

# COVERED ANAEROBIC LAGOON

## PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - practice code 360



### COVERED ANAEROBIC LAGOON

A constant volume lagoon designed for methane production and recovery in conjunction with a separate waste storage facility.

#### PRACTICE INFORMATION

The purpose of this practice is to produce and recover methane as an energy source while minimizing lagoon odors.

This practice is applied under the following circumstances:

1. Where methane production and recovery are components of a planned livestock waste management system.
2. Where existing waste impoundment (s) can be modified to the requirements of this standard or for new construction.
3. Where the total solids(TS) concentration in the influent waste is less than 2%.

In order to function properly the following criteria is used in designing the practice:

1. Ruminant manures are treated with solid separation prior to entry into the lagoon.
2. Manure contaminated runoff should bypass the covered methane lagoon and enter the waste storage facility.

3. Clean runoff should not enter either facility.
4. The lagoon for this practice should meet criteria specified in practice standard 359, Waste storage Lagoon, with additional requirements added to accommodate the functions of this practice.
5. Criteria for the waste storage component of this practice are contained in practice standard 313 Waste Storage Facility.
6. The design criteria for the lagoon cover, safety considerations, and other pertinent information are discussed in the NRCS practice standard.

An operation and maintenance plan is developed to provide the following instructions:

1. Proper loading rate of the lagoon.
2. Proper operating level of the lagoon.
3. Estimates of methane production and recovery.
4. Instructions for safe use or flaring of the biogas.
5. Instructions for proper maintenance of the cover and other components.

Additional information including design criteria and specifications are available in the local NRCS Field Office Technical Guide.