AN OVERVIEW OF THE DISEASE RISK MANAGEMENT TRAINING MATERIALS

Introduction
The Center for Food Security and Public Health at Iowa State University has prepared a toolbox of materials for use by extension specialists, county agents, veterinarians and other educators to help cattle producers manage disease risk on cattle operations. The materials focus on the routes of disease transmission (aerosol, oral, direct contact, fomites, and vectors). Since all diseases are transmitted by these routes, risk management based on disease transmission routes can reduce the risk for many infectious diseases. These materials should be used by advisors to beef and dairy producers to help decrease the risk of introduction and spread of disease and to enhance profitability of their operations. These materials are available in both English and Spanish.

There are two intended uses for the materials: training other extension specialists and educating cattle producers. This handout provides an overview of the educational materials for these two audiences.

This document contains:
1. Learning objectives for the training session
2. Contents of the Disease Risk Management Tools for Beef and Dairy Producers CD-ROM
3. The CFSPH Policy on reproducing the materials

1. Learning Objectives
For trainers during the train-the-trainer session
• Understand the commitment of being a disease risk management educator
• Become familiar with the training materials available
• Understand various ways the materials can be used
• Network with other educators interested in enhancing on farm biosecurity
• Review tips for effective public speaking and understanding your audience
• Outline three ways you intend to use the materials

2. Disease Risk Management Tools for Beef and Dairy Producers CD-ROM

Bold headings = folders on your CD-ROM
Underlined headings = files within the folder
Regular print = Information about the contents

Indicates a PowerPoint file
Indicates a Word document file
Indicates a PDF file

Introductory Information

• An Overview of the Disease Risk Management Training Materials
• CFSPH Mission Activities: This reviews the history of the CFSPH and various activities.
• Project Development Team: This lists the contributions of all the people that worked on the development of this project.
• Using the Training Materials: Preparing for Extension Training: This will review the materials available and suggest approaches for training extension personnel.
• Using the Training Materials: Preparing for Producer Education: This will review the materials available and suggest approaches for producer education, either within large groups or one-on-one.
• Acknowledgments: This lists the authors and reviewers for all the materials developed.
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General Prevention Information

- **Overview of Biological Risk Management**: This PowerPoint presentation is designed for beef or dairy producers. It gives the audience background on the importance of biological risk management, managing disease risk through the routes of transmission and general prevention practices that can be implemented on farm to minimize disease entry or spread. Estimated time: 55 minutes

- **General Prevention Practices**: This document provides general prevention recommendations that beef or dairy operations can implement to decrease the risk of disease entry or spread on farm. It is intended to supplement the Overview of BRM PowerPoint, General Prevention Practices section or any of the Practical Applications for Managing Biological Risks PowerPoints (see below).

- **General Prevention Practices Checklist**: This supplements the General Prevention Practices document. Once producers have been given an overview of the principles, they can take this checklist home and evaluate their own operation for disease risk.

- **Transmission Route Definitions**: This document defines the five common routes of disease transmission (aerosol, direct contact, fomite, oral, vector) as well as zoonotic and environmental transmission. This can be used to supplement all of the materials to provide producers with a clear understanding of the route of transmission focus.

Route Specific Information

- **PowerPoints: Practical Applications for Managing Biological Risks**
  - **Aerosol (Beef or Dairy)**: These PowerPoint presentations outline specific practical measures to minimize the risk of aerosol transmitted diseases. Estimated time: 25-30 minutes
  - **Direct Contact and Fomite (Beef or Dairy)**: These PowerPoint presentations outline specific practical measures to minimize the risk of direct contact and fomite transmitted diseases. Estimated time: 35-40 minutes
  - **Oral and Fomite (Beef or Dairy)**: These PowerPoint presentations outline specific practical measures to minimize the risk of oral and fomite transmitted diseases. Estimated time: 35 minutes
  - **Vector (Beef or Dairy)**: These PowerPoint presentations outline specific practical measures to minimize the risk of vector transmitted diseases. Estimated time: 35 min

Handouts

- **Aerosol Transmission Control**: This document summarizes the key points of managing diseases transmitted by aerosol and can be used to highlight the main points of the corresponding PowerPoint.

- **Bovine Diseases by Route of Transmission**: This document consists of 6 pages, with each page focusing on a specific disease route, and it lists the common bovine diseases spread by that particular route. It also indicates if it is a foreign animal disease and if it is zoonotic.

- **Direct Contact Transmission Control**: This document summarizes the focus area of managing diseases spread by direct contact on beef and dairy operations and can be used to supplement the Direct Contact and Fomite PowerPoint listed above.

- **Fomite Management**: This document describes proper cleaning and disinfection procedures, lists various types of fomites and discusses how to clean different materials and describes characteristics of common disinfectants providing a guideline of when and how to use them.
Route specific prevention handouts (cont’d)

- **Oral Checklist (Beef or Dairy):** This supplements the Oral and Fomite PowerPoint (listed above) and is designed to be handed out to producers after the presentation. Producers can take home this checklist and evaluate their own operation for oral disease risk.

