

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

WASTE RECYCLING

(Tons)

Code 633



DEFINITION

The use of by-products of agricultural production or the agricultural use of non-agricultural by-products.

PURPOSES

- Protect or improve the quality of natural resources and the environment.
- Provide or reduce energy use

CONDITIONS WHERE PRACTICE APPLIES

Where waste can be processed and recycled to prevent a resource problem or provide a conservation benefit.

CRITERIA

General Criteria Applicable to All Purposes

Comply with all Federal, state and local and tribal laws, rules and regulations governing waste management, pollution abatement, health and safety.

The owner or operator shall be responsible for securing any and all required permits or approvals related to waste recycling, and for operating and maintaining any components in

accordance with applicable laws and regulations.

Land application of domestic wastewater biosolids shall be in conformance with Florida Department of Environmental Protection (FDEP) Rule, Chapter 62-640 Florida Administrative Code (F.A.C.). Land application of septage shall be in conformance with Florida Department of Health (FDOH), Chapter 64E-6 F.A.C.

Where biosolids are applied to agricultural lands, the single application or lifetime limits of heavy metals shall not be exceeded.

When manure or other wastes are used for plant nutrients the practice shall comply with Florida NRCS conservation practice standard, Nutrient Management, Code 590.

Perform at least one analysis of the waste to determine the characteristics that are critical to its use and base the use of the waste on the analysis. Use a laboratory certified by a State recognized program that considers laboratory performance and proficiency to assure accuracy of testing results.

When wastes are used for animal feed the practice shall comply with the criteria in the Florida NRCS conservation practice standard, Feed Management, Code 592.

Impact to cultural resources, wetlands, and Federal and State protected species needs to be determined prior to implementation of this practice. Any impacts need to be avoided or minimized to the extent practical during planning, design and implementation of this conservation practice in accordance with established National and Florida NRCS policy, General Manual (GM) Title 420-Part 401, Title 450-Part 401, and Title 190-Parts 410.22 and 410.26; National Planning Procedures Handbook (NPPH) FL Supplements to Parts 600.1 and 600.6; National Food Security Act Manual; National Cultural Resources

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

Procedures Handbook (NCRPH); and The National Environmental Compliance Handbook (NECH).

Additional Criteria to Protect or Improve the Quality of Natural Resources and the Environment

All agricultural waste shall be utilized in a manner that minimizes the opportunity for contamination of surface and ground water supplies.

Agricultural waste shall not be land-applied on soils that are frequently flooded, as defined in section 618.27 of by the National Cooperative Soil Survey Handbook, during the period when flooding is expected.

When liquid wastes are applied, the application rate shall not exceed the infiltration rate of the soil, and the amount of wastewater applied shall not exceed the moisture holding capacity of the soil profile at the time of application.

If the potential for runoff exists, waste shall not be applied to the land except in extreme climatic conditions where the safety of waste storage facilities is compromised. Documentation of this condition must be included in the waste management plan.

Incorporate surface applications of solid forms of manure or other organic by-products into the soil within 24 hours of application to minimize emissions and to reduce odors.

When applying liquid forms of manure with irrigation equipment, select application conditions where there is high humidity, little or no wind blowing, a forthcoming rainfall event and/or other conditions that will minimize volatilization losses into the atmosphere. The basis for applying manure under these conditions shall be documented in the nutrient management plan.

Minimize the impact of odors of land-applied wastes by making application at times when temperatures are cool and when the prevailing wind direction is away from residential areas, other public areas (i.e. schools, hospital, parks), and public roads. When possible avoid application on weekends and holidays.

Handle and apply poultry litter or other dry types of animal manure or other organic by-products when weather conditions are calm and there is less potential for blowing and emission of particulates into the atmosphere. The basis for

applying manure under these conditions shall be documented in the nutrient management plan.

When sub-surface applied using an injection system, waste shall be placed at a depth and applied at a rate that minimizes leaks onto the soil surface, while minimizing disturbance to the soil surface and plant community.

All materials shall be handled in a manner to minimize the generation of particulate matter, odors and greenhouse gases

Where agricultural wastes are utilized to provide fertility for crop, forage, fiber production and forest products, the Florida NRCS conservation practice standard, Nutrient Management, Code 590 shall be followed.

