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PROPER MANURE HANDLING AND DISPOSAL

Clover Safe notes are intended primarily for 4-H volunteers and members nine years and older.



*Photograph Courtesy of
San Mateo County 4-H Program*

All 4-H animal projects involve the management of manure from small to large amounts. For example, a 125 pound sheep produces about 5 pounds (lbs.) of manure/day, a 220 pound swine produces about 14 lbs. manure/day, a 1,000 pound horse produces about 50 lbs. manure/day, and a 1,000 pound beef cow produces about 60 lbs. manure/day. This Clover Safe note provides information about proper manure handling and disposal.

California Regulatory Requirements for Manure Management

California Code of Regulations (CCR) Title 14, Section 17823.1, indicates manure management practices shall be conducted to prevent the creation of excessive vectors or other adverse public health/well being conditions, otherwise manure shall be removed at intervals frequent enough to prevent the occurrence of such conditions. Excessive vectors include the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other organisms associated with agricultural wastes that could transmit disease.

Proper Manure Handling and Disposal

- Composting of manure is a recommended management practice that meets the requirements of CCR Title 14, Section 17823.1. During the composting process, stockpiled manure will heat to a temperature of about 140°F causing the deaths of fly larvae and pathogens.
- When handling manure, wear appropriate personal protective equipment such as boots, long pants, shirt, and gloves. Using a dust mask is a recommended safety practice when turning a manure stockpile.
- For smaller animals, such as exotic birds or rodents, collect manure and cage paper or bedding and place it in a paper bag and dispose in the trash.
- For larger animals, such as poultry or livestock, it is recommended that manure and bedding be stockpiled for composting if animals are not occupying a pasture or range.
- Minimum composting stockpile dimensions are about 3' X 3' X 3' to retain generated heat.
- Always provide adequate stockpile space for the amount of manure produced by the animal(s). For example, the storage area needed for the annual amount of manure produced by one horse is approximately 144 ft² (12' X 12') to a height of three to five feet.
- Composted manure should be protected from the weather by stockpiling it under a roof or other covered area.
- Divert water runoff away from manure stockpiles to prevent contamination of surface water such as creeks, streams, or rivers.
- Never locate a manure stockpile within 100 feet of surface water, storm drains, or water wells and 200 to 500 feet of residential housing or businesses.
- Compost manure by itself or with the addition of other material such as leaves or lawn clippings.
- The stockpile should be turned every one or two weeks such that the outer layer is turned into the center of the pile and similarly, the center is turned to the outer layer of the pile.
- When turning the manure pile, keep the spine straight and bend at the knees while lifting a manure fork. Keep elbows and arms close to the body as the loaded fork is lifted.
- Use a wheel barrow to move manure from a barn or stall to the stockpile. Do not overload the wheel barrow.
- The moisture content of the stockpile should be maintained so that if a handful of compost material is squeezed, a couple of drops of water will be produced. If water drops cannot be squeezed from the compost material, the stockpile is too dry and needs to be watered.
- Once the composting process has finished, the stockpile will cool to the ambient temperature and the volume will have decreased to about one third the original volume of the stockpile.
- Always wash your hands with soap and water after performing manure handling chores.
- Properly composted manure may be sold, given away, or used as fertilizer on the owner's land.