- **General Bird and Rodent Control Measures:** This document provides practical management recommendations for managing birds and rodents to decrease the risk of orally transmitted diseases on farm.

- **Biting Midge Control Measures:** This document discusses the life cycle of the biting midge vector and discusses various practical control measures that can be implemented on farm.

- **Fly Control Measures:** This document discusses the life cycle of flies and various practical control measures that can be implemented on farm.

- **Common Flies in the U.S.:** This chart depicts the most common flies in the U.S., describes their breeding habits, life cycle, and how they feed on animals for a better understanding of how to control them on farm. This supplements the Fly Control Measures handout.

- **General Mosquito Control Measures:** This document discusses practical control measures for mosquitoes that can be implemented on farm.

- **General Tick Control Measures:** This document discusses the life cycle of ticks and practical control measures that can be implemented on farm.

**Zoonotic Disease Information**

- **Transmission Routes of Zoonotic Diseases:** This handout provides a visual review of the spread of diseases from animals to humans (aerosol, direct contact, fomite, oral and vector).

- **Zoonotic Disease PowerPoint (Beef or Dairy):** These PowerPoint presentations are designed for beef or dairy producers and provide a practical review of various prevention steps that can be implemented to decrease the risk of humans acquiring disease from animals. It also reviews 18 diseases that are spread from cattle to humans.

- **Fast Facts:** These attractive one page handouts are written for the general public and provide a brief overview of 18 diseases that are spread from cattle to humans. Each Fast Facts handout contains information on the disease and how it is spread, the animals affected, disease in animals and humans, and prevention steps to minimize risk. They supplement the diseases covered in the Zoonotic Disease PowerPoint.

Fast Facts are available for the following diseases:

<table>
<thead>
<tr>
<th>Disease</th>
<th>Disease</th>
<th>Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthrax</td>
<td>Bovine Tuberculosis</td>
<td>Brucellosis</td>
</tr>
<tr>
<td>BSE</td>
<td>Cryptosporidiosis</td>
<td>Dermatophilus</td>
</tr>
<tr>
<td>Dermatophytosis</td>
<td><em>E. coli</em></td>
<td>Giardiasis</td>
</tr>
<tr>
<td>Leptospirosis</td>
<td>Listeriosis</td>
<td>Melioidosis</td>
</tr>
<tr>
<td>Non-typhoidal Salmonellosis</td>
<td>Pseudocowpox</td>
<td>Q fever</td>
</tr>
<tr>
<td>Rabies</td>
<td>Rift Valley Fever</td>
<td>Vesicular Stomatitis</td>
</tr>
</tbody>
</table>
Foreign Animal Disease Information

This folder contains information regarding five foreign animal diseases:

<table>
<thead>
<tr>
<th>Contagious Bovine Pleuropneumonia (CBPP)</th>
<th>Heartwater</th>
<th>Rinderpest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foot-and-Mouth Disease (FMD)</td>
<td>Rift Valley Fever (RVF)</td>
<td></td>
</tr>
</tbody>
</table>

Each of the folders contains the following information:

- **Disease PowerPoint Presentation**: These presentations are designed to review the foreign animal disease and provide information regarding how it is spread, what animals are affected and how it can be prevented or controlled.
- **Disease Speaker Notes**: These documents are designed as study guides for the PowerPoint presentations. They have the slides printed next to the notes so you can prepare for the presentation without using the computer.
- **Extension Fact Sheet**: These documents are designed to provide more detailed disease information to assist extension personnel with media interviews or general inquiries.
- **Fast Facts**: These one page handouts are written for the general public and contain a brief overview of the disease, how it is spread, what animals are affected, disease signs in animals and humans, what to do if the disease is suspected, and prevention steps.
- **Disease Specific Prevention Practices**: These documents provide specific prevention recommendations for beef or dairy operations to implement once a foreign animal disease has been diagnosed in the U.S. These recommendations can decrease the risk of disease entry or spread on farm and are intended to supplement corresponding materials on each specific disease.
- **Disease Specific Prevention Practices Checklist**: These checklists supplement the Disease Specific Prevention Practices document. Once producers have been given an overview presentation of the disease, they can take this checklist home and evaluate their own operation for disease risk.
- **Disease Response Package**: If one of the above listed foreign animal diseases is ever diagnosed in the United States, it will be essential to get prevention information into the hands of producers and allied industries as soon as possible. This “response package” contains a brief disease overview with a table of contents for the document, the Fast Fact, disease specific prevention practices and checklist. It can be rapidly emailed as one file so producers can begin increasing their disease risk management procedures on farm immediately to help minimize the chances of their animals becoming infected.

**Economics**

This section has several templates to assess the economics of the various recommendations made regarding coveralls/boot costs, introduction of new animals on farm, feed delivery, handling carcasses, etc. They are designed to be completed by the extension specialist or veterinarian in conjunction with the cattle producer to help gain an understanding of the costs associated with implementing various biological risk management recommendations.

- **Expected Costs**: This document will explain how the costs of a disease are related to the probability of disease occurring on farm and its morbidity (sickness) rate. It serves as a guide for producers to estimate how much they can spend on various disease risk management practices based on these variables. There is a spreadsheet by the same name.
Biosecurity Costs: This document reviews nine different disease risk management practices and gives estimated costs associated with their implementation. It serves as a guideline to determine how much specific activities could cost to apply on farm.

