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Coupling Safety And Profit In Dairy Farming: An Intervention In A High Hazard Industry

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Broad Importance of the Problem: When production practices which are marginally more efficient and relatively easy to adopt become available, previous research shows that many if not most firm managers are likely to adopt them, given adequate information flow and sufficient time. Practices that are both more efficient and safer are especially interesting for high hazard industries such as production agriculture and may be useful as supplements to, but not substitutes, for regulation.

Purpose: Dairy farming work is hazardous. Injury rates exceed averages for production agriculture, which as a whole, exceeds averages for all industries. Long day barn lighting, bag silos for cattle feed storage, and a site for distributing calf feed are more profitable practices that can reduce exposures to injury hazards. We investigated whether improving information flow to managers could persuade them to adopt these three practices.

Methods: The intervention disseminated information about the three practices through all the information channels that the 4,300 dairy managers in Northeast Wisconsin were known to rely on for learning about new production practices (print media, other farmers, public events, etc.). We evaluated the treatment group at baseline and after each intervention year with rolling, independent samples. We added an “exposed control” group of Maryland dairy farmers to the evaluation after the second year of the intervention who were likely to be exposed to the same print media but not other intervention components.

Findings: Questionnaire results after five years of the intervention showed that, compared to the baseline, more Northeast Wisconsin dairy farmers reported adopting bag silos and barn lights. More reported being aware of barn lights and the calf feed mixing site. However, there were no differences after five intervention years for adoption or awareness between the Northeast Wisconsin dairy farmers and the Maryland controls.

How the Findings Advance the Particular Research Field: This work was innovative because the intervention successfully:

- promoted engineering controls by substituting safer practices that were also more profitable,
- intervened with a relatively large, region-wide subject population made up of thousands of operations,
- utilized the full range of existing information channels farmers traditionally pay attention to,
- evaluated the intervention at baseline and after each year over a multi-year time frame,

How the Findings Can Improve Workplace Safety and Health: In most industries, there are many managers who continue to rely on “older” production methods despite the ready availability of less costly, less hazardous practices. Often, what appears to stand in the way is a lack of manager awareness about the existence, value, and ease of use of the improved practices, at least in part attributable to the absence of convincing, comprehensive, and well-targeted information dissemination. This research provides evidence that better information flow is associated with rapid, widespread adoption of practices that combine productivity improvement with improved occupational safety. Funding from NIOSH supported this research.

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