S_FMD

Slide 1	Fiebre aftosa *FMD*	Foot-and-mouth disease is often referred to as FMD.
Slide 2	**Panorama general** • Causa • Impacto económico • Distribución • Transmisión • La enfermedad en los animales • Prevención y control  Center for Food Security and Public Health Iowa State University 2006	In today's presentation we will cover information regarding the organism that causes foot-and-mouth disease. We will also talk about the economic impact the disease has had in the past and could have in the future. Additionally, we will talk about how it is transmitted, the species it affects and signs of the disease. Finally, we will address prevention and control measures for the disease as well as actions to take if foot-and-mouth disease is suspected.
Slide 3	La causa	Let's begin by discussing the cause of foot-and-mouth disease.
Slide 4	**Fiebre aftosa** • Virus – 7 tipos distintos – La infección ocasionada por un tipo no protege contra otro – Es posible que se desarrollen nuevos tipos Center for Food Security and Public Health Iowa State University 2006	Foot-and-mouth disease (FMD) is caused by a virus. There are 7 distinct types. This means that infection with one type will not protect against infection with a different type. New subtypes may suddenly develop, making effective vaccination difficult with new outbreaks. FMD primarily affects cloven-hoofed domestic and wild animals such as cattle, sheep, goats, pigs and water buffalo. It can survive in milk and milk products, frozen bone marrow, and lymph glands.
Slide 5	**Fiebre aftosa** • Afecta a animales de pezuña hendida – Bovinos – Borregos – Cabras – Cerdos • Sobrevive en leche, productos lácteos, médula ósea, glándulas linfáticas  Center for Food Security and Public Health Iowa State University 2006	Foot-and-mouth disease (FMD) is caused by a virus. There are 7 distinct types. This means that infection with one type will not protect against infection with a different type. New subtypes may suddenly develop, making effective vaccination difficult with new outbreaks. FMD primarily affects cloven-hoofed domestic and wild animals such as cattle, sheep, goats, pigs and water buffalo. It can survive in milk and milk products, frozen bone marrow, and lymph glands.

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Slide 6	Importancia	FMD is a threat to the U.S. because American livestock are naïve and it could have a huge economic impact.
Slide 7	**Antecedentes históricos** • 1929: Último caso en EE.UU. • 1953: Últimos casos en Canadá y México • 1993: Italia • 1997: Taiwán • 2001: Reino Unido – Otros brotes en 1967-68 y 1981  Center for Food Security and Public Health Iowa State University 2006	Prior to 1929, the United States had FMD in several states, generally due to the importation of infected animals or their products. This led to restrictions being imposed on importations of animals or their products from infected countries in 1929, many of which are still in effect today. An outbreak in Canada in 1953 was quickly controlled and Mexico was endemic with FMD until then as well. The North American continent has been free of FMD since 1953. Internationally, many countries have endemic FMD and some have had significant outbreaks that are highlighted here. Italy's 1993 outbreak cost over $130 million, and the 1997 Taiwan outbreak cost roughly $15 billion. Great Britain had documented outbreaks in 1967-68 and 1981 in Hampshire. The outbreak in 2001 was estimate to cost the country £8 billion over a 4 year period. Diagram of United Kingdom.
Slide 8	**Impacto económico** • Costos directos – Pérdidas económicas para productores agropecuarios – Costos de erradicación – Desde millones hasta miles de millones de dólares en pérdidas • Costos indirectos – Cierre a la exportación – $3.1 mil millones para carne de res – $1.3 mil millones para carne de puerco – $14 mil millones en pérdidas de ingresos agropecuarios – $6.6 mil millones para la exportación de ganado – Temor del consumidor ¡¡Económicamente devastadora!! Center for Food Security and Public Health Iowa State University 2006	FMD is considered by many to be the most economically devastating livestock disease virus in the world. This is largely due to the fact that it is easily transmitted, results in economic losses in animal production, and depopulation (as a means of control) would cost the producer and the government millions, even billions of dollars. The indirect effects of FMD would occur when countries around the world close their doors to our exports of beef, pork, mutton, dairy products, and live animals. This means the United States would have the potential to lose $3.1 billion in beef exports and $1.3 billion in pork exports each year. In a revenue impact analysis done of a FMD outbreak in the U.S. by Paarlberg and others (Potential revenue impact of an outbreak of foot-and-mouth disease in the United States. *JAVMA*; 220,7:988-992), it was estimated that $14 billion would be lost in farm income. Livestock exports would drop $6.6 billion. Another indirect effect is that of consumer fear. Even though FMD is not a risk to humans, consumption of red meat and dairy products could be reduced and estimates include a 20% decline in consumer purchases, causing a loss to farm income of $20.8 billion.
Slide 9	Distribución	Next we will discuss where FMD is found and how severely it affects animals with the disease.

