The following guidelines are being considered as an aid for rapid decision making to facilitate response planning and development of business continuity plans in the event of a foot and mouth disease (FMD) outbreak in the United States or North America:

**Introduction**

The size, structure, efficiency, and extensive movement inherent in the U.S. and North American livestock industries will present unprecedented challenges in the event of an FMD outbreak. Strategies for the response to, and management of, a FMD outbreak will change as the outbreak progresses and will depend upon the magnitude, location and other characteristics of the outbreak. At the beginning of an outbreak, or with a small outbreak, the highest priority is to take all measures possible to prevent disease spread, to stamp out the disease as rapidly as possible, and to reestablish the U.S. as an FMD free country. In an extensive outbreak of FMD, the highest priority is to ensure a secure food supply for the nation and the world by ensuring business continuity for food animal producers and all associated industries. The impacts of disease spread from a small focal outbreak are extremely high, as compared to the cost of stop movement and destruction of limited numbers of animals. Whereas the impact of a complete stop movement and stamping out policy are extremely high in an extensive outbreak as compared to the cost of limited further spread of FMD. These impacts must be weighed and the response strategies quickly adjusted as the outbreak unfolds. Having pre-defined phases and potential types of an FMD outbreak will facilitate development of adaptable emergency response and business continuity plans for the U.S. livestock industry. The phase and type of the FMD outbreak is expected to change over time and could be designated by the authorities responsible for managing the response. Different regions of the U.S. or segments of the animal agriculture industry may be designated as being involved in different phases or types of an FMD outbreak simultaneously. Different species may have different recommendations regarding stamping out and/or appropriate vaccination strategies. The phase and type designations below are guidelines and may be modified by the responsible authorities to best fit the specific outbreak. Descriptors defining different phases and types (eg. small, moderate,
extensive, etc) are intentionally left vague in a recognition that responsible authorities will need to make decisions based on information available regarding specific outbreak characteristics.

**Proposed phases and types –**

**Heightened Alert Phase - FMD outbreak in either Canada or Mexico, but not the U.S. -**

FMD in either Canada or Mexico threatens to spread to the U.S. (Control Areas are near or cross over the U.S. border)

- Work collaboratively with Canada or Mexico to establish Control Areas around Infected Premises and Contact Premises
- Collaborate with Canada and/or Mexico to stop all movement of susceptible animals in the Control Area and restrict other movements (vehicles, animal products, etc) as appropriate (except as permitted by the incident in accordance with FAD response and business continuity plans or equivalent plans/permitting processes in place in Canada or Mexico).
- Advise state and tribal authorities to ensure that their premises ID data is up to date and to be prepared for animal tracing
- Activate Incident Management Teams as needed
- Implement an enhanced national FMD surveillance plan for the surveillance and free zones
- Collaborate with Canada and/or Mexico to enforce biosecurity protocols within the Control Area
- Activate the National Veterinary Stockpile (NVS) if necessary to deploy assets to support U.S. activities or to assist Canadian or Mexican response efforts
- Collaborate with Canada and/or Mexico to initiate stamping out of infected and contact herds
- Identify the strain(s) of FMDv and consult with Canada and Mexico to decide whether to activate the North American FMD Vaccine Bank (NAFMDVB) bank
- Enhance surveillance for FMD at U.S. slaughter plants and ports of entry
- Conduct tracing and surveillance of cloven hooved species imported from the FMD affected country within the last two incubation periods (28 days) prior to the date of first infection of the index case
- Initiate stamping out of contact herds in the U.S. (unless the number, or the size, of the herds preclude stamping out quickly enough to stop disease spread)

**Steps to take upon the first case in the US, Canada, or Mexico and to continue for the duration of the outbreak:**

- Advise all livestock operations (including auction markets, exhibitions, etc.) in the U.S. to implement FMD specific biosecurity plans and continue until freedom from FMD is re-established
- Emphasize, and enhance enforcement of, requirements for garbage feeding of swine in the U.S.
• Allow movement of milk from premises with no evidence of infection with FMDV to processing according to the Secure Milk Supply (SMS) Plan (to be developed)
• Allow movement of washed and sanitized eggs and egg products from the Control Area (from premises with no infected susceptible species) into commerce with adequate truck and driver biosecurity for the duration of the outbreak

Phase 1: The period of time from the confirmation of the first FMD case in the U.S. until there is reasonable evidence to estimate the extent of the outbreak. The transition to Phase 2 should be accomplished as soon as possible, with a goal of less than 4 days (96 hours).

