Animal Waste Management on Guam

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This brochure contains information and pictures of possible options and alternatives to improving water quality and waste management of livestock and poultry farms on Guam.

The recommendations in this brochure are farm devices, designs and practices to lessen the volume of slurry (manure, dirt and waste water) from livestock and poultry farm operations. It has suggestions on manure treatment and storage and possible usage of manure for nutrient utilization for crops and plants. These alternatives have been demonstrated and proven to work for piggery and poultry farms on Guam.

These options include simple installation of nipple waterers and automatic drinking devices in pens, stalls and cages for all age group of livestock and poultry. Livestock buildings, facilities and pens should be designed to minimize water usage for drinking, cleaning and bathing/cooling the animals.
Water quality for livestock means access to clean and potable drinking water 24 hours a day. Water wastage is prevented through the use of automatic waterers. Livestock and poultry can drink from these types of waterers.

Day-old chicks learn to drink from cup waterers. This type of chick drinker prevents the spread of diseases and parasites.

It is very important that lactating sows drink 8-10 gallons of water daily during the lactation period for milk production. Piglets can learn to drink from nipples as early as two weeks of age.

Layers drink from cup waterers without any difficulty.

Goats need a lot of water for chewing their cud.
Farm management designs and practices to reduce volume of slurry in the farm.

- Individual gestating stalls for sows and gilts contain the manure at the back end of the stall. Shoveling and sweeping the manure ("dry clean") is easier than in an open pen. Water usage for cleaning is minimized.

- Slatted floors for flatdecks or weanling pens for the newly-weaned pigs are ideal.

- In elevated farrowing crates, piglet manure falls down through the wire floor while the sow manure is contained at the back end of the crate. "Dry clean" method can also be easily applied here. The piglets are kept clean and dry.

- Drip/spray-cool systems installed in farms reduce water usage. Use of water hoses to clean and bath the animals won't be a necessary daily activity.
Animal waste handling and disposal systems.

Concrete septic tanks are the most common form of manure containment among the farms on Guam. Slurry is pumped out later for field applications under Guam Environmental Protection Agency standards.

Manure can be dried on a tin roof or through a manure drying-facility.

Dried manure is easier to handle and can be stored and bagged. Odor and fly problems are minimized.

With a proper watering system and floor elevation, chickens on litter has the advantage of minimizing odor, maggots and fly problems in the farm. The litter can later be used as soil conditioner and fertilizer.

Treated or raw manure is applied on vegetable and other crops for added nutrients.

CONCLUSION:
There are other methods and systems of water quality improvements and animal manure management. These would include biogas, composting, pig-on-litter and recycling as animal feeds. All these methods aim to prevent contamination and pollution of underground and surface water resources and the environment from animal farm operations. Livestock and poultry farms should fully integrate water quality for animals and waste management in their daily farm activities and operations.

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