

Tennessee Fair and Animal Exhibition Safety: Reducing Disease Risks for Visitors

Compendium of Measures to Reduce Risks



Department of Agriculture
Ellington Agricultural Center
Nashville, TN 37204
615.837.5103

UF | Extension



It's About Time!

Overview

- **Background on recommendations**
 - **National Association of State Public Health Veterinarians Committee**
- **Lessons from outbreaks**
 - **Transmission routes**
- **Compendium recommendations:**
 - **Handwashing!**
 - **Information / Education**
 - **Managing Public and Animal Contact**
 - **Animal Care and Management**
 - **Additional recommendations**
 - **Appendices**

Background: Recommendations to reduce risk

- **United Kingdom 1995**
- **Canada 2000**
- **United States MMWR 2001**
- **National Association of State Public Health
Veterinarians (NASPHV) Compendium 2003**

Compendium of Measures to Prevent Disease Associated with Animals in Public Settings, 2005

MMWRTM

Morbidity and Mortality Weekly Report

Recommendations and Reports

March 25, 2005 / Vol. 54 / No. RR-4

Compendium of Measures To Prevent Disease Associated with Animals in Public Settings, 2005

National Association of State Public Health Veterinarians, Inc.
(NASPHV)



INSIDE: Continuing Education Examination

**DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION**

NASPHV Compendium

- **Document written by a committee of public health veterinarians**
- **Consultants advise on subject matter**
- **Reviewed and revised annually**
- **Published every 2 years as a MMWR Recommendation & Report**

NASPHV Compendium Committee

Millicent Eidson, MA, DVM, DACVPM (Epid), Cochair

Jeffrey B. Bender, DVM, MS, DACVPM, CoChair

Florida Department of Health

Tennessee Department of Health

Texas Department of Health

Consultants to the Committee:

- Centers for Disease Control and Prevention**
- National Assembly of State Animal Health Officials**
- Washington State University**
- U.S. Department of Agriculture**
- AVMA Council on Public Health and Regulatory Veterinary Medicine**
- Council of State and Territorial Epidemiologists**
- American Zoo and Aquarium Association (proposed)**

Endorsed by CDC, AVMA, CSTE

Major transmission routes:

Waterborne

Direct contact with animals

Indirect contact

Water systems vulnerable



Washington County Fair (New York State 1999):

- No municipal water supply
- Water wells:
 - Shallow & untreated

Direct animal contact



Indirect contact



Lessons from Outbreaks

Lesson 1: “Don’t forget to wash your hands!”

- **Pennsylvania Dairy farm:** *E. coli* O157 outbreak associated with school trips
 - inadequate hand-washing facilities

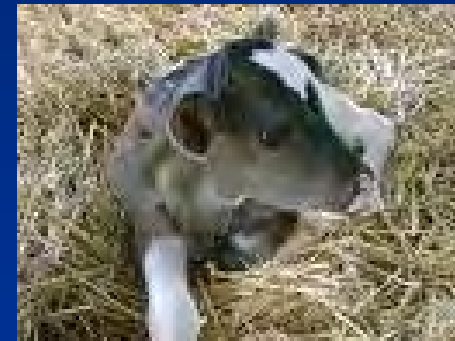
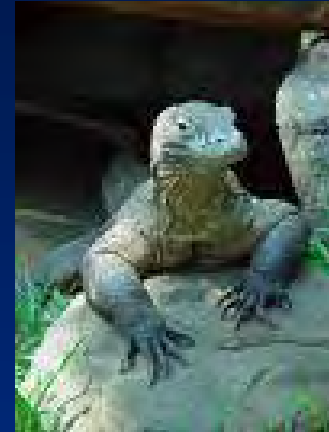
FIGURE 1. CDC investigator examines a calf at farm A — Pennsylvania, 2000



Lesson 1: “Don’t forget to wash your hands!”

- **Denver Zoo** Komodo dragon exhibit: *Salmonella*
 - showed protective effect of hand-washing

- **Minnesota children’s farm day camp:** Multiple pathogens
 - washing hands with soap after touching a calf and washing hands before going home were protective factors



Lesson 2: Long-term contamination

Ohio county fair outbreak
of *E. coli* O157:H7:

Illness linked to:

- Going to barn dance
- Handling sawdust
- Eating and drinking in barn
- Animals were exhibited during the previous week of the fair



Lesson 2:

Long-term contamination

- **University of Wisconsin**
E. coli O157 outbreak,
34 ill
- Stock pavilion used for
pre-Badger football
game pancake breakfast
- *E. coli* O157 from
sawdust, walls, railings,
etc.



