Iowa 4-H Youth
Food Safety and Quality Assurance Program

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Resources/References

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Total Quality Management Curriculum for Youth Producers, Iowa State University, University Extension, University of Nebraska Cooperative Extension.

Pork Quality Assurance, 1997 Edition, National Pork Producers Council, P.O. Box 10383, Des Moines, IA 50306.

Iowa Beef Quality Assurance Program, Revised Second Edition, 2000 Edition, Iowa Cattlemen's Association, Ames, IA.

Hazard Hunt

Supports Chapter: Introduction

Learning Objectives
- Youth will identify potential hazards in a production system.
- Youth will learn the concepts of hazard analysis and critical control points.

Resources/Materials
- Leader Resources*: Quality Assurance and Animal Care, Youth Education Program* pg. 22-23; and *Pork Quality Assurance* pg. 4-5.
- Overview of FSQA program
- Discussion of the Food Supply Continuum from *Pork Quality Assurance* pg. 4
- Introduce the concept of HACCP.
- Scenario cards
- Pens or pencils

Activity
HAACP - One step the government has taken to ensure a safe food supply is to require packing plants to develop a HACCP plan. HACCP stands for Hazard Analysis and Critical Control Points. That's a fancy term for looking for potential problems and preventing them from happening.

There are seven steps in a HACCP plan:
1. Identify hazards
2. Find critical control points in the process
3. Establish critical limits for each critical control point
4. Monitor
5. Take corrective action if monitoring shows there are deviations outside the limits of a critical control point
6. Keep records on each critical control point
7. Verify that the HACCP plan is working correctly.

Here's an example of HACCP situation for a restaurant:
1. Hazard: purchasing bacteria contaminated ground pork
2. Critical Control Points: purchase only from distributors with HACCP plans, fully cook all ground meat products
3. Critical limits: require distributors to provide their HACCP plan for your review, establish a minimum internal temperature for all cooked ground meat products
4. Monitor: Annual review of HACCP plans, daily measures & records internal meat temperatures.
5. Corrective Action: find a new distributor, send uncooked meat back to be cooked longer
6. Keep records on each critical control point
7. Verify that the HACCP plan is working correctly.

One of the potential hazards packing plants face is animals that may be damaged or contaminated. They can't fix the problem once the producer has sold the animal to them. That's why many of the packers have started to require quality assurance certification programs for people who sell animals to them. Basically they are setting a critical limit to only buy animals from producers who are certified.

The 4-H Food Safety and Quality Assurance program will hopefully help 4-H'ers identify the potential food contamination hazards in their operation and think about some critical control points to prevent those problems.

What are some potential problems with 4-H project animals? Residue, needle damage, bruising from slapping on show day, fighting when selling after fair, stress from the summer heat and showing are just a few. What can 4-H'ers do to prevent these problems? Reduce stress by keeping cool, practicing at home so they are comfortable working with you, be sure to check feed tags to prevent residue problems, don't slap animals hard in the show ring.

Operations and situations change frequently and 4-H'ers need to continuously improve on our food safety plans. Maybe they change feed companies, or veterinarians – then their food safety plan also should change. Consumer's preferences also change also over time, and we need to work at providing the kind of product they want. You probably aren't using the same computer software today that you started with three or four years ago. That's because the software changes and improves frequently and we update our software to use the best ones available. We need to update our food safety plans also.

Divide group into teams of 3-5 youth.
Give each team a scenario and a corresponding worksheet.
Team members read their scenario and write potential contamination problems.
Then list steps to prevent the contamination problem from occurring.

Reflecting Discussion Questions

- The first part of the activity demonstrates Hazard Analysis. Where could something go wrong?
- The second part demonstrates Critical Control Points. What things do we need to do to prevent a problem from occurring?
- All phases of the Food Supply Continuum need a HACCP plan. Pork Quality Assurance (PQA) is an on-farm HACCP plan. What are some potential hazards with your 4-H food animal projects? What can you do to prevent these? (Your Critical Control Points)

Applying Discussion Questions

- Can you prevent problems that happen in a different production phase? (Either before or after you on the continuum)?
- What would you do if you ordered a pork chop at a restaurant and got sick after eating it?

Hazard Hunt

Scenario 1
You are a swine producer. You raise hogs for a living. You farrow sows and finish all your pigs.

What food safety problems could happen on your farm?

How/where might your pork become contaminated?

What can you do to prevent these problems?

Hazard Hunt

Scenario 2
You run the largest poultry harvesting facility in the country. You harvest chickens and sell further processed chicken to grocery stores.

What food safety problems could happen in your plant?

What can you do to prevent these problems from happening?

Hazard Hunt

Scenario 3
You are the manager of the Super Food Stores meat department. You purchased boxed wholesale cuts from The Big 10 Packing Company. Your store staff further cut and package beef and pork into retail cuts to sell to consumers.

What food safety problems could happen in your store?

What can you do to prevent these?

Partners in Quality

Supports Chapter: Introduction

Learning Objectives:
- Youth will recognize the many partners who help safeguard the food supply
- Youth will understand their own role in the food supply chain
- Youth will trace the steps from food production to food consumption

Resources/Materials
- Leader Resources*: Total Quality Management Curriculum for Youth Producers, Leader Guide* pg. 67-69; *Pork Quality Assurance* pg. 4; *Beef Quality Assurance* pg. 11-13.
- Overview of FSQA program
- Video tape on Aiming for Quality __ (beef, pork, lamb, diary products or poultry products)
- TV & VCR
- Copies of Partners in Quality Activity Sheet
- Pencils

Activity
Throughout the FSQA program you will explore the practices that ensure you produce a safe, quality food product for consumers. Some of these practices will affect the eating quality of your product, others will affect the safety of the product for consumers. Selection, genetics, health care, feed and environmental factors affect the eating quality of animal products. Proper observation of withdrawal requirements, control of animal stress, proper handling, and good sanitation practices will help assure consumers that the product is safe for consumers.

Ensuring the quality and safety of animal products calls for a partnership between producers, industry, government and the consumer. As you watch the videotape, look for practices that ensure quality and safety.

Break the group into teams of 2-4. Provide each group with copy of Partners in Quality Activity sheet and pencils. Instruct each group to choose one animal product, for example, milk, eggs, pork chop, ground beef, ice cream, canned ham. Then trace the product from the farm to the consumer's table. Write the name of the product at the top of the paper. Divide the paper into three columns. In the first column list all the steps the product takes on the way to the consumer's table, or our partners in the food chain. In the second column, list who is responsible for the quality of the product in that step. In the third column, list who is responsible for the safety of the product in each step. Youth may need some help with the last two columns, so a listing of quality and safety partners might be helpful. Some of those are the USDA Inspection Service, the USDA Grading Service, the state Department of Agriculture, City Department of Health, State Department of health, Food and Drug Administration, consumer, producer, trucker, meat market manager, etc.

After they have completed their lists, share among groups.

Hand out the take home worksheet, “My Partners in Producing Quality Food.” Have youth fill in their specific partners and their phone numbers. When they have questions, here are the people to call.

Reflecting Discussion Questions

- Who are some of the people involved in assuring a safe food supply? A high quality food supply?
- Where do you find yourself on the list?
- Why is your role critical?
- How could you learn what the other people on your list do to assure product safety and quality?

Applying Discussion Questions

- How can producers be sure their product reaches the consumer as a high quality, safe product?
- How can you strengthen your partnerships with others that are working to ensure a quality safe food supply?
- Who are your personal partners in producing safe food products? List their address and phone numbers on the worksheet and keep close to your project for quick reference.

Partners in Quality Activity Sheet

Product: _____

Steps or Partners	Responsible for Quality	Responsible for Safety

My Partners in Producing Quality Food

Name	Address	Phone
Veterinarian		
Feed Supplier		
Health Product Supplier		
Seedstock Supplier		
Extension Specialist		
Helper		

Links in the Chain

Supports Chapter: Introduction

Learning Objectives

- Youth will identify other members of the food supply chain.

Resources/Materials

- Leader Resources*: Total Quality Management Curriculum for Youth Producers, Leader Guide*; *Pork Quality Assurance* pg. 4; *Beef Quality Assurance* pg. 11-13.
- Overview of FSQA program
- Strips of colored paper, 2"x11"
- Colored markers
- Staplers and staples

Activity

Why do 4-H'ers raise pigs? Just to show at fair? Hopefully not. We hope that they have given a little thought to what happens to them after fair. We want 4-H'ers to realize that they are food producers. Why? Because the animal they raise as a 4-H project will eventually end up on the food supply chain. That means they need to accept the responsibility of producing a safe and wholesome product.

Through this activity we want youth to understand who their partners in the food supply chain are. Who do they depend on and who follows them in the chain. Each person in the food supply chain must do the very best they can to produce a wholesome, safe product, because the other parts of the chain can't fix it. 4-H'ers can't depend on the next step in the chain to correct a problem they caused. They need to be responsible.

Who are these partners in the food supply chain? Everyone involved with food production, testing, marketing, processing and delivery. Most of the youth will quickly identify the packer, grocery store, veterinarian, and feed supplier. But what about the scientist who develops new ways to process meat, or make a quality cut from a low end muscle. What about the researcher who develops new vaccines, or the seed stock supplier they purchase breeding stock from. What about the cook at their school lunch room, or the chef at an expensive restaurant. Someone needs to design the advertisements for the commodity groups and do the artwork for the magazine ads. The staff who work at the commodity organizations are critical partners in developing new markets for our food products.

These are all some of the partners in the food supply chain. This might also get youth thinking about non-traditional careers related to agriculture.

Distribute paper strips and markers. Divide the group into teams of four. Instruct teams to list one partner in the food supply chain on each paper strip. Assemble the paper "links" to form a chain. Challenge groups to think about partners that aren't obvious. Be sure they all identify the consumer as the end link in the chain!

See which team can make the longest chain.

Share with the group who each team identified as partners, or links, in the food supply chain.

Reflecting Discussion Questions

- Who did you identify as a 'link' in the food supply chain?
- What is their role?
- How does their role in the food supply chain affect you?
- How does your role in the food supply chain affect them?
- What links were common between different groups?
- Were there any links that were common in all groups?

Applying Discussion Questions

- What happens if one link of the chain is broken? (Cut a chain to demonstrate what happens.)
- Can you correct a problem caused by someone else in the chain?
- Can they correct a problem you caused?

“Orange o’ mine” - Identification Activity

Developed by Marcia Langner, Clay County CYC

Each participant selects a whole orange out of a bowl/platter/sack (Ask the youth not to eat or make marks on their orange at this time but just hold them for the time being)

Participants are instructed to look at their orange and find identifying marks that makes their orange unique. (You may wish to have them quickly write on a slip of paper adjectives that could be used to identify their orange – 30 seconds is what we have used)

All the oranges are put back in the bowl

Ask the group to volunteer a few words to describe the oranges (Many of the descriptions will be generic – ask for more specific answers)

Have the participants come forward and pick out the orange that is theirs

Ask how sure they are that they have the same orange as they started with

Let them know that one of the oranges (Not one that was passed out initially – but one that was added to the group later) was injected with a solution that they would not want to eat (example: blue dye)

Ask again how sure they are that they have the right orange. (It’s amazing how thoughts change and how they become unsure)

Ask them how the activity relates to animal identification and their 4-H animal and livestock project

They are welcome to eat their orange – however one of the oranges has been injected with a solution not intended for consumption – so be sure no one selected that orange

Record Keeping Role Play

Supports Chapter: Record keeping

Learning Objectives

- Youth will learn how to keep records of drug withdrawal times.

Resources/Materials

- Role Play cards
- Copies of *Animal Care and Management Statement*

Activity

Discuss the importance of record keeping. Distribute the treatment record forms. Divide the group into pairs. One is the FDA inspector; the other is the farmer. Have them role play how they would prove their innocence in a residue violation.

> **FDA Inspector:** You work for the Food and Drug Administration. Your job is to track down people who violate federal residue violations in meat, determine their innocence or guilt and fine them accordingly. Farmer Sue or Sam sold 50 head of hogs to the TZP packing company on March 19. One of those hogs tested positive for a sulfa residue. It's now your job to visit the farmer, review their records and production system, and determine if they are guilty of this violation, or to find the source of the contamination. What information do you need to see? How can you determine where the contamination happened?
>
> **Farmer Sue or Sam:** You sold 50 head of hogs to the TZP packing company on March 19. One of those hogs tested positive for a sulfa residue. The FDA (Food and Drug Administration) inspector just called to inform you of this violation. The inspector is coming to your farm tomorrow morning to discuss the potential contamination with you. What information do you need to show him to prove your innocence? Where might the contamination have happened?

