

PREVENTION OF ZOOONOSIS



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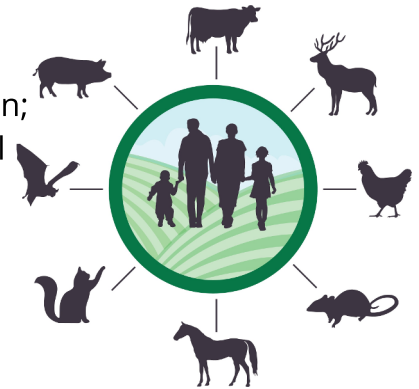
Table of Contents:

Overview and Trainer Information	Page 3
Classroom Activity #1: Self-Paced Learning Module	Page 4
Activity Time Required: 30 minutes	
Classroom Activity #2: Zoonosis Bingo	Page 5
Activity Time Required: 15-30 minutes	
Classroom Activity #3: The Words You Need to Know	Page 6
Activity Time Required: 15-30 minutes	
Classroom Activity #4: Hand Washing Experiment	Page 7
Activity Time Required: 55 minutes	
Suggested Test Questions	Page 8
Resources	Page 10

Training Overview:

Objectives: After the module, teens and young adults will be able to:

- Define Zoonotic disease and identify various modes of transmission;
- Locate recommended educational resources for use in educational programs;
- Discuss warning signs and symptoms of major Zoonotic diseases;
- Identify Zoonotic diseases affecting the production agricultural population

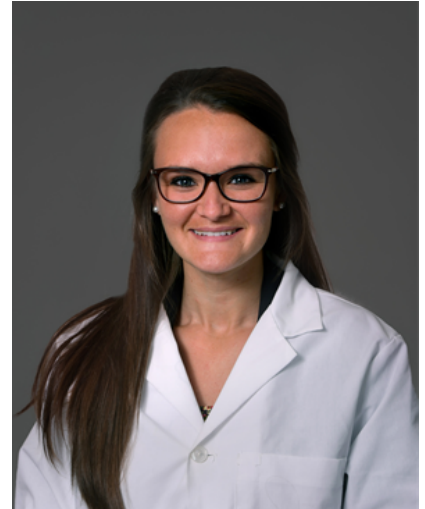


Intended Audience: This Train the Trainer course is designed for teachers, Extension staff, 4-H and FFA leaders and others who work with young adults.

Developer:

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Katelyn Haydett has her BS in Molecular Biology from Defiance College, MS in Environmental Toxicology from Texas Tech University, and DVM at Michigan State University. Her passion for public health began during a water testing project in Tanzania, Africa and has continued to evolve and include research focused on wildlife diseases and vector-borne zoonosis.



Classroom Activity #1: Self-Paced Learning Module

This e-learning module is designed for students, to teach them about preventing Zoonotic diseases, with a focus on working in agriculture. This module will take approximately 30 minutes for students to complete, and is intended to be used in place of a lecture for students. If you would rather present the lecture-style presentation to your students, you can access the presentation slides using the link in the resources page at the end of this guidebook. You also have the option to have an AgriSafe staff member present the content to your students, as well. Click the link below or scan the QR code to access the activity.

Preventing Zoonosis Self Learning Module - AgriSafe



Scan to access the self-paced learning module.

Classroom Activity #2: Zoonosis Bingo

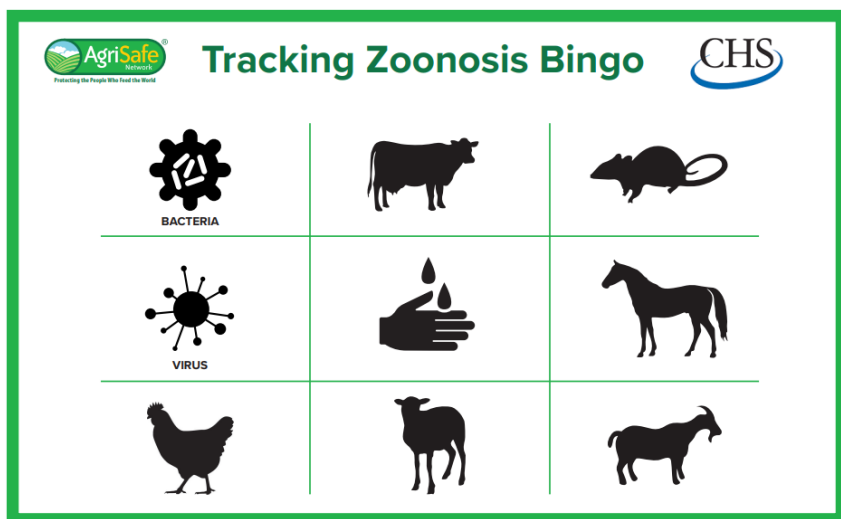
AgriSafe Network created the Tracking Zoonosis Bingo game to assist Ag Educators in the instruction of major Zoonotic diseases common in agriculture.