Lesson 2: Long-term contamination

North Carolina State Fair 2004 *E. coli* O157 outbreak:

- Goat and sheep petting zoo, *E. coli* O157 isolated from soil 5 months after the animal bedding and topsoil removed
- Efforts to decontaminate failed, eventually culture negative

**Decontamination trial at
Petting Zoo B:**

NC State Fairgrounds





Other lessons learned:

Improper facility design and maintenance increase risk:

- Large **New York county fair outbreak** of *E. coli* O157:H7 and *Campylobacter* where the water and sewage systems had deficiencies

Temporary petting zoo facilities may be particularly vulnerable:

- **Arizona** temporary petting zoo at a municipal zoo
- Outbreaks at temporary venues have included festivals, roadside attractions, pumpkin patch, farm stands, pick your own produce farms, Christmas tree farms

Additional Health Concerns

Injuries: bites, kicks, falls, scratches, stings, crushing of the hands or feet, etc.

Other Infections: Multiple bacterial, viral, fungal, and parasitic agents

Rabies: Contact with rabid animals can expose persons to rabies, no known human rabies deaths caused

- Rabies exposures require extensive investigation
- For example, rabies exposures at a county fair in New York State, petting zoos in Iowa and Texas, a rodeo event in Wyoming, Other? . . .



