NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

AMENDMENTS FOR TREATMENT OF AGRICULTURAL WASTE

(AU)

CODE 591

DEFINITION

Treatment of manure, process wastewater, storm water runoff from lots or other high intensity areas, and other wastes, with chemical or biological additives

PURPOSE

To alter the physical and/or chemical characteristics of the waste stream to facilitate the implementation of a waste management system to:

- Improve or protect air quality
- Improve or protect water quality
- Improve or protect animal health
- Alter the consistency of the waste stream to facilitate implementation of a waste management system

CONDITIONS WHERE PRACTICE APPLIES

This practice applies where the use of a chemical or biological amendment will alter the physical and chemical characteristics of the waste stream as a part of a planned waste management system. This practice does not include amendments added to the animal feed.

CRITERIA

General Criteria Applicable To All Purposes

Laws, Rules and Regulations. Plan and implement the use of amendments as a part of a waste management system to meet all Federal, state, and local laws, rules and regulations.

Labeling and Instructions for Use. Label products to be used as manure amendments to provide instructions containing the following information as a minimum:

- Active ingredients and their percentage of the whole. Proprietary terminology may be used as long as the actual chemical and/or biological names are included.
- The purpose(s) for which the amendment is intended.
- Recommended application rate(s) to achieve the intended purpose(s).
- Application timing and methodology to optimize the effectiveness of the amendment.
- Incorporation requirements (if any).
- Special handling and storage requirements for the amendment.
- Any safety concerns relating to the use of the amendment and recommended measures to overcome the safety concern, including any required personal protective equipment.

Validation of Product. Document the species/waste type-specific rate, timing and application methodology of an amendment to achieve a needed level of treatment addressing a specific purpose with research by a university or other independent research entity acceptable to the NRCS. Documentation from peer reviewed journals is preferable. Include the effectiveness of the amendment under different climatic factors in the documentation, or if there are no difference in effectiveness, state this fact in the documentation. Identify potential adverse impacts of the amendment on the ecosystem in the documentation. The amendment provider is responsible for furnishing the documentation to the NRCS.

Land Application of Treated Wastes. Test animal wastes treated with an amendment to determine the effect of the amendment on the nutrient content of the wastes following criteria in Georgia NRCS Conservation Practice, Nutrient Management (590).

CONSIDERATIONS

The use of an amendment may alter the composition of the waste stream. The use of amendments should be limited to situations where impacts of the altered waste stream on other aspects of the planned system have been identified.

Some amendments have been shown to affect multiple purposes of this standard and other aspect of a livestock production operation. Give preference to amendments with the greatest environmental and economic benefit.

The use of amendments to reduce ammonia and other emissions from manure in confined spaces may allow altered ventilation strategies at an appreciable energy savings. The reduction of ammonia emissions can also increase the proportion of nitrogen in the manure.

PLANS AND SPECIFICATIONS

Prepare plans and specifications in accordance with the criteria of this standard that describe the requirements for applying the practice to achieve its intended purpose(s). Develop specifications for the use of an individual amendment in accordance with the label directions and other instructions provided by the vendor. As a minimum, provide the following in the plans and specifications:

- The name of the amendment, the purpose(s) for its use, and the planned outcome(s).
- Application methodology, including rates, timing, mixing instructions, temperature requirements, etc.
- Required tests to determine the effectiveness of the amendment as appropriate.
- Required tests to ensure that proper use of the product will be protective of water quality and aquatic resources.
- Appropriate records to document proper usage of the product

OPERATION AND MAINTENANCE

Develop a site-specific operation and maintenance (O&M) plan and review the plan with the operator and owner prior to implementation of the practice. Ensure the O&M plan is consistent with the purposes of the practice, safety considerations, and label directions and other instructions provided by the vendor.

Provide sufficient details in the O&M plan as to amendments to be used, application rates and timing, and equipment to be used.

Detail all safety precautions necessary when handling the specific chemicals or biological amendments to be used in the O&M plan.

Provide for record keeping in sufficient detail to describe the amendment's use, actual application rates and timing, and any tests performed (including nutrient analysis) in the O&M plan.