

Secretary's Advisory Committee on Animal Health FY 2016 Recommendations

Foot and Mouth Disease (FMD)

The Secretary's Advisory Committee on Animal Health (Committee) urges that United States Department of Agriculture (USDA) make funding for a functional FMD vaccine bank a top priority. The work that has been done to develop the Foreign Animal Disease Preparedness and Response Plan (FAD Prep) and the Secure Food Supply Plans depends on an adequate vaccine bank except in the unlikely event of a small, focal outbreak amenable to stamping-out¹. The government should explore all sources of funding, but should not depend on industry funding unless a plan for equitable funding and equitable and prompt access to the vaccine is developed. Waiting for additional funding through additional mechanisms added in the next farm bill authorization and appropriation does not address the urgency of this situation.

Recommendations

1. The Committee believes that it is vital to address the lack of vaccine capacity. In relation to this issue:
 - A. USDA should expand its planned call for information to seek information on a vaccine bank that would cover all 23 strains and up to 40 million doses of surge capacity.
 - B. USDA should evaluate the costs and efficiency of storing the vaccine bank at Plum Island Animal Disease Center (PIADC) versus off shore at a manufacturer.
 - C. USDA should plan to activate the vaccine bank immediately, on the first day that an FMD outbreak is identified and serotyped, without waiting to try to determine the scope of the outbreak.
 - D. Producers should not be expected to pay for the production of the initial vaccine bank; however, USDA should explore the option of charging user fees if and when the vaccine is used.
 - E. USDA should ensure that there is a sufficient veterinary stockpile (needles syringes, portable chutes, truck washes, and other equipment) and human resources to administer the vaccine on a large scale.
 - F. USDA should work with veterinary associations and other stakeholders to address how a vaccine would be distributed and administered, given the large number of animals who may need to be vaccinated quickly in case of an outbreak.

¹ Stamping-out is defined in the OIE Terrestrial Animal Health Code as the "Killing of animals which are affected and those suspected of being affected in the herd and, where appropriate, those in other herds which have been exposed to infection by direct animal to animal contact, or by indirect contact with the causal pathogen; this includes all susceptible animals, vaccinated or unvaccinated, on infected establishments".

2. Response plans should maximize the preservation of valuable genetic and protein sources through mitigation of the impact of an outbreak, should one occur before the vaccine bank is fully functional:
 - A. Incident Command should prioritize actions that will minimize the spread of the disease, utilizing the concepts laid out on the secure food supply plans.
 - B. The USDA Animal and Plant Health Inspection Service (Agency) should consider allowing the slaughter of animals in exposed areas in processing plants.
 - i. The Agency should assess:
 - 1) Whether there is sufficient information on the risks of transmission through muscle meat in the susceptible species;
 - 2) The inactivation temperature of the virus and whether normal rendering procedures are sufficient to prevent transmission; and
 - 3) The measures necessary to avoid the spread of the virus while the animals are transported from the farm to the processors.
 - ii. If there is insufficient information to properly assess the risks at this time, the Agency should work with stakeholders to fill those gaps.
 - C. The Agency should identify and implement the measures necessary to allow laboratories to electronically message both positive and negative results to appropriate state and federal agencies. The Agency should identify and implement the measures necessary to ensure that both positive and negative results are communicated to the producer and/or attending veterinarian in an appropriate timeframe.
 - D. The Agency should work with responders and stakeholder to prepare for control and response activities necessary in an outbreak.
 - i. The Agency should work with states to determine the human resources necessary for vaccination, depopulation, disinfection and other control activities.
 - ii. The Agency should work with stakeholders to ensure that emergency response plans address issues such as personnel, public safety, traffic control, and equipment to handle the animals, and other logistical challenges to both vaccination and animal movement during an outbreak.
 - iii. The human health and environmental impacts of disposing of euthanized animals will differ based on factors such as the water table, soil types, etc. USDA should work with state agencies and private stakeholders to determine what disposal options would be available in each region and work with emergency managers to create and identify locations locally and have the appropriate Agency permitting in place, if possible.
 - iv. Options for the preservation of valuable genetics and germplasm should be explored.

