



Mark Pummell/The Daily Standard

Company officials Jeff Dawson, right, and Rick Johnson, left, explain the Quick Wash technology Wednesday at the Siefring farm on Siegrist-Jutte Road near Fort Recovery.

Process to remove phosphorus from manure tested

By SYDNEY ALBERT
salbert@dailystandard.com

FORT RECOVERY — Ag Solutions, in partnership with Cooper Farms and the Lake Improvement Association, will demonstrate Quick Wash technology designed to remove phosphorus from manure, which could allow farmers to land apply manure within local limitations.

“The goal here is to extract phosphorus from solids, so solids can be land applied without phosphorus, and you don’t have phosphorus run-off in the waterways which causes algae blooms,” said Jeff Dawson, CEO of Renewable Nutrients.

The Quick Wash process involves four steps. First, raw manure is pumped into a holding tank. Once in the tank, the solubilization process takes place, creating two different streams: a solids stream and a liquid stream. The liquid stream contains most of the phosphorus that

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has been extracted from the manure. The solids stream has a lower phosphorus content and can be applied by the farmer. The level of phosphorus in the solids can be tailored to meet individual needs.

The liquid stream is then run through a ceramic membrane to remove additional solids. The removal results in a purer and more valuable calcium phosphate material, according to Rick Johnson, director of sales and marketing for InNow.

The filtered liquid stream is then processed into two more streams: a low- or no-phosphorus clean water stream that is suitable for reuse and nutrient free. Another solids stream contains the removed and recovered phosphorus in the form of calcium phosphate, Johnson said.

Dawson noted the calcium phosphate can be used as a highly effective fertilizer or as a potential animal feed supplement.

"Other than energy, the most expensive swine feed ingredient tends to be phosphorus. And if we can reuse the phosphorus back into feedstock, that's a pretty favorable economic situation," Dawson said.

The technology was originally developed by the U.S. Department of Agriculture to extract phosphorus from poultry manure, but Dawson's company has licensed the commercialization rights to the technology. Dawson said the goal of the demo on the Siefring farm at 2564 Siegrist-Jutte Road is to show the efficiency of taking phosphorus

out of manure and keeping solids closer to their origin point.

"In essence, theoretically, if a farm is having issues with land application because of their limitations on phosphorus application, typically what's going on now is they're tanking them and they're shipping the silos far away," Dawson explained. "We've had conversations with farms actually shipping across state lines. There are issues with that from a cost standpoint and liability standpoint. ... The goal here is if we can extract the phosphorus, then they can land apply locally ... and then you don't have the issue of that phosphorus running off. You then can sell off the byproduct or use it when you need it."

Johnson said the companies involved are working with Mercer County officials to make a portable unit that would be small and economical enough for farmers to use. They know the technology works, and now they're trying to figure out the economic aspects, he said.

"I've got a small calf-cow operation and it's hard for me to justify a large piece of equipment so, particularly if they only pump out their pits once a year, once every six months, you have a lot of equipment sitting there just doing nothing," Johnson said. "So what we're trying to do is to take this overall technology, miniaturize it so that it's in a vehicle that can be moved from farm to farm. We have people that are interested in it, and the key to that's going to be economics."