Distribute and discuss the 4-H Animal Treatment Record. Remind them that this information will be requested at fair time.

Reflecting Discussion Questions

- Could this really happen?
- Do you use any products that could result in a residue problem? (Refer to PQA manual, pg. 48-51, or BQA drug table inserts)
- What can you do to prevent an animal from being marketed before the required withdrawal time?

Applying Discussion Questions

- What do you need to do to prevent a contamination from occurring? How can you prove your innocence if it does happen?
- How can you keep track of withdrawal times?
- It may be difficult to remember exact dates and times for withholding periods. To be sure that the proper withholding time has passed when a treated or medicated animal is offered for sale, it is best to have a written record of treatment and the date of treatment to refer to. A treatment record should include: the date the treatment was given; the name of the drug; the amount of drug given; if injected, the location of the injection; and the recommended withholding period. *Keeping a written record of treatment is just as important as reading the label when it comes to minimizing the risk of residues.*
- In addition, the Food & Drug Administration requires all food animal producers to keep medication and treatment records. You need to keep these records for at least 12 months following the marketing of the animals receiving medication. It is a good idea to start keeping these records as a part of the 4-H record book. See the handout for tonight that helps keep track of this.

Record Keeping Role Play

FDA Inspector

You work for the Food and Drug Administration. Your job is to track down people who violate federal residue violations in meat, determine their innocence or guilt and fine them accordingly. Farmer Sue or Sam sold 50 head of hogs to the TZP packing company on March 19. One of those hogs tested positive for a sulfa residue. It's now your job to visit the farmer, review their records and production system, and determine if they are guilty of this violation, or to find the source of the contamination. What information do you need to see? How can you determine where the contamination happened?

Farmer Sue or Sam

You sold 50 head of hogs to the TZP packing company on March 19. One of those hogs tested positive for a sulfa residue. The FDA (Food and Drug Administration) inspector just called to inform you of this violation. The inspector is coming to your farm tomorrow morning to discuss the potential contamination with you. What information do you need to show to prove your innocence? Where might the contamination have happened?

Record Keeping Role Play

Producer _____ **Year** _____

Injectable Medications

Animal ID or Pen Location	Treatment Date	Product Name	Amount of Drug Given (cc, water or feed concentration	Route (feed, water, injectable by IM or SQ, topical)	Remarks/ Initials or Who Administered	Preslaughter Withdrawal	Date Withdrawal Completed

Water Medications

Animal ID or Pen Location	Treatment Date	Product Name	Amount of Drug Given (cc, water or feed concentration	Route (feed, water, injectable by IM or SQ, topical)	Remarks/ Initials or Who Administered	Preslaughter Withdrawal	Date Withdrawal Completed

Feed Medications

Animal ID or Pen Location	Treatment Date	Product Name	Amount of Drug Given (cc, water or feed concentration	Route (feed, water, injectable by IM or SQ, topical)	Remarks/ Initials or Who Administered	Preslaughter Withdrawal	Date Withdrawal Completed

Completing Treatment Records

Supports Chapter: Record Keeping

Learning Objectives
- Youth will learn what information must be kept in treatment records.
- Youth will complete a sample treatment record.

Resources/Materials
- Leader Resources*: Total Quality Management Curriculum for Youth Producers, Leader Guide*; *Pork Quality Assurance* pg. 26-27; *Beef Quality Assurance* pg. 45-49.
- Overview of FSQA program
- Copies of Treatment Records Activity Sheet for members
- Pencils

Activity
After discussing record keeping and treatment records, hand out Activity Sheet A, and pencils. Instruct youth to complete the treatment record. After all have finished, share the correct answers.

Reflecting Discussion Questions
- What information must be included on a treatment record?
- What information is included in the 4-H Animal Care and Management Statement?
- Where did you find the information needed?
- How could you ensure the withdrawal time is followed?

Applying Discussion Questions
- How would producers maintain identity of the treated animal in a large group?
- How could poultry producers ensure withdrawal time is followed?
- How about dairy producers?

Treatment Record Activity Sheet A

It is June 10, 20xx, and you just noticed your best lamb, Sammy, had a runny nose and a cough. You aren't sure what to do so you call your veterinarian, Dr. Jim John. After examining your lamb Dr. John diagnosed Sammy with a respiratory infection. He administered medication to your lamb and recorded it on his records. He also left you with medication to give Sammy the next day. Now that you have given Sammy his injection, based on the instructions on the label, complete the treatment record below.

Medicine Label

Dr. Jim John, DVM
Box 444
Cloverdale, IA 55555

Calendar of June, 20xx

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Owner: Chris Clover
Patient ID: 4-H Tag 343
Date: June 10, 20xx
Indications: respiratory infection
Product: OOmycin
Directions: Administer 2 cc subcutaneously on June 11
Warning: Use of this drug must be discontinued 14 days before slaughter.
Expiration Date: July 15, 20xx

Treatment Record

Animal ID or Pen Location	Treatment Date	Product Name	Amount of Drug Given (cc, water or feed concentration	Route (feed, water, injectable by IM or SQ, topical)	Remarks/ Initials or Who Administered	Preslaughter Withdrawal	Date Withdrawal Completed

What is the first full day this lamb could safely be slaughtered for food?

If it is marketed following county fair, is it safe for consumers?

Treatment Record Activity Sheet B

It is July 13, 20xx, and you just noticed your market broilers aren't eating as much has they have been. You aren't sure what to do so you call your veterinarian, Dr. Jim John. After examining your broilers Dr. John diagnosed them with ____. He gave you medication to put in their water today and the next day. Now that you have given the medication to them, based on the instructions on the label, complete the treatment record below.

Medicine Label

Dr. Jim John, DVM
Box 444
Cloverdale, IA 55555

Calendar of July, 20xx

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Owner: Chris Clover
Patient ID: 4-H market broilers
Date: July 13, 20xx
Indications: decreased feed intake
Product: ___
Directions: Administer 2 oz per gallon of drinking water for two days
Warning: Use of this drug must be discontinued 14 days before slaughter.
Expiration Date: October 1, 20xx

Treatment Record

Animal ID or Pen Location	Treatment Date	Product Name	Amount of Drug Given (cc, water or feed concentration	Route (feed, water, injectable by IM or SQ, topical)	Remarks/ Initials or Who Administered	Preslaughter Withdrawal	Date Withdrawal Completed

What is the first full day these broilers could safely be slaughtered for food?

If it is marketed following county fair, is it safe for consumers?

Animal ID

Supports Chapter: Record keeping

Learning Objectives
- Youth will learn various forms of identification for animals.
- Youth will match the appropriate forms of ID with each species.

Resources/Materials
- Leader Resources*: Total Quality Management Curriculum for Youth Producers, Leader Guide* pg. 13-19; *Pork Quality Assurance* pg. 24.
- Overview of FSQA program

Activity
There are many different forms of animal identification. Some are appropriate only for certain species of animals, such as wing bands for poultry. Some lend themselves better to herd (group) identification, such as hot brands, rather than individual animal identification. Some forms of ID are very tamperproof, such as electronic implants or tattoos, but don't work well to identify the animal from a distance.

In this activity we want youth to identify forms of Id that appropriate for different species, and whether they are good for working (every day use) ID or permanent ID, or both.

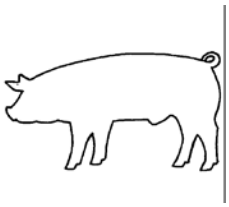
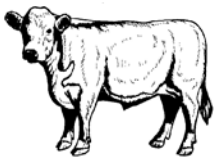
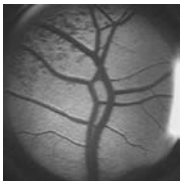
Handout Activity Sheet "Animal ID". This could be used before the meeting starts. Match the ID forms that are appropriate for each species.

Reflecting Discussion Questions
- What are some different forms of ID?
- Which are appropriate for __ (beef, sheep, swine, rabbit, dairy, poultry, goat)?

Applying Discussion Questions
- What forms of ID are only appropriate in certain instances? Or are not always appropriate?
- Why (or when) are some forms of ID not appropriate?
- What characteristics make a form of ID appropriate for a specific use?

Animal ID

Draw lines from the ID to the species that it would be appropriate for. Then identify whether it is good for working (every day use) ID or permanent ID, or both.

Species		Working ID	Permanent ID
			
			
			
			
			
			
			

What Labels?

Supports Chapter: VCPR

Learning Objectives

- Youth will identify the difference between over-the-counter, prescription, extra-label and off-label drug use.
- Youth will categorize examples of these drug label uses.

Resources/Materials

- Leader Resources*: Total Quality Management Curriculum for Youth Producers, Leader Guide*; *Pork Quality Assurance* pg. 36-40; *Beef Quality Assurance* pg. 50-51.
- Overview of FSQA program

Activity

Reading and understanding medication labels is a critical step to producing a safe food supply. This activity will help youth identify the different categories of medications based on statements from their label.

Animal drugs are regulated by the USDA Food and Drug Administration. They usually categorize non-feed drugs into two different categories - over-the-counter (OTC) and prescription drugs (Rx). Over-the-counter drugs can be purchased from any farm store or veterinary supply. Drugs in this category have been proven to be safe and effective at the rate listed on the label, and are simple enough for most producers to use without severe complications. Prescription drugs are those that have been tested and proven at the labeled rate, but are drugs that are more sensitive or cause more severe reactions if used at rates only slightly different from the label, or products that do not have easily understood use instructions.

Feed medications are usually classified as standard or veterinary feed directive (VFD) feed additive products. Veterinary feed directive products require a veterinary's prescription, and are typically for therapeutic uses. No extra-label designation exists for feed additives.

There are two other types of labeling terms livestock producers might hear – extra-label use and off-label use. Extra-label use allows veterinarians under specific circumstances to authorize the use of a labeled product in an off-label manner. For example, there are very few products labeled for sheep, so a veterinarian may prescribe the use of a cattle product in sheep. However, ONLY veterinarians can do this! It is illegal for a producer to use a cattle product on sheep without a veterinarian's recommendation.

Off-label use is using a drug in a different manner than is labeled without a veterinarians approval, and that is just plain ILLEGAL!

Distribute Medication Use Cards and situation cards. With large groups you may need to use two sets of each. Instruct the youth with the situation cards to find the Medication Use Card that best describes their situation. Share within each small group why you think you fit there. Then share among the whole group.

Reflecting Discussion Questions

- What are some examples of Over-The-Counter medications?
- What are some examples of Prescription medications?
- What are some examples of Standard feed additive medications?
- What are some examples of Veterinary Feed Directive medications?
- What are some examples of Extra-label use of medications?
- What are some examples of Off-label use of medications?

Applying Discussion Questions

- Why is it important to know the various categories of medications?
- Why might you need to use a medication extra-label? Who do you need to work with?
- When is appropriate to use a medication off- label? (NEVER!!!)

What Labels?

Situation Cards

The label says to give only to beef cattle, but your veterinarian recommends you to use it for your sheep.	You purchase Penicillin at the farm store. The label says to inject 1cc per 100 pounds of body weight IM for cattle, and you do.
You purchased Oxytocin from your veterinarian for use on cows at calving time, and you use it as he said to.	The label says to “treat once daily” and your vet tells you to treat the cow twice a day.
You use a drug labeled for pigs on your chickens without talking to your vet first.	The medicated premix feed you use says to add 50 pounds per ton of feed. Your animals are really sick so you double it in this batch of feed.
Your veterinarian prescribes using a feed additive at a set rate for pigs from 50 to 75 pounds to prevent respiratory problems.	You purchase Aureomycin from your feed supplier and mix it according to the instructions on the bag.
You hear that Paylean (ractopamine) works really well on pigs to increase muscle. You decide to try it on your sheep to see if it does the same thing.	

