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ISU Compost Facility

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ISU Compost Facility

Abstract

In 2008 Iowa State University constructed a new facility for composting organic waste materials from several campus sources. The facility was planned as part of the new ISU Dairy Farm to handle solid dairy manure in an environmentally responsible manner. It is designed to handle more than 10,000 tons of organic wastes annually. The facility is located west of the ISU Dairy Farm.

Disciplines

Agricultural Science | Agriculture

ISU Compost Facility

Tim Goode, superintendent

Introduction

In 2008 Iowa State University constructed a new facility for composting organic waste materials from several campus sources. The facility was planned as part of the new ISU Dairy Farm to handle solid dairy manure in an environmentally responsible manner. It is designed to handle more than 10,000 tons of organic wastes annually. The facility is located west of the ISU Dairy Farm.

Composting process. Nitrogen-rich manure is mixed with carbon-rich campus yard waste, cornstalks, or livestock bedding to make windrows. The proper mix balances carbon and nitrogen at the correct moisture and density to promote aerobic microbial decomposition of the wastes. The windrows are turned and aerated periodically to promote composting and minimize odor. Finished compost is cured and stored until ready to be used. All operations occur under cover of large hoop barns to reduce the risk of runoff and leaching.

Sources. The organic wastes processed by the composting facility include manure and bedding from the ISU Animal Science Dairy, Beef, Sheep, Swine, and Equine farms,

campus yard waste, and campus greenhouse materials. Plans are underway to include ISU Dining food waste and biomass research organic wastes.

Uses. The finished compost is used by Iowa State University. It is not available to the public. The compost is blended with sand and soil to create amended soil. The amended soil is used for landscaping new construction projects, existing buildings, and planting beds. Compost also is available to researchers for amending soil structure in horticultural and agronomic plots. Compost also will be used as bedding for ISU dairy cows.

Operations. The compost facility is a self-supporting service unit. All material brought to the facility is weighed on a truck scale. The supplying department is charged \$5/ton as a tipping fee. All compost leaving the site also is weighed and charged to the using department. The facility also blends amended soil for a fee.

The facility is coordinated by the ISU Research Farms, 32 Curtiss Hall, ISU, Ames, IA, 515/294-5045. The facility is managed by Steve Jonas, ag specialist, 515/450-0581 or sjonas23@iastate.edu.