UNIVERSITY OF VERMONT EXTENSION

Project Update Winter 2010

CULTIVATING HEALTHY COMMUNITIES

AFRI Biosecurity Project

Costs and Challenges Associated with Developing and Implementing a Community-Wide Biosecurity Plan

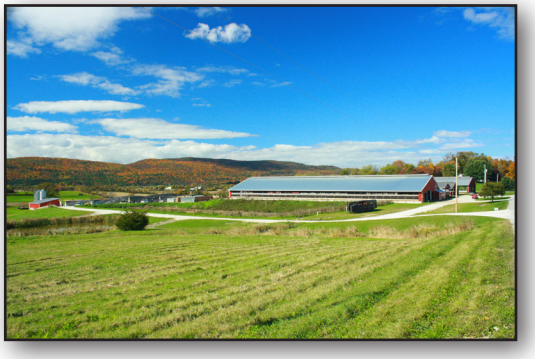
A Hypothetically *Possible* Scenario

It's Columbus Day Weekend. "Peepers" are everywhere. Maple syrup, cheese and Woody Jackson prints fly off the shelves. The Inn is sold out. Maplefields and Champlain Farms are benefiting from extra gasoline sales. Second homers are here, too, buying Vermont-made pottery and furniture. Some look at a Vermont college for the kids. Others buy ATVs, snow machines, and firewood from Vermont dealers.

Suppose next year no one came? No traffic jams on Columbus Day weekend; no out of state hunters in November; perhaps even no skiers at Christmas. A day you never thought possible has arrived. The Inn is deserted. The guests who provide the money to fuel our economy have heard about a crisis on Vermont farms, a disease some fear could affect the food supply, and they've heard it's caused by something no one can see or detect. They stay away.

Yes, that scenario could happen as a result of an agricultural bio-disaster resulting from a fast moving disease affecting Vermont's hallmark farm animals. The effects would be long lasting and felt by just about everyone in the local community. That is why the title of the project being conducted in Addison County uses the words "challenges", "costs" and "community-wide".

Unlike a retail shop or factory, which can be shut down to weather a storm or power interruption, Vermont farms are 24/7/365 operations that can not easily be "powered down". Each farm requires animal feed, supplies, repairs and a way to move perishable milk to processors. Safely providing for each of these during what could be a protracted emergency would be a huge challenge for continuity of business.



Addison County, VT. Photo by Louis Bedor III

Vermont farmers would shoulder the bulk of the burden of protecting their animals until all threat of disease was eliminated. Imagine having to erect a protective curtain – a biologically secure ring – around a herd of cows or large flock of sheep. The farm landscape would change overnight. A drive down a Vermont country road would pass farms hidden behind physical barriers and elaborate disinfection stations designed to keep an undetectable enemy at bay.

Vermont farmers would need help and understanding from their neighbors and the greater community. Fearful of bringing disease home, farm families might be scarce at church services, little league games and pancake suppers. A group of farmers might ask the Selectmen to close or restrict traffic on back roads to cut down chance exposure to disease. The Town truck and loader could be pressed into service to shuttle disease-free feed or supplies to local farms.

If a disease emergency ever threatens Vermont's farm-scape, we all need to be ready to undertake the monumental community effort required to protect it. To do otherwise would mean our fabled Vermont landscape dotted with pastoral scenes of contented cows and sheep, our way of life and our economy would be changed forever.

CVPS COW POWER

Our guest speaker at this meeting was David Dunn, Manager of Renewables at Central Vermont Public Service Corporation (CVPS).

The CVPS Cow Power™ program and its dairy farm partners have encouraged thousands of people from around the world to visit their farms. Visitors are treated to an inside view of quality food and renewable energy production in Vermont. Many, for the first time, learn where dairy products come from while learning about the solar source of energy that sustains the animals, our food supply, and the Cow Power system.

The Cow Power program is synonymous with the local foods movement, Community Supported Agriculture, or CSA. Nearly 4,000 CVPS customers select Cow Power as their preferred source of local electric supply.

Enroll today!

