PROTECTING HERD HEALTH
An Animal Disease Biosecurity Coordinated Agricultural Project

Opening the Door for Risk Communication About Biosecurity

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Risk communication, simply put, is the exchange of information about risks. What are risks? In common parlance (according to the Oxford English Dictionary), risk means "(exposure to) the possibility of loss, injury, or other adverse or unwelcome circumstance; a chance or situation involving such a possibility." Risk refers to the uncertainty of danger, hazard, or exposure to peril that we face every day (Adams, 1995). Helping people understand risks and ramp up or tone down their reaction to risk is often the goal of risk communicators (Sandman, 1994). At its best, risk communication is "An open, two-way exchange of information and opinion about risk leading to better understanding and better risk management decisions" (Army Corps of Engineers, 2012). Risk communication is a dialog.

Having recognized the weaknesses of one-way risk communication, the National Research Council (NRC) in 1989 published a ground-breaking book, *Improving Risk Communication*. The NRC (p. 21) proposed that risk communication involves understanding the reaction to risk messages and how risk management is structured, in addition to communicating about the risk itself. Risk communication so defined inherently involves multiple messages. There may be several parties making competing claims about a risk. In this situation risk messages are addressing both uncertainty—by sharing and assessing available evidence—and ambiguity—by promoting a particular interpretation of the evidence. Competing interests will naturally lead to competing risk messages and confusion among laypersons. The solution is more communication, not less.

The terms risk and crisis communication are often used interchangeably. However, the point of risk communication is to avoid crises. Risk communication is forward-looking in that it identifies, in advance, situations where decision-making is required in the face of uncertainty. Ideally, the application of effective risk communication will prevent crises because stakeholders have already developed an understanding of the best way to respond in such situations. In contrast, crisis or emergency risk communication comes into play in the face of a disaster and its aftermath.

> *"Risk communication identifies, in advance, situations where decision-making is required in the face of uncertainty."*

To practice effective risk communication one must first have a clear understanding of who the stakeholders are for a given risk. Stakeholders in this context are best viewed as anyone or any group of persons whose lives could be affected by a given risk (p. 5, Sellnow et al., 2009). Involving stakeholders in a dialog is the second key element of effective risk communication. Patience and skill in relationship building, consensus-building, and conflict resolution are necessary qualities of effective risk communicators. Risk communication involves awareness of and consideration for the differences between "expert" views and "layperson" concerns.

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At the April 2015 Animal Disease Biosecurity Coordinated Agricultural Project (ADB-CAP) team meeting Robert Littlefield, a risk communication expert, noted the need to help move people beyond seeing the problem only from their circle of influence.

"It would seem that the people who are most aware of what's going on in the world . . . - the experts -- have the biggest picture of what's going on, and the individual stakeholders will have the 'closest to themselves' picture of what's going on. . . . as we go individual, family, community, nation, world, we [up here] are concerned with what's going on in the world, so we talk about all these major issues. But . . . the most vulnerable are going to be concerned about what's happening to ME and my family. That's where education comes up; we try then to move them out away from self, to bigger spheres, so they are thinking about what's going on in the community, or in the nation, or in the world."

> *"Stakeholders are best viewed as anyone or any group of persons whose lives could be affected by a given risk."*

The work of the ADB-CAP grant-funded project team will shed light on the differences in perceptions between "expert" and "layperson" animal food production chain stakeholders regarding both the need for and level of measures taken to reduce the likelihood of the introduction of a new disease or pest into the system and help all stakeholders engage in more productive conversations about risk. Please read on to learn about recent project team activities and new team members.

Additional Reading and References:

Oxford English Dictionary (OED). http://www.oed.com/view/Entry/166306?rskey=Rcq4wH&result=1#eid (accessed August 16, 2013)

Adams, J. (1995) *Risk*. New York: Routledge.

Sandman, P. (1994) Risk communication In Encyclopedia of the Environment (Ruth A. Eblen and William R Eblen, eds.) Boston, MA: Houghton Mifflin, pp. 620-623.

Army Corps of Engineers. http://corpsriskanalysisgateway.us/riskcommunication.cfm (revised November 30, 2012; accessed August 16, 2013)

National Research Council (1989). *Improving risk communication*. Washington, D.C.: National Academy Press, p. 21.

Sellnow, T. L, Ulmer, R. R., Seeger, M. W., & Littlefield, R. S. (2009) *Effective risk communication: A message-centered ap-*

Snapshots From the April Meeting

Members of the project team visited the Kuner feedyard in Kersey, CO, where Brett Ulrich shared the history of the yard, improvements made to benefit the environment and the animals, and how the cattle flow through the system.

Team members Serge Wiltshire Dr. Asim Zia and Dr. Chris Koliba.

