

Using Engaged Teaching Methods to Help Livestock Producers Implement Emergency Spill Response

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Summary and Implications

The use of engagement teaching and learning methods was employed as an alternative method to teach decision-making and implementing emergency spill response plans in contrast to traditional lecture. By offering participatory learning, producers can refine and hone decision-making skills, and measure responses against peers and an expert panel. Conversations become two-way and not traditional lecturer and listener. The attendees also have the chance to discuss and exchange ideas with fellow attendees. The implications are a better-prepared audience to deal with emergency response to manure spills and furthermore to protect surface waters.

Introduction

Environmental groups are closely reviewing manure spill investigation reports on file with the Iowa Department of Natural Resources (DNR). Iowa law requires that manure spills, regardless of amount, are to be reported to DNR within 6 hours of onset or discovery. Manure spills can have a potential environmental impact if manure reaches surface water sources such as streams. The impact to the stream can vary significantly based on current conditions of the water quality, amount of manure reaching the stream, stream flow, fish and aquatic life present, and designated use (if any) of the stream. Because of the increased scrutiny of manure management practices and potential impact on water sources, it is important that livestock producers and manure applicators are well-equipped to; 1) prevent manure spills from happening 2) to respond to manure spills in a time-sensitive, safe, and environmentally sound manner; and 3) provide appropriate clean-up and mitigation procedures.

Materials and Methods

A group of Extension professionals, regulatory staff and farmer-representatives was convened as panel of experts to create a manure spill scenario based on previous manure spill incidents. The group identified a list of 12 action items confinement site manure applicators could rank in terms of most important to least important to respond to the manure spill. A collection of accompanying photos was also organized so workshop participants could have visual keys regarding the manure spill scenario. This exercise was completed at statewide confinement site

applicator workshops in January and February 2014 as part of the mandated 2 hours of required training.

Confinement site MAC participants were offered the opportunity to complete the exercise on their own or in groups depending on number of attendees at each workshop or at the discretion of the meeting facilitator. Each participant was handed a sheet that described a manure spill and contained 12 action items they were asked to rank from the most important to the least important as steps to respond to this on-going manure spill. A PowerPoint presentation with photos of manure spill scenes was played while participants ranked action items to assist them in visualizing the manure spill described in the scenario. After completing the initial ranking, participants reviewed answers with colleagues and Extension staff to compare against results from the expert panel who developed the exercise and answer sheet. The goal was not to have participants achieve 100% correct answers, but get them to open up for discussion and ideas on how to address this manure spill scenario. Workshop facilitators were also provided talking points as to why the 12 action items were ranked as such by the expert panel.

Results and Discussion

A total of 1,047 confinement site applicators attended certification workshop in January/February 2014 and completed the evaluation. The results of the end of meeting survey are as follows.

- 51% of participants rated the exercise on the manure spill scenario as excellent; 43% rated it as good; 2% as fair; less than 1% poor and 3% did not respond.
- When asked how useful this exercise was in helping applicators think through priorities in a manure spill situation, 3% reported not useful; 36% said somewhat useful; 60% said very useful and 1% did not respond.
- When asked how useful this exercise was in helping applicators determine if they need to develop an emergency action plan, 3% said not useful; 37% somewhat useful; and 58% reported very useful; 2% did not respond.
- When participants were asked if they would be developing an emergency manure spill action plan, 48% responded they already have an emergency action plan; 40% said they plan to develop a plan; 7% said it was not applicable; <1% said they need more information; and 4% did not respond.

We received 52 comments directed at the manure spill response scenario. Specific comments about the manure spill exercise included “good exercise”, “makes you think” and “the spill exercise was an eye opener and a good piece

of information”. Some participants recognized the situation could be different for each manure spill so they commented on how they might approach different scenarios. Comments from extension professionals who facilitated the workshops included statements like “I have been doing these meetings for years and seeing some of the same folks for many years. In the past, some of these people did not say anything at meetings, but this exercise had everyone engaged and talking.”

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