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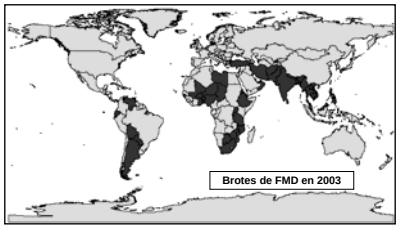
Slide 10	**Distribución geográfica**  Center for Food Security and Public Health Iowa State University 2006	FMD was found worldwide after WWII. The areas where FMD circulates among animals include Asia, Africa, Middle East and parts of South America. Outbreaks have occurred in Taiwan, South Korea, Japan, Mongolia, Britain, France, and the Netherlands. The Netherlands, North and Central America, Australia and New Zealand have been free of FMD for many years. The World Organization for Animal Health (formally known as the OIE- Office des International Epizootics) has a list of Member Countries that are FMD free countries where vaccination is not practiced. The map depicts those countries by shading them white. Taken from the OIE website on Sept. 16, 2005. http://www.oie.int/Cartes/world/a_Monde.htm For updates to that information, please access www.oie.int/eng/info/en_fmd#Resolution as outbreaks continue to occur and FMD-Free status changes.
Slide 11	**Distribución de la Fiebre Aftosa en 2003**  Center for Food Security and Public Health Iowa State University 2006	It is important to understand that FMD has and is currently occurring in many countries around the world. This map is taken from the Food and Agriculture Organization of the United Nations giving us an accurate assessment of the worldwide impact as of June 29, 2004 from the FAO website http://fao.org/ag/againfo/commissions/en/fmdmaps/maps2003/2003.gif
Slide 12	**Enfermedad/muertes** • En animales que nunca han padecido la FMD, la enfermedad puede alcanzar al 100% – Estados Unidos, Canadá, México, otros • Tasa de mortalidad menor al 1% – Más elevada en animales jóvenes y con ciertas cepas virales. – Por lo general a los animales se les sacrifica para evitar la propagación de la enfermedad Center for Food Security and Public Health Iowa State University 2006	In animals that have never had FMD, like the United States, sickness may reach 100% but the death rate is generally less than 1%. Younger animals and certain strains of the virus may cause the death rate to increase. Because of the economic impact of this disease, animals are generally euthanized to prevent further spread, but could recover in time.
Slide 13	Transmisión *Propagación de la FMD*	
Slide 14	**Transmisión a los animales** • Por aerosoles – Temperatura y humedad adecuadas – Sobrevive entre 1 y 2 días en el tracto respiratorio de los seres humanos • Contacto directo – Animales infectados que presentan vesículas reventadas – Productos biológicos u hormonales contaminados – Inseminación artificial Center for Food Security and Public Health Iowa State University 2006	Transmission primarily occurs by inhaling respiratory aerosols, direct contact with infected animals, oral consumption, or through fomites that are contaminated. Aerosol transmission requires proper temperature and humidity. The FMD virus can survive for 1-2 days in the human respiratory tract, thus potentially spreading to animals. Direct contact with other infected animals or with contaminated biological and hormone preparations can spread FMD. Peak transmission occurs when vesicles rupture. Reproductive spread can occur through infected semen used for artificial insemination.

Slide 15

Transmisión a los animales

- Por vía oral
  - Ingestión de partes de un animal infectado
- Por fomites
  - Botas, vestimenta, herramientas
  - En sangre seca el virus de la FMD sobrevive durante días e incluso semanas

Center for Food Security and Public Health
Iowa State University 2006

Oral consumption of contaminated animal parts such as meat, milk, bones, glands, and cheese can also spread the disease. Contact with contaminated fomites (non-living objects) such as boots, clothing or tools can also be a source of infection. It can remain active on surfaces for days to weeks and survives drying if it is in a part of blood known as serum.