MEDIA RELEASE

STATE OF TENNESSEE
DEPARTMENT OF HEALTH

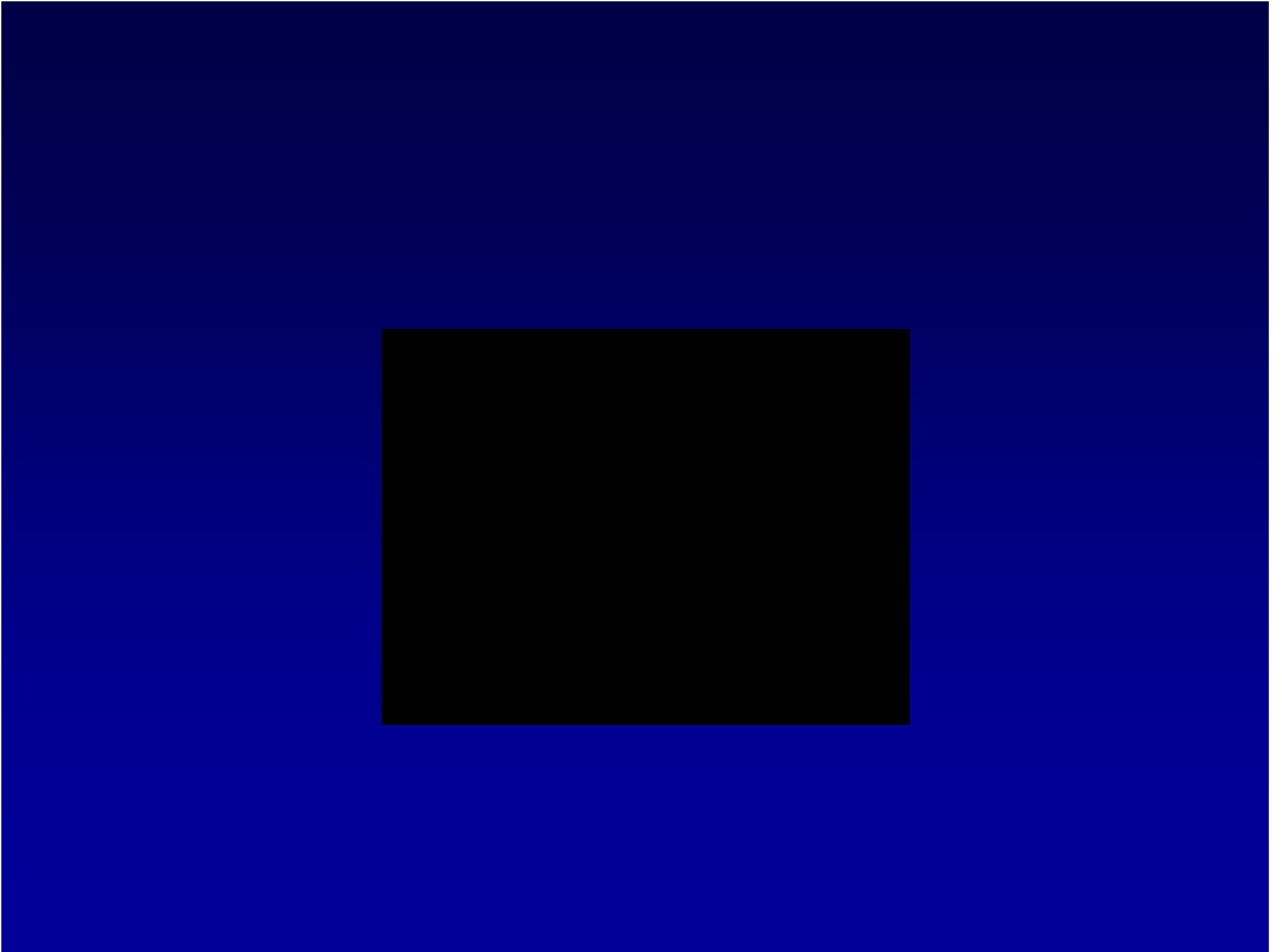
FOR IMMEDIATE RELEASE
SEPTEMBER 8, 2006

CONTACT: Andrea Ewin Turner
615.741.3111 (office)
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HORSE STABLED AT TENNESSEE WALKING HORSE NATIONAL CELEBRATION TESTED POSITIVE FOR RABIES

NASHVILLE, Tenn. – Officials with the Tennessee Department of Health are notifying persons who attended the Tennessee Walking Horse National Celebration in Shelbyville of a confirmed case of rabies in a horse stabled on the grounds during the event. The horse was not involved in any of the Celebration competitions.

The horse originated from Missouri and was a 3-year-old gelding (neutered male horse), buckskin (cream to tan) in color with a black mane and tail. The horse was described as "small," standing approximately 14 hands (or 56 inches) at the withers, which is the area near the base of the mane. During the event, the horse was ridden on the grounds by owners and was stabled in barn number 50 on the Celebration grounds. Illness was first noted in the horse on August 28. Over the next few days, the horse developed severe neurological signs, and as a result was euthanized. Persons directly involved in the care of the horse are being contacted and are being assessed for possible rabies exposure and the need for rabies post-exposure treatment.



Tennessee Walking Horse National Celebration

- 150, 000 attendees
- Horse from Missouri
 - Arrived August 20th / Signs of rabies began August 28th
 - At Celebration until August 31st
 - Ridden on grounds, contacted by public
- Challenges
 - Notify the public
 - Assess risks and advise about rabies PEP

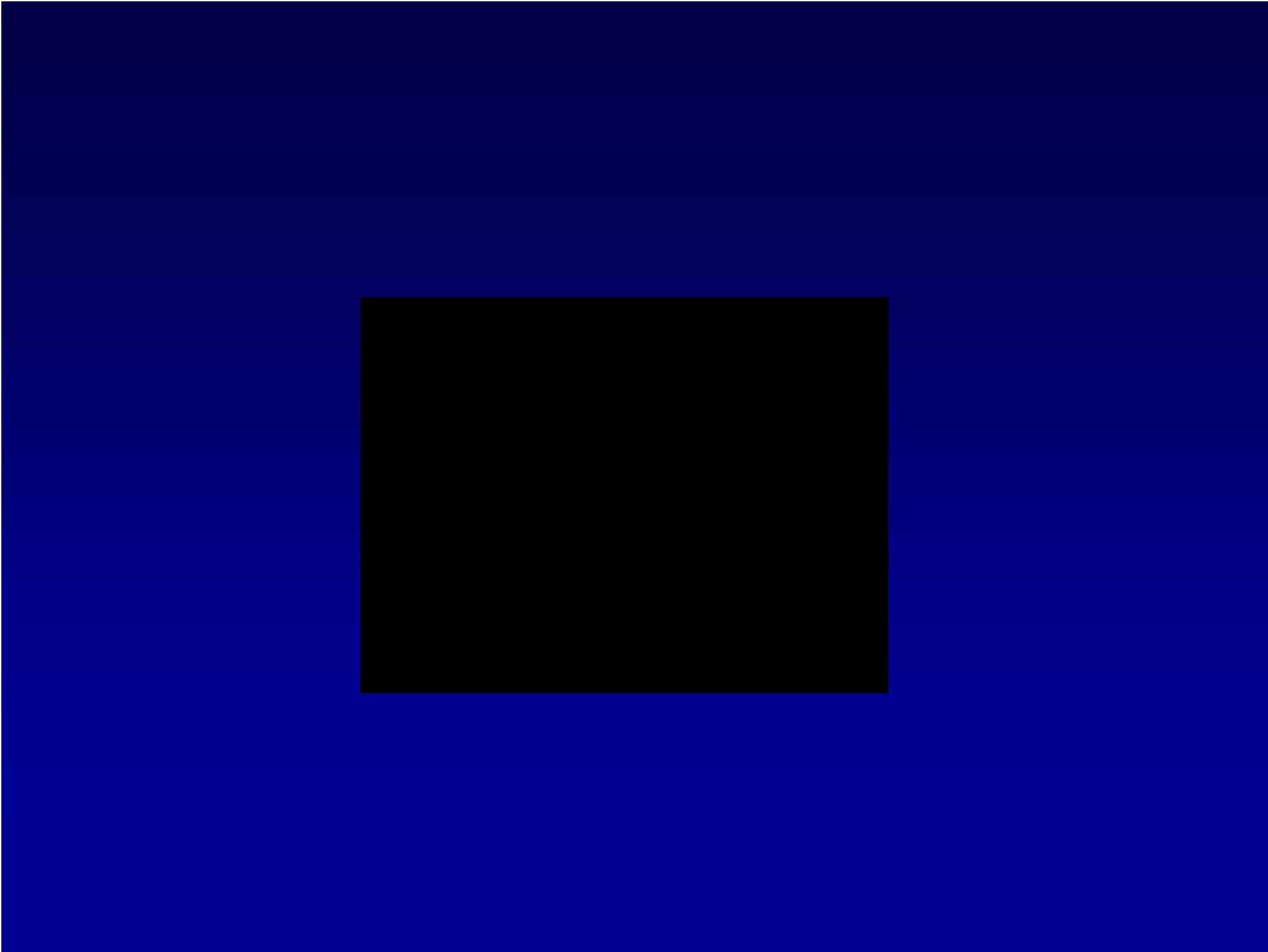
Visit to Celebration grounds Shelbyville, TN

