Small Scale Livestock Waste Management Practices for Pacific Islands

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CURRENT CONDITIONS

Management of livestock wastes is a serious concern for the American-affiliated Pacific Islands due to limited land for disposal and the need to protect fragile environments from contamination by nutrients and pathogens. Most animal waste management practices in the continental U.S. are not appropriate to the small scale and limited resources of Pacific Island farms.

Coordinated activities to solve these problems are supported by the CSREES Region IX Water Quality Program. Our objectives are to protect stream, coastal, and groundwater resources through promotion of waste management practices that are culturally acceptable and economically feasible. Water Quality Coordinators in each of the Islands support research and extension to develop and promote promising practices.

PROBLEMS

Serious contamination of surface and groundwater with pig waste occurs throughout the American Pacific Islands. Often manures are discharged directly into the ground or streams without treatment.

MANAGEMENT

A simple effluent irrigation system was developed by the Pohnpei Soil and Water Conservation District, with assistance from the USDA Natural Resources Conservation Service Pac-Basin. The system directly applies effluent to crop land. The simple gravity flow system takes nutrient-rich effluent from the piggery to crop land.

ADVANTAGES

• Low-cost and easy to install
• Simple to operate and maintain
• Nutrients enhance crop production

DISADVANTAGES

• A solid separator is required to separate out the solids and pig hair
• Consistent effort is required to manage the system (keeping drip holes unplugged)
• The effluent contains pathogens which require precautions in crop selection and direct contact

EDUCATION / OUTREACH

Water quality education and outreach throughout the region reaches community members at universities, government agencies, youth groups, on farms and in homes to promote these practices. A recent series of workshops (July 2004) in Guam and CNMI involved over 120 participants from all over the Western Pacific to learn about improved waste management.

At these workshops, a Nutrient Management Planning Guide was developed and piloted for future distribution and use throughout the Pacific Islands.

This material is based upon work supported by the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, under Agreement No. 2002-51130-01978. Any opinions, findings, conclusions, or recommendations expressed in this publication are the authors and do not necessarily reflect the view of the U.S. Department of Agriculture.