Leveraging Crop Advisors to Deliver Agricultural Conservation Advice and Increase Adoption of Conservation Practices

SWCS, Michigan Chapter
March 6, 2019

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Q: Please indicate how influential the following groups and individuals are when you make decisions about agricultural practices and strategies

![Graph showing influence of groups](image)

Results from a 2012 survey of Midwestern corn producers conducted by Useful to Usable (U2U) and SustainableCorn.org; published Prokopy et al. 2015, Climatic Change.
**Farmer survey**
- Population: ~45,000 agricultural landowners in study area
- Sample frame: 4,500 agricultural landowners who received government payments identified through FOIA request to Farm Service Agency
  - Sample: 3,000 agricultural landowners randomly selected
    - 5-wave mail survey
  - Responses: **1,459** in total (**49.5%** response rate)
    - **892** farmers, **567** non-operating landowners
Farmer survey
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- Sample frame: 4,500 agricultural landowners who received government payments identified through FOIA request to Farm Service Agency
- Sample: 3,000 agricultural landowners randomly selected
  - 5-wave mail survey
  - Responses: 1,459 in total (49.5% response rate)
    - 892 farmers, 567 non-operating landowners

Farmer interviews
- 22 semi-structured in-person interviews
- all are farmers who responded to survey
- non-random, maximum-variability sample
  - farm size
  - crops grown
  - age

Who do Saginaw Bay farmers say they trust the most for info about conservation?
A. NRCS
B. Crop advisers
C. SWCDs
D. MSU Extension
E. All of the above equally
How much do you trust the sources of information about conservation practices? Scale: 0=Not at all, 3=Very much

- Environmental groups: n=494; M=2.3
- TNC: n=487; M=2.0
- MDEQ: n=484; M=0.7
- Independent CAs: n=489; M=2.1
- MABA: n=487; M=2.0
- Retail agronomists/CAs: n=489; M=2.1
- MAB: n=486; M=2.1
- Commodity groups: n=489; M=2.1
- MI Farm Bureau: n=487; M=2.0
- Other farmers/landowners: n=486; M=2.1
- MSU Extension: n=491; M=1.9
- Fertilizer reps: n=489; M=1.7
- SWCD: n=487; M=1.7
- MDA: n=488; M=1.2
- MDNR: n=487; M=1.2
- Retail agronomists/CAs: n=484; M=0.7
- Other farmers/landowners: n=486; M=0.4

Scale: 0=Not at all, 3=Very much

0% 20% 40% 60% 80% 100%

Very much  Moderately  Slightly  Not at all  Not familiar with
Introduction

Methods

Results

Discussion

How much do you trust the sources of information about conservation practices? Scale: 0=Not at all, 3=Very much

<table>
<thead>
<tr>
<th>Source</th>
<th>Very much</th>
<th>Moderately</th>
<th>Slightly</th>
<th>Not at all</th>
<th>Not familiar with</th>
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<tbody>
<tr>
<td>FSA</td>
<td>494; M=2.3</td>
<td></td>
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<tr>
<td>MSU Extension</td>
<td>488; M=2.3</td>
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<tr>
<td>Independent CAs</td>
<td>489; M=2.1</td>
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<tr>
<td>SWCD</td>
<td>489; M=2.1</td>
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</tr>
<tr>
<td>Retail agronomists/CAs</td>
<td>489; M=2.1</td>
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<td></td>
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<tr>
<td>NRCs</td>
<td>489; M=2.1</td>
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<td></td>
<td></td>
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<tr>
<td>MI Farm Bureau</td>
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<tr>
<td>Environmental groups</td>
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<td>Other farmers/landowners</td>
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<tr>
<td>Commodity groups</td>
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<tr>
<td>Fertilizer reps</td>
<td>487; M=4.7</td>
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<tr>
<td>MABA</td>
<td>485; M=4.6</td>
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<tr>
<td>MDARD</td>
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<tr>
<td>MDNR</td>
<td>487; M=4.2</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Sportsmen groups</td>
<td>488; M=4.2</td>
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<tr>
<td>MDEQ</td>
<td>484; M=0.7</td>
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<tr>
<td>TNC</td>
<td>484; M=0.4</td>
<td></td>
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</tr>
</tbody>
</table>