Where municipal biosolids are applied to agricultural lands as a nutrient source, the single application or lifetime limits of heavy metals shall not be exceeded. The concentration of salts shall not exceed the level that will impair seed germination or plant growth.

Solid wastes shall be applied at times when the waste material can be incorporated by appropriate means into the soil within 72 hours of application on annually tilled lands.

Agricultural wastes to be used for feedstock shall be handled in a manner to minimize contamination and preserve its feed value. Waste stored for this purpose shall be covered. A qualified animal nutritionist shall develop rations that utilize wastes.

Additional Criteria for Providing a Source of Energy or Reducing Energy Use

Use of agricultural waste for energy production shall be an integral part of the overall waste management system.

All energy producing components of the system shall be included in the waste management plan and provisions for utilization of residues for energy production identified.

Where the residues of energy production are to be land-applied for crop nutrient use or soil conditioning, the criteria in the above section shall apply.

CONSIDERATIONS

Consider treatments that add value to agricultural waste and that meet local market criteria.

Consider recycling used containers by returning them to the suppliers or manufacturers that have a recycling program.

Consider recycling water used in agricultural produce processing.

Consider using organic waste for bedding, feed, mulch, energy production, or soil quality improvement.

The effect of waste recycling on the water budget should be considered, particularly where a shallow ground water table is present or in areas prone to runoff. Limit waste application to the volume of liquid that can be stored in the root zone.

Wastes may contain pathogens and other disease-causing organisms. Wastes should be utilized in a manner that minimizes on-site and off-site impacts from disease.

Priority areas for land application of wastes should be on gentle slopes located as far as possible from waterways, wells, property lines, residences, etc. When wastes are applied on more sloping land or land adjacent to waterways, other conservation practices should be installed to reduce the potential for off-site transport of waste. The non-application buffer widths outlined in the Florida NRCS conservation practice standard, Nutrient Management, Code 590 shall be used to minimize impacts of surface and ground water supplies and odors.

It is preferable to apply wastes on pastures and hayland soon after cutting or grazing before re-growth has occurred.

Consider the impact to plant health and vigor of plants when surface applying waste to plant foliage.

Minimize environmental impact of land-applied waste by limiting the quantity of waste applied to the rates determined using the Florida NRCS conservation practice standard, Nutrient Management, Code 590.

Consider the net effect of waste recycling on greenhouse gas emissions and carbon sequestration.

Excessive levels on one nutrient in the soil may induce deficiencies of other micronutrients.

Consider the effects of soil erosion control practices used to reduce soil loss, runoff,

transport and leaching of dissolved and attached nutrients and elements.

PLANS AND SPECIFICATIONS

Plans and specifications for Waste Recycling shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The waste management system plan is to account for the use, recycling or disposal of all wastes produced or received by the agricultural operation.

As a minimum the following shall be documented:

- Amount of recycled material
- Estimated amount of nutrients in the recycled material

OPERATION AND MAINTENANCE

A site specific operation and maintenance (O&M) plan shall be prepared for use by the owner or others responsible for waste recycling. The O&M plan shall include the dates of periodic inspections and maintenance of equipment and facilities used in recycling of the waste. The O&M plan should include what is to be inspected or maintained and a general time frame for preventive maintenance.

Records of waste recycling shall be kept for a period of at least five years and include the following when appropriate:

- The dates and quantities of waste imported to or exported from the agricultural production system.
- Analysis of critical waste characteristics.
- A description of how the waste is recycled and the conservation benefit achieved.

REFERENCES

FDEP Rule, Chapter 62-640 F.A.C.

FDOH, Chapter 64E-6 F.A.C

Florida NRCS Conservation Practice Standards
Nutrient Management, Code 590
Feed Management, Code 592

National Cooperative Soil Survey Handbook

General Manual (GM)

Title 420-Part 401

Title 450-Part 401

Title 190-Parts 410.22 and 410.26

National Planning Procedures Handbook, FL
Supplements to Parts 600.1 and 600.6

National Cultural Resources Procedures
Handbook

National Environmental Compliance Handbook

National Food Security Act Manual