• Establish Control Areas around Infected Premises and Contact Premises
• Activation and deployment of appropriate incident management teams
• Stop all movement of susceptible animals in the Control Area and restrict other movements at susceptible premises (vehicles, etc.) as appropriate (as permitted by specific FMD response and Business Continuity Plans).
• Implement an enhanced national FMD surveillance plan for the surveillance and free zones
• Enforce biosecurity protocols within the Control Area
• Activate the National Veterinary Stockpile (NVS) (if local resources have been exhausted)
• Initiate stamping out of infected and direct contact herds (unless the number, or the size, of the herds preclude stamping out quickly enough to stop disease spread)
• Identify the strain(s) of FMDv and consult with Canada and Mexico to decide whether to activate the North American FMD Vaccine Bank (NAFMDVB) bank
• Activate joint information center and coordinate with public hotlines and media resources
• State livestock emergency response teams are activated or notified to be on “standby”
• Communication with state EOCs to partially or fully “stand-up” their operations with appropriate ESFs

Phase 2: Surveillance and epidemiology provides timely evidence of the extent of the outbreak to support planning and decision making by incident/area command.

Type 1 - Focal FMD outbreak: Focal area of infection limited to one state or small region with low to moderate livestock numbers on relatively small premises. Epidemiologic investigation and surveillance indicates that it has not spread beyond the initial few premises. The Infected Premises have not had extensive animal movement and are not too large to depopulate quickly. Rapid stamping out without vaccination is feasible.
• Continue strict quarantine and movement control for live animals, animal products, and vehicles, etc. within the Control Area (except as permitted by specific FMD response Business Continuity Plans)
• Continue stamping out with rapid depopulation, disposal, cleaning, and disinfection of Infected and Contact Premises

**Type 2 – Moderate Regional FMD outbreak:** A few focal areas of infection limited to a region with low to moderate livestock numbers on small to medium size premises. Epidemiologic investigation and surveillance indicate FMDV has not spread beyond the region. The Infected Premises have not had extensive animal movement out of the Control Area and are not too large to depopulate quickly.

• Establish Area Command to coordinate multiple Incident Management Teams in the affected region
• Continue strict quarantine and movement control for live animals, vehicles, etc. within the Control Area (movement as permitted by specific Secure Food Supply Business Continuity Plans)
• Continue rapid stamping out of Infected and Contact Premises
• Consider ring or regional vaccination with eventual slaughter of vaccinated animals (vaccinate-to-kill or slaughter; option to switch to vaccinate-to-live if the type of the outbreak is elevated)
• Allow healthy market hogs and cattle from premises in the control area with no evidence of infection with FMDV to move to slaughter according to the Secure Pork Supply (SPS) and Secure Beef Supply (SBS) Plans (once they are fully developed and approved) and allow products to enter market channels

**Type 3 – Large Regional FMD outbreak:** Multiple areas of infection are detected in a region, or the type, number and/or size of infected and contact herds are too great to depopulate quickly enough to suppress disease spread. Sufficient vaccine and resources can be made available to vaccinate designated susceptible domestic animals in the affected region (Control Areas). The number of vaccinated animals is not too great to consider a vaccinate-to-kill strategy.

• Establish Area Command to coordinate multiple Incident Management Teams in the affected region
• Continue strict quarantine and movement control for live animals and vehicles, etc. within the Control Area (movement as permitted by specific Secure Food Supply Business Continuity Plans)
• Discontinue automatic stamping out of Infected and Contact Premises. Some Infected and Contact Premises may be depopulated based on epidemiologic or humane considerations
• Implement suppressive vaccination of all designated animals in the Control Area to reduce the shedding and spread of virus. Officially identify all vaccinated animals and track these animals to ensure they are eventually slaughtered or euthanized and disposed of
• Allow healthy market hogs and cattle from premises in the control area with no clinical evidence of infection with FMDV to move to slaughter according to the Secure Food Supply Business Continuity Plans (when developed) and allow products to enter market channels
• Healthy vaccinated swine or cattle from premises with no current clinical evidence of infection with FMDV may move to slaughter after the vaccine withdrawal period (up to 60 days) and allow products to enter market channels.

• No new vaccinations will be administered more than 28 days after the last known new case of FMD is detected. Healthy animals from premises with no current clinical evidence of infection with FMD may be slaughtered for human consumption. Unhealthy animals, and vaccinated animals not ready for harvest are euthanized and do not enter the food chain. Implement surveillance to prove recovery of FMD-free status (free status cannot be achieved until at least 3 months after the slaughter/euthanasia of all vaccinated animals).

**Type 4 – Widespread or National FMD outbreak:** Widespread areas of infection are detected involving too many herds or herds that are too large to depopulate quickly enough to suppress disease spread. Sufficient vaccine and resources are available to vaccinate all designated susceptible domestic animals in the affected regions (Control Areas). The number of vaccinated animals is too great to consider solely a vaccinate-to-kill policy. Implement a partial or complete vaccinate-to-live policy.