Slide 16

Transmisión a los animales

Especie	Hospedero	Portador
Borregos Cabras	Mantienen el virus	De 4 a 6 meses
Cerdos	Intensifican el virus	Durante un corto plazo
Bovinos	Primeros en mostrar los síntomas de la enfermedad	De 6 a 24 meses

Center for Food Security and Public Health
Iowa State University 2006

Different animal species react to FMD in different ways. Sheep and goats are considered maintenance hosts in that they have mild signs which delay diagnosis and allow for aerosol, direct contact spread, and environmental contamination. Sheep can carry the virus in their throat tissue for 4-6 months. Pigs are amplifying hosts in that they concentrate the virus in their respiratory secretions and are much more infective via aerosol transmission. Pigs shed high levels of virus, but for only a short time (not long-term carriers). Cattle are indicator hosts because they most often are the first species to show clinical signs with more severe, rapidly progressing lesions. Cattle can carry the virus in their throat tissue for 6-24 months once exposed or vaccinated with FMD.

Slide 17

Transmisión al ser humano

- Muy rara vez
- Actúa como transmisor hacia los animales
  - Alberga el virus en el tracto respiratorio de 1 a 2 días
  - Botas, vestimenta, vehículos contaminados
  - Se propaga a animales susceptibles
- Ingestión de leche o productos lácteos provenientes de animales infectados

Center for Food Security and Public Health
Iowa State University 2006

It is very rare for humans to become infected with FMD. Vesicles may appear on the skin at the point of contact with an infected blister from an animal. The most important point to understand is that humans may pick up the virus in a variety of ways and transmit FMD to other animals. As mentioned previously, humans can carry the FMD virus in their respiratory tract for 1-2 days. Also, if their boots, clothing or vehicles become contaminated, they may spread the virus to susceptible animals. Although rare, a person may contract an infection if they ingest milk or dairy products from infected animals.

Slide 18

Animales con FMD

Slide 19

Síntomas clínicos

- Lapso de tiempo desde la exposición hasta la aparición de síntomas de la enfermedad: de 2 a 12 días
- Fiebre y vesículas
  - Patas, boca, ollar, hocico, pezones
- Abortos
- Muerte de animales jóvenes
- Recuperación en dos semanas a menos que surjan infecciones secundarias

Center for Food Security and Public Health
Iowa State University 2006

The period of time from exposure to signs of disease (incubation period) for FMD is 2 to 12 days and animals that are in contact with infected animals will generally develop signs in 3 to 5 days. Fever and blisters (vesicles) on the feet, mouth, nostrils, muzzle and teats are the characteristic lesions of FMD. These will eventually progress to erosions which cause the affected animal to have clinical signs associated with the lesioned area. Abortion may occur in adults and death in young animals without any other clinical signs. Animals generally recover in two weeks but secondary infections may lead to longer recovery time. The photo depicts oral erosions on the tongue and lips of a cow with FMD.

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Slide 20

Síntomas clínicos en bovinos

- Lesiones bucales
  - Vesículas en la lengua, almohadilla dental, encías, región posterior de la boca, ollar, hocico
  - Se transforman en erosiones
  - Exceso de saliva, babeo, secreción nasal acuosa

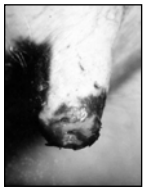
Center for Food Security and Public Health
Iowa State University 2006

Clinical signs in cattle include mouth lesions such as blisters on the tongue, dental pad, gums, back of the mouth, nostrils or muzzle. These will eventually progress to erosions which cause the affected animal to have clinical signs associated with the lesioned area. This will lead to excess saliva, drooling (due to difficulty in swallowing), and watery nasal discharge. The photo depicts a cow with excess saliva and drooling due to mouth lesions. Photo courtesy of the Gray Book.

Slide 21

Síntomas clínicos en bovinos

- Lesiones en los pezones
  - Disminución de producción de leche
- Lesiones en las pezuñas
  - Intradactilares
  - Parte superior de la pezuña
  - Cojera
  - Renuencia a moverse



Center for Food Security and Public Health
Iowa State University 2006

Teat lesions can occur and cause a decrease in milk production. Hoof lesions between the toes and on the top of the hoof are also common leading to lameness and a reluctance to move. Photo depicts ruptured blisters at the end of a bovine teat, from the Gray Book.