- Expansive barn area
- Rabid horse “Bucky” in Barn 50



Follow-up

- **Contacted public**
 - Media (television, print, press releases, EpiX, CDC HAN, TDH HAN)
 - Mailout- 4200 letters to people in 34 states, Canada and Germany
- **Toll free hotline set up in TDH**
- **Consulted with ~50 persons**
 - ~25 persons receiving rPEP, most in Missouri
- **Rabies variant determined by TDH to be bat variant**



Is this a rabies exposure?



Recommendations

Recommendations for Local, State, and Federal Agencies

- Communication and cooperation between human and animal health agencies
- Distribute this report to venue operators
- Develop educational and training materials for venue operators and other interested persons



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 **Extension**



Recommendations for Education

- *Visitors knowledgeable about potential risks are less likely to become ill*
- **Venue operators should:**
 - Be familiar with risk-reduction recommendations
 - Consult with state and local agencies and county extension agents on implementation
 - Assure that staff are appropriately trained
 - Assure that visitors and exhibitors receive education
 - Provide information to persons arranging school field trips or classroom exhibits

Recommendations for Education

- **Venue staff should:**
- **Be trained and able to explain risk reduction recommendations to visitors**
- **Encourage compliance with risk-reduction recommendations, especially hand-washing**
- **Comply with local and state requirements for reporting animal bites, scratches, or other injuries.**
- **Assure that visitors receive educational messages**

Recommendations for Education

- **To educate visitors, venue operators and staff should:**
 - **Provide information about disease risks and appropriate measures to reduce risk**
 - **Inform visitors which groups of people are at high risk and the precautions visitors should take**
 - **Provide information before the event, and at the animal contact area entrances and exits**
 - **Provide information in a simple to understand format that is age- and language-appropriate**
 - **Provide information in multiple formats (e.g., signs, stickers, handouts)**

Examples of educational signs



IMPORTANT INFORMATION!



- Parents make sure children do not put their hands in their mouths
- Do not eat or drink while in the animal barns
- WASH HANDS after leaving animal area

BACTERIA AND INFECTIONS ARE CARRIED BY ANIMALS



Prevent Disease...

**WASH
YOUR**



HANDS!!!



Lorain County General Health District
9880 South Murray Ridge Rd. - Elyria, OH 44035

VISITOR CAUTION

Reduce your risk of exposure to transmittable diseases.

CRITTERS AHEAD!

- **WASH HANDS AFTER** touching animals
- Make sure that your children **DO NOT** put their hands in their mouth *after touching*
 - Animals
 - Animal Pens
 - Flooring
 - Or the bottom of their shoes if they walk in animal areas.
- **WASH HANDS BEFORE** eating
- **NO Food or Drinks** are permitted in Animal Areas
- **Tuck Away Infant Pacifiers**

Have your child wash and sanitize with baby wipes!