Cow-Calf Budgets: This document is designed for cow-calf producers and looks at the various costs associated with sick animals on farm. It requires input from veterinary costs, regional data regarding production and management, and farm specific production data. There is a spreadsheet by the same name.

Dairy Budgets: This document is designed for dairy producers and looks at the various costs associated with sick animals on farm. It requires the same input as Cow-Calf Budgets and also has a spreadsheet by the same name.

Feedlot Budgets: This document is designed for feedlot owners/managers and looks at the various costs associated with sick animals on farm. It requires the same input as Cow-Calf Budgets and also has a spreadsheet by the same name.

Depopulation: In the event a foreign animal disease is diagnosed on a farm, depopulation of the herd may be required. This document examines the various costs associated with the process as well as cleaning and disinfection and the repopulation process. There is a spreadsheet by the same name for Cow/Calf, Feedlot and Dairy.

Additional Supplements

*BRM Online Tutorial*: This multiple page handout guides a user through the online database in order to conduct risk assessments on beef or dairy operations.

*Disinfectant Information*

*Disinfection 101*: This document provides a general overview of disinfectant information regarding proper selection, application, mixing, reading a label, and effectiveness against various disease causing organisms.

*Antimicrobial Spectrum of Disinfectants*: This handout reviews the various types of disinfectant classes available and indicates what types of organisms are susceptible or resistant.

*Bacteria Group Review Table*: This handout reviews the various types of bacteria based on their classification as gram negative or positive as this is important when selecting an effective disinfectant.

*Characteristics of Selected Disinfectants*: This handout reviews the various types of disinfectant classes available and lists common trade names, how they work, advantages, disadvantages, and what type of organisms they are effective against.

*Disinfectant Product Label*: This serves as an educational guide for reading disinfectant labels. It is essential those working on farm understand how to properly mix disinfectants, what proper contact time is, the need for personal protective gear while handling certain disinfectants, and what the product can be effectively used on. This helps explain where to find that information on a product label.

*Virus Family Table*: This multiple page handout reviews the various types of RNA and DNA viruses. It lists whether they are enveloped or not, the diseases they cause and the species affected. This handout supplements the other disinfectant information and assists in proper selection of an effective disinfectant on farms.

*Signs*

This folder contains colorful, eye-catching signs that can be printed, laminated and posted on farm in order to gain the attention of visitors. They serve to notify visitors and raise their
AN OVERVIEW OF THE DISEASE RISK MANAGEMENT
TRAINING MATERIALS

awareness regarding biological risk management practices and on farm policies. Signage available includes:

<table>
<thead>
<tr>
<th>Authorized personnel only</th>
<th>Check in</th>
<th>Do not enter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm visitor policy</td>
<td>Honk horn</td>
<td>Protective clothing</td>
</tr>
<tr>
<td>Visitors: animal contact</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Visitor Log Template: This document can be given to producers to post at the entrance or “check in” area of the farm and used to record visitors, their last known cattle contact and the date of their visits. It can be modified to fit the needs of individual cattle producers.

Presenter Notes

Mies – FAD Are we Ready? This presentation focuses on what producers can do to prepare for a potential foreign animal disease.

Slagell – Public Speaking Handbook: This document provides helpful tips for preparing for and giving presentations. There are also tips on using PowerPoint effectively.

Snyder – Adult Learner Participant Manual: This document provides educators with information regarding effective ways to work with adult learners.

Kliebenstein – Economic Issues in Managing Infectious Disease Risks: This presentation focuses on what economic decisions must be considered when managing infectious diseases.

Reporting Forms

Presentation Report Form- Training: This form should be completed following each training conducted for extension personnel in your area. Once completed, it can be faxed or emailed to cfsph@iastate.edu.

Presentation Report Form- Producer Education: This form should be completed each time you use the materials to educate cattle producers in your area. Once completed, it can be faxed or emailed to cfsph@iastate.edu.

Spanish

To meet the needs of audiences, the information listed above has been translated to Spanish. There is a Spanish folder on the CD Rom and it will contain the General Prevention Information, Route Specific Information, Zoonotic Disease Information, FADs and Signs. The slide content of the PowerPoint presentations are in Spanish, while the speaker notes section remain in English.

3. CFSPH Policy on Reproduction of Materials

It is important to us that we maintain responsibility for the content of our developed materials, that we receive feedback, and that we make improvements. The reproduction policies are:

• The handouts can be copied and distributed to appropriate audiences.
• The CFSPH logo should be kept on all materials; you are welcome to add your name as presenter/co-author, but please do not remove the CFSPH logo.
• All updated information will be available to trainers free of charge; we are committed to supporting you in your efforts to educate your colleagues and cattle producers.
• Additional copies of the CD-ROM and other supplemental material (training manuals) should be purchased from the CFSPH. If you need multiple copies for conducting training and wish to copy them yourself, please contact the CFSPH (cfsph@iastate.edu) for permission and to be sure you have the latest updates.