Medication use cards

Over-The-Counter -most common -can be obtained from a variety of sources -use according to label instructions. 	Prescription drugs (Rx) - require professional assistance to be used safely 
Feed additives -must be used according to their fixed dosage label instructions only. 	Veterinary Feed Directive (VFD) - allows a range of inclusion levels for therapeutic purposes. - No extra-label designation exists for feed additives. 
Extra-label use -allows veterinarians under specific circumstances to authorize the use of a labeled product in an off-label manner. 	Off-label use -Using a drug in a different manner than is labeled without a veterinarians approval – ILLEGAL! 

Administering Injectable Products

Supports Chapter: Health Products

Learning Objectives

- Youth will learn the two main types of injection techniques.
- Youth will be able to demonstration at least one of these injection techniques.

Resources/Materials

- Leader Resource: See *Quality Assurance and Animal Care, Youth Education Program* pg. 101-104
- Bananas or oranges - 1 per 4-H'er – cut in half prior to activity
- Selection of syringes and needles
- Rubber top bottles with colored water – filled prior to activity
- Towels or newspapers to cover table & for cleanup
- Sharp knife for leaders only
- Adequate adult supervision
- Additional resource; video *Immunizing Swine*

Activity

Discuss types of injections - IM, SubQ.

Demonstrate both methods including how to properly load a syringe.

4-H'ers will give an IM injection into their fruit, leader should slice it open at the site of the needle puncture to observe placement of the colored water (injectable). Food coloring should be evenly spread within the meat of the fruit (muscle of the animal).

Next 4-H'ers will give a SubQ injection. Again slice the fruit open at the site of the needle puncture. The food coloring should be just under the skin of the fruit but not into the flesh.

Members may practice again until time or fruit runs out.

Reflecting Discussion Questions

- Which was easier to do? Why?
- Would it be harder to get the injectable product in the right place on an animal than the fruit? Why?
- What does intramuscular mean? What does subcutaneous mean?

Applying Discussion Questions

- What might happen if you give the injection in the wrong place?
- What other ways can we give injections? When would you use them?
- What would happen if the animal moves while you are vaccinating it? How could you prevent that?
- Where do we give injections in the pig? (location of injection)
- What else should we do after giving the injection? (Write it down on our treatment record!)
- What is one technique to reduce the amount of product that leeks out on baby pigs? (For IM shots in Small pigs pull the skin slightly before injecting. Release after needle inserted, and withdraw needle. This keeps the medication from leaking back out from the skin hole.)

Residues Activity

Chocolate Milk Activity

Supports Chapter: Health Products

Learning Objectives

- Youth will understand what a residue is and how residues affect food quality.
- Youth will understand the relationship between residues and withdrawal times.

Resources/Materials

Total Quality Management Curriculum for Youth Producers, Leader Guide pg. 35-37;

- Pitcher or 2 liter pop bottle of water for each group
- Ice cream bucket or similar container
- Whole (or 2%) chocolate milk (whole works best)
- Whole (or 2%) milk (whole works best)
- Chocolate or strawberry syrup
- Powdered chocolate or strawberry mix
  (Have participants in each group try one of the above forms of chocolate/strawberry milk)
- Worksheet and pencil to record observations
- 1 clear glass for each participant (glass or clear plastic)

Activity

Background: Residues are substances that remain in an animals body tissue after the animal has been exposed to that substance. Medications enter an animal's body as a feed additive, water additive, as an injection or pour-on or sometimes by accident. These medications may leave a residue in the animal's body tissue (meat). Residues leave an animal's body at different rates. Sometimes residues take a few hours to leave the animal's body and others take days or months, depending on the medication. Some residues may never entirely leave certain tissues during the animal's lifetime. In the activity, each rinsing of the glass clears away some of the residue. Each day after you stop giving the animal a medication, some of the residue is removed. FDA establishes and enforces rules about acceptable levels of residues. FDA based the withdrawal times for products to ensure that unacceptable residues are not in the product when it is marketed.

Split the class into teams of three.

Have each participant prepare a glass of chocolate or strawberry milk, either from purchased, powdered or syrup product. Try to have one participant use powdered, one syrup and one prepared chocolate milk in the group.
Have the participants in each group drink their glass of milk.
After each participant has drank their milk, fill the empty glass with clean clear water from the pitcher.
Record what you observe or see.
Carefully dump the water from the glass into the ice cream bucket.
Refill the glass with water from the pitcher.
Record what you observe or see.
Continue dumping and refilling the glass and recording what you observe until the water in your glass appears completely clear. Record what you observe after each refill.

Reflecting Discussion Questions

- Why was the water cloudy after you drank the milk? (Some of the milk was still in the glass.) Introduce the term “residue.”
- Why was the water less cloudy after each rinsing? Residue is the substance that remains in the glass. The residue remained in the glass until it was rinsed several times.

Applying Discussion Questions

- How can we make sure our animals’ don’t have residues from medication when we send them to slaughter?
- Why is it important to follow FDA withdrawal times?
- Why be concerned?
    - Meat that contains unsafe levels is in violation of federal law. Persons who are very sensitive to certain drugs may react if traces of drugs are in the meat. Persons who eat pork may develop severe allergic reactions from the traces of medications that are present in the meat.
    - Consumers expect safe residue free meat. People may lose confidence in the quality of the food products that we produce if there are residues.

Residues Activity

Chocolate Milk Activity

Time	**Observation** (What did you see)
Immediately after drinking milk (before rinsing)	
First rinse	
Second rinse	
Third rinse	
Fourth rinse	

How many rinses did it take before the glass became clear or clean?

What can you do to ensure your pigs don't have an illegal residue when you market them?

Reading Medication Labels

Supports Chapter: Healthy Production Practices

Learning Objectives

- Youth will identify the information contained on medication labels

Resources/Materials

- Leader Resource: Refer to *Quality Assurance and Animal Care, Youth Education Program*, pg. 81-87; *Pork Quality Assurance* pg. 30-33, 42-51.
- Example drug labels and inserts
- Worksheet and pencils
- Assortment of drug labels

Activity

Discuss one of the example drug labels. What items must be on all drug labels? Where will you find them? Discuss the difference between Over The Counter (OTC) and Prescription (Rx).

Hand out the package labels and worksheets. It may work best to work in teams.

Have youth read labels and answer the questions on the worksheet.

Have youth share answers with the rest of the group.

Reflecting Discussion Questions

- Did every label have an answer to all the questions? Any that didn't?
- Was the information easy to find?
- Was this product over the counter or prescription?

Applying Discussion Questions

- What happens if you don't follow the label directions?
- What is an extra label use of the drug? Both prescription and over the counter products can have extra label uses on the veterinarians prescription.

Reading Medication Labels

Read labels and answer the questions on the worksheet. Be prepared to share answers with the rest of the group.

What is the name of the product? _____

What species or type of animal is this product approved for? _____

What uses is this drug approved for? _____

_____

Who can administer this product? _____

Does this make it an Over-The-Counter product or a Prescription product?

_____

What is the proper dosage for this product? _____

_____

How should it be administered? _____

_____

Is there a withdrawal period for this product? _____

If so, how long? _____

How should this product be stored? _____

_____

Who manufactured this product? _____

Is there and expiration date? _____

What other information is included on the label? _____

_____

Handout

SuperCill
300,000 units per mL
Injectable Antibiotic
FOR ANIMAL USE ONLY

DESCRIPTION: Each mL contains 300,000 units of milocillin; sodium citrate; povidone; lecithin; and water for injection.

INDICATIONS FOR USE: For the treatment of cattle and sheep for bacteria pneumonia (shipping fever) caused by ***Pasteurella multocida***; swine for erysipelas caused by ***Erysipelothrix rhusiopthiae*** (insidiosa) AND horses for strangles caused by ***Streptococcus equi***.

WARNINGS: Not for use in horses intended for food. Milk that has been taken from animals during treatment and for 48 hours (4 milkings) after the last treatment must not be used for food.

Discontinue use of this drug for the following time periods before treated animals are slaughtered for food: Cattle – 10 days; Sheep – 9 days; Swine – 7 days.

A withdrawal period has not been established for this product in pre-ruminating calves. Do not use in calves to be processed for veal.

Treatment should not exceed 4 consecutive days.

PRECAUTIONS: Sensitivity reactions to penicillin such as hives or respiratory distress, sometimes fatal, have been known to occur in some animals. If signs of sensitivity do occur, stop medication and call your veterinarian. If respiratory distress is severe, the immediate injection of epinephrine may be helpful. As with any antibiotic preparation, prolonged use may result in the overgrowth of non-susceptible organisms, including fungi. If this condition is suspected, stop medication and consult your veterinarian.

Milk withholding time for this product is based on human safety standards. Your milk plant may advise additional testing to assure compliance with industry requirements. **It is strongly recommended that you consult with your processor to avoid possible penalties.**

DOSAGE: The dosage for cattle, sheep, swine, and horses is 3,000 units per pound of body weight or one mL for each 100 lbs. of body weight once daily. Continue treatment at least one day after symptoms disappear (usually 2 or 3 days). Treatment should not exceed 4 consecutive days. If improvement is not observed, consult your veterinarian.

DIRECTIONS FOR USE: SuperPenn should be injected deep within the fleshy muscles. Do not inject subcutaneously, into a blood vessel, or near a major nerve. The site of each injection should be changed. Use a 16 or 18 gauge needle, 1½ inches long. The needle and syringe should be washed thoroughly before use and sterilized in boiling water for 15 to 20 minutes before use. The injection site should be washed with soap and water and painted with a disinfectant such as 70% alcohol.

Warm the product to room temperature and shake well. Wipe the rubber stopper in the vial with 70% alcohol. Withdraw the suspension from the vial and inject deep into the muscle. Do not inject more than 10 mL into one site.

STORAGE: Store between 2 degrees and -8 degrees C (36 degrees and -46 degrees F) Protect from freezing. Shake well before using.

Available in 50, 100, and 250 ml bottles.

Manufactured by: **Big S Drug Company, Toledo, IA 52342**

Handout

Repro-PEL

Killed Virus

For use in swine only

PRODUCT DESCRIPTION: Repro-PEL is for vaccination of healthy breeding swine against infection by porcine parvovirus (PPV), *Erysipelus* and *Leptospirosis*. Repro-PEL is a preparation of porcine parvovirus, and whole cultures of *E. rhusiopathiae* and the six *Leptospira* serovars identified above.

DISEASE DESCRIPTION: Porcine pavovirus and *Leptospira* are common agents of swine reproductive loss. While infection with any of these pathogens may produce subclinical disease, infection by PPV during pregnancy may result in fetal resorption, stillbirths, and fetal mummification. Infection by *Leptospira* during the second half of pregnancy may cause stillbirths or abortions; late term abortions are the most important economic effect of leptospirosis.

Directions:

1. *General Directions*: Shake vial and administer 5 ml intramuscularly using aseptic precautions.
2. *Primary Vaccination*: A single dose of 14 to 60 days before breeding is recommended for sows. Gilts, however, should be given a single dose as near as possible to 14 days before breeding; if gilts are vaccinated sooner, persisting maternal antibodies may interfere with active immunization.
3. *Revaccination*: Revaccination with a single dose is recommended prior to breeding. Boars should be revaccinated semiannually.

PRECAUTIONS:

1. Store at 2 degrees C to -7 degrees C. Do not freeze.
2. Use entire contents when first opened.
3. Do not vaccinate within 21 days before slaughter.
4. Contains gentamicin as preservative.
5. If anaphylaxis occurs following use, administer epinephrine or equivalent.
6. Although this product has been shown to be efficacious, some animals may be unable to develop or maintain an adequate immune response following vaccination if they are incubating any disease, are malnourished or parasitized or stressed due to shipment or adverse environmental conditions.

For veterinary use only

Big S Drug Co.
Toledo, IA 52342

Handout

Super Iron 100
Injection
100 mg/mL
Iron Hydrogenated Dextran Complex
Approved by FDA

For use in Animals Only
For Intramuscular Use Only

Super Iron 100 is a sterile solution containing an equivalent to 100 mg elemental iron per mL with 0.5% phenol as a preservative.

Injectable Super Iron 100 is easy and economical to use. Injection into the ham is rapid, safe, effective, quickly absorbed by the blood and goes to work immediately. With injectable Super Iron 100, the right dosage can be given to every animal with assurance that it will be utilized.