LAVESE LAS MANOS

CUANDO
Lávese las manos antes de preparar comidas o cada vez que sea necesario.
Lávese las manos después de haber:

- Tocado los animales, corrales, camas
- Ido al baño
- Tocado carne, pollo o pescado crudos, huevos u otros productos de origen animal
- Interrumpido el trabajo con alimentos (para contestar el teléfono, abrir la puerta o cajones)
- Tocado platos, cubiertos o utensilios sin lavar
- Sacado la basura
- Tocado la nariz, la boca o cualquier otra parte del cuerpo
- Estornudado o tosido
- Cambiado pañales

Use jabon para lavarse las manos.
Séquese con una toalla limpia o con toallas de papel desechable.

COMO


Mójelas
 con agua caliente


Lávalas
 20 segundos


Enjuáguelas


Séquelas

Las ilustraciones son del folleto informativo del Programa Lavarse las Manos del Servicio de Extensión Educacional de Nutrición de UMass, reimprimidas con su autorización.

OMI
 Orono Medical
 Laboratories

*¡Más fácil, más...
 no pánico con
 las manos sucias!*

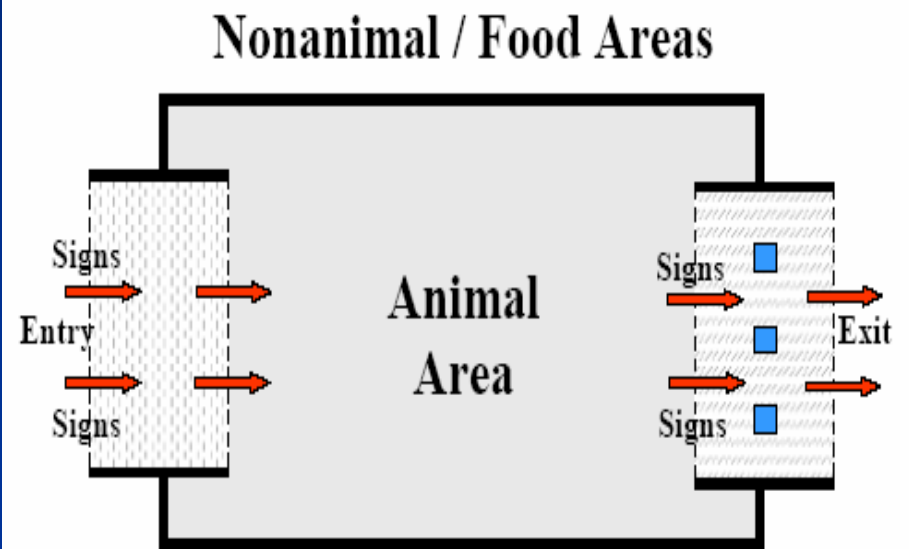
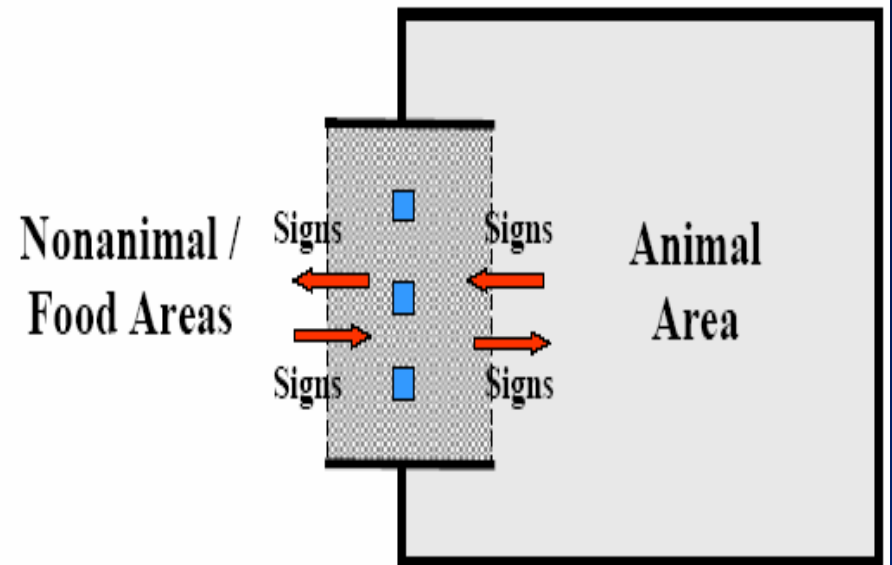
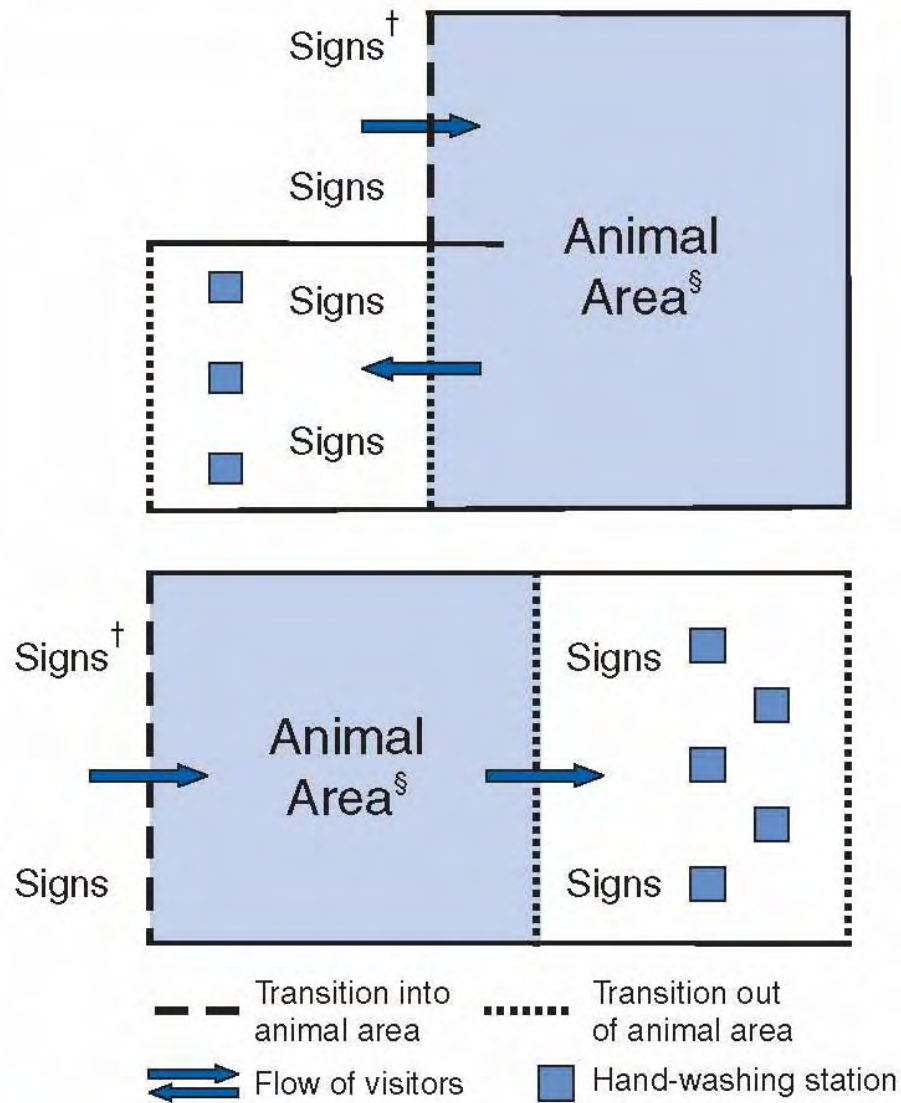
Recommendations for Managing Public and Animal Contact