Scale: 0=Not at all, 3=Very much

Very much Moderately Slightly Not at all Not familiar with
Crop advisers & conservation

- 59.5% currently use a CA
  - Top 3: CPS, independent CA, Cooperative Elevator Co.
- Who uses CAs? Larger farms, younger farmers
- ~85% of agricultural land in Saginaw Bay farmed by a producer who uses a CA

How influential is your crop advisor’s advice on recommendations for the following services and/or decisions? 0=not at all, 4=essential

<table>
<thead>
<tr>
<th>Service</th>
<th>Essential</th>
<th>Very</th>
<th>Somewhat</th>
<th>Slightly</th>
<th>Not at all</th>
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<tr>
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<td>n=478; M=2.9</td>
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<tr>
<td>Soil Testing</td>
<td>n=480; M=2.9</td>
<td>n=480; M=2.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pesticide/Herbicide Application</td>
<td>n=477; M=2.8</td>
<td>n=480; M=2.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fertilizer Rate</td>
<td>n=482; M=2.7</td>
<td>n=480; M=2.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fertilizer Type</td>
<td>n=482; M=2.7</td>
<td>n=480; M=2.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fertilizer Timing</td>
<td>n=482; M=2.7</td>
<td>n=480; M=2.5</td>
<td></td>
<td></td>
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<tr>
<td>Fertilizer Placement</td>
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<tr>
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<td>n=482; M=2.0</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Crop Rotation</td>
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<td>n=478; M=1.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation of new conservation practices</td>
<td>n=478; M=1.5</td>
<td>n=477; M=1.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintaining current conservation practices</td>
<td>n=478; M=1.5</td>
<td>n=477; M=1.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manure Application</td>
<td>n=451; M=1.2</td>
<td>n=451; M=1.2</td>
<td></td>
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</tr>
</tbody>
</table>
Crop Adviser Survey & Interview Results

- 81 total responses (33.3% response rate)
- 55 responses from CAs who work in the Saginaw Bay watershed (rest work in other parts of Michigan)
- 12 in-person interviews
What percent of crop advisers think that conservation has a role to play in addressing water quality challenges?

A. <30%
B. 50%
C. 75%
D. >90%

Please state your level of agreement with the following statements:

1=strongly disagree, 5=strongly agree

Conservation practices have a role to play in addressing water quality issues

My organization supports innovation

My organization supports conservation

My direct supervisor supports promoting conservation practices

I am comfortable talking about conservation practices with farmers

I am knowledgeable enough to talk about conservation practices with farmers

Discussions about conservation are a natural extension of my job as a CA

Incorporating conservation practices into my business makes financial sense for me

The procedures/policies for the Saginaw Bay RCPP program are clear to me

n=72; M=4.5
n=71; M=4.5
n=72; M=4.4
n=72; M=4.2
n=72; M=4.1
n=72; M=4.1
n=72; M=4.0
n=71; M=3.5
n=72; M=2.5
Please state your level of agreement with the following statements:
1 = strongly disagree, 5 = strongly agree

Conservation practices have a role to play in addressing water quality issues
My organization supports innovation
My organization supports conservation
My direct supervisor supports promoting conservation practices
I am comfortable talking about conservation practices with farmers
I am knowledgeable enough to talk about conservation practices with farmers
Discussions about conservation are a natural extension of my job as a CA
Incorporating conservation practices into my business makes financial sense for me
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n=72; M=4.5
n=71; M=4.5
n=72; M=4.4
n=72; M=4.2
n=72; M=4.1
n=72; M=4.1
n=72; M=4.0
n=71; M=3.5

How effective are the following conservation practices?

