

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

**AMENDMENTS FOR TREATMENT OF AGRICULTURAL WASTE
(AU)**

CODE 591

DEFINITION

The use of chemical or biological additives to change the properties of manure or process wastewater, contaminated stormwater runoff, and other wastes.

PURPOSES

- To facilitate the management, handling, and processing of manure and waste.
- To reduce the risk associated with the spread and contamination from pathogens.
- To improve or protect air quality.
- To improve or protect water quality.
- To improve or protect animal health.

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 manure or 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 manure or waste management system that meets all federal, state, and local laws, rules, and regulations.

Labeling and instructions for use. The label or accompanying instructions for the use of the

amendments shall contain the following information:

- Active ingredients and their percentage of the whole—proprietary terminology may be used as long as the actual chemical or biological names are included.
- 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. It is the responsibility of the amendment provider to furnish the following documentation to the Natural Resources Conservation Service (NRCS):

Provide information from a university or other independent research entity to document the species-specific rate, timing, and application methodology of an amendment to achieve a needed level of treatment that addresses a specific purpose. Documentation from peer-reviewed journals is preferable.

Identify potential adverse impacts of the amendment on the ecosystem in the documentation.

If available, document the effectiveness of the amendment under different climatic factors.

System effects. Limit the use of amendments to situations where adverse impacts on other aspects of the planned manure management system have been addressed in the system design.

Land application of treated manure and other waste must meet the criteria in [Conservation Practice Standard 590, Nutrient Management](#).

CONSIDERATIONS

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.

Nutrient management plans may need to be revised for the reduction of ammonia emissions as this will also increase the proportion of nitrogen in the manure.

PLANS AND SPECIFICATIONS

Prepare plans and specifications in accordance with the criteria of this standard and describe the specific purposes for applying the practice and the requirements for applying the practice to achieve these purposes.

Develop specifications for the use of the amendment in accordance with the label directions and other instructions provided by the vendor.

Provide the following information 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.

OPERATION AND MAINTENANCE

Develop and review a site-specific operation and maintenance (O&M) plan with the operator or owner prior to implementation of the practice. Ensure that 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 adequate details in the O&M plan as to amendments to be used, application rates and timing, and equipment to be used.

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

Provide sufficient recordkeeping guidance in the O&M plan to describe the use of the amendment, actual application rates and timing, and any tests performed (including nutrient analysis). Recommend a recordkeeping outline for the operator to document results and fine tune the manure treatment processes for their operation.