- **Contact with animals should occur in settings where measures are in place to reduce the potential for injuries or disease transmission**
 - **Design of facilities and animal pens should minimize the risk for these contacts, particularly with manure, and facilitate hand-washing**
 - **Double barriers can be used to prevent contact with animals or contaminated surfaces**
 - **Temporary exhibits should be carefully planned, designed, and managed to avoid problems**

Designs for Managing Public and Animal Contact Should Consider:

- **Non-animal areas**
- **Animal areas**
- **Transition areas**

FIGURE. Examples of designs for animal contact settings, including clearly designated animal areas, nonanimal areas, and transition areas with hand-washing stations and signage



Non-animal areas

- Animals not permitted, except service animals
- Food and beverages can be prepared, served, and consumed
- Hand-washing signs and facilities provided where food or beverages are served

Animal Areas

- Exclude food and beverages
- Exclude toys, pacifiers, “sippy cups”, baby bottles, and smoking
- Remove manure and soiled animal bedding promptly avoiding spillage
- Store animal waste and specific tools for waste removal (e.g., shovels and pitchforks) in designated areas restricted from public access
- Where feasible, disinfect animal areas (e.g., flooring, railings) daily
- Supervise children closely to discourage hand to mouth activities, contact with manure, and contact with soiled bedding, supervise hand-washing
- Use barriers between public and animals in petting zoo areas to reduce excessive contact and contamination of clothing

Animal Areas (continued)

- Do not use animal areas for public (non-animal area) activities
 - **“Lesson 2”** – long-term contamination
- If used for a public event, animal areas should be cleaned and disinfected
 - Materials with smooth, impervious surfaces (e.g., steel, plastic, and sealed concrete) are easier to clean
 - Removing organic material (bedding, feed, and manure) before using disinfectants is important

Transition areas



You can lead a horse
to water, but . . .