- v. Mental health of farmers, veterinarians, vaccine or euthanasia teams, disinfection teams and local residents should be addressed. USDA should reach out to state, local and federal agencies with expertise and resources to address these issues.
- E. The Agency should consider welfare of animals on both infected and uninfected farms through:
- i. Working with stakeholders to develop plans for providing feed to animals – both susceptible and non-susceptible – in case of a stop movement order.
 - ii. Making use of humane methods a top priority if stamping out is practiced.
 - iii. Identifying measures producers can take to reduce the severity of the disease in infected animals in case a large-scale outbreak occurs before widespread vaccination is an option. The Agency should research both conventional and non-conventional animal health measures that would promote both animal welfare and continued agricultural production during an extended outbreak.
3. The Committee recommends that the USDA focus on prevention of FMD, including:
- A. The Agency should identify measures producers can take to prevent the spread of the disease, and provide education and outreach to producers on these options.
 - B. Consider facility design (e.g., extensive versus intensive), and the role this plays in the epidemiology of FMD, and its impact on how control measures are applied.
 - C. Prevent the importation of the disease with live animals or fresh livestock products.
 - D. Identify and educate producers on biosecurity measures.
 - E. Analyze recent animal disease outbreaks, such as the Porcine Epidemic Diarrhea (PED) outbreak in swine, to identify how viruses may be transmitted in different animal agricultural systems, and the steps that could be taken to reduce the risks of transmission.

FMD Vaccine Strategy

- 1. What animal or animal product movements should be subject to “stop movement” orders by State Officials or Federal Order at time zero of an outbreak?**
- 2. What animal or animal products should be allowed to move at time zero of an outbreak?**
- 3. What Secure Food Supply Plan is priority to implement?**
- 4. If vaccine is to be used, what priority for vaccine use? Suppressive vaccination strategy (e.g., control the outbreak in focal region) or protective vaccination strategy (e.g., protect breeding animals or milking cows) for vaccinate to live strategy?**
- 5. Does the Committee have any specific recommendations regarding the initial movement and control activities for an FMD outbreak?**

6. Does the Committee have any specific recommendations regarding the “USDA APHIS Classification of Phases and Types of a FMD Outbreak and Response”?

Recommendations

A. Questions 1 and 5

- i. The Committee believes it would be justified to stop new animal and product movements at time zero for the time it takes to type the outbreak and initiate the emergency plans and Secure Food Supply plans could be put into motion.
- ii. The Committee recommends that animals and animal products in transit should be sent to intended destination or returned to original premises
- iii. Since the state has authority over quarantine and stop movement, state plans and exercises should be developed and shared. USDA should facilitate coordination of state and stakeholder emergency planning.
- iv. The effectiveness of a response is tied to the ability to quickly find animals.

B. Question 2

- v. Animal and animal product movement should be considered within the context of the risk of moving such products.
- vi. Risk assessments have been done for some of the Secure Food Supply plans.

C. Question 3

- vii. The Committee believes that, in an outbreak situation, all of the Secure Food Supply plans would need to be implemented simultaneously and one should not be prioritized over another.

D. Question 4

- viii. The priority for vaccination should be the decision of the incident command to minimize expansion of the outbreak and preserve genetics and protein.
- ix. Vaccination strategy may be dependent on the volume of vaccine available.

E. Question 6

- x. The scenario of how to handle animals that are recovering prior to disposal or vaccination has not been addressed in the plan.
- xi. Immunologists need to determine how to handle animals that have been infected and recovering. Animal welfare concerns need to be considered even if the animals are no longer infectious and would not contribute to the spread of the outbreak.
- xii. All of the appropriate strategies listed in Type 2-5 rely on vaccination, and cannot be implemented without an adequate vaccine bank.

- xiii. Wildlife infection is not addressed in the phases and types document, and should be considered in the typing of the outbreak.

Chronic Wasting Disease Program

The Committee recommends that the USDA consider the impacts on free range cervids, hunting operations, and environmental interests in developing policies and programs addressing Chronic Wasting Disease (CWD) in farmed cervids. The appropriate state agencies with authority over the farmed cervids should be consulted in the program evaluation and, if appropriate, the program revision.

Recommendation:

- The Committee encourages the Agency to complete internal program evaluation and to take into consideration epidemiological information from positive herds to determine if necessary to revise or refine the control program.