Materials can be easily printed using the link below or by scanning the QR code and include:

- Nine distinct bingo cards
- Bingo question cards that cover all icons

The hand-washing icon is given as a free space, since this is the best defense against Zoonotic disease transmission.

Tracking Zoonosis Bingo Cards



Q1) What is the best way to prevent the transmission of diseases between people?

A1)



Q4) This example of PPE (personal protective equipment) should be used when dealing with zoonotic diseases that are transmissible through inhalation.

A4)



Suggested wrap-up questions to follow the activity:

1. What precautions can you take to prevent zoonotic disease transmission in your daily life?
2. What are some common symptoms of zoonotic diseases? Do you notice a pattern?
3. What changes (if any) will you make in your daily habits based on what you learned today?



Scan to access the bingo cards and questions.

Classroom Activity #3: The Words You Need to Know

Flash Card Activity:

This hands-on lesson is designed to give students a basic understanding of essential vocabulary words related to Zoonotic diseases. The lesson includes a matching game to enhance learning as related to understanding of the vocabulary words, corresponding definitions, discussion starters, as well as importance of Zoonotic awareness.

This activity encourages “up out of their seat” student activity for the beginner and advanced learner while learning and utilizing the skills of communication, critical thinking and disease prevention. Educator instructions and matching cards are included in the following link or by scanning the QR code:

The Words You Need to Know

ZOONOTIC DISEASE VOCABULARY ACTIVITY

Table 1. Diseases That Animals and Humans Share: The Words You Need to Know “Sentence Examples (Beginner)”

Vocabulary Word	Proper Use in a Sentence
Centers for Disease Control and Prevention (CDC)	The Centers for Disease Control and Prevention worked hard to educate Americans about Ebola during the West African outbreak.
disease outbreak	In the past few years, there has been a troubling disease outbreak of porcine epidemic diarrhea on swine farms in the United States.
epidemiologist	Jackie wants to become an epidemiologist and study influenza.
pathogen	The spread of pathogens can be prevented by washing your hands with soap and water.
sterilize	Sterilize laboratory equipment before use to prevent contamination with unwanted germs.
zoonotic	Rabies is a serious zoonotic disease that can be transmitted to humans through a bite from an infected animal.

Flash Card Example

A specialist in diseases that affect groups of people or animals.

disease outbreak

Table 2. Diseases That Animals and Humans Share: The Words You Need to Know “Sentence Examples (Advanced)”

Vocabulary Word	Proper Use in a Sentence
bacteria	For bacteria to grow there must be nutrients, moisture, oxygen (in most cases) and an appropriate temperature.
blood-borne pathogen	Malaria is a blood-borne pathogen that affects people and is spread by mosquitoes.
E. Coli	The swine became sick from E. Coli after drinking water contaminated with fecal matter.

Suggested wrap-up questions to follow the activity:

1. Which zoonotic disease vocabulary word was the most difficult to remember? Why?
2. If you had to teach a younger student one of today's vocabulary words, which one would you choose and how would you explain it?
3. What is one zoonotic disease prevention strategy that relates to a vocabulary word you learned today?



Scan to view the flash cards.

Classroom Activity #4: Hand Washing Experiment

According to the CDC, 6% of the populations wash their hands correctly executing the hand sanitizing techniques to wash the microorganism down the drain. Youth in particular spend less time and lack the understanding and implementation of the practice of good hand washing as a prevention of disease transmission. Two different experiments utilizing chart design, data collection and interpretation, hand washing step by step activity and wrap up discussion to enhance student conclusion is included in the link. Proper hand washing is the basis to putting the stop to the spread of animal to human disease. To access the activity, click the link or scan the QR code below.

