Eliminate odor, reduce phosphorus and pathogens from swine manure

*Technology #20100165*

Flowchart For A Hydrothermal Carbonization Process For Animal Manure

**A fast, on-farm method to eliminate odor and isolate phosphorus from swine manure.**

**Cost-effective manure treatment method**

Researchers at the University of Minnesota have developed an environmentally sound, easy-to-implement method to process swine manure. Through hydrothermal carbonization, this technology can

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• eliminate noxious odorous components
• remove phosphorus, heavy metals, and fatty acids
• eradicate pathogens and inactivate antibiotics from raw manure.

Treatment of manure using this method results in solid, hydrochar with no offensive odor that can be easily filtered out from liquid filtrate. As 80% of the phosphorus present in the manure is retained in the solid hydrochar, it can be further treated to extract phosphorus for use as fertilizer. With a low phosphorus content, the liquid portion can be used as fertilizer for crops without overloading the soil with phosphorus or for production of biogas using anaerobic digestion.

Phase of Development

Proof of concept in lab. Pilot scale testing can be done at University facility.

Features & Benefits

• Commercially available equipment can be used to implement this process
• Removal of excess phosphate from liquid waste aligns with stringent EPA regulations as it prevents algal blooms, eutrophication and hypoxic conditions in rivers and lakes.
• Removal of unpleasant orders, pathogens and antibiotics
• Reduced disposal cost and creates new revenue source

Applications

• Animal manure management
• Large scale confined animal and livestock feed operations (CAFO)
• Municipal sewage treatment plants
• Phosphate production

Ready for Licensing

This technology is now available for license! The University is excited to partner with industry to see this innovation reach its potential. Please contact Larry Micek to share your business’ needs and your licensing interests in this technology. The license is for the sale, manufacture or use of products claimed by the patents.

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