One Health

Best methods to work with traditional and non-traditional Agency (APHIS) stakeholders

USDA requests that the Committee provide feedback on the following question: What are preferred methods of outreach to traditional industry and non-traditional stakeholders to both identify and address One Health issues of mutual concern?

Recommendations

1. One Health needs to fully incorporate public health, animal health (domestic and wildlife) and the environment. USDA needs to consider all of these aspects of One Health as they consider programs and activities, and develop working relationships with the other One Health stakeholders. The Committee recommends the following steps within the government:
 - A. The Agency should fulfill its animal health mandate by advocating for animal health in their interactions with these other stakeholders.
 - B. The Agency should use its expertise in animal health to promote the development of goals and objectives that are mutually beneficial for the producers and the agencies for any on-farm activities.
 - C. USDA should consider establishing a joint federal advisory committee that would advise Health and Human Services (HHS), Environmental Protection Agency (EPA), Department of Interior, and other USDA agencies on One Health issues.
 - D. USDA should actively engage the appropriate state, tribal, and federal agencies (e.g., public health, wildlife, and environment) in a regular One Health discussion about priorities and resources.
 - E. USDA should ensure that imported products are being held to the same standard as domestic producers on these issues, including providing support for inspections.
2. The One Health initiative, with USDA's interest in exploring non-regulatory approaches, provides a positive platform for developing communications and relationships with

producers. The Committee recommends the following actions to improve outreach to producers:

- A. Attend venues where non-traditional stakeholders are attending, including organic conferences and hobby producer events.
 - B. Identify entities and individuals who already have relationships and are trusted by producers (e.g., veterinarians and Extension agents) to act as liaisons. As part of this, the Agency could consider developing information pieces that are jointly branded with states, universities, or Extension.
 - C. Identify activities that provide value to the producer as well as promoting One Health initiatives.
 - D. Work with businesses, such as feed dealers and farm supply stores, to distribute information.
 - E. Work with national, state, species, specialty, and holistic veterinary medical associations to build communication channels.
 - F. Work through commodity groups' to communicate with conventional producers.
3. Emergency planning is a high priority for One Health activities.
 - A. Continue development and expansion of secure food supply plans.
 - B. Continue and expand emergency exercises in cooperation with state agencies, producers, and other stakeholders.
 4. The USDA should track and report progress on One Health issues both within the Agency and beyond.
 - A. Consider benchmarking progress on the concepts being incorporated by USDA via National Animal Health Monitoring Systems (NAHMS), e.g., nontraditional stakeholder outreach, One Health.
 - B. Identify educational initiatives that promote One Health concepts in medical schools, public health schools, veterinary schools, and environmental biology programs.
 5. The Cooperative Extension Service can play an important role in building awareness and improving communication channels with both producers and consumers. USDA should prioritize funding Extension and support measures to encourage state and county-level funding.

Scrapie Program

The Agency asked the Committee to provide recommendations on novel strategies for increasing producer and veterinarian submission of mature sheep/goats that die on-farm and mature sheep/goats that are slaughter on-farm and to develop strategies for increasing producer and veterinarian reporting of mature sheep/goats that have scrapie signs.

Recommendations:

1. To increase the submission of samples from mature sheep and goats that die on farm or are slaughtered on farm, the Committee recommends that USDA:

- a. Address producers' concerns in its messaging. Specifically, the Agency should clearly inform producers that there is a live test option; that if an animal is found to be positive, the Agency will offer free genetic testing of the whole herd and only selectively depopulate those animals who are susceptible to scrapie; and that the Agency will indemnify producers for depopulated animals at market rates.
 - b. Work with intermediaries, such as cooperative extension personnel and 4-H agents
 - c. Make it easier to obtain the shipping boxes. One option would be to send a box to producers when they obtain scrapie tags. If that is too expensive or infeasible, consider having boxes available at the county extension service, FSA, and/or NRCS offices.
 - d. Improve outreach to goat producers by (1) having informational booths, with shipping boxes available to hand out, at meetings and events for goat owners; and (2) submitting articles to relevant magazines, such as the Goat Rancher.
 - e. Identify options for communicating through social media, including in cooperation with Extension's E-extension site.
 - f. Provide benefits for certified flocks to encourage producers, such as by publishing a list of tested or certified flocks (with the producer's permission) so that buyers looking for tested stock would be able to identify them more easily.
2. To increase producer and vet reporting of mature animals that have scrapie signs, the Committee recommends that USDA:
- a. Clearly communicate with producers that there is an option for live animal testing, that USDA will pay for genetic testing for the rest of the flock if a positive animal is identified, and that there may be options to keep the animals under quarantine rather than depopulating.
 - b. Consider how to provide incentives for producers to do TSE testing, such as by providing routine nutritional testing at the same time (e.g., selenium, copper, and other elements) so that producers get a benefit from submitting the samples.
 - c. Improve communications with veterinarians to educate them on the scrapie program in general and particularly on the option for testing live animals.
 - d. Work with clinicians at veterinary schools to ensure that they are aware of how to do live animal tests and that the information is provided to the veterinary students.
 - e. Send the results of all tests to the producer and the producer's veterinarian.
 - f. Since few vets specialize in just small ruminants, target outreach through the State Veterinary Medical Associations and by identifying veterinarians who regularly submit small ruminant samples for other lab tests; the latter can be facilitated through the veterinary diagnostic laboratories.
 - g. Work with the state diagnostic labs to encourage producers and veterinarians to submit samples.

- h. Continue funding American Sheep Industry (ASI) Association to set up booths at small ruminant meetings and fairs.

Antimicrobial Resistance

The Agency asked for input from the Committee on the following questions:

1. **What are the Committee's priorities for USDA APHIS Veterinary Services involvement/action in the Global Health Security Agenda (GHS) and antimicrobial resistance (AMR)?**
2. **What are the Committee's suggestions for obtaining resources to implement USDA AMR Action Plan and GHS Action Packages?**
3. **What regulatory or non-regulatory approaches to animal health monitoring for AMR should USDA consider? For monitoring responsible use of the Veterinarian Feed Directive (VFD) as part of veterinary accreditation?**

Recommendations

The Committee recognizes that some of its recommendations are currently included in the USDA Antimicrobial Resistance (AMR) Action Plan and the National Action Plan, the recommendations below are the priorities that merit particular attention. Failure to fund the USDA AMR Plan severely limits resources for USDA to fully participate in the National Action Plan.

1. The Committee urges the USDA to advocate with Food and Drug Administration (FDA) to address the problems posed for minor use species, including sheep, goats, llamas, alpacas, aquatic species, honey bees, and others, by the new restrictions on feed through antibiotics outlined in the revised VFD rule.
2. The Committee recommends that the Agency identify existing information and conduct additional scientifically valid research on alternative preventive animal health measures.
 - a. These measures could include facility design, animal density, nutrition, and feed additives that reduce the need for antibiotics. Scientific research, and peer review of results, should be done to demonstrate if these measure are effective and justifiable.
 - b. The Agency should outreach to nontraditional segments of the agricultural industry to identify potential options.
 - c. The Agency should identify any potential AMR implications of these alternatives.
 - d. The Agency should educate producers on these alternatives.
3. The Committee urges the Agency to remain involved in the global AMR initiatives. The Agency needs to serve as a voice for American agricultural interests in the discussions. The Agency should also address the threat of AMR globally because of the threat of the global spread of anti-microbial-resistant bacteria and/or genes.

4. The Committee urges USDA to seek funding for this work from human health authorities rather than diverting funds from other USDA priorities in the current funding cycle. The Committee urges USDA to seek appropriations for this work in future funding cycles. USDA should also work with commodity groups to partner with and leverage existing programs and resources.
5. The Committee urges USDA to share the Committee's recommendations with the other stakeholders involved in the Combating Antibiotic Resistant Bacteria (CARB) National Action Plan.
6. As greater emphasis is placed on the role of veterinarians in ensuring responsible use of antibiotics, the problems posed by the lack of veterinarians in rural areas will become even greater. The Committee urges USDA to implement measures to promote loan forgiveness and recruitment of veterinarians in underserved areas and for minor use species.
7. USDA should continue research into the epidemiology of antimicrobial resistance, including understanding of transfer of resistance between animals and humans, and vice versa, including assessment of risk of such transfer.
8. USDA involvement in the measurement of antibiotic use data should be continued. Included in that effort should be discussion and development of meaningful metrics to report such data. Consider adding efforts to measure use in companion animals.