Slide 22

Síntomas clínicos en cerdos

- Lesiones en las pezuñas
  - Más graves que en los bovinos
  - Parte superior de la pezuña, talón, lesiones intradactilares
  - Cojera
- Vesículas en la trompa
- Vesículas bucales menos comunes
  - Es raro que exista babeo

Center for Food Security and Public Health
Iowa State University 2006

Pigs have more severe hoof lesions than cattle with blisters at the top of the hoof, heel and between the toes. Blisters are often seen on the snout but mouth lesions are not as common or less severe than in cattle if they do occur. Drooling is rare in pigs because of this. Top photo depicts severe hoof and leg lesions on a pig with FMD (from USDA http://www.usda.gov/oc/photo/01cs0008.htm) and the lower picture is of lame pigs due to their hoof lesions (Gray Book).

Slide 23

Síntomas clínicos en borregos y cabras

- Síntomas leves (en caso de presentarse)
  - Fiebre
  - Lesiones bucales
  - Cojera
- Dificultan el diagnóstico y la prevención

Center for Food Security and Public Health
Iowa State University 2006

Since sheep and goats are referred to as a maintenance host, fever, mouth lesions and lameness occur but are very mild and sometimes are not detected. This makes it difficult to diagnose and prevent the spread of disease to other species.

Slide 24

Enfermedades vesiculares

- La FMD es una de las cuatro enfermedades que ocasionan vesículas (aftas)
- Dos de ellas afectan a los bovinos
  - La FMD y la estomatitis vesicular
- La única manera de distinguirlas es mediante pruebas de laboratorio - ¡Comuníquense con el médico veterinario!

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Iowa State University 2006

FMD is one of four vesicular (blister) causing diseases. Cattle can be affected by two of them (FMD and Vesicular Stomatitis). The only way to tell the difference between the two diseases is to run laboratory tests – call the veterinarian!

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	Fiebre Aftosa	Estomatitis vesicular	Enfermedad vesicular porcina	Exantema vesicular porcino
Síntomas clínicos por especie	Todas las enfermedades vesiculares ocasionan fiebre con vesículas que se convierten en erosiones en la boca, ollares, hocico, pezones y patas			
Bovinos	Lesiones bucales y en las pezuñas, salivación, babeo, cojera, abortos, muerte de animales jóvenes, pérdida de control térmico "jadeo"; ***Indicadores de la enfermedad***	Vesículas bucales, en los pezones, parte superior de la pezuña, intradactilares	No la contraen	No la contraen
Cerdos	Lesiones graves en las pezuñas, formación de escaras en las pezuñas, vesículas en la trompa, lesiones bucales menos graves; ***hospederos intensificadores***	Igual que los bovinos	Síntomas graves en animales en corrales de concreto; cojera, salivación, síntomas neurológicos, entre más jóvenes, más grave.	Lesiones más profundas con formación de carnosidades en las patas.
Borregos y cabras	síntomas leves si es que llegan a aparecer; ***hospederos de mantenimiento***	Es muy raro que muestren síntomas	No la contraen	No la contraen
Caballos, burros, mulas	No la contraen	Muy grave con vesículas bucales, parte superior de la pezuña, babeo, frotan sus bocas contra objetos, cojera	No la contraen	No la contraen

Clinically, all vesicular diseases produce a fever with blisters (vesicles) that progress to erosions in the mouth, nostrils, muzzle, teats and feet. A person cannot tell the different types of vesicular diseases apart just by looking at them, especially in swine as this chart shows, and diagnosis can only be made through testing for a specific virus. Any disease with blisters (vesicles) and fever should warrant an immediate phone call to your veterinarian.

Slide 26

Medidas a seguir

Pónganse en contacto
con su médico veterinario

Detengan toda
movilización de animales

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Iowa State University 2006

If you suspect a blister-like (vesicular) illness like FMD in your animals, call your local veterinarian immediately and stop all animal movement.

