Designing Programs and Policies to Increase BMP Adoption Rates

Robyn S. Wilson
School of Environment and Natural Resources
Twitter: @RiskWilson

Understanding Algal Blooms State of the Science Conference
Toledo, OH
June 14, 2019
Voluntary adoption?

Outreach & Education

Neutral attitudes

Improving water quality

Incentives & Subsidies

Positive attitudes

Negative attitudes
Potential adoption levels

<table>
<thead>
<tr>
<th>Conservation Practice</th>
<th>Avg Reported Adoption</th>
<th>Avg. Intended Adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil test informed application rates</td>
<td>90%</td>
<td>80%</td>
</tr>
<tr>
<td>Storm-based application delay</td>
<td>80%</td>
<td>70%</td>
</tr>
<tr>
<td>Avoid winter application</td>
<td>80%</td>
<td>70%</td>
</tr>
<tr>
<td>Cover crops</td>
<td>60%</td>
<td>50%</td>
</tr>
<tr>
<td>Subsurface placement</td>
<td>40%</td>
<td>30%</td>
</tr>
</tbody>
</table>

30 to 40% in the middle!
Farmer Characteristics (e.g., age)

Farm Characteristics (e.g., total farmed acres)

Farmer Beliefs (e.g., confidence)

Confidence and Perceived Effectiveness of Practices

Adoption of Conservation Practices
Rejecters

Consistent Adopters

New Adopters

Discontinuers

Lowest efficacy

Weakest intentions

Highest efficacy

Strongest intentions

Moderate efficacy

Moderate intentions

% of Respondents

Adoption Category (change from 2016 to 2018)

Subsurface Placement

Cover Crops

The 30 to 40%!
• WLEB farmers have a desire to take action based on a sense of responsibility, concern, etc.

• But they lack confidence in their ability to effectively implement practices that they aren’t convinced will work.

• We need programs and policies that…
  • Build confidence in one’s ability – more affordable, less time intensive and generally “easier”
  • Build confidence in practices – demonstrate and communicate when and under what conditions practices are effective
Building Efficacy

• Mandate the “easy” practices (e.g., determining application rates based on regular soil testing once within the rotation)

• For the “harder” practices…
  • Design more thoughtful incentive programs
    • E.g., reduced insurance premiums for cover crops
  • Think creatively about how to deal with time constraints
    • E.g., technologies to allow work to get done in wet fields
  • Address the issue of rented acreage and landlord agreements
    • E.g., engage non-operating landowners in conservation programs
Building Efficacy

- Remove practice-specific barriers – e.g., access to equipment for subsurface placement, longer programs for cover crops
- Conduct better cost-benefit studies to better communicate the benefits of recommended practices (type of benefit, extent, timing, etc).
- Use field-scale decision support tools to identify more tailored recommendations at the field and farm-scale
- Promote a cultural shift that conservation is part of doing business in agriculture (i.e., “good farmers” are conservationists)
Acknowledgements

- Website with Reports:
  - http://ohioseagrant.osu.edu/maumeebay
  - http://4rcertified.org/research/
- Thanks to WLEB Farmers!!!!
- Funding:
  - The 4R Research Fund, Project # 4RN-09
- Collaborators:
  - Brian Roe, Greg LaBarge, Kevin King, Tom Bruulsema, Carrie Vollmer-Sanders, Maggie Beetstra, Mary Doidge, Limnotech and more!