You can't make him drink!

Transition Areas Between Non-animal and Animal Areas

- Establish transition areas for visitors to pass through when entering and exiting animal areas
 - One way visitor flow is preferred
 - Designated as clearly as possible
- **Entrance transition areas**
 - Post signs informing visitors that they are entering an animal area
 - Instruct visitors not to eat, drink, smoke, place their hands in their mouth, or use bottles or pacifiers while in the animal area
 - Exclude strollers, food, and beverages, establish storage or holding areas
- **Exit transition areas**
 - Post signs instructing visitors to wash their hands.
 - Provide accessible hand-washing stations for all visitors, including children and persons with disabilities
 - Position venue staff near exits to encourage compliance

Entrance transition areas



For Your Safety

DO NOT bring these items into the animal area



Please watch your children

Wash your hands as soon as you exit!

Your Safety is Important to Us!

- No food or drink** in the exhibit area!!
- Avoid the use of pacifiers and soft toys near the animals.
- Pregnant women, people with chronic illness, people with a suppression of their immune system, and children under the age of three should avoid **DIRECT** contact with animals or animal waste products.



No Infant Pacifiers

Help Keep Our Animals Safe

1) Please Treat our Animals with Kindness.

Small Children should be supervised so he or she behaves and treats the animals with kindness.

2) No Food or Drinks.

Please leave food and drink outside of the Petting Zoo. Fair "goodies" will make our animals sick.



3) Wash Your Hands!

Wash hands with soap and water after touching the animals. Hands should be washed before leaving the Petting Zoo and before eating. Avoid touching your face and mouth before washing your hands with soap and water. Parents should supervise all children's hand washing. Hand washing facilities are provided inside.



No Food or Drink
No se permite comida o bebidas

Exit transition areas

For Your Safety

After Visiting Animal Areas

ALWAYS

Wash Your Hands



- ❖ Use soap and water
- ❖ Work up a good lather
- ❖ Rub hands together for 20 seconds or sing "Happy Birthday" twice!
- ❖ Remember to wash between fingers, under fingernails, back of hands, wrists, and lower arm
- ❖ Dry hands with clean paper towels

Please help your children

Wash your hands!!

immediately after touching animals

Proper Handwashing Procedures

- Use soap and running water
 - Rub hands together for 20 seconds
 - Dry hands with clean paper towel
- OR-
- Use hand sanitizer
 - Rub hands together for 20 seconds
 - Air dry hands



The health of our visitors, volunteers, and animals is of utmost importance to us, please help us by doing your part.



FOR YOUR GOOD HEALTH

**PLEASE WASH
YOUR HANDS
AFTER LEAVING
THE EXHIBIT!**

Thanks for Visiting!

To protect your
children and yourself:

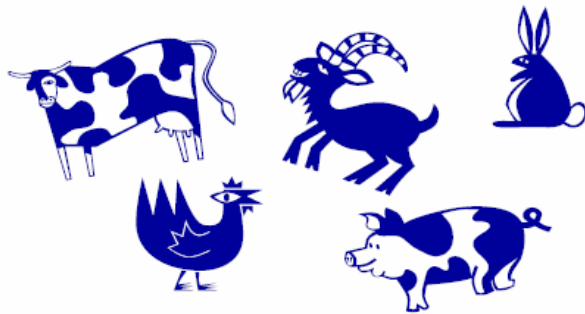


Children and adults
must wash their
hands upon exiting!



Touch

Tocar

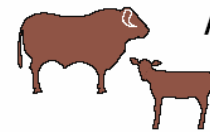


Wash

Lavar



ANIMAL HANDLING SAFETY TIPS



After Petting Animals,
Wash Your Hands!



ALWAYS



Use **SOAP** and **WATER**.

RUB hands together for **20** seconds.

WASH backs of hands, lower forearms,
wrists, between fingers, and under fingernails.



DRY hands with a clean paper towel.



CONSEJOS DE SEGURIDAD PARA TOCAR A LOS ANIMALES



Después De Tocar A Los Animals
¡Lave Sus Manos!



SIEMPRE



Use **AGUA** y **JABÓN**.

FROTE sus manos por **20** segundos.