Slide 27

La FMD en los seres humanos

- La FMD en el ser humano no es un problema de salud pública
- 40 casos en humanos documentados desde 1921
  - Europa, África, Sudamérica

Center for Food Security and Public Health
Iowa State University 2006

FMD infection in humans is not considered a public health concern. Since 1921, there have only been 40 human cases that were isolated and typed on three continents (Europe, Africa, South America).

Slide 28

Prevención y control

There are various prevention and control methods that can be applied to foot-and-mouth disease and those will be discussed next.

Slide 29

Prevención: a nivel nacional

- USDA APHIS: restricciones estrictas a la importación
  - Prohíben la importación de rumiantes, cerdos vivos y sus productos si provienen de países afectados por la FMD
  - Monitorean a los viajeros y sus pertenencias en los puertos de entrada

Center for Food Security and Public Health
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The USDA (United States Department of Agriculture) has upgraded the safeguarding measures in place to prevent introduction of FMD into the U.S. The USDA APHIS (Animal and Plant Health Inspection Service) has strict import restrictions in place to prohibit importation of live ruminants, swine and their products from FMD-affected countries. Government officials at ports of entry continue to monitor travelers and their belongings that have returned from an FMD area. There are 450 foreign animal disease diagnosticians (FADD) employed to investigate suspicious lesions and other unusual symptoms that private veterinary practitioners alert them to. Several states have also been involved in training exercises regarding actions to take if FMD is introduced. Additionally, APHIS has a federal plan in place should it occur on U.S. soil.

Slide 30	**Prevención: a nivel nacional** • 450 expertos en diagnóstico de enfermedades animales exóticas (FADD) investigan lesiones sospechosas • Planeación /ejercicios de capacitación a nivel estatal Center for Food Security and Public Health Iowa State University 2006	The USDA (United States Department of Agriculture) has upgraded the safeguarding measures in place to prevent introduction of FMD into the U.S. The USDA APHIS (Animal and Plant Health Inspection Service) has strict import restrictions in place to prohibit importation of live ruminants, swine and their products from FMD-affected countries. Government officials at ports of entry continue to monitor travelers and their belongings that have returned from an FMD area. There are 450 foreign animal disease diagnosticians (FADD) employed to investigate suspicious lesions and other unusual symptoms that private veterinary practitioners alert them to. Several states have also been involved in training exercises regarding actions to take if FMD is introduced. Additionally, APHIS has a federal plan in place should it occur on U.S. soil.
Slide 31	**Prevención: en la explotación agropecuaria** • Limiten el acceso a su explotación agropecuaria • Coloquen avisos para informar a los visitantes acerca de las políticas  Center for Food Security and Public Health Iowa State University 2006	Producers should implement and follow strict, complete biosecurity protocols on U.S. livestock production facilities as their best means of prevention. See the FMD Prevention Practices handout for specific guidelines on protecting your facility from FMD. Biosecurity protocols should include steps such as limiting access to only personnel necessary for the function of the farm. Signs should be posted at the farm entrance to inform visitors of biosecurity policies, such as the one pictured here (graphic design by Clint May, CFSPH). All traffic (vehicle, people and animals) should be closely monitored and recorded in a log book. Clean clothing (coveralls, hats, boots) should be worn when accessing animal areas. These materials should be disinfected or removed and disposed of following the procedure to prevent cross contamination between different areas of your farm. Additionally, hands should be washed with soap and water after contacting animals to prevent spread of disease to animals or humans.
Slide 32	**Prevención: en la explotación agropecuaria** • Monitoreen el tránsito y a los visitantes • Lleven puesto equipo de protección personal en las áreas de los animales – Overoles, botas, cascos limpios – Desinfecten las botas – Lávense las manos Center for Food Security and Public Health Iowa State University 2006	Producers should implement and follow strict, complete biosecurity protocols on U.S. livestock production facilities as their best means of prevention. See the FMD Prevention Practices handout for specific guidelines on protecting your facility from FMD. Biosecurity protocols should include steps such as limiting access to only personnel necessary for the function of the farm. Signs should be posted at the farm entrance to inform visitors of biosecurity policies, such as the one pictured here (graphic design by Clint May, CFSPH). All traffic (vehicle, people and animals) should be closely monitored and recorded in a log book. Clean clothing (coveralls, hats, boots) should be worn when accessing animal areas. These materials should be disinfected or removed and disposed of following the procedure to prevent cross contamination between different areas of your farm. Additionally, hands should be washed with soap and water after contacting animals to prevent spread of disease to animals or humans.
Slide 33	**Prevención: en la explotación agropecuaria** • Restrinjan o detengan la movilización de animales – Para evitar que la enfermedad se propague – Pongan en cuarentena por un lapso de 30 días a los animales nuevos o que están de regreso – Eviten el contacto con animales que deambulan libremente ▪ Fauna silvestre, roedores, perros, gatos Center for Food Security and Public Health Iowa State University 2006	If FMD is reported in the U.S., you can protect your farm by restricting or disallowing movement of your animals off or onto your farm. If animals have been newly introduced or recently returned (e.g., from a show) to your farm, they should be quarantined in an area away from other animals for a period of at least 28-30 days. These animals could be infected with a disease but have not developed signs of illness. By allowing this time period, you can prevent spread of a disease to the remainder of your herd from an ill animal. Although difficult, prevent contact of your herd with other free-roaming animals such as wildlife, rodents or even domestic animals like dogs or cats that could spread disease between farms.