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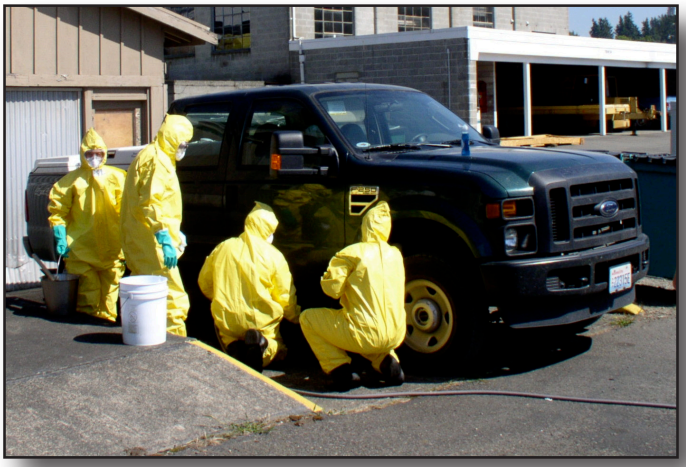
What Would You Do?

Gauging concern about the threat of a highly contagious disease was the purpose of interviews conducted early to mid-November 2010. Specifically, we wanted to learn about farmers' and stakeholders' concerns as well as their likely responses to a series of hypothetical scenarios. A series of 4 scenarios was developed by Dr. Steve Van Wie and Dr. Julie Smith. The scenarios depicted the spread of foot-and-mouth disease or FMD from the day 1 breaking news announcement of a confirmed case of FMD on a dairy farm in California to the day 10 news announcement of two confirmed cases of FMD near the western border of Vermont.

Fourteen interviews were conducted by project team member Dr. Ellen Rowe, UVM Extension Community and Leadership Development Specialist. Interview participants included the project's 4 case farms, representatives of other area farms, agricultural allied industries and community officials. Interviews consisted of 4 questions that were asked after Dr. Rowe shared each of 4 scenarios. The 4 questions were:

- What would a dairy farmer do (or what would we expect them to do) based on the information provided in the scenario?
- Why would the dairy farmer take those actions (or why would we expect them to take those actions)?
- Who would they contact for advice and support in carrying out the actions?
- What would they anticipate others (other farmers, allied industry reps and community officials) to do in response to the scenario?

Preliminary results of the interviews shared at the AFRI Stakeholder Meeting on Friday, December 10th, focused on the early interventions that the dairy farmer respondents might take after hearing news of FMD confirmed in California (scenario 1) and subsequent unconfirmed cases in Ohio (scenario 2). Action-oriented responses included: limiting access to the farm property with no unnecessary traffic onto the farm; setting up a disinfection station; redoubling efforts to check the herd for signs of FMD; pulling pasture animals into the home farm; and restricting travel to others farms. Less proactive responses included: monitoring traffic by the farm, noting unknown cattle trailers; talking with the farm veterinarian; contacting the dairy cooperative about alternative plan for milk pick up; and "wait and see" as the threat is far away. Responses from the allied industry representatives and community officials closely mirrored those of the dairy farmers.



Thorough cleaning and disinfection of vehicles was demonstrated at a Washington state exercise held in 2006. Photo by Steve Van Wie.

Respondents were asked who they anticipate dairy farmers would call for advice and support in making decisions on how to address the FMD threat. All respondent groups identified the farm vet and State Vet as the most likely individuals to contact for advice and support. USDA and State Department of Agriculture were the next most likely group identified followed closely by UVM Extension and Dr. Julie Smith.

When dairy farmers were asked what actions they expected allied industry personnel and community officials to take in response to the scenarios, they could readily identify actions for the industry to initiate like: ratcheting up the alert level; voluntary disinfection of trucks before and after farm visits; and basic warnings to the agricultural community. They had very limited expectations for the role of community officials faced with this threat.

Community officials themselves had limited ideas of their roles. When asked what actions they would take in response to the early scenarios, their responses included: working to get information on actions we may need to take; continue conversation with farmers in my community/resource for information and referral; limited involvement; answering questions if I'm able; "let sleeping dogs lie"; and "nothing". Dr. Rowe anticipated a more proactive role for community officials if a highly contagious disease threatened their communities.

