Nutrient Management Plan Implementation:

Where the rubber meets the road
(or, where the manure meets the field).

Kevin Erb
University of Wisconsin – Extension
kevin.erb@uwex.edu

Farmer View of Site-Specific Future Manure Regulations

Farmer View of Site-Specific Future Manure Regulations

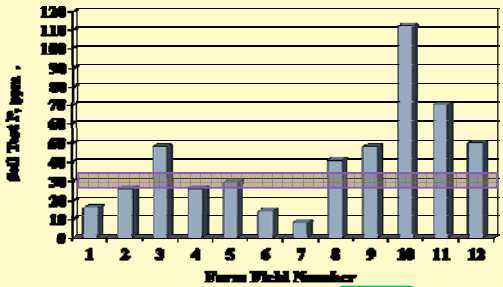
Labor intensive Precision Application

The presentation is available at:
http://www.extension.org/pages/21819/chronological-webcast-archive

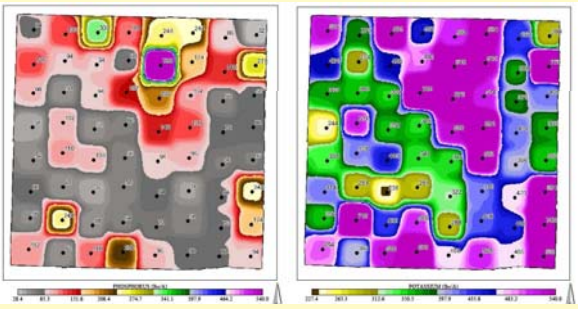
Importance of NMPs

- Environmental Risk Reduction
  - Every pound of nutrient applied but not needed by the crop raises the risk of off-site impacts.
- Public Relations
  - What is seen vs. reality

Soil Test Phosphorus Variability from a Wisconsin Dairy Farm



Q: Where are the high spots that the farmer could spread on in wet springs?



Importance of NMPs

- Economic Importance to Farm Profitability
  - **Recent: Spike in Fertilizer Prices in 2008/2009**

How do we get farmers to buy in and implement their NMPs?

- Address barriers and risks to implementation
  - People are naturally risk-adverse. The greater the perceived risk, the lower the likelihood of change.
  - Changing how people are paid for their work (YIELD) is a high risk endeavor.

How do we get farmers to buy in and implement their NMPs?

- Implementation Support Approach
  - External Support
  - Social Support
  - Empowering Education

How do we get farmers to buy in and implement their NMPs?

- External Support
  - It's easier to make changes if someone you respect **validates** the idea.
    - Agronomic Consultant/Fert Sales Staff
    - Ag Lender
    - Commercial Manure Applicator
    - Livestock Nutritionist
    - Farmer's Spouse / Business Partners

How do we get farmers to buy in and implement their NMPs?

- External Support
  - How does the fertilizer supplier / ag lender / spouse react when the farmer comes in and says "what do you think about this Nutrient Management Plan stuff?"
  - What will their reaction be if called out to look at a field?
    - Will they blame the NMP if corn is not as "green" as neighbor's?

How do we get farmers to buy in and implement their NMPs?

- External Support
  - Key is to get that person on board **before** you start working with the farmer.
  - If the farmer receives support initially AND during implementation, plans are implemented.
    - http://www.joe.org/joe/1999october/a2.php

How do we get farmers to buy in and implement their NMPs?

- Social Support
  - How will their peers react?
  - Fear of crops not as green as the neighbor's fields.

How do we get farmers to buy in and implement their NMPs?

- Two farmers, each 300%+ more nitrogen than soil test recommended.
- We asked them what happened and why.

How do we get farmers to buy in and implement their NMPs?

Farmer Jones:

- 200# N from manure
- 120# N from 28%
- 190# N from Alfalfa Plowdown

510# N

.

The presentation is available at:
http://www.extension.org/pages/21819/chronological-webcast-archive

How do we get farmers to buy in and implement their NMPs?

Farmer Jones:

- 200# N from manure
- 120# N from 28%
- 190# N from Alfalfa Plowdown

510# N

Farmer Smith:

- 160# N from manure
- 120# N from 28%
- 160# N from Alfalfa Plowdown
- 51# N from starter fertilizer

491# N

How do we get farmers to buy in and implement their NMPs?

Farmer Jones:

- "My field is right next to the barn, and it needs to look greener and taller than Farmer Smith's"

Farmer Smith:

- "That field is right on the edge of town, and if Farmer Jones saw it and it was at all yellow, I'd hear about it."

How do we get farmers to buy in and implement their NMPs?

Social Support –

- Cluster Approach
- Kitchen Table Approach

How do we get farmers to buy in and implement their NMPs?

Cluster Approach*

- Gather a group of likeminded producers and create positive peer pressure
- Modeled after grazing networks and conservation tillage clubs – meet in field or neutral location.

* Erb and Dolata

How do we get farmers to buy in and implement their NMPs?

Kitchen Table Approach*

- Small group of farmers, work together to develop their own plans—learning by osmosis/observation and by doing
- Farmers self selected peers from list of interested farmers
  - Who do you want in your group?
  - Who do you *not* want in your group?

* Kevin Jarek, UWEX

How do we get farmers to buy in and implement their NMPs?

Kitchen Table Approach

- Encourages and builds trust
  - Between farmers
  - Between farmers and agency staff.

How do we get farmers to buy in and implement their NMPs?

Kitchen Table Approach Results

	Before	*After*	*Knowledge Increase %*
I utilize my manure resources efficiently by spreading on those fields that have the greatest need.	**2.7**	**4.5**	**66%**
My nutrient management strategy enables me to rely less on off farm, purchased commercial fertilizer to meet crop nutrient needs.	**2.5**	**4.1**	**64%**
I understand and value the financial and environmental benefits that an implemented nutrient management plan has on my farming operation."	**2.6**	**4.5**	**73%**

How do we get farmers to buy in and implement their NMPs?

Social Support

- With both, farmers have peers to talk to, bounce ideas off of (not agency staff)
- Word spreads in neighborhood, neighbors watching fields to see what happens.

How do we get farmers to buy in and implement their NMPs?

Educational Empowerment *

- Train farmers (classroom) to write their own plans
- 2-3 classroom series, state recognized
- Local adaptability based on local needs and resource concerns – Karst, groundwater, etc

* Frame, Kivlin, Sturgul

How do we get farmers to buy in and implement their NMPs?

Educational Empowerment

- Plans self written (post-class) or with help from:
  - Extension
  - Resource Agencies (SWCD/LCD/NRCS)
  - Private Sector agronomists
    - Private sector realizes that a farmer that understands the plan is more likely to follow advice
    - Many farms go back to private sector for updates

How do we get farmers to buy in and implement their NMPs?

Educational Empowerment – follow up evaluation*

- No Cost Share provided to Implement Plan
- 40% follow plan (100% implementation)
- 82% implemented on >75% of their acreage
  - Of the 25%, some was choice, some were fields that had already had too much manure applied prior to plan finalization

* Genskow

Lessons Learned

- Farmers "invested" in the idea or with support are more like to follow through.
- The broader the community support, the greater the implementation.

Photo: Ed Byrne

Lessons Learned

- Voluntary implementation is viable if resources invested to make it work
- Must identify barriers and find ways to overcome them.

Photo: Ed Byrne

Next Presenter…

Rachel Mueller, Cornerstone Crop Consulting