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Prevención: en la explotación agropecuaria

- Aprendan a reconocer los síntomas de la FMD
- Monitoreen a los animales rigurosa y frecuentemente
- Aíslen de inmediato a cualquier animal enfermo
- Pónganse en contacto con el médico veterinario encargado de sus animales

Center for Food Security and Public Health
Iowa State University 2006

The best way to prevent the spread of FMD is rapid detection. This will require close and frequent monitoring of your herd. Other diseases can look similar to FMD, so it is important to immediately isolate animals showing signs of illness or acting unusually and contact your herd veterinarian.

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Control

- Desinfección
  - Eliminen toda materia orgánica
    - Estiércol, lodo, alimento
  - Utilicen la concentración adecuada
  - Dejen en contacto el desinfectante durante el tiempo adecuado
- Vehículos, calzado, equipos

Center for Food Security and Public Health
Iowa State University 2006

In order to control FMD, proper disinfection of all contact premises and infected materials is necssary. Preparing disinfectants for the farm entrance, vehicles, and people is imperative in preventing the spread. An essential step in effective disinfection is to remove all organic matter (manure, feed, dirt, etc.) prior to application of any disinfectants. Most disinfectants are inactivated by organic material. Additionally, this debris can allow microorganisms "hiding" from the action of disinfectants. Always read the label instruction to determine to concentration needed. More is not always better. Another often overlooked step is to allow for proper contact time after application of the disinfection solution. The chemicals need time to do their job. Cleaning and disinfection of vehicles, equipment, footwear, clothing is essential to minimize the spread of FMD. Photo courtesy of: Danelle Bickett-Weddle, DVM, ISU

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Desinfectantes aprobados por la EPA y el USDA

Producto	Dilución	Instrucciones de mezclado	Comentarios
Hipoclorito de sodio 5.25% (NaOCl) (blanqueador doméstico)	3%	2 galones de blanqueador por 3 galones de agua. Mezclar perfectamente	Inactivado por contaminación orgánica; inestable en condiciones cálidas y soleadas.
Ácido acético*	4-5%	6.5 onzas de ácido acético puro por 1 galón de agua. Mezclar perfectamente.	El vinagre es una solución de 4% de ácido acético.
Peróxidomonosulfato de potasio y cloruro de sodio	1%	Siga las instrucciones de la etiqueta.	Vg. Virkon-S
Carbonato sódico (sosa comercial)	4%	5.33 onzas de carbonato sódico por 1 galón de agua caliente **o bien** 1 libra de sosa comercial por 3 galones de agua caliente. Mezclar perfectamente.	La solución es ligeramente corrosiva y puede opacar las superficies pintadas o barnizadas.
Hidróxido de sodio (lejía, NaOH)	2%	1/3 de tasa de gránulos de NaOH (2.7 onzas de lejía) por 1 galón de agua fría. Agregar la lejía al agua. Mezclar perfectamente.	Esta solución es sumamente corrosiva. Utilice vestimenta de protección (resistente al agua), guantes y anteojos de seguridad. **Advertencia: Siempre agregue la lejía al agua. Jamás el agua a la lejía.**

* El ácido cítrico también puede ser eficaz.

