Biosecurity Messaging:
What do the recipients of our messages think?

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Preventing animal disease prevents associated mortalities having to cope with disposal. Because of this sequence of events, every government agency dealing with animal agriculture and every land grant university Cooperative Extension website has messages about reducing risks for foreign animal disease agents on farms. The purpose of this presentation is to combine the results of three studies and highlight what we learned about what we say, how we say it, and what our producer constituents’ think of and do with our messages about biosecurity. One study examined every US state department of agriculture, cooperative extension and government agency website materials for biosecurity recommendations for all agricultural animal species. The second study looked at a biosecurity risk assessment tool and tested it on large dairy farms. The third study examined replacement animal purchasing practices and inherent risks associated with them, what producers do with test information and their subsequent biosecurity practices. Examination of biosecurity recommendations across the US showed differences in the messages in both content and extent. The biosecurity assessment tool revealed risky practices on some large dairy farms but little desire to make changes. When given results of endemic disease test results from purchased cattle, producers would make few changes to their cattle purchasing practices despite diseases found. Mixed messages, risk perception and competing priorities can thwart our biosecurity messages’ intent.
Biosecurity messaging: What do recipients of our messages think?

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Acknowledgements

Purpose

Preventing animal disease prevents associated mortalities and having to cope with disposal. Because of this sequence of events, every government agency dealing with animal agriculture and every land grant university Cooperative Extension website has messages about reducing risks for foreign animal disease agents on farms. The purpose of this presentation is to combine the results of three studies and highlight what we learned about what we say, how we say it, and what our producer constituents think of and do with our messages about biosecurity.

Results

(1) Biosecurity recommendations in web educational materials differed by source (i.e. national organization, university extension or state departments of agriculture). Differences in recommendations within animal species and classes such as extent of recommendations provided (i.e. how rigorous and whether a specific practice was even included. Specific recommendations not weighted by importance

(2) Biosecurity assessment tested on 40 large dairy farms by 7 extension educators revealed risky practices but little desire to make changes.

- Most farms had >19 visitors per week but no visitor protocol
- Most (92%) had no signage restricting farm entry
- 80% had no footbaths or footwear for visitors
- 58% of farms had animals that left and re-entered herd, only 25% had isolation facilities for new/returning stock, 80% had no isolation period and just 10% tested new arrivals.
- After assessment and recommendations: Many producers did not see value in recommendations, felt comfortable with current program, and did not feel need to make changes based on results.

Several would consider changes only if they “had a problem.”

(3) Pre-purchase survey: little testing done, most did not isolate new arrivals. Testing purchased cattle – 382 newly-purchased dairy cattle tested within 1 week of arrival for a variety of endemic diseases. One-third positive for Bovine Leukosis Virus. When given results of endemic disease test results from purchased cattle, producers would make few changes to cattle purchasing practices despite diseases found. Decisions about positive animals were variable from keeping animals to not removing them. Most would not have purchased if they knew they were infected. Some made their own decisions about infected animals, some asked their veterinarian for advice.

Approach

To address biosecurity educational needs of livestock producers a multi-staged approach was taken to understand the biosecurity messages they receive, their response to those messages, and what they do with farm-specific biosecurity information.

(1) Literature review compared published recommendations on biosecurity practices for various production animal species and classes. Web sites for national producer organizations, university cooperative extension, and state departments of agriculture searched to identify educational materials with biosecurity recommendations.

(2) Implemented, assessed and refined a biological risk management survey for use on large western United States dairy farms. Assessment tools developed by Iowa State University were refined using a focus group process and then testing questions on 40 dairy herds in California. Each question evaluated using standard criteria and producer responses. Extension educators surveyed after each assessment for feedback on assessment process.

(3) Pre-purchase survey, Tested purchased cattle for important endemic disease and Post test-results survey of dairy producers purchasing replacement cattle. Producers surveyed to understand what they would do with test information and if they would change testing practices.

Acknowledgements

Projects supported by: (1) The FAZTO Center; (2) CA Dept. Food and Agriculture, and (3) The UC Agriculture and Natural Resources Core Issues Grants Program

Discussion & Conclusion

Assessment of risk is considered the first step to making change. But even with a farm-specific assessment, risky practices are likely to go unchanged because the consequences of lax biosecurity are not always obvious nor immediate. And, even in the face of disease test-results, producers indicated they would not have purchased had they known cattle were positive for disease but most would not change their testing policy.

Inconsistent and often conflicting biosecurity messages - “mixed messages” - can lead to confusion which leads to inaction or inability to change.

Questions to consider when creating biosecurity recommendations include what aspects of a farm can producers reasonably secure and what costs and benefits can be associated with securing a farm? Recommendations provided to producers should be predicated on specific risks associated with specific species raised, potential severity of disease threats, and location and operation of the farm or ranch. Some practices need additional empirical evidence.

The degree to which precautions are taken will vary depending on the threat level, with more precautions taken during a disease outbreak.

Mixed messages, risk perception and competing priorities can thwart our biosecurity messages’ intent.

Biosecurity Practices Recommended for Cattle Preemises

- Know the health history of herd from which cattle are purchased
- Know the health status of animals arriving to the farm
- Never purchase unvaccinated animals
- Never buy mixed-origin cattle
- Transport animals in clean vehicles
- Have a control program for rodents and birds that could spread disease
- Load and unload animals and supplies at perimeter of farm
- Provide isolated pick-up area for rendering trucks
- Limit number of visitors with access to cattle pens
- Keep a visitor record

Adapted from Buhman et al. 2000

References


Special Report

Comparison of published recommendations regarding biosecurity practices for various production animal species and classes

I. Introduction

