C, D, or E)-2 F.A.C., “Regulation of Consumptive Uses of Water” and/or Chapter 40 (A, B, C, D, E)-4 F.A.C., “Environmental Resource Permits”. Designers of waste management systems shall be familiar with FDEP Chapter 62-670, 62-660, 62-620, 62-522 F.A.C, and any local rules or regulations that may apply to waste management systems. Prior to commencing technical assistance, the landowner shall be advised to consult with the local FDEP, water management district, and local authorities to determine if the waste management facility must comply with any of their rules and regulations.

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Contents	FL651.0403(d)	Animal waste characteristics - Beef	FL4-15a
	FL651.0403(f)	Animal waste characteristics - Poultry	FL4-20a

Table	Table FL-4-8	Beef cattle fecal waste characterization – as excreted	FL4-15a
Table	Table FL-4-11	Poultry waste characterization – litter	FL4-20a

FL651.0403(d) Animal waste characteristics – Beef

“As Excreted Values” do not identify the source of the nutrients in a grazed situation. Consequently, nutrients extracted from soil reserves and/or water table by plants are not considered to be an import to the site. The following example illustrates this concept.

EXAMPLE of a typical grazing situation:

A beef cow is allowed to graze 3 acres of unfertilized Bahia grass pasture for one year. During this period the animal was provided minerals and supplemental feed that contained 9.0 lbs of phosphorus. The estimated “As Excreted Value” for phosphorus is 39.2 lbs./AU/year (Agricultural Waste Management Field Handbook, 2008 Table 4-8).

Because the site was not fertilized, the phosphorus contained in the vegetation cannot be counted as an import to the site. Therefore, the only phosphorus imported onto the site was 9.0 lbs of P in the mineral and supplemental feed. The remaining 30.2 pounds of P is phosphorus that was supplied by the soils and water table on the site.

EXAMPLE of a beef grazing situation on a dairy:

If beef cattle are brought into a dairy spray field to graze and no supplemental feed and/or minerals is provide to the beef cattle, the amount of nutrient contributed to the spray field by the beef cattle is zero (0) and the total nutrient exported is the body mass

gained by the beef cattle plus the total amount of nutrient removed by the production of the crop in the spray fields (actual calculated quantity and nutrient analysis of the crop removal (sod, hay, haylage, and/or silage)).

“As Excreted Values” should not be used to develop nutrient management plans for grazing animals (beef cattle, dairy cattle, goats, etc.).

Nutrient budgets for grazing animal operations should be developed using the mass budgeting procedure and should include the amount of nutrients imported as feed, fertilizer, animal products, irrigation water, and other sources that are physically imported onto the site by the manager.

As Excreted Values should be used to develop nutrient budgets only in the following situations;

- On CAFO's or AFO's where the animals are fed a ration that meets their daily nutritional requirements and are not allowed the opportunity to pasture.
- On CAFO's or AFO's where the animals receive more than 50% of their daily dietary requirements and are allowed limited access to pasture. In this situation, the estimated amount of nutrients provided by grazed forages will be subtracted from the daily “As Excreted Value”.

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FL651.0403(f) Animal waste characteristics – Poultry

Manure testing is always the preferred method to obtain nutrient content of manure or litter. For planning purposes and in situations where test results are not available, values in Table FL4-11 should be used.

Nutrient content for poultry litter is shown in Table FL4-15. These values are averages of manure/litter samples tested at the University of Florida Institute of Food and Agricultural Sciences (IFAS) manure testing lab. Samples were taken from litter storage facilities and from poultry houses. Most of the manure/litter tested by IFAS fall within the ranges in Table FL4-11. These values are not as excreted manure or litter.

For layers since little or no sawdust is added and the frequency of litter/manure cleanout is less than broiler litter cleanout, use the higher end of the range in Table FL4-11.

Table FL4-11 Poultry waste characterization - litter

Component	Units	Litter
N	lb/ton	53 - 59
P ₂ O ₅	lb/ton	55 – 65
K ₂ O	lb/ton	45 – 56

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