Selected disinfectants have been approved by the EPA and USDA for use against the FMD virus. Many of them have safety issues and concerns and should be used with caution. In the event of an FMD outbreak, the best disinfectant of choice will likely be determined by animal health officials. To protect your farm, some of these solutions may be used for preventive purposes. As with all chemicals, always read the label directions and mix the concentration appropriate for your purposes. Wear gloves and goggles to avoid damage to your skin and eyes while mixing or applying most disinfectants.

Slide 37

Control

- No existe ningún tratamiento
- Cuidados de apoyo a los infectados
- Un brote en los EE.UU. podría tener como consecuencia
  - La cuarentena
  - La eutanasia
  - La destrucción
- Vacuna disponible
  - Decisión difícil

Center for Food Security and Public Health
Iowa State University 2006

Currently there is no treatment for FMD as it is a virus. Supportive care may be provided to those animals afflicted with the disease, but due to the grave economic impact, animals will likely be quarantined, euthanized, and disposed of once they are found infected. Vaccines are available for use in some countries, but in the U.S. this may be a difficult decision.

S_FMD

Slide 38	**Vacunación** • No se utiliza actualmente en EE.UU. – Ningún animal contagiado desde 1929 • Puede utilizarse para controlar un brote Center for Food Security and Public Health Iowa State University 2006	Why don't we vaccinate for FMD? There is no need to vaccinate against a disease that animals have not had in this country since 1929. However, we may need to do so during an outbreak to contain it. There are implications to vaccinating animals. First, our international trade status would be in jeopardy as we couldn't claim FMD-free status. To earn FMD-free status, the OIE health code requires a 3-month waiting period after they slaughter their last positive animal, given ongoing surveillance through testing has occurred throughout the disease monitoring process. Next, annual re-vaccination would be required to maintain immunity and this is very costly and time consuming. It would be necessary to vaccinate against all 7 varieties of the virus. Finally, the FMD vaccine does not protect against getting the infection, it just lessens the outcome of the disease. So if a vaccinated animal came in contact with the virus, it could harbor it for months or years in its respiratory tract and shed it to others. This false sense of security of "vaccinated animals" could do more harm than good.
Slide 39	**Vacunación** • Repercusiones si optamos por la vacunación – Nuestra condición dentro del comercio internacional se vería dañada – Se necesita llevar a cabo una revacunación anual ▪ Proceso costoso y requiere de demasiado tiempo – No protege contra la infección; únicamente combate los síntomas clínicos ▪ La infección podría propagarse a otros animales Center for Food Security and Public Health Iowa State University 2006	Why don't we vaccinate for FMD? There is no need to vaccinate against a disease that animals have not had in this country since 1929. However, we may need to do so during an outbreak to contain it. There are implications to vaccinating animals. First, our international trade status would be in jeopardy as we couldn't claim FMD-free status. To earn FMD-free status, the OIE health code requires a 3-month waiting period after they slaughter their last positive animal, given ongoing surveillance through testing has occurred throughout the disease monitoring process. Next, annual re-vaccination would be required to maintain immunity and this is very costly and time consuming. It would be necessary to vaccinate against all 7 varieties of the virus. Finally, the FMD vaccine does not protect against getting the infection, it just lessens the outcome of the disease. So if a vaccinated animal came in contact with the virus, it could harbor it for months or years in its respiratory tract and shed it to others. This false sense of security of "vaccinated animals" could do more harm than good.
Slide 40	Recursos adicionales	
Slide 41	**Recursos** • Sitio Web del Center for Food Security and Public Health – www.cfsph.iastate.edu • Sitio Web de la Organización Mundial de Salud Animal (OIE) – www.oie.int • Veterinary Services - USDA APHIS – www.aphis.usda.gov/vs • 1-866-SAFGUARD es una línea telefónica de urgencias sin costo Center for Food Security and Public Health Iowa State University 2006	The 1-866-SAFGUARD (723-48273) is a toll-free hotline with recorded messages for international travelers

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Autora: Danelle Bickett-Weddle, MVZ, MSP

Co-autores: Anna Rovid Spickler, MVZ, Doctorada
Kristina August, MVZ
James Roth, MVZ, Doctorado
Ingrid Trevino, MVZ
Glenda Dvorak, MVZ, MS, MSP

Revisor: Bindy Comito Sornsin, BA