Treatment of baby pigs with Super Iron 100 prevents anemia and reduces losses due to iron deficiency. Adequate iron is necessary for normal, healthy, vigorous growth.

INDICATIONS: Super Iron 100 is intended for the prevention or treatment of iron deficiency anemia in baby pigs. Iron deficiency anemia occurs commonly in the suckling pig, often within the first few days following birth. As body size and blood volume increase rapidly from the first few days following birth, hemoglobin levels in the blood fall due to diminishing iron reserves which cannot be replaced adequately from iron in the sow's milk. This natural deficiency lowers the resistance of the pig, and scours, pneumonia, or other infections may develop and lead to death of the animal. Pigs not hampered by iron deficiency anemia are more likely to experience normal growth and to maintain their normal level or resistance to disease.

DOSAGE: Intramuscular injection. Prevention: 1 mL (100 mg) at 2-4 days of age. Treatment: 1 mL (100 mg). May be repeated in approximately 10 days.

DIRECTIONS FOR USE: Disinfect rubber stopper of vial as well as site of injection. Use a small needle (20 gauge 5/8 inch) that has been sterilized (boiled in water for 20 minutes). Injection should be intramuscular into the neck.

Super Iron 100 cannot be considered a substitute for sound animal husbandry. If disease is present in the litter, CONSULT A VETERINARIAN.

SIDE EFFECTS: Occasionally pigs may show a reaction to injectable iron, clinically characterized by prostration with muscular weakness. In extreme cases, death may result.

NOTICE: Organic iron preparation injected intramuscularly into pigs beyond 4 weeks of age may cause staining of muscle tissue.

Marketed by:
Big S Drug Co.
Toledo, Iowa

Needle and Syringe Selection

Supports Chapter: Health

Learning Objectives

- Youth will learn to identify needle size by gauge and length
- Youth will learn to select the appropriate needle and syringe size for the class of animals used.

Resources/Materials

- Leader Resource: Refer to *Quality Assurance and Animal Care, Youth Education Program,* pg. 101-104; *Pork Quality Assurance* pg. 42-45.
- Variety of disposable syringes
- Needle size charts (These can be made by gluing several different size needles to a poster board)
- Scenario cards

Activity

Discuss using the proper size syringe and needle for injections. Match the syringe size to the amount of product to be administered. Select the appropriate needle gauge and length to match the animal size and type of injection (IM or SubQ).

Split the class into groups of 2 or 3. Give each group a scenario card.

Groups should select the syringe to match their task and a needle size. Explain why.

Share with the group their selections.

Reflecting Discussion Questions

- Why did you choose the syringe size? What influenced your decision?
- Why did you choose the needle size? Why?

Applying Discussion Questions

- What might happen if you choose too large of a syringe? Too small?
- What might happen if you choose too large of a needle? Too small?

Needle and Syringe Selection

Scenario 1: You will be giving iron shots to newborn pigs. The label says to give them 1 cc per pig intramuscularly. What syringe size and needle should you use?

Syringe size _____

Needle size - gauge _____ Length _____

Explain your choices: _____

_____

Where will you give the injection? _____

Scenario 2: Your 4-H pigs are coughing a little. Dad and Mom suggested you give them 3 cc of Superbiotic IM. What syringe size and needle should you use?

Syringe size _____

Needle size - gauge _____ Length _____

Explain your choices: _____

_____

Where will you give the injection? _____

Scenario 3: You are preparing your 4-H sows for breeding. You need to vaccinate her against the major reproductive diseases. You need to give her 5ml of Repro-PEL IM. What syringe size and needle should you use?

Syringe size _____

Needle size - gauge _____ Length _____

Explain your choices: _____

_____

Where will you give the injection? _____

Properly Administering Medications

Supports Chapter: Health Products

Learning Objectives
- Youth will understand the role of medications in producing quality food products
- Youth will be able to read a medication label to determine the appropriate route for administering different medications.

Resources/Materials
- Leader Resources*: Total Quality Management Curriculum for Youth Producers, Leader Guide* pg. 29-34; *Quality Assurance and Animal Care, Youth Education Program*; *Pork Quality Assurance* pg. 42-51.
- Overview of FSQA program
- Video *Medicating Poultry* or *Giving Injections to Raise Health Beef*, or *Giving Injections to Raise Healthy Sheep*.
- TV and VCR
- Pencils
- Copies of worksheet
- Variety of medication bottles or labels, or sample labels. (Include a variety including pour-on, feed medications, water medications, and injectables.)

Activity
Background: Medications can be given to livestock in several different ways. Your veterinarian not only helps you select the most appropriate medication, but also the best way to administer it to the animal. There are three routes for administering mediations: orally, topically or by injection. Review this in the trainers guide.

Watch the videotape. Then break the group into teams of two or three 4-H'ers.

Provide a medication bottle, label, or sample label to each team, along with a worksheet and pencils. As a team, read the label and complete the worksheet.

Have teams with different products compare their products, labels and worksheets.

Reflecting Discussion Questions
- How did you know from looking at the products, the proper route of administration?
- What were some of the things you learned about your type of medication by doing the worksheet?

- What information was on all of the labels? Was it in the same place on all products?

Applying Discussion Questions

- Think about some of the times medications have been given to your animals. What was the situation, and which route of administration was used?
- What can you do to improve your animals health by reading labels?
- Read the label of any products you may have used recently. Is there anything on that label you didn't know before?

Properly Administering Medications

Read labels and answer the questions on the worksheet. Be prepared to share answers with the rest of the group.

What is the name of the product? _____

What species or type of animal is this product approved for? _____

What uses is this drug approved for? _____

_____

Who can administer this product? _____

Does this make it an Over-The-Counter product or a Prescription product?

_____

What is the proper dosage for this product? _____

_____

How should it be administered? _____

_____

Is there a withdrawal period for this product? _____

If so, how long? _____

How should this product be stored? _____

_____

Who manufactured this product? _____

Is there and expiration date? _____

What other information is included on the label? _____

_____

Implanting Cattle

Supports Chapter: Healthy Production Practices

Learning Objectives

- Youth will understand why implants are used in cattle production
- Youth will understand the steps involved in implanting, including the observation of withdrawal times.

Resources/Materials

- Leader Resources*: Total Quality Management Curriculum for Youth Producers, Leader Guide* pg. 47-49; *Beef Quality Assurance* pg. 22.
- Overview of FSQA program
- Video *Implanting Beef*
- TV and VCR
- Cartons of various implants
- Copies of Worksheet
- Pencils

Activity

Improving animal performance is the constant goal for livestock producers. Implants have proven effective in increasing feed efficiency and rat of gain of beef animals.

Implants are compressed pellets or slow-release devices placed under the skin of an animal's ear. Each implant contains a growth stimulant that is slowly release into the blood circulation.

Implants have been used after calving, at weaning, and during the finishing phase in the beef production cycle. The most popular time to use them has been in the finishing phase of production.

To maximize effectiveness and avoid the possibility of residue problems, it is important that producers choose an appropriate implant and follow the label directions carefully.

View the videotape. Pass out worksheets, pencils and implant boxes. Working in teams of 2 or 3, read the labels or boxes of the implants. Complete the attached worksheet.

Reflecting Discussion Questions

- What differences between implants did you discover?
- What increases in daily gain or feed efficiency would you expect with this product?

- How do implants benefit the producer? The consumer?
- What are some problems that could cause implants not to work?
- Why is knowing the withdrawal time important?

Applying Discussion Questions

- Can you use implants on your 4-H projects?
- What information do you need in order to select an appropriate implant?
- How can you be sure to meet the withdrawal period of an implant?
- How are implant withdrawal times similar or different from injectable medications?

Implanting Cattle

Implant Name	Type of animal	Expected Results	Withdrawal Time

The Good, The Bad, and The Ugly!!

Supports Chapter: Care and Handling

Learning Objectives

- Youth will identify practices that give others a bad image of animal agriculture.
- Youth will identify humane animal handling practices.

Resources/Materials

- Leader Resources: Refer to *Quality Assurance and Animal Care, Youth Education Program,* Swine Kit, pg. 13.
- Refer to the Exhibitors Livestock Checklist
- Practice Cards
- Tacky stuff or tape

Activity

Tape or stick the three titles (Good, Bad, Ugly) on the wall or a board.

Divide Practices cards among the youth (either individually or in groups). Ask each member to read their card and tape or stick their card under the appropriate title card.

Invite group to discuss any cards they think might fit into two categories. Why? Did we all agree on where the practices should be listed? Are there any that we may consider Good but an outsider may consider Bad? Why?

Ask the youth to explain humane treatment. The dictionary explains “humane” as kind or compassionate. Next ask them to describe “inhumane”. Are all the Bad and Ugly practices “inhumane?”

Members of the U.S. public observe the way youths and adult leaders treat our animals at fairs and shows throughout the country. We do many things correctly that we can be proud of. Ask the youth to list some ways they treat animals humanely.

Do we always treat our animals humanely? Are there things we do that might be considered inhumane? Ask the youth to list some things that might happen at fairs or shows that would be considered inhumane.

Reflecting Discussion Questions

- What can we do to prevent animals from being treated inhumanely?
- What can you do with your animals at home to make them handle easier at fair?
- How should you care for your animals at fair to present a good image to the public?

Applying Discussion Questions

- Might reasonable people be upset enough to withdraw their support of our shows and fairs?
- How might non-livestock producers react to the way we treat animals at shows? How do the things we listed affect peoples perceptions of 4-H and livestock producers?

General areas of concern in animal production

- inadequate lighting
- overcrowding or overly aggressive pen mates
- social isolation
- poor air quality inside buildings
- lack of sanitation
- boredom
- castration & dehorning older animals
- docking of tails when animals are older
- use of electric prods
- rough handling and restraint
- lack of high quality feed and water
- inadequate exercise
- poor animal identification
- inadequate health programs cold, wet, drafty conditions
- mud and deep snow
- lack of shelter or protection from the elements
- lack of bedding
- flies and pests
- overheating in summer
- toxic gas levels in confinement
- filthy, unsanitary conditions
- crowding
- abuse and injury in loading and unloading
- rough handling
- inhumane slaughter

Practice Cards

Management Practices

Feed a balanced ration	Keeping animals in sunlight so they become sunburned (especially critical on white pigs).
Provide plenty of clean drinking water	Hauling animals in the heat of the day in summer
Keep animals in a warm dry place that is well ventilated and bedded.	Handling animals roughly when they arrive at the show
Start training animals to be handled at a young age, never do the training at the fair.	Using hot-shots, whips, canes, sticks, etc to beat animals when loading or showing.
Castrate, dehorn, and dock animals when they are young.	Kicking, kneeing, beating, jerking, slapping or slamming (sheep) animals in the show ring.
Provide adequate exercise for animals	Using oil on the coat of animals which make it hot
Protect animals from predators	Failure to feed and water animal regularly

Sort and load animals calmly with little force and stress	Failure to keep pens and stalls clean and dry
Provide rest time during long hauls	Allowing animals to fight and injure each other
Give animals plenty of space	Taking our personal frustration out on the animal during or after a bad day in the show ring
Show people we have respect and compassion for our animals	Transporting feeder pigs in a gunny sack in the trunk of a car
Learn and accept that most of our 4-H beef cattle, lambs, and pigs will be harvested or else don't purchase them.	Improperly medicating animals, or using unapproved drugs
Pulling animals behind a vehicle to train them to lead	Leaving animals tied for long periods of time
Beating, kicking or using a hot-shot to train animals	

Iowa 4-H Youth Development
FSQA - GPP #4 (supplement)

Use This Checklist If You Exhibit Livestock at the Fair

Taking care of your animals is very important all year but especially so during the fair. The following is a checklist for you to follow to make sure you are giving your animals the best care.

_____ Check labels and make sure you have observed all withdrawal times for drugs, including feed additives, prior to and during the fair.

_____ Give your animal enough food and water. Remember, as temperatures climb, animals need more water.

_____ Provide your animal with clean, dry bedding.

_____ Keep the barn and surrounding areas clean. Place used bedding and manure in designated areas.

_____ Handle your animal with care at all times. Only you or someone who knows your animal, such as your parent or brother/sister, should handle your animal. People who are not familiar with animals will be walking around, so please be aware of them.

