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CONTINGENCY PLANNING FOR A MULTI-STATE FMD OUTBREAK CRUCIAL TO AVOIDING A
UK LEVEL UNCONTROLLED EPIDEMIC OF FOOT AND MOUTH DISEASE IN THE UNITED=
 STATES

One of the most significant factors relating to the uncontrolled spread of
Foot and Mouth Disease in the UK has been attributed to animal movements
during early stages of the outbreak (see graphic animation:
http://www.hjones.plus.com/fmdani.htm). In the United States, if ground
zero of an FMD outbreak were to occur at an auction barn where the movement
of animals included transport to multiple states, all movements for a three
day window, in which animals are infectious prior to symptoms, plus the
time needed for an official confirmation would require tracking,
implementation of the appropriate response plans and interstate=
 coordination.

In a paper entitled the Potential Impact of Foot and Mouth Disease Outbreak
in California, Javier Ekboir=B4s estimates for the worst case cost of an
outbreak in California are US $9.3 billion to the State plus another US
$4.2 billion in lost US trade, totaling US $13.5 billion -- referable to a
single state.   Ekboir's estimates were that up to 75% of the costs of an
outbreak would be borne by groups outside California through trade losses,
if California were able to control the outbreak. In a multiple state
scenario, economic cost projections would have to be adjusted accordingly.

Successful eradication of the disease would require the commitment of
government, livestock industries, farmer's organizations and the general
public. Research has suggested that a one week delay could increase the
proportion of infected premises from 18% to more than 90%

At the present time, the United States Foot and Mouth Disease Federal
Response plan encompasses the policy of eradicating the disease by
depopulating affected and exposed animals with no alternative policy for

vaccination. Reference to the lack of a vaccination policy is significant in the light of current reports from the UK which recommend the implementation of a vaccination strategy for future outbreaks of foot-and-mouth disease due to the uncontrolled spread, economic costs and change in the macro view of the current epidemic (see: http://www.humanitarian.net/eidnet/fmd/news.html).

In the Ekboir study, alternative policies could be a more economical way of dealing with an outbreak. As the model=92s simulations show, an outbreak could require depopulating California=92s entire cattle herd. If it were known in advance that this result was probable, the state might find it more economical to vaccinate the entire herd and quarantine movements with the rest of the US. Stamping out would then be applied only to animals that are clearly infected. This approach would result in depopulating many fewer animals and would thus maintain livestock production at a higher level in the years immediately=20
following the outbreak.

However, the paper emphasizes:

The conditions under which alternative policies would be preferable should be evaluated in advance because once an outbreak has occurred, eradication strategies are largely irreversible.

The feasibility of stamping-out depends on the number of animals to be depopulated, as the costs and resources required for rapid depopulation escalate very fast. Vaccination could be used if stamping out becomes unfeasible, but under the present guidelines this would only be known after a substantial number of animals has been slaughtered. Given the production conditions prevailing in California and the U.S., the threshold above which stamping-out is no longer the best policy is not known.

According to USDA APHIS: Vaccination can be used if: a) the disease has not been contained within six months of the outbreak; b) the outbreak reaches epidemic proportions (25% of the susceptible population in areas of high density livestock); c) the cost/benefit ratio of the slaughter program approaches 1:2; d) FMD becomes endemic in wildlife of three or more states;=
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e) legal restrictions prevent carrying out the slaughter program (APHIS).

Humanitarian Resource Institute has aggressively initiated educational initiatives on Foot & Mouth disease since late February. Today, in collaboration with international veterinary, medical and scientific experts we continue the development of resources to enhance academic discussion of emerging infectious diseases and issues associated with preparedness, response, mitigation and policy.

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Foot & Mouth Disease Reference Library
http://www.humanitarian.net/eidnet/fmd