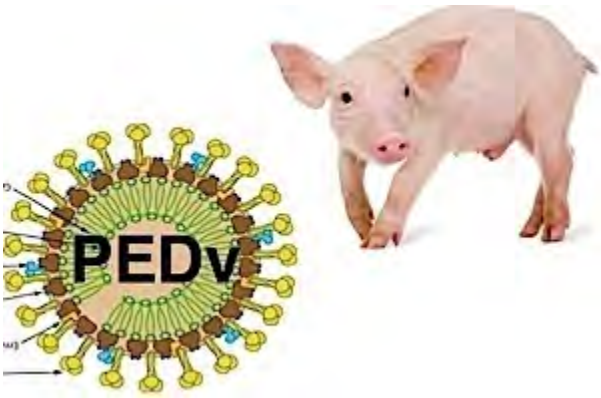
The Kuner feedyard , toured by several project team members.

Dr. Julie Smith discusses work plans and project timelines.

Team members Dr. Tim Sellnow and Tommy Bass listen to Brett speak.

Update from the Risk Communication Team

"This is a tenacious virus," is how one swine expert characterized PEDv. Beginning in May of 2013, United State swine producers grappled with the extremely virulent virus. Agencies such as the National Pork board, the National Pork Producers Council, the American Association of Swine Veterinarians, USDA-APHIS, and a consortium of state veterinarians raced to complete the research needed to provide expedient risk communication to producers. Although PEDv was disruptive and costly, these unified research and communication efforts were effective in helping to manage the outbreak.



A team of researchers for ADB-CAP, headed by Tim Sellnow and Jason Parker, is studying this risk communication response to PEDv in an effort to glean lessons learned. The hope is that these lessons will be generalizable to preparing for and managing future outbreaks. They have completed interviews with experts from the agencies mentioned above as well as representatives from the states with the highest pork production. Although they are still working with their team to analyze the interview data, several consistent themes are apparent.

One theme involves the collaborative commitment of the relevant agencies to rapidly translate laboratory research into tangible recommendations for producers. Data was translated and communicated to a vast network of pork producers on a weekly and sometimes daily basis. Although this pace was exhausting for many, the flow of information helped the industry recover from the uncertainty at the onset of the outbreak to the development of intensified biosecurity measures that could curtail the disease's spread.

Another clear theme is that the existing biosecurity measures in the swine industry provided a firm foundation for the adaptive responses recommended to producers. Communication networks, crisis plans, and diagnostic resources in place for preventing or managing such diseases such as food-and-mouth disease (FMD) expedited the industry's response.

A third important theme emphasizes the entrepreneurial capacity of producers. Many interviewees complimented producers for their dedication to responding immediately with resourceful adaptations of their biosecurity plans. Producers also helped themselves by adapting and applying existing communication networks to share information

Branding Update

You might've noticed the new "look" we are debuting in this newsletter. We are continuing to work on establishing our brand and we would appreciate your input. We have also starting building our project website. Team members have been getting emails from our website builder, Max Kuchenreuther, about the content management system, SharePoint. This system will allow us to share project-specific content and more easily facilitate collaboration.

You can visit our in-progress at website at:
https://communication.cos.ucf.edu/adb-cap/
Please send your comments and constructive criticism to Morgan at m.getchell@moreheadstate.edu or Max at maxwellk@knights.ucf.edu

Welcome Newest Team Members

Rebecca Sero is the Evaluation Specialist for Washington State University Extension. In this position, Rebecca leads a statewide evaluation effort for WSU Extension and is responsible for increasing WSU Extension's capacity to assess the effectiveness and efficiency of its programs and services. Primarily, Rebecca works closely with teams to conuct periodic, focused evaluations of major WSU Extension programs. Additionally, she also develops and disseminates evaluation best practices and tools for use by Extension educators and develops evaluation-related professional development opportunities. Rebecca will be overseeing the evaluation of the learning objects created through ADB-CAP team efforts. For additional information, please visit her website at http://ppe.cw.wsu.edu

Linden Higgins is an educational consultant with over two decades experience in teaching biology at the high school and college level. Her passion for teaching focuses on getting students to think and make their own meaning, rather than repeat factual content they find elsewhere. A firm believer in structuring classes to create safe environments for intellectual exploration and risk-taking, she enjoys working with others to help them find their own path to understanding. As a professor at the University of Vermont her work focuses on the interface of ecology, evolution, and behavior, using a broadly-distributed spider to study how populations of this species persist in very different habitats with little obvious morphological differentiation. Linden will be evaluating the overall project trajectory and establishing a plan for impact evaluation.

Gabriela Bucini is joining the Social Ecological Gaming and Simulation Laboratory as a Post-Doctoral Research Fellow at the University of Vermont. Gabriela's primary interests are in quantitative ecology where she applies her computing skills (including the R programming language) to spatial-temporal data. Dr. Bucini is from Italy and received her Ph.D. in Ecology in 2010 from Colorado State University. Most recently, she was a Post-Doctoral Research Associate with Dr. Brian Beckage (University of Vermont) working on projects including the temporal and spatial dynamics of tree composition in the Everglades of Florida and models of climate prediction in the Northeastern US. With the ADB-CAP team, Dr. Bucini will be developing agent-based models depicting US hoofstock industries and integrating experimental gaming data into these models.

Collaborating Institutions

Our team is comprised of people from many great universities and organizations!

The University of Vermont

Kansas State University

Iowa State University

University of Central Florida

Washington State University

Montana State University

USDA

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