_____ If your animal shows signs of illness or is injured, notify the superintendent in your department or the fair office so the veterinarian on call can be contacted.

_____ If your animal is tied, exercise your animal daily.

_____ Plan a schedule with other 4-H'ers so at least one attendant is with your animal(s) during the times the fair is open to the public.

--30-

Contacts:
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IOWA STATE UNIVERSITY
Extension and Outreach

Give Them Their Space!

Supports Chapter: Care & Handling

Learning Objectives

- Youth will understand why providing adequate space is necessary for producing quality food products.
- Youth will be able to estimate the space needs of their animal projects.

Resources/Materials

- Leader Resources*: Total Quality Management Curriculum for Youth Producers, Leader Guide* pg. 21-27; *Pork Quality Assurance* pg. 64-69; *Beef Quality Assurance* pg. 52-53.
- Overview of FSQA program
- A very large room, gym, etc.
- Measuring devices (tape measures, yardsticks, etc)
- Copies of the data sheets
- Masking tap

Activity

Background: Proper housing and nutrition help animals grow and maintain good health, thereby increasing their productivity. That's why it's important to design housing and feeding systems with the right dimensions for each species. Adequate space per animal maximizes animals' comfort and minimizes overcrowding and competition. It also minimizes the concentration of manure in any given area, thus reducing disease and health risks to livestock. Adequately sized feeding systems or areas also maximize feed intake.

Divide the group into teams of two or three. Instruct each group to select an animal project and determine its size. Or you could come up with a few scenarios that they could use. For example, two 500-pound feeder steers in a shelter and dirt mound feedlot, six 60-pound feeder pigs in a confinement building, a flock of 25 broilers.

Ask each group to estimate the size of the pen needed for their animals and the amount of feeder space needed. Using masking tape, mark it out on the floor. Estimate the dimensions of this 'barn' space.

Hand out the measuring tapes and yardsticks. Measure the 'barn' space and see how close it was to your estimation. Now hand out the data sheets. Compare the estimate to the actual space needs and feeder needs.

Reflecting Discussion Questions

- How accurate were your estimates? How many estimated more space than was needed? How many estimated less space that was needed?
- Why are the space needs different for different sizes of animals?
- Which species of animals needed more space?
- Why does the type of building affect the amount of space needed?

Applying Discussion Questions

- What might happen if an animal is not given enough space?
- What might happen if an animal does not have enough feeder space?
- Why is proper space for housing and feeding important to animal productivity and health?
- What are some other situations where space needs are important to comfort, productivity and health?
- What changes do you need to make to your animal facilities to provide adequate housing or feeder space?
- Why do animals need separate sleeping and feeding areas?

Animal Space Requirements

Dairy Data

Cow Stall Platform Sizes

	Stanchion stalls		Tie stalls	
Cow weight	Width	Length	Width	Length
Under 1,200 lb	4'0"	5'6"	4'0"	5'9"
1,200-1,600 lb	4'6"	5'9"	4'6'	6'0"
Over 1,600 lb	*Not recommended*		5'0"	6'6"

Free Stall Dimensions

Heifers	Width	Length
6-8 mo	30"	60'
9-12 mo	33"	64"
13-15 mo	37"	72"
16-24 mo	42"	70"

Cows (average herd weight)

Weight	Width	Length with forward lunge
800-1200 lb	42-44"	7'6" – 8'0"
1,200-1500 lb	45-48"	8'0"-8'6"
Over 1,500 lb	48-52"	8'6"-9'0"

Replacement Animal Space Requirements

Calf Housing

Housing type	Pen size
0-2 mo (individual pens)	
Calf hutch (plus 4' x 6' outdoor run)	4' x 8'
Bedded pen	4' x 7'
Tie stall	2' x 4'
3-5 mo (groups up to 6 head)	
Super calf hutch	25-30ft^2/hd
Bedded pen	25-30ft^2/hd

Replacement Heifer Housing

Housing type	6-8	9-12	13-15	16-24
	sq. ft./animal			
Resting area and	25	28	32	40
Paved outside lot	35	40	45	50
Total confinement				
Bedded resting area*	25	28	32	40
Slotted floor	12	13	17	25
*(assume access to 10' wide scraped feed alley)				

Feeding Space Requirements

	Age (months)					Mature Cow
	3-4	5-8	9-12	13-15	16-24	
	in./animal					
Self feeder						
Hay or silage	4	4	5	6	6	6
Mixed ration or grain	12	12	15	18	18	18
Once-a-day feeding						
Hay, silage, or ration	12	18	22	26	26	26-30

Animal Space Requirements

Swine Data

Enclosed Housing

Pigs	Weight Lb	Area Ft^2
Prenursery	12-30	2-2 ½
Pig-nursery	30-75	3-4
Growing	75-150	6
Finishing	150-220	8

	Weight Lb	Inside ft^2/hd	Outside ft^2/hd
Nursing pig	30-75	3-4	6-8
Growing/finishing p	75-220	5-6	12-15
Gestating sow	325	8	14
Boar	400	40	40
Sow in breeding	325	16	28

Feeder Space

Sows	1'/self-fed sow
	2'/group-fed sow
Pig (12-30 lb)	2 pigs/feeder space
Pig (30-50 lb)	3 pigs/feeder space
Pig (50-75 ob)	4 pigs/feeder space
Pig (75-220 lb)	4-5 pigs/feeder space

Shed with Lot

More lot area is often provided to facilitate manure drying.

	Weight	Solid floor ft^2	Totally or partly slotted floor[a] ft^2	Animals per pen	Stall Size
Breeding					
Gilts	250-300	40	24	Up to 6	
Sows	300-500	48	30	Up to 6	
Boars	300-500	60	40	1	2'4" x 7'
Gestating					
Gilts	250-300	20	14	6-12	1'10" x 6'
Sows	300-500	24	16	6-12	2'0" x 7[1]

[a]or flushed open gutter.
Open gutter not recommended in breeding because of slick floors.

Animal Space Requirements

Sheep

		Rams 180-300 lb	Dry ewes 150-200 lb	Ewes with lambs	5-30 lb	Feeder Lambs 30-110 lb
Building Floor space (ft^2/hd)	Solid	20-30	12-16	15-20[a]	1.5-2 ft^2 Of creep	8-10
Lot space (ft^2/hd)	Dirt	25-40	25-40	30-50		20-30
	Paved	16	16	20		10
Feeder[b] Space (in./hd)	Limit-fed	12”	16”-20”	16”-20”	2”/lamb	9”-12”
	Self-fed	6”	4’-6”	6”-8”		1”-2”

[a]For lambing rates above 170%, increase floor space 5 sq ft/hd.
[b]Feeder space/animal depends on animal size, shorn vs unshorn, breed, pregnancy stage, number of times fed/day, and feed quality.

Reproduced with permission from Sheep Housing and Equipment Handbook, MWPS-3, 4th edition, 1994 © Midwest Plan Service, Ames, Iowa 50011.

Cattle

	Feeder cattle		Bred		
	Calves 400-800 lb	Finishing 500-1,200 lb	Heifers 800 lb	Cows 1,000 lb	Cows 1,300 lb
	ft^2/animal				
Lot Space					
Unpaved lot with mound (includes mound space)	150-300	250-500	250-500	300-500	300-500
Unpaved lot without mound	300-600	400-800	400-800	500-800	500-800
Paved lot	40-50	50-60	50-60	60-75	60-75
Barn Space					
Barn with lot	15-20	20-25	20-25	20-25	25-30
Enclosed barn slotted floor	17-20ft^2/1,000 lb		-Not recommended-		
	In./animal				
Feeder Space					
Once-a-day feeding	18-22	22-26	22-26	24-30	26-30
Twice-a-day feeding	9-11	11-13	11-13	12-15	12-15
Self fed grain	3-4	4-6	4-6	5-6	5-6
Self fed roughage	9-10	10-11	11-12	12-13	13-14

Poultry Data

Type	Type of housing and floor	Floor area/bird	Feeder space/bird
Broilers	Floor pen housing	1-2 sq ft/bird	2 in. feeder space
Laying hens		16 sq ft/bird	3 in. feeder space

Handling Animals Safely

Supports Chapter: Care & handling

Learning Objectives
- Youth will identify dangerous animal behaviors
- Youth will understand how handling techniques affect human and animal safety as well as product quality.
- Youth will learn about flight zones and how to handle animals safely.

Resources/Materials
- Leader Resources*: Total Quality Management Curriculum for Youth Producers, Leader Guide* pg. 43-46; *Pork Quality Assurance* pg. 64-69; *Beef Quality Assurance* pg. 52-53.
- Overview of FSQA program
- Video *Handling Livestock Safely*
- VCR and TV
- heavy paper strips or stick-on name tags
- Markers

Activity
Watch the video. As a group, create a list of undesirable animal behaviors That sometimes occur when animals are being handled. It could include things like charging, biting, running away, crowding or bunching, kicking, butting, etc.

Instruct each 4-Her to write one of these behaviors on their strip of heavy paper or stick on name tag. (You may want to assign a behavior that was listed to each member). Each 4-H'er should find a partner, and the two of them discuss possible solutions to their problems. How can you use your knowledge of flight zones to solve the problem behaviors?

Reflecting Discussion Questions
- How did you solve your problems?
- What problem behaviors are easiest to solve?
- What problem behaviors are the most dangerous to humans?
- How did you use your knowledge of flight zones to solve the problem behaviors?
- Which problems could be reduced by using adequate facilities?

Applying Discussion Questions
- When have you observed unsafe animal handling situations? How could they have been made safer?
- What are some unsafe handling procedures that cause stress on the animals?
- Why are some animal behaviors more dangerous to youth than adults?

How Much Water

Supports Chapter: Care & Handling

Learning Objectives
4-H'ers will learn the importance of clean fresh water for their animals.
4-H'ers will learn how much water an animal needs.

Resources/Materials
- Buckets, pans, pitchers, bowls, anything that holds water
- Source of water – Suggest doing this activity outdoors
- Leader Resources*: Total Quality Management Curriculum for Youth Producers, Leader Guide*; *Pork Quality Assurance* pg. 66.
- Overview of FSQA program

Activity
Water is a critical part of all living things. Water is a part of almost all of life's processes. Yet it is often overlooked, especially by youth. All animals require water to stay healthy and grow. Knowing how much water a 4-H project animal needs in a day can help the 4-H'ers provide adequate water and ensure continued growth.

In addition to water quantity, water quality is also important. Aspects such as salt level, mineral levels, and contaminants are all a part of water quality, but are more in-depth than we can address here. These areas would make great exhibits for youth to research and present. We want to stress the importance of CLEAN water, in this discussion of water quality.

A good way to demonstrate this is to have two glasses of water in front of you, one clear and one dirty. Ask which they prefer to drink from and why. Would their animals feel the same way? Ask what the water in their automatic waterer looks like – clean and clear, or green and slimy.

Provide buckets, pans, pitchers, other items that hold water. Have 4-H'ers fill them to the level they expect their animal to drink in a day. Measure (using quart measuring cups or other measuring tools) how much water they had. How close were they to the actual requirement.

Reflecting Discussion Questions
- How close were you to your animal's requirements?
- What affects the water requirements of animals?

Applying Discussion Questions
- How will their water requirements change in the heat of summer? Or the cold of winter?
- How does that relate to your water needs? How about the water requirements of other animals?

Water Consumption Tables

Beef Cattle			Gallons per day					Gallons per day
	Feeder Calves 400-800 lb.	Hot weather	8-15		**Sheep**			
		Cold weather	4-7			Feeder lambs 30-110 lb.		1.5
	Finishing Cattle 800-1200 lb.	Hot weather	15-22			Ewes with lambs		3
		Cold weather	8-11			Dry ewes		2
	Bred heifers	Hot weather	15					
		Cold weather	7		**Swine**			
						Nursery pig		1
Dairy Cattle						Growing pig		3
	Calves	(1-1.5 gallons per 100 lb. body weight	6-10			Finishing pig		4
	Heifers		10-15			Sow and litter		8
	Dry cows		20-30			Gestating sow		6
	Milking cows		35-45					

Information taken from “Beef Housing and Equipment Handbook,” MWPS-6, Midwest Plan Service, Iowa State University, Ames, Iowa 50011.

