

## Opportunity Checklist for Manure Treatment, Storage and Handling on Swine Farms

Manure storage and handling systems that conserve and retain nutrients can reduce purchased fertilizers. If an estimate of Whole Farm Nutrient Balance for your farm identified opportunities for nitrogen or phosphorus balance improvement, then consider the following practices for their potential to improve a nutrient balance. [Click here for introduction to WFNB](#)

Review the issue in the left hand column and circle the best answer in columns two through five. Note where your circled responses lie relative to the potential contribution to whole farm nutrient balance. [Click here for introduction to Opportunity Checklist](#)

For practices listed below, which answer listed to the right best describes your situation?	Contribution to Whole Farm Nutrient Balance				Does this impact N balance? P balance? NH <sub>3</sub> emissions?
	Current Practice Already Contributes Large Improvement in Balance	Current Practice Already Contributes Small Improvement in Balance	Current Practice Contributes to Some Imbalance	Current Practice Contributes to Large Imbalance	
Treatment Technologies impacting N?	<p>These treatment technologies will reduce N losses and retain it for potential use in crop production:</p> <p>Impermeable cover for storage</p> <p>Lowering manure pH to 7.0 or lower</p>	<p>These treatment technologies will modestly reduce N losses and retain it for potential use in crop production:</p> <p>Permeable cover or crust for storage</p> <p>Solids removal, mechanical, gravity, or chemical precipitation (assuming a more concentrated manure N is transported to more distant fields that need N)</p>	<p>These treatment technologies will modestly increase N losses:</p> <p>Composting with carbon amendment</p> <p>Aerobic lagoon</p> <p>Aerobically treated manure</p>	<p>These treatment technologies will significantly increase N losses:</p> <p>Anaerobic Lagoon</p> <p>Lagoon or storage with low-rate aeration (aerobic and anaerobic zones)</p> <p>Composting without carbon amendment</p> <p>Raising manure pH to 8.0 or above</p> <p>Constructed wetland</p> <p>Sequencing batch reactor</p>	N & NH <sub>3</sub>
Treatment Technologies impacting P?	<p>These treatment technologies will concentrate P in manure that can benefit nutrient balance if hauled to more distant fields needing nutrients:</p> <p>Solids removal by chemical precipitation</p> <p>Sequencing batch reactor</p>	<p>These treatment technologies will concentrate P in manure <u>modestly</u> that can benefit nutrient balance if hauled to more distant fields needing nutrients:</p> <p>Solids removal by mechanical separation</p> <p>Solids removal by gravity</p>	<p>These treatment technologies will allow P to settle out from the manure and often lead to less recovered P for land application:</p> <p>Aerobic lagoon</p> <p>High-rate aeration</p> <p>Low-rate aeration</p>	<p>These treatment technologies will allow P to settle out from the manure and often lead to <u>substantially</u> less recovered P for land application:</p> <p>Anaerobic Lagoon (settled P in sludge)</p> <p>Constructed wetland</p>	P

Type of Storage	Below barn pit or earthen pit			Anaerobic Lagoon	
Hoop building	Dry bedded surface (Sufficient bedding)			Constantly wet bedded surface due to inadequate bedding	
Manure Removal Frequency – Buildings	Flushing 4 or more times per day Organic material use to create bedded pack	Manure scraping or flushing twice a day	Manure scraping or flushing once a day or less	Manure scraping or flushing once a week or less	N & NH <sub>3</sub>

[Introductory menu for WFNB Resources](#)

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