Improving swine waste fertilizer

July 8 2008

Swine production generates large amounts of waste. While this waste contains nutrients that may serve as fertilizer when applied to agricultural fields, the ratio of nutrients in the waste is different than what a crop requires.

Application of waste to meet the nitrogen needs of a crop results in application of excess phosphorus which increases the potential for environmental contamination. Swine fed corn diets with more highly available phosphorus produce waste that has a nitrogen to phosphorus ratio closer to what a crop needs than swine fed traditional corn diets.

The use of swine waste for fertilizer has double benefits for the environment. Using swine waste reduces the need for chemical fertilizers for crops and at the same time reduces the amount of waste to be disposed of from swine production. But, when the nutrients in the swine waste don't match the needs of the crops, the excess nutrients not used by the crops can pollute the soil.

Scientists with USDA-ARS and the University of Nebraska – Lincoln compared nitrogen and phosphorus availability in field plots receiving inorganic fertilizer, manure from swine fed traditional corn diets, or manure from swine fed low phytate corn diets.

Results from the study were published in the *Soil Science Society of America Journal*.

Researchers found that field application of slurry from low-phytate corn

diets at rates needed to meet the nitrogen needs of the crop results in slower accumulation of phosphorus in these soils.

Source: Soil Science Society of America