“Dairy Housing and Equipment Handbook,” MWPS-7, Midwest Plan Service, Iowa State University, Ames, Iowa 50011.

“Sheep Housing and Equipment Handbook,” MWPS-3, Midwest Plan Service, Iowa State University, Ames, Iowa 50011.

“Swine Housing and Equipment Handbook,” MWPS-8, Midwest Plan Service, Iowa State University, Ames, Iowa 50011.

Testing Milk Quality

Supports Chapter: Healthy Production Practices

Learning Objectives

- Youth will understand why it is important to monitor and control masitits in dairy herds.
- Youth will test a milk sample for elevated somatic cell counts and interpret the results.

Resources/Materials

- Leader Resources*: Total Quality Management Curriculum for Youth Producers, Leader Guide* pg. 81-83;
- Overview of FSQA program
- Video *Aiming for Quality Dairy Products*
- TV and VCR
- CMT test paddles and reagents
- Raw milk samples – This activity requires at least four 1-quart samples. Get each sample from a different cow. Two low-SCC cows should give 1 quart each, two high-SCC cows should give 1 quart each. A colostrum sample would be nice if available.
- Reference materials: *CMT: Your Tool for Detecting Mastitis*, Illinois-Iowa Dairy Guide No. 407.

Activity

Mastitis, or mammary infection and inflammation, is the most costly dairy disease. Most of the economic loss is due to subclinical mastitis (it cannot be seen by the naked eye).

Somatic cells are white blood cells; they fight infection and repair damage. Cows with mastitis have elevated somatic cell counts. Monitoring the somatic cell counts (SCC) of hers or of individuals animals allows producers to detect subclinical mastitis early. Such detection allows producers to be aware of the status of their animals; it does not necessarily mean treatment is needed.

The California Mastitis Test (CMT) is a quick, easy, and inexpensive SCC test. It can be performed on bulk tank milk, composite milk of individual cows, or on four individual quarters of one cow.

The reward for monitoring and controlling SCC and mastitis is healthier, more productive animals; better milk prices; better processing characteristics and economic; and a safe, nutritious, economical and consistently high quality supply of dairy products for consumers.

Watch the videotape. Demonstrate the CMT procedure using each of the four samples on your paddle. Divide the group into teams of 4. Give each group a paddle reagent, and four samples (or a cow, if working in a barn) to evaluate. Have them evaluate

samples with a sight and smell appraisal first. Then conduct the CMT, and record their results. Share their results.

Reflecting Discussion Questions

- Did the results based on site and smell match the CMT results? Why or why not?
- Were different groups' CMT results on the same milk samples the same or different? Why?
- Was the test easy to run? Easy to read?
- What are the key factors that make the test work correctly?
- What are the disadvantages of the test?

Applying Discussion Questions

- Why is it important to monitor mastitis?
- What other ways is milk quality measured on the farm?
- What other somatic cell reports would a dairy farm receive? From where or for what?
- What other on farm tests can be used on dairy farms?
- What on-farm tests do other species use?

Comfort Zones

Developed by Marcia Langner, Clay County CYC

The comfort zone worksheet is easier to read in color than black and white - Instructions: Write the corresponding letter (A, B, C - K) on the line with the correct comfort zone for that animal. Youth were instructed to use the comfort zone table in the FSQA manual to check their answers.

Answer Key

A. Calves raised in bedded pens (40-60)
B. Calves raised in stalls (60-70)
C. Beef Cows (40-60)
D. Growing pigs (60-70)
E. Finishing pigs (50-70)
F. Lactating sows (50-70)
G. 2 week old piglets (90-95)
H. 2 week old Lambs (80-90)
I. Grow/Finish Lambs (45-65)
J. Ewe, full fleece (40-60)
K. Ewe, shorn (70-75)

Comfort Zones

A. Calves raised in bedded pens
B. Calves raised in stalls
C. Beef Cows
D. Growing pigs
E. Finishing pigs
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G. 2 week old piglets
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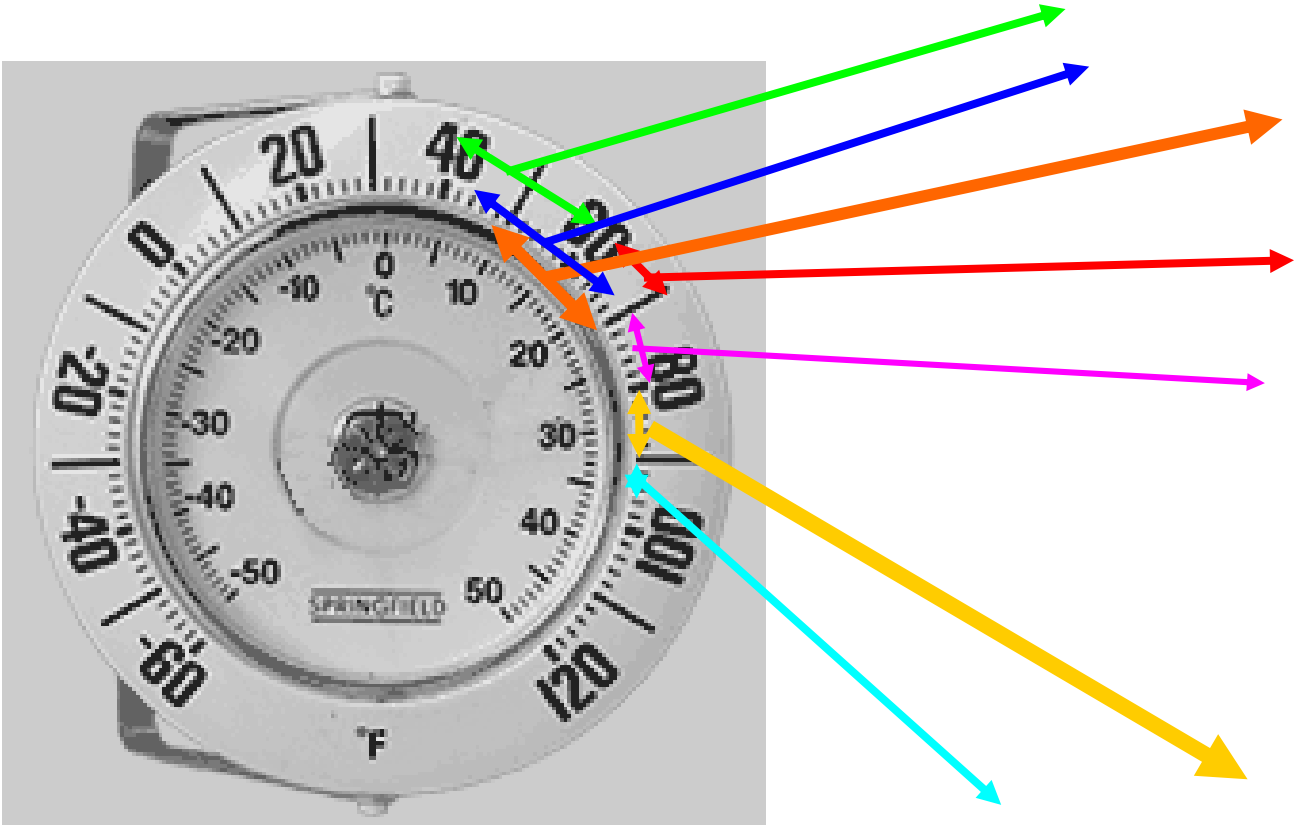


Stress and Prevention:

Developed by Marcia Langner, Clay County CYC

One card was given to each youth. They were to read the card and identify if the situation was a stress or not. If it was a stress, identify the stress and how the stress could be dealt with or prevented. Each youth took turns reporting.

You haven't had time to get your calf broke to lead very well but decide you want to bring it to the fair anyway.	Your derby swine has gained really well all summer long and gained almost 2.65 pounds per day! When weighed in at the fair it weigh-in at 305lbs.
It's show day for your lamb! You are getting ready to show and have heard of the practice of putting ice bags under a lamb blanket next to your lambs skin to make the muscles more defined.	It's time to get your market swine ready for the fair. You decide you would like to try and clip the hair on your pigs but aren't really sure how to do it.
You have kept your market swine and commercial gilts in separate pens while raising them at your home. You get to the fair and wonder if it would be okay to put commercial gilt in with the same pen as one of your market gilts.	Before the fair you decide you want to start putting molasses in your calves' water and then at the fair continue the practice of adding a little molasses to the water.
It's time to load your market swine and bring them to the fair. In the morning before school it's about 50° outside but the forecast for the afternoon for record highs and may reach 90°.	It's the first weekend of the fair and you brought your breeding heifer. It's beautiful weather, bright, sunny and 80°.

You have trained your calf to lead at a young age and have gotten it used to noise and people. You have walked with your calf everyday for a month. At the fair your calf is stalled in the beef barn for four days.	Your champion market swine is housed in the champion area in the swine barn. The second weekend of the fair is a bit chilly, cloudy, overcast and only reaching highs of 55°.
You have worked hard with your market lamb all summer and brought it to show at the fair. You want to have fun while you are at the fair and decide to spend the day with friend. After a long day at the fair your tired and head for home --- once you are at home you realized you didn't do lamb chores.	It's time for the market beef sale. You are going to bring your calf into the show ring --- the announcer is loud on the microphone and a lot of people are walking around in the show arena.
You decide to try showing one of your pigs in the showmanship class at the fair. You don't get off to a very good start and things keep going down hill as the class progresses. You are becoming angry and frustrated.	You have some friends stop by your place before the fair and want to see your pen of market sheep. They decide it would be great fun to try and ride your sheep.
You are sorting pigs to bring to the fair. You want to get done in a hurry but decide to stay calm and quiet and move slowly around your pigs taking your time getting them sorted and loaded.	Friends stop by the swine barns at the fair to see you and your pigs. They want you to wake you pigs up and make them squeal because they think it's funny.
It's a hot humid August day before the fair. You want to lead your calves and get keep them broke well to lead.	You are bringing market lambs to the fair and would like to sell one at the 4-H livestock auction. You forgot to write down then last time you gave them medicine.

It's a hot day at the fair and your market and derby pigs are lying in the pens panting - you decide to mist them with cool water and keep checking on them throughout the day.	You brought you lambs to the fair but forgot to bring a bag of feed. A club member has some extra feed on hand and says it's okay if you use some.
Your market calf doesn't like all the noise at the fair and isn't eating feed. You decide it's not that big of a deal because it will be sold in a couple days anyway.	You are anxious to get to school and need to help your dad load up your market and derby swine to take to the fair. You head out the door to the swine barn with buzzer in hand.
It's a hot day in the beef barns at the Clay County Fair. Your calves have to stay housed in the barns until at least 6:00pm.	You just finished shearing your lamb and the weather turned cold. A north wind blew in a cold front with temperatures in the 30°'s.
You enjoy spending time with your prospect calf and walk it every evening in throughout the summer. You wait until the hot period of the day has past and cooler evening air is setting in.	You have a junior feeder project and take time to feed, water, and observe them each day over the fence. You keep them in a feed lot area and never get in the pen with them or walk around close to them.
Throughout the summer you are busy with sports and other activities. You take time each day to do your swine chores but haven't had time for quite a while to clean the manure out of the pen.	The breeding heifer you have is a bit jumpy and doesn't like to be around people. You have tried several ways to break her to lead but she just doesn't seem to tame down. You are wondering if you should use a drug to clam her down for the fair.

It's time to load your pen of junior feeders to bring to the fair. They aren't going on the trailer very easy and you are starting to lose your cool.	You have a couple of market beef animals as a project. It's a hot day in the summer and you have a light mist of water shooting into their pen to help cool them down. Plus you have them in an area where they can get in the shade and out of the sunshine.
It's a cold day in February, with temperatures below freezing. You are running late for school. You don't have time to check your calves and decide they will be okay until you have time to look at them after school.	It's the first day of school and you where in such a hurry to get everything done in the morning before you forgot to feed and water your pigs.
Your folks told you that if you are going to have lambs as a 4-H project you need to work with them each day. It's a hot August day with temperatures in the 90°'s. You decide to walk you lamb in the afternoon because you have plans with friends in the evening.	You plan to take your purebred heifer to the Clay County Fair in September. In February you took her to the Iowa Beef Expo and throughout the summer you have a radio playing to help her get use to loud noise.
Friends want to come over and see your swine projects. They ask if they can climb in the pen and pet your pigs.	You have some younger cousins that came to visit. They see your pigs and think it would be fun to try and ride them.