LAVE atrás de las manos, los antebrazos, las
muñecas, entre los dedos y debajo de las uñas.



SEQUE las manos con una toalla de papel limpia.



Available from
TDA's Market
Development
Division

WASH YOUR HANDS

thoroughly after touching animals,
after using restroom facilities
and before eating to help prevent
the spread of E. Coli bacteria and
other disease-causing agents.



PLAY IT SAFE
& Protect Yourself from Germs...

www.pickitproduction.org Tennessee Department of Agriculture Market Development Division, P.O. Box 40627, Nashville, TN 37204

Authorization #123336

What else should be present in the exit transition areas?





VISITOR CAUTION

Reduce your risk of exposure to transmittable diseases.

- **WASH HANDS AFTER** touching animals
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 - Animals
 - Animal Pens
 - Flooring
 - Or the bottom of their shoes if they walk in animal areas.
- **WASH HANDS BEFORE** exiting
- **NO Food or Drinks** are permitted in Animal Areas
- Tuck Away Infant Pacifiers





ANIMALS MAY
CARRY BACTERIA
OR GERMS
PETTING ANIMALS
IS
DISCOURAGED!!

ANIMALS MAY
CARRY BACTERIA
OR GERMS
PETTING ANIMALS
IS
DISCOURAGED!!

VISITOR CAUTION

Wash your hands of germs before and after petting animals.

- Wash your hands before and after petting animals.
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HandFor
HandFor
HandFor

WASH YOUR HANDS
WASH YOUR HANDS
WASH YOUR HANDS



Animal Care and Management



- **Animal care:**
 - **Monitor for signs of illness**
 - **Ill or infected animals, and animals from herds with a history of abortion or diarrhea should not be exhibited**
 - **House animals to minimize stress and overcrowding**

- **Veterinary care:**
 - **Vaccinate, provide preventive care, and parasite control**
 - **Health certificates from a licensed veterinarian should be up-to-date according to local or state requirements**
 - **Screening for diseases** is not recommended
 - **Intermittent shedding**
 - **Limitations of laboratory tests, culturing fecal specimens or other attempts to identify**
 - **Antimicrobial treatment** of animals cannot reliably eliminate infection, shedding of enteric pathogens, or prevent reinfection

Animal Care and Management (continued):

- **Rabies:**
 - **Unvaccinated mammals should be vaccinated at least 3 months before they have contact with the public**
 - **Consult a veterinarian regarding off-label rabies vaccine**
- **Dangerous animals:**
 - **Prohibit certain domestic, exotic, or wild animals**
 - **Nonhuman primates (e.g., monkeys and apes) and certain carnivores (e.g., lions, tigers, ocelots, wolves/wolf-hybrids, and bears)**
 - **Rabies-reservoir species (e.g., bats, raccoons, skunks, foxes, and coyotes) should not be used**
- **Animal births:**
 - **Public has no contact with animal birthing byproducts**
 - **In live-birth exhibits, environment should be cleaned and all waste products should be discarded**
 - **Holding such events outside is preferable**

Additional Recommendations

- **Populations at high risk:**
 - **Children aged < 5 years**
 - **Persons with waning immunity (e.g., older adults)**
 - **Persons who are cognitively impaired, pregnant, or immunocompromised**
- **Persons at high risk should take heightened precautions:**
 - **Might include avoiding contact with animals and their environment (e.g., pens, bedding, and manure)**
 - **For young children, risk for exposure might be reduced if they are closely supervised by adults, carried by adults in animal areas, or have animal contact only over a barrier**

North Carolina State Fair, 2004



- High risk group (<5 yrs)
- High risk setting



Additional Recommendations

- Drinking water:
 - Potable water used for human consumption
 - Back-flow prevention devices should be utilized
 - Maps of the water distribution system should be available
 - Fairs in which treated municipal water is not available should consider alternative methods for disinfection of their water supply



Appendices:

- A. Hand-Washing Recommendations to Reduce Disease Transmission From Animals in Public Settings**
- B. Animals in Public Settings--Information for Visitors**
- C. Two Possible Designs for Animal Contact Facilities, with Separate Animal and Non-animal/Food Areas as well as Transition Areas**
- D. Guidelines for Visiting And Resident Animals In Schools**
- E. Disinfectants and Properties**

What can you do?

- Examine current policies compared to NASPHV Compendium recommendations
- Consult academic, local or state public health officials (planning committee)
- Provide education / “warning” to visitors regarding disease risks and handwashing
- Examine facility layout and design with respect to flow of visitors (*Lead the horse to water!*), control the environment to reduce risks
- Consider restrictions for high-risk groups, children <5 years

Questions?