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Educating Dairy and Beef Producers on Environmental Issues and Regulatory Concerns for Smaller Farms

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A.S. Leaflet R2714

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Environmental Issue Relevance and Importance

Livestock producers in Iowa have seen a progression of regulations and compliance enforcement throughout the past two decades. Awareness through Extension meetings and information put out by commodity groups has played a substantial role in bringing confinement feeding operations and large CAFO feedlots into compliance. For small to medium-sized feedlots and dairies that may or may not be classified as CAFOs, the education and outreach was not formalized prior to the EPA beginning their recent compliance reviews. This issue surfaced because of EPA interpretation of regulations and the subsequent impact on livestock producers. The message from EPA was not well defined and still remains a challenge for livestock producers, extension personnel, and agribusiness (advisers) and agency staff.

ISU Extension and Outreach Response

Encouraging environmental stewardship, including good manure management, is a long-standing priority of the ISU Extension Team. Given recent changes in Iowa's manure regulations, and given EPA's increased concern to decrease discharge from all farms, including small and medium-sized farms, ISU Extension staff made it a priority to offer educational meetings during the 2011 winter season to increase knowledge about current regulations and manure management practices.

Learning objectives were to increase awareness and knowledge of small and medium-sized feedlot and dairy operators, their advisers, and agency personnel to better understand recent EPA compliance actions against these types of livestock operations and how producers can meet compliance that protects water quality. The desired change was to increase awareness and knowledge of this sector of livestock production in Iowa so that they could 1) continue to operate their farms and be in compliance with state and federal regulations and 2) protect water quality resources. One action was to have producers rectify the discharge or animal contact situation, if it exists, so the livestock operation is not classified as a medium-CAFO, or to apply for a NPDES which would allow them to discharge under certain circumstances. Either action could reduce nutrient impacts on water quality.

NW Iowa Initial Project

To reach dairy producers in the 20-county NW Iowa region, Extension specialists coordinated three meetings throughout the region to reach the target audience of dairy owners with herd size below 700 cows.

These were the teaching objectives to be accomplished through combination of lecture, small group discussion, demonstration, and practice activities:

- Improve knowledge about current manure management regulations pertaining to dairy operations, with special focus on:
 - How farms are classified in the regulatory scheme.
 - Winter time manure application rules
- Increase knowledge about how discharges are identified and assessed by regulatory monitoring agencies
- Describe methods and resources to correct discharge problems or improve manure management.

Initial results:

Sixty-seven dairy owners of small/medium-sized farms attended 1 of 3 dairy manure management meetings. This number represents approximately 39% of the intended target audience. The lecture segment stimulated good questions and discussion, and the segment that demonstrated the on-line file of farm aerial photographs/satellite images stimulated active participation, questions, and problem-solving discussion.

To gauge immediate achievement of objectives, participants completed a short written pre-post quiz. They rated their perceived knowledge level pre-session and immediately post-session with these four questions:

1. I would rate my knowledge level about CURRENT environmental regulations and trends as:		
1	2	3
Low	Moderate	Good
2. My understanding level about how my farm is classified under current environmental regulations:		
1	2	3
Uncertain	Slightly unclear	Good understanding
3. My understanding level about how regulators and inspectors are assessing run-off and discharges on farms is:		
1	2	3
Uncertain	Slightly unclear	Good understanding
4. My understanding level of current rules about winter time manure application and who they apply to is:		
1	2	3
Very uncertain	Slightly unclear	Good understanding

Iowa State University Animal Industry Report 2012

Forty-seven of 67 attendees completed the pre-post quiz, and most indicated perceived increase in knowledge or understanding at the end of the meeting compared on how they rated their levels at the start of the session:

Question	Improved	Decreased	Stayed the same
Q1	34= 72%	0	12 = 25%
Q2	39= 83%	1	7 = 15%
Q3	38= 81%	1	6 = 13%
Q4	35= 74%	0	13 = 28%

Additional comments were gathered to an open-ended question offered at the end of the Post-quiz, (“From what I heard today, I plan to look at making changes in my manure management or run-off management practices such as”):

- More careful hauling of manure
- Do complete containment
- Apply for NPDES permit
- Keep manure out of water ways
- Do more manure run-off investigating on my operation
- Stay more up-dated on regulations

Overall Statewide Workshop Summary and Impacts

A total of seven workshops were held, three in NW-W Iowa at the end of March 2011 and four in NC-NE-E Iowa at the end of June 2011. A total of 383 people attended the seven workshops and received materials about current regulations, manure management and resources, including technical and financial assistance.

Learning Outcomes:

- Of the 383 people who attended, 179 completed a post-workshop evaluation.
- 169 respondents (94%) indicated they have a better understanding of the criteria, including numbers of animals and discharge definitions that might imply their operation is a CAFO.
- 172 respondents (96%) reported they understand the definition of a man-made device carrying feedlot runoff
- 109 (61%) reported they had traced runoff from their feedlot or dairy to see if it reached a water of the state, whereas 22% had not traced their runoff, and 15% said it did not apply
- 163 (91%) responded they now had a better understanding of the records that need to be kept.
- 161 (90%) reported they now know where to find resources for technical and financial assistance.

Actions:

Only 3% of respondents said they would apply for a medium-CAFO permit, whereas, 21% indicated they would not apply for permit, 51% reported they are unsure if they will apply for a medium-CAFO permit, 6% reported this did not apply, and 18% did not respond. This suggests that the workshops have raised awareness and have initiated thinking of how to be compliant and improve water quality.

A follow-up survey is planned for 2012 to identify degree of actual management changes.

The ultimate benefactors of this education are the citizens of Iowa who benefit from improved water quality. The conditions that changed include 1) removing animals from contact with waters of the US, and 2) reduced runoff of manure nutrients and sediment from feedlots.

This project encompassed a wide variety of partners and collaborators including: Iowa Department of Natural Resources; Iowa Department of Agriculture and Land Stewardship; Coalition to Support Iowa Farmers; Accu-Steel Building Solutions, Inc.; Brinkman Ag Solutions; Jacobsen-Westergard & Associates, Inc.; Natural Fertilizer Services; Nutrient Advisors, LLC; Pro-Ag Engineering; Twin Lakes Environmental Services, LLC; Western Iowa Dairy Alliance; Three Rivers Consulting; Cargill Animal Nutrition; PHX Construction; Maurer-Stutz, Inc.; Ag Resources Management; and Southern Minnesota Agricultural Services.

Excellent resources and educational materials on this subject can be found on the IMMAG – Iowa Manure Management Action group website.

<http://www.agronext.iastate.edu/immag/smallfeedlotsdairy.html>

Excellent educational videos can be found at:

<http://www.agronext.iastate.edu/immag/manurevideos.html>