Reading Feed Labels Activity

Supports Chapter: Feeds

Learning Objectives
- Youth will learn what information is included on a feed label.
- Youth will understand the importance of reading and following label instructions.

Resources/Materials
- Leader Resource: *Total Quality Management Curriculum for Youth Producers, Leader Guide* pg. 39-41; See Withdrawal Charts in *Pork Quality Assurance* pg. 48-51. Refer to: *Quality Assurance and Animal Care, Youth Education Program* pg. 68.
- Assortment of feed labels
- Example feed label to discuss
- Worksheet and pencils

Activity

Discuss the example feed label. What items must be on all feed labels?
Hand out the feed labels and worksheets. It may work best to work in teams.
Read your label and answer the questions on the worksheet.
Share your answers with the rest of the group.

Reflecting Discussion Questions
- Did every label have an answer to all the questions? Any that didn't?
- Was the information easy to find?
- Can feed be used extra-label?
- Did the label list the withdrawal times? Did it list what size pig the feed was formulated for?

Applying Discussion Questions
- What happens if you don't follow the label directions?
- How can not following the directions on a feed tag affect the quality of the meat produced from your animal?
- Why is it important to read the label every time?
- What other tasks do you do that require reading a label?

Reading Feed Labels Activity

What is the name of the feed? _____

Who manufactured it? _____

What size pigs should it be fed to? _____

_____

What form is the feed? _____

What ingredients are in this feed? _____

_____

What ingredient is in the largest quantity? _____

Are there any medications in this feed? _____

What is the medication? _____

What is the withdrawal time for this medication? _____

How much protein is in this feed? _____

How many pounds are in the final feed mix? _____

What can you tell by the order in which the ingredients are listed? _____

_____

What are the feeding directions? _____

_____

What cautions are listed? _____

_____

SuperStart AP-150 Medicated

For control of porcine colibacillosis (weaning pig scours) caused by susceptible strains of ESCHERICHIS COLI. Follow carefully the feeding directions and WARNING statement printed on the back of this label.

Active Drug Ingredient

Aparmycin (as aparmycin sulfate)……..150 grams per ton

GUARANTEED ANALYSIS

Crude Protein, not less than……21%
Crude Fat, not less than……10%
Crude Fiber, not more than……..2.50%
Vitamin A, I. Units per lb. (min)…….6,000
Vitamin D^3, I. Units per lb. (min)……...750
Vitamin E, I. Units per lb. (min)……..55
Riboflavin, mgs. per lb. (min)……4.5
Niacin, mgs. per lb. (min)……..30
d-Pantothenic Acid, mgs. per lb. (min)……15
Choline, mgs per lb. (min)……..550
Vitamin B^{12}, mgs per lb. (min)…….0.022
Menadione (Vitamin K), mgs per lb. (min)……4.5
Biotin, mgs per lb. (min)……..0.09
Folic Acid, mgs per lb. (min)……0.09
Pyridoxine, mgs per lb. (min)……0.018
Thiamine, mgs per lb. (min)……...0.009
Lysine, not less than……1.60%

INGREDIENTS

Dried skim milk, Dried Whey, Animal Plasma, Heat Processed Soybeans, Fish meal, Feeding oat meal, Ground corn, Meat and Bone Meal, Corn Distillers Dried Solubles, Natural and Artificial Flavors added, sugar, Yucca Schidigera Extract, Dehydraded Yeast Culture, Animal Fat, Cane Molasses, Monosodium Glutamate, Methionine, Lysine, Vitamin A Acetate, D-Activated Animal Sterol (source of Vitamin D^3), Riboflavin Supplement, Niacin Supplement, Calcium Panthothenate, Choline Chloride, Vitamin B^{12} Supplement, Menadione Dimethylpyrimidionol Bisulfite (Source of Vitamin K), dl Alpha Tocopheryl Acetate (Source of Vitamin E), Biotin, Folic Acid, Pyridoxine Hydrochloride, Thiamine Mononitrate, Calcium Carbonate, Salt, Dicalcium Phosphate, Magnesium Oxide, Manganous Oxide, Ferrous Sulphate, Copper Sulfate, Cobalt Carbonate, Ethylenediamine Dihydriodide, Zinc Sulphate and Sodium Selenite.

SuperGrow Feed Co.
Toledo, Iowa 52342

Feeding Directions

SuperStart AP-150, Medicated is a highly palatable product formulated especially for baby pigs being weaned at three weeks of age or earlier and a special formulation for “tail enders” needing a nutritional boost.

Begin feeding SuperStart AP-150, medicated, when pigs are approximately 5 lbs. body weight (1 week of age) and feed continuously and as the sole ration until the pigs have consumed at least 5 lbs. per pig or at least 7 to 10 days after weaning. NEVER WEAN AND CHANGE FEED SOURCE AT THE SAME TIME.

For “tail enders”, separate pigs according to size. It is recommended to group pigs by size and place them in groups of 20 or less with a weight difference of no more than 10%. Feed SuperStart AP-150, medicated, continuously and as the sole ration for at least 3 to 4 weeks or until pigs regain their healthy bloom.

SuperStart can also be used as a high nutrient dense product in any starting program to encourage early dry diet consumption.

NOTE: Strains of organisms vary in their degree of susceptibility to antibiotics. If no improvement is observed after recommended treatment, diagnosis and susceptibility should be reconfirmed.

WARNING

DISCONTINUE USE OF THIS MEDICATED FEED
28 DAYS BEFORE SWINE ARE SLAUGHTERED

IMPORTANT: Store in a clean, dry area free of all offensive odors.

SuperPigPlus

CB

Medicated

Control of swine dysentary (vibrionic dysentary, bloody scours or hemorrhagic dysentary); control of bacterial swine enteritis (salmonellosis or necrotic enteritis caused by SALMONELLA CHOLEAESUIS); aid in the prevention of migration and establishment of large Roundworm (ASCARISSUUM) infections; aid in the prevention of establishment of Nodular worm (OESOPHAAGOSTOMUM) infections of swine. Follow carefully the feeding directions, CAUTION and WARNING statement printed on the back of this label.

Active Drug Ingredients

Carbadox……0.0055% (50 grams per ton)
Pyrantel Tartrate……0.0106% (96 grams per ton)

GUARANTEED ANALYSIS

Crude Protein, not less than……19%
Crude Fat, not less than……4%
Crude Fiber, not more than……4.0%
Vitamin A, I. Units per lb. (min)……3,000
Vitamin D^3, I. Units per lb. (min)……375
Vitamin E, I. Units per lb. (min)……22.5
Riboflavin, mgs. per lb. (min)……2.3
Niacin, mgs. per lb. (min)……15
d-Pantothenic Acid, mgs. per lb. (min)……7.5
Choline, mgs per lb. (min)……350
Vitamin B^{12}, mgs per lb. (min)……0.011
Menadione (Vitamin K), mgs per lb. (min)……2.25
Biotin, mgs per lb. (min)……0.05
Folic Acid, mgs per lb. (min)……0.045
Pyridoxine, mgs per lb. (min)……0.009
Thiamine, mgs per lb. (min)……0.0045
Lysine, not less than……1.20%

INGREDIENTS

Ground Corn, Feeding oat meal, Dehulled soybean meal, Fish meal, Dried Whey, Animal Plasma, Meat and Bone Meal, Flash Dried Blood Meal, Corn Distillers Dried Solubles, Wheat Middlings, Dehydrated Alfalfa Meal, Sugar, Animal Fat, Monosodium Glutamate, Methionine, Lysine, Natural and Artifical Flavors Added, Dehydrated Yeast Culture, Yucca Schidigera Extract, Cane Molasses, Vitamin A Acetate, D-Activated Animal Sterol (source of Vitamin D^3), Riboflavin Supplement, Niacin Supplement, Calcium Panthothenate, Choline Chloride, Vitamin B^{12} Supplement, Menadione Dimethylpyrimidionol Bisulfite (Source of Vitamin K), dl Alpha Tocopheryl Acetate (Source of Vitamin E), Biotin, Folic Acid, Pyridoxine Hydrochloride, Thiamine Mononitrate, Calcium Carbonate, Salt, Dicalcium Phosphate, Magnesium Oxide, Manganous Oxide, Ferrous Sulphate, Copper Sulfate, Cobalt Carbonate, Ethylenediamine Dihydriodide, Zinc Sulphate and Sodium Selenite.

SuperGrow Feed Co.
Toledo, Iowa 52342

Feeding Directions

SuperPigPlus, CB, medicated is a highly palatable product formulated especially for baby pigs. When following an early weaning program (3-4 weeks of age), it is recommended that SuperPigPlus, CB, medicated, be started when pigs weigh approximately 18-20 lbs. body weight and feed until pigs weigh 50 lbs. body weight. It is recommended that early weaned pigs be fed the recommended amount of SuperStart prior to weaning and before pigs are placed on SuperPigPlus, CB.

For later weaning programs, SuperPigPlus, CB is recommended to be started when pigs weigh approximately 18 lbs body weight and feed until pigs weigh 50 lbs. body weight. NEVER wean and change feed source at the same time.

SuperPigPlus is also an excellent product for incoming feeder pigs. Feed SuperPigPlus CB for 7 to 14 days before changing to a complete grower product or utilizing a grind and mix program.

IMPORTANT: Consult your veterinarian for assistance in the diagnosis, treatment and control of parasitism.

WARNING

DO NOT FEED TO SWINE WEIGHING MORE THAN 75 LBS. BODY WEIGHT.
DO NOT FEED TO SWINE WITHIN 10 WEEKS OF SLAUGHTER

CAUTION

CONSULT A VETERINARIAN BEFORE USING IN SEVERLY DEBILITATED ANIMALS.

IMPORTANT: Store in a clean, dry area free of all offensive odors.

SUPER
GROW 850

Follow carefully the feeding directions printed on the back of this label.

GUARANTEED ANALYSIS

Crude Protein, not less than……39%
Crude Fat, not less than……4.2%
Crude Fiber, not less than……3.9%
Calcium (Ca), not less than……3.25%
Calcium (Ca), not more than……4.25%
Phosphorus (P), not less than……2.00%
Salt (NaCl), not less than……2.00%
Salt (NaCl), not more than……3.00%
Iodine (I), not less than……0.0005%
Vitamin A, I. Units per lb. (min)……12,000
Vitamin D^3, I. Units per lb. (min)……1,500
Vitamin E, I. Units per lb. (min)……90
Riboflavin, mgs. per lb. (min)……9.0
Niacin, mgs. per lb. (min)……60
d-Pantothenic Acid, mgs. per lb. (min)……30
Choline, mgs per lb. (min)……150
Vitamin B^{12}, mgs per lb. (min)……0.045
Menadione (Vitamin K), mgs per lb. (min)……9.0
Biotin, mgs per lb. (min)……0.18
Folic Acid, mgs per lb. (min)……0.18
Pyridoxine, mgs per lb. (min)……0.0037
Thiamine, mgs per lb. (min)……0.018
Lysine, not less than……2.55%

INGREDIENTS

Meat and Bone Meal, Dehulled Soybean Meal, Flash Dried Blood Meal, Fish Meal, Feeding Oat Meal, Corn Distillers Dried Solubles, Wheat Middlings, Corn Gluten Feed, Dehydrated Alfalfa Meal, Lysine, Animal Fat, Vitamin A Acetate, D-Activated Animal Sterol (Source of Vitamin D^3), dl-Alpha Tecopheryl Acetate (Source of Vitamin E), Riboflavin Supplement, Niacin Supplement, Calcium Pantothenate, Choline Chloride, Vitamin B^{12} Supplement, Menodione Dimethylpyrimidinol Bisulfite (Source of Vitamin K), Biotin, Folic Acid, Pyridoxine Hydrochloride, Thiamine Mononitrate, Calcium Carbonate, Dicalcium Phosphate, Salt, Ethylenediamine Dihydriodide, Manganous Oxide, Magnesium Oxide, Ferrous Sulphate, Copper Sulphate, Cobalt Carbonate, Zinc Sulphate, and Sodium Selenite.