AFRI Project Team Contact Information

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Program Logic Model

To help you see the connection between project activities and objectives, we are sharing the program logic model which was submitted as part of the proposal requesting funding for this project. Project steps (activites and outputs) are connected to anticipated changes in knowledge, behavior, and conditions (outcomes) as shown in the boxes below.

Project Goal: To facilitate the implementation of biosecurity practices designed to mitigate the consequences of introduction of a highly contagious disease of cattle into the US.

Assumptions (which form basis for project objectives):

- Community support is needed to enforce strict biosecurity measures for farms
- Cost-benefit analysis is needed to guide development of community-supported emergency biosecurity protocols
- Tools, incentives and support networks are needed to facilitate changes in biosecurity practices and planning by individuals and communities
- Survey responses will be representative of Vermont and northeast agriculture

Activities	Outputs	Knowledge	Actions	Conditions
Develop planning scenarios and biosecurity plans; create educational videos and materials	"Model" biosecurity plans for use in highly contagious animal disease emergency	Dairy producers and local emergency responders will know what resources are needed to implement strict biosecurity	Local emergency operations plans will list resources needed for biosecurity	
Use case farms to estimate costs of implementing biosecurity plans and demonstrate protocols; Conduct cost-benefit analyses	Cost-benefit and sensitivity analyses of these plans			Dairy producers and community responders will be willing and ready to implement strict biosecurity in the event of a highly contagious disease event
Develop and conduct survey to evaluate current understanding of and preparedness for highly contagious disease threat	Report on perception of risk and incentives identified to promote adoption of strict biosecurity	Dairy industry and stakeholders will identify what incentives are necessary to facilitate adoption of strict biosecurity	Cooperative members will introduce resolutions to support incentives for biosecurity	
Use survey methods and collaborative processes to identify potential incentives or support that would facilitate adoption of emergency measures				The potential consequences of a highly contagious animal disease event will be reduced by adoption of biosecurity measures
Conduct contact recall challenge and record-keeping project	Record-keeping systems for dairy farm contacts (one size does not fit all)	Dairy farmers will recognize need to record farm contacts	Dairy producers will control or keep track of vehicles and personnel entering (and leaving) farm premises	

External factors (If these do not hold true, project will suffer):

- Qualified personnel will be available to conduct and evaluate surveys and perform other field work
- Other disaster will not interfere with project progress
- Economic status of local dairy industry will not affect willingness to participate

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Preparing Vermont to Survive an Animal Emergency

Find out more by visiting our blog: http://blog.uvm.edu/jmsmith/

Situation

- Modern livestock systems are vulnerable to the introduction and spread of highly contagious (foreign or emerging) diseases. People, animals and animal products from around the world enter the US routinely (some illegally). Livestock, milk, meat and dairy products are often moved long-distances and interstate from farm to market. These movements could facilitate the accidental or intentional introduction and spread of a high consequence disease. Vermont has 2 counties in the top 50 for US dairy production, routinely imports livestock from other states, and relies on inter state movement of milk and milk products.
- Diseases of animals and diseases that can be transferred from animal to people (zoonoses) are potential bioterrorism threats. Five out of 5 diseases on the Center for Disease Control's high consequence bio-terror threat list (Category A) are zoonotic.
- The level of biosecurity routinely practiced in light of diseases already present in this country might not be adequate to prevent introduction of high consequence foreign or emerging disease pathogens. Pathogens with multiple means of transmission, especially those that spread easily on boots, equipment, or vehicles moving from farm to farm, are particularly difficult to prevent and control.
- Producers are unwilling to prepare for a highly contagious animal disease event. Producer responses such as, "That is so unlikely, why bother" or "The USDA has a plan" reveal a gap in understanding risk and the role of individual producers in mitigating the risk posed by an animal disease emergency.
- Community emergency management personnel in many parts of the country do not understand their role in a highly contagious disease response. A contagious animal disease is rarely considered among potential threats when developing local "all-hazards" plans and identifying resources.