1 = not effective at all, 5 = extremely effective

- Regular soil testing
- Nutrient Management Plans
- Variable rate P application
- Cover crops
- Drainage water management
- Conservation cover
- Grassed waterways
- Reduced tillage
- Forage and Biomass
- Gypsum application
- Saturated buffers
- Riparian buffers/filter strips
- Treatment wetland
- Grade stabilization structures

*significant at p<.05
**significant at p<.01
Please state your level of agreement with the statement that CAs should have an important role to play regarding the following services/decisions:
1=strongly disagree, 5=strongly agree

- Maintenance of current conservation practices
- Installation of new conservation practices
- Seed type
- Crop rotation
- Manure application
- Crop disease
- Pesticide/herbicide application
- Fertilizer type
- Fertilizer placement
- Fertilizer timing
- Soil testing

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

- n=72; M=4.7
- n=72; M=4.6
- n=72; M=4.6
- n=72; M=4.6
- n=71; M=4.5
- n=72; M=4.5
- n=71; M=4.4
- n=71; M=4.3
- n=72; M=4.0
- n=72; M=3.9
- n=72; M=3.8
Who do crop advisers say they trust the most for info about conservation?
A. MABA
B. NRCS
C. SWCDs
D. MSU Extension

People get information about conservation from a number of different sources. To what extent do you trust the organizations listed below as a source of information about conservation practices?

*Means are significantly different at p < .05
People get information about conservation from a number of different sources. To what extent do you trust the organizations listed below as a source of information about conservation practices?

- Environmental groups
- MI DEQ
- *TNC
- Sportsmen groups
- *MI Farm Bureau
- *Commodity groups
- *FSA
- MI DARD
- *MI DNR
- MSU Extension
- *NRCS
- *SWCDs
- *MABA
- *CAs
- Farmers

*Means are significantly different at p < .05

Barriers to CAs recommending conservation practices

1. Lack of reliable financial incentives or clear compensation parameters for CAs to “sell” conservation practices like other products or services
2. Lack of complete knowledge on the holistic cost-benefit tradeoffs of conservation practices, which is necessary for making a convincing value proposition to farmers
3. Competition concerns – i.e. fear that farmers will utilize other Ag retail vendors to implement practices recommended by a CA
Barriers to CAs recommending enrollment in conservation programs

1. Too much paperwork, delays, and program complexity
2. Fear that (1) and a lack of program flexibility will lead to farmers having bad experiences in programs, which will reflect poorly on the recommending CA
3. Challenge of quantifying the value of delivering conservation program recommendations and fairly assigning credit (e.g. between NRCS and the CA)
4. Challenge of bridging the gap between the pace at which conservation programs operate, and the quarterly business cycle in which CAs and their employers operate

NRCS-SWCD Survey Results

• 55 total responses (43.3% response rate) from NRCS and SWCD staff whose duties directly pertain to conservation, and whose offices cover some part of the Saginaw Bay watershed
What approach to conservation do NRCS and SWCD professionals say they prefer
A. Mostly voluntary
B. Mostly gov’t mandated
C. Mix of voluntary/regulatory

What approach to conservation do crop advisers say they prefer
A. Mostly voluntary
B. Mostly gov’t mandated
C. Mix of voluntary/regulatory
When thinking about regulatory approaches and how to foster conservation programs, what do you feel represents the best approach as measured along this continuum?

<table>
<thead>
<tr>
<th>continuum level</th>
<th>NRCS-SWCD staff</th>
<th>Crop Advisers</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>6</td>
</tr>
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<td>2</td>
<td>3</td>
<td>5</td>
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<td>5</td>
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<tr>
<td>6</td>
<td>NRCS</td>
<td>SWCDs</td>
</tr>
<tr>
<td>7</td>
<td>MSU Extension</td>
<td>Crop advisers</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
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<tr>
<td>9</td>
<td>8</td>
<td>9</td>
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<tr>
<td>10</td>
<td>7</td>
<td>10</td>
</tr>
</tbody>
</table>

Whom do NRCS/SWCD staff say could be the most influential in promoting conservation?