• Establish an Area Command in each affected region to coordinate Incident Management Teams within their respective regions.

• Allow movement of FMD vaccinated animals (14 days post vaccination) within the Control Area, by permit.

• Allow movement of FMD susceptible animals within the Control Area as permitted by specific Secure Food Supply Business Continuity Plans.

• Discontinue automatic stamping out of Infected and Contact Premises. Some Infected and Contact Premises (or severely affected individual animals) may be depopulated based on epidemiologic or humane considerations.

• Implement suppressive FMD vaccination of all designated animals in the Control Area to reduce the shedding and spread of virus.

• Allow premises within the Control Area with market hogs and cattle with no current clinical evidence of infection with FMDV to move to slaughter according to the Secure Food Supply Business Continuity Plans (when developed) and allow products to enter market channels.

• Healthy vaccinated swine or cattle from premises with no current clinical evidence of infection with FMDV may move to slaughter for human consumption after the vaccine withdrawal period (up to 60 days) according to the Secure Food Supply Business Continuity Plans (when developed).

• Consider the potential need for booster or revaccination based upon the epidemiology of the outbreak, the level of confidence in the efficacy of the vaccine, and the level of confidence that all potentially infected premises have been identified.

• No new vaccinations will be given more than 28 days after the last known new case of FMD is detected. Implement surveillance to prove recovery of FMD-free status, while allowing vaccinated animals to live out their useful lives (free status cannot be achieved until at least 6 months after the last animal was vaccinated).
**Type 5 – Catastrophic FMD outbreak:** Widespread areas of infection are detected involving a large portion of the U.S. Sufficient vaccine and resources are not available to quickly vaccinate all designated susceptible animals in the affected regions. The number of vaccinated animals is too great to consider a vaccinate-to-kill policy. It becomes apparent that FMD is widespread, and will not be eradicated within a year.

- Declare FMD to be an endemic disease and implement a program for long term eradication and control, including vaccinate-to-live
- Discontinue automatic stamping out of Infected and Contact Premises. Some Infected and Contact Premises (or severely affected individual animals) may be depopulated based on epidemiologic or humane considerations
- Prioritize regions and herds to receive the limited amounts of vaccine available
- Allow movement of vaccinated animals (14 days post vaccination) from premises with no current clinical evidence of infection with FMDV by permit
- Allow movement of susceptible animals throughout the country from premises with no current clinical evidence of infection with FMDV as permitted by specific Secure Food Supply Business Continuity Plans
  - Allow market hogs and cattle and cull animals from premises with no current clinical evidence of infection with FMDV within control areas to go to slaughter according to the Secure Food Supply Business Continuity Plans (when developed) and allow products to enter market channels
- Healthy vaccinated swine or cattle from premises with no current clinical evidence of infection with FMDV may go to slaughter after the vaccine withdrawal period (up to 60 days) according to the Secure Food Supply Business Continuity Plans and allow products to enter market channels
- Implement a comprehensive FMD vaccination program once sufficient vaccine becomes available
- Implement surveillance to prove the United States is an FMD-free country where vaccination is practiced, while allowing vaccinated, uninfected animals to live out their useful lives (free status cannot be obtained until at least 2 years after the last outbreak, and 12 months after any known circulation of FMD virus)

**Type 6 - North American FMD outbreak:** Widespread areas of infection are detected involving a large portion of the U.S., Canada, and/or Mexico. Sufficient vaccine and resources are not available to quickly vaccinate all designated susceptible animals in the affected regions/countries. The number of vaccinated animals is too great to consider a vaccinate-to-kill policy. It becomes apparent that FMD is widespread, and will not be eradicated within a year.

- Implement the same steps as a Type 5 outbreak. In addition:
  - Work with officials in Canada and Mexico to implement a North American plan for animal and animal product movement
  - Work with officials in Canada and Mexico to implement a comprehensive FMD vaccination program once sufficient vaccine becomes available
- Work with officials in Canada and Mexico to implement surveillance to prove North America is an FMD-free region where vaccination is practiced, while allowing vaccinated, uninfected animals to live out their useful lives (free status cannot be obtained until at least 2 years after the last outbreak, and 12 months after any known circulation of FMD virus)

Phase 3, Recovery: Surveillance and epidemiologic evidence indicates that the outbreak is under control and a plan is implemented to regain FMD-free status (possibly with vaccination).

Phase 4: The U.S. is declared free of FMD (possibly with vaccination). The USDA continues to work to convince trading partners to accept U.S. exports of animals and animal products.

Please send comments and suggestions to:

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