Hand Washing Experiment

Hand Washing Experiment

- Method 1 versus Method 2
- Materials
 - Powder or Gel that simulates the presence of germ students hands i.e. Glo Germ Juice, GlitterBug
 - Black or ultraviolet light
 - Sink
 - Pens/Crayons
 - Towels
- Engagement – Q&A

Data Table 1- Example

Washer	Washing Time in Seconds				
	0	5	10	15	20
Student 1					
Student 2					
Student 3					
Student 4					
Average					

Suggested wrap-up questions to follow the activity:

1. What did the experiment reveal about how well we wash our hands?
What areas of the hands were often missed during washing?
2. If you were handling animals or working on a farm, when would be the most important time to wash your hands?
3. What surprised you the most about the experiment results?



Scan to view the
hand washing
experiment.

Preventing Zoonosis

Suggested Test Questions

1. What are Zoonotic diseases?

- a. Diseases that can be transmitted from animals to people
- b. Diseases that can be transmitted from people to animals
- c. Diseases that animals in a zoo have

d. Both a and b

2. Who has the highest risk for contracting Zoonotic diseases?

a. Farmers and farm workers

- b. Chefs
- c. Pet store workers
- d. Factory workers

3. Which of the following are examples of preventative measures you can take to reduce your risk of contracting a Zoonotic disease?

- a. Washing hands
- b. Wearing insect repellent
- c. Using proper personal protective equipment (PPE)
- d. Designate separate clothes for farm work

e. All of the above

4. Brucellosis can be transmitted from cattle, swine, sheep, or goats to humans by which route of transmission?

- a. Mosquito bite
- b. Tick bite

c. Drinking raw milk

- d. Fly bite

5. West Nile virus and other encephalitides are transmitted by:

- a. Cattle

b. Mosquitoes

- c. Ticks
- d. Fish

6. Salmonella has symptoms that include:

a. Diarrhea and vomiting

b. Bullseye rash

c. Jaundice

d. Respiratory distress

7. Hanta virus is transmitted from _____ to people through the inhalation of feces and urine.

a. Cattle

b. Rodents

c. Poultry

d. Swine

8. Ringworm is a Zoonotic disease that is a _____.

a. Bacteria

b. Virus

c. Fungi

d. Parasite

9. Consumption of under cooked meat can result in which of the following Zoonotic diseases?

a. Hepatitis E

b. Salmonella

c. Tapeworm & Trichinella

d. All of the above

10. Animal influenzas such as Avian Flu and Swine Flu present with different symptoms

a. True

b. False

*Both influenzas, as well as many other Zoonotic diseases, present with disease such as fever, cough and sore throat, abdominal pain and diarrhea and vomiting.

Find more information

The screenshot shows the AgriSafe Network website. The header includes the AgriSafe Network logo with the tagline "Protecting the People Who Feed the World". Navigation links include "News & Forums", "Learning Lab", "Health Hub", "Login with miniOrange", and a search bar. A secondary navigation bar lists "Home", "Health Topics", "Learning Opportunities", "Current Projects", and "About". The breadcrumb trail reads "AgriSafe Network > Healthcare Topics > Hazards > Zoonotics". On the left, a "Health Topics" sidebar lists categories from A-G to Z, with "Zoonotics" highlighted. Below this is a blue box with the text "QPR FOR FARMERS AND FARM FAMILIES". The main content area is titled "Zoonotics" and features a "Zoonotic Resources" box with links to "Fact Sheets", "Webinars", "Podcast", and "Websites". A paragraph of text explains that zoonotic diseases are caused by germs spread between animals and people, and that agricultural producers are at high risk for work-related zoonotic disease infections.

Resources

[Prevention of Zoonotic Diseases Resource](#) - AgriSafe

[Don't Get Stuck! Preventing Needlestick Injuries in Agricultural Settings](#) (free webinar)

[Zoonoses: Infectious diseases we share with animals in the farm environment](#) (webinar has a fee)



Scan to view additional
resources.

Support provided by