Super Grow Feed Co.
Toledo, Iowa 52342

Feeding Directions

Super Grow 850 is a non-medicated base mixing concentrate designed and formulated to be mixed with grain to produce complete rations for growing-finishing swine and breeding swine. The following are recommended rations for swine during various phases of life-cycle feeding.

Mixing Directions for
Growing and Finishing Swine

Growing Swine
Pig Weights (lbs.)

SUPER FIN 950

A highly concentrated swine supplement designed for rations being fed to high lean genotype growing and finishing swine. Follow carefully the feeding directions printed on the back of this label.

GUARANTEED ANALYSIS

Crude Protein, not less than……41%
Crude Fat, not less than……7.5%
Crude Fiber, not less than……3.5%
Calcium (Ca), not less than……3.75%
Calcium (Ca), not more than……4.75%
Phosphorus (P), not less than……..2.00%
Salt (NaCl), not less than……2.50%
Salt (NaCl), not more than……..3.50%
Iodine (I), not less than……0.0005%
Vitamin A, I. Units per lb. (min)……12,000
Vitamin D^3, I. Units per lb. (min)……1,500
Vitamin E, I. Units per lb. (min)……100
Riboflavin, mgs. per lb. (min)……9.0
Niacin, mgs. per lb. (min)……..60
d-Pantothenic Acid, mgs. per lb. (min)……30
Choline, mgs per lb. (min)……..150
Vitamin B^{12}, mgs per lb. (min)……0.045
Menadione (Vitamin K), mgs per lb. (min)……9.0
Biotin, mgs per lb. (min)……..0.18
Folic Acid, mgs per lb. (min)……0.18
Pyridoxine, mgs per lb. (min)……..0.0037
Thiamine, mgs per lb. (min)……...0.018
Lysine, not less than……3.25%

INGREDIENTS

Meat and Bone Meal, Dehulled Soybean Meal, Flash Dried Blood Meal, Fish Meal, Feeding Oat Meal, Corn Distillers Dried Solubles, Wheat Middlings, Corn Gluten Feed, Dehydrated Alfalfa Meal, Lysine, Animal Fat, Vitamin A Acetate, D-Activated Animal Sterol (Source of Vitamin D^3), dl-Alpha Tecopheryl Acetate (Source of Vitamin E), Riboflavin Supplement, Niacin Supplement, Calcium Pantothenate, Choline Chloride, Vitamin B^{12} Supplement, Menodione Dimethylpyrimidinol Bisulfite (Source of Vitamin K), Biotin, Folic Acid, Pyridoxine Hydrochloride, Thiamine Mononitrate, Calcium Carbonate, Dicalcium Phosphate, Salt, Ethylenediamine Dihydriodide, Manganous Oxide, Magnesium Oxide, Ferrous Sulphate, Copper Sulphate, Cobalt Carbonate, Zinc Sulphate, and Sodium Selenite.

Super Grow Feed Co.
Toledo, Iowa 52342

Feeding Directions

Super Fin 950 is a non-medicated base mixing concentrate designed and formulated to be mixed with grain to produce complete rations for growing-finishing swine and breeding swine demonstrating a high lean growth potential and for breeding swine with a prolific genetic potential. The following are recommended rations for swine during various phases of life-cycle feeding.

Mixing Directions for
Growing and Finishing Swine

	Growing Swine Pig Weights (lbs.)					
	18-30	30-40	40-75	75-125	125-175	175-mkt.
Ground Shelled Corn, lbs	1225	1325	1550	1600	1675	1725
SuperFin 950 (non-medicated) lbs.	450	450	450	400	325	275
SuperNurse, lbs.	300	200	----	----	----	----
SuperPac, lbs	25	25	----	----	----	----
TOTAL POUNDS	2000	2000	2000	2000	2000	2000
Crude Protein, %	19	18	16	15	14	13

Split sex feeding has been shown to be the most economical method of producing lean and efficient growth in swine. Under such a feeding program, gilts and barrows are fed the same ration up to approximately 75 lbs. body weight. The following are recommended rations for split-sex feeding from 75 lbs. body weight until swine reach desired market weight.

	Pig Weights (lbs.) 75-125		125-175		175-mkt.	
	G	B	G	B	G	B
Ground Shelled corn, lbs.	1550	1600	1600	1675	1675	1765
SuperFin 950 (non-medicated) lbs.	450	400	400	325	325	225
TOTAL POUNDS	2000	2000	2000	2000	2000	2000
Crude Protein, %	16	15	15	14	14	12

Oats and barley may be substituted for a portion of the corn in the above rations. The corn portion in the above rations is estimated to contain 8.5% crude protein.

Mixing Directions for
Breeding Swine

	Gestation	Lactation	
Daily Intake, lbs.	3-4	4-5	Full Feed
Ground Shelled corn, lbs.	1600	1625	1575
SuperFin 950 (non-medicated), lbs.	325	325	400
SuperSow	75	50	25
TOTAL POUNDS	2000	2000	2000
Crude Protein, %	14	14	15

Feed Mixing

Supports Chapter: Feeds

Learning Objectives
- Youth will learn about feed Good Manufacturing Practices.
- Youth will learn the concepts of particle size, particle separation, and adequate mixing.

Resources/Materials
- Leader Resources*: Pork Quality Assurance* pg. 72-79; *Beef Quality Assurance* pg. 20-21.
- Overview of FSQA program
- Feed ingredients (raisins, chocolate chips or M&M's, peanuts, sunflower seeds or coconut)
- Measuring utensils; measuring spoons, measuring cups, plastic spoons, etc.
- Mixing utensils; plastic spoons, large and small paper cups, plastic bowls, plastic zip-lock bags

Activity
Introduce the activity by explaining to the 4-H'ers that their task is to mix the following ration:

1195 lb. Corn	(2 Tbsp raisins)
600 lb. Oats	(1 Tbsp Chocolate chips)
200 lb. Soybean meal	(1 Tbsp peanuts)
5 lb. Vitamin/mineral premix with Aureomycin	(1/4 tsp sunflower seeds)

Provide copies of the ration or have it posted near the measuring table.

First 4-H'ers must choose any mixer they prefer. Be sure some use too small of a mixer (small paper cups), some have large mixers, and some have plastic bags. Next inform them to mix for as long as they think is needed.

Observe their feed mixture and compare it with the other 4-H'ers feed mixture. Then enjoy the snack while discussing the activity!

Reflecting Discussion Questions
- Is the product evenly distributed? Why or why not?
- Did you select the proper mixing equipment?
- Did you measure the ingredients accurately? Was it hard or easy to be exact? Why?
- Did you follow Good Manufacturing Practices? What are they and where can you learn more about GMP's?

Applying Discussion Questions
- Why is even distribution of all feed ingredients important to the animal?
- What difference would mixing equipment make?

- How was your mixer similar to a grain mixer? How was it different?
- What could you do to get more uniform distribution of all feed particles?

Feed Mixing

Your task is to mix the following ration:

1195 lb. Corn	(2 Tbsp raisins)
600 lb. Oats	(1 Tbsp Chocolate chips)
200 lb. Soybean meal	(1 Tbsp peanuts)
5 lb. Vitamin/mineral premix with Aureomycin	(1/4 tsp sunflower seeds)

First choose any mixer you prefer.

Measure ingredients and mix.

Observe your feed mixture and compare it with the other 4-H'ers feed mixture.

- Is the product evenly distributed? Why or why not?
- Did you select the proper mixing equipment?
- Did you measure the ingredients accurately? Was it hard or easy to be exact? Why?
- Did you follow Good Manufacturing Practices? What are they and where can you learn more about GMP's?

Beef – Feed Pyramid

Life Skills – Categorizing, cooperation
Audience – 4-H club
Time – 30-45 minutes
Supplies – feed samples in plastic bags, name cards for each feed, Food Pyramid poster, stickytack, "My Pyramid" poster
Subject Matter Objectives – Identifying feedstuffs and categorizing by nutrient provided
Life Skills Objectives – categorizing, cooperating with others

Background Information
The basics of nutrition are similar for humans and animals. This activity uses the knowledge youth have about human nutrition based on the Food Pyramid to learn basic animal nutrition. The basic nutrients required for animals are water, protein, carbohydrates, fats, minerals and vitamins. These don't match exactly with the food pyramid, but close enough to make the ties.

The biggest wedge (orange) of the pyramid is carbohydrates. Carbohydrates provide energy for maintenance, growth, and exercise. Sugars and starches are carbohydrates. Grains such as corn, oats, wheat, and milo contain a lot of sugar and starch. Cellulose is one more of the complex carbohydrates, and is provided by grasses and hays.

The next two wedges of the pyramid are water (blue) and protein (green), because they are needed in larger amounts that vitamins and minerals. Water is not necessarily a nutrient, but is essential for life. Most animals' bodies are about 2/3 water. Without water many bodily functions shut down. Water is needed for digestion of feeds, movement of nutrients to body cells, removal of waste products, joint lubrication, and cooling of the body. Animals can live longer without feed than without water! Water needs to be fresh, and animals should have as much water as they like.

Proteins are broken down into amino acids which are the building blocks of muscle, internal organs, bones, and blood. Protein is also needed for hair, hooves, skin and many other body parts. Some amino acids must be fed, while others can be produced within the animal's body. Excess protein is utilized as energy. All feeds have some protein in them, however we classify the following feeds as high-protein feeds; soybean meal, cottonseed meal, linseed meal. Often times alfalfa hay is also fed as a protein source.

Vitamins (red) are also critical for animal nutrition, however they are needed at a much smaller level. Vitamin A is needed for healthy eyes, nasal passages, and lungs. Vitamin D is necessary for strong bones and healthy blood. Vitamins are often provided as a supplement or mixed in a commercial protein supplement.

Minerals (purple) are needed to build bones and teeth and support life processes. Calcium and phosphorus are called macrominerals because they make up the largest percentage of minerals in the animal's body. Minerals that are needed in very small amounts are called trace minerals or micro-minerals. Some trace minerals are copper, iron, zinc, and iodine. Minerals are often provided as a supplement or mixed in a commercial protein supplement.

Fats and Others (yellow) also provide energy for movement and body heat. Fats are needed to help digest certain vitamins. Many diets contain enough fat so it may not be added. However some hog diets do add fat for additional energy. Some also add fat to the ration to reduce the dustiness of a ground feed. Most fats are either oils like soybean oil, or animal fats.

Activity:
Distribute feed samples and name tags to 4-H'ers. Instruct them to find the 4-H'er with the name or sample that matches their sample. Discuss the correct names and samples.

Discuss the Food Pyramid and the correlation to the Feed Pyramid. The basic nutrients are carbohydrates, protein, vitamins, minerals, water and fats & others. Have teams put their feed sample in the category they think it best fits. Discuss as a group the correct answers.

Reflect
What were some clues to help you find your partner?
What were some new feeds you had not seen before?
How could you use the food pyramid to help get the feeds in the right category?

Apply
How is animal nutrition similar to human nutrition?
Why is it important to provide all these nutrients for your animals?
What might happen if you don't provide enough of a nutrient for your animal?
What might happen if you don't provide fresh water?

Additional Resources –
Bite Into Beef Level 1 – Picking Feed Ingredients, pg 22-23
Beef Helpers Guide, Resource List, Page 36
Beef Cattle Handbook, a large resource notebook available from County Extension Offices

Answer Key
1. Cotton seed
2. Corn
3. Beet pulp
4. Oats
5. Soybean meal
6. Alfalfa hay
7. Grass hay
8. Dry distillers grains
9. Wet distillers grains
10. Dry gluten
11. Wet gluten
12. Condensed Corn Solubles
13. Dicalcium phosphate
14. Limestone
15. Salt
16. Soybean oil
17. Linseed meal
18. Dry molasses
19. Soybean hulls
20. Mineral

Cotton seed Corn

Beet pulp Oats

Soybean meal Mineral

Alfalfa hay Grass hay

Dry distillers grains

Wet distillers grains

Dry gluten Wet gluten

Condensed Corn Solubles

Dicalcium phosphate

Limestone Salt

Soybean oil Soybean hulls

Linseed meal Other

Dry molasses Water

Carbohydrates Protein

Vitamins Minerals

Feeds & Their Function

Developed by Teresa Wiemerslage, Allamakee