

Addressing Nutrient Imbalance With Manure Export

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Nutrient Imbalance

- Nutrient balance is key to managing nutrients
 - On-Farm imbalances my current focus
- Balance animal numbers to acres available, OR
 - Feed management is a good place to start
 - Crop choice can help
 - Improved yield hybrids, new crop choices
 - Technology can be key to addressing this issue
 - Nutrient separation
 - Manure transport to address remaining imbalance
 - Continues to make use of valuable manure resource
 - Can be used until technology catches up

Manure transportation to address nutrient imbalance

- Removal of manure from the farm of origin
- Some areas easier than others:
 - Diversity of agriculture in the area
 - Animal density throughout the area
 - Neighboring farm size
 - Cost/availability of commercial fertilizer
 - Availability of manure application equipment
 - Availability of custom haulers and applicators
 - Availability of alternative uses in the area
- Need to eliminate barriers to manure transport

Eliminating barriers to transport

- Barriers to manure transport:
 - Talking about manure like it is a toxic waste
 - Encourage the use of manure
 - Overly complicated requirements for receiving manure
 - Allow a process that is simple and cheap
 - Not know who has, or wants manure
 - Provide a program to connect these groups
 - Not enough technical assistance for importers
 - Train and authorize large group of folks to help
- Main idea: “don’t get in the way”

Supporting manure transport

- Encourage nutrient processing technologies (composting)
- Force the use of manure on public projects (create market)
 - Roads (fertilizer and E&S), lawns on public facilities, etc
- Identify and require farms with nutrient imbalance, to address the situation
 - CAOs need to be overseen to ensure compliance with nutrient balance on croplands
- Funding for manure transportation?
 - Used in some states
 - Pa does not provide this support
 - Not long term sustainable (too expensive for the public sector)
 - Does not drive farmers into other options for balance
 - Higher fertilizer prices make manure a very marketable product

Manure transportation in Pa

- Pa program identifies CAOs which are most likely to have a nutrient imbalance
 - Over 1,050 CAOs in Pa
 - Mostly hog and poultry operations
 - Nutrient imbalance is typical for these operations
- CAOs must include manure export agreements and condensed nutrient mgmt plans for importers of manure
 - N and P addressed, also application setbacks
 - Manure transported over 100 miles, even manure auctions held
- Pa collected information from CAOs in the CB watershed to assess annual manure export:
 - 650,000 tons exported from CAOs in the CB watershed
 - 350,000 tons exported out of the county of origin of the manure
 - 227,000 tons exported from Pa's CB watershed

In Conclusion

- Nutrient balance is key to addressing nutrient management on farms
- Numerous ways to address balance, manure transport is a very viable option
- We need to minimize barriers under our control and get out of the way of a sustainable system
- Allow the open market system to work, providing a long term sustainable nutrient balance system