A. NRCS
B. SWCDs
C. MSU Extension
D. Crop advisers
Multiple organizations in the agricultural community have a potential role in helping farmers identify programs, information, and practices that meet their on-farm conservation needs and address watershed-scale problems. How influential do you think the following organizations could be in fulfilling this role?

- Very influential
- Moderately influential
- Slightly influential
- Not influential at all
- Not familiar

<table>
<thead>
<tr>
<th>Organization</th>
<th>Influentiality</th>
<th>N</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRCS</td>
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<td>55</td>
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<tr>
<td>SWCDs</td>
<td></td>
<td>55</td>
<td>2.7</td>
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<tr>
<td>Farmers/landowners</td>
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<td>54</td>
<td>2.6</td>
</tr>
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<td>MSU Extension</td>
<td></td>
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<td>2.4</td>
</tr>
<tr>
<td>MI-DARD</td>
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</tr>
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<td>Retail CAs</td>
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<td>Sportsmen groups</td>
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<tr>
<td>Fertilizer reps</td>
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<td>Farmers/landowners</td>
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<td>1.5</td>
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n=55 M=2.9
n=55 M=2.7
n=54 M=2.6
n=54 M=2.4
n=55 M=2.3
n=53 M=2.2
n=53 M=2.1
n=54 M=2.0
n=55 M=2.0
n=54 M=1.9
n=54 M=1.8
n=54 M=1.8
n=54 M=1.8
n=54 M=1.6
n=54 M=1.5
Why (or why not) are you comfortable with CAs participating in programs like RCPP and delivering conservation advice to farmers?

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>Delivering conservation information conflicts with CAs’ primary role</td>
<td>13</td>
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<tr>
<td>CAs lack the proper training/expertise in conservation</td>
<td>11</td>
</tr>
<tr>
<td>Conservation programs are a low priority for CAs</td>
<td>7</td>
</tr>
<tr>
<td>CAs could be influential if adequately trained</td>
<td>6</td>
</tr>
<tr>
<td>CAs have not yet delivered on their promised support role for RCPP</td>
<td>4</td>
</tr>
<tr>
<td>CAs could be influential if public-private sector collaborations barriers were lowered</td>
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</tbody>
</table>

How, if at all, should CAs be compensated for delivering recommendations/advice on conservation programs or practices?

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
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</thead>
<tbody>
<tr>
<td>Unsure/other</td>
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<td>CAs should not be financially compensated</td>
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<tr>
<td>CAs should receive some form of indirect compensation</td>
<td>7</td>
</tr>
<tr>
<td>CAs should receive some form of direct compensation</td>
<td>4</td>
</tr>
<tr>
<td>...after a farmer’s application has been funded</td>
<td>1</td>
</tr>
<tr>
<td>...from their employer</td>
<td>1</td>
</tr>
<tr>
<td>CAs should be compensated based on conservation performance</td>
<td>3</td>
</tr>
<tr>
<td>CAs should receive some sort of non-monetary compensation</td>
<td>3</td>
</tr>
</tbody>
</table>
Discussion of cross-cutting themes

1. Considerable agreement that conservation (in general) and conservation practices (specifically) are worthwhile and important.

2. Farmers are open to and interested in receiving conservation advice/recommendations from CAs, but unsure of who will pay for it.
   - Have not yet formed strong attitudes, as CAs generally do not perform this role.

3. Misalignment between who farmers say they trust (and who influences them) and who NRCS-SWCDs think that farmers trust.

4. Disagreement between who CAs and NRCS-SWCDs think have a role in conservation.

5. Uncertainty about whether/how CAs should be compensated for supporting conservation practices & programs.

6. Considerable agreement that more public-private collaboration is needed, but acknowledgement that significant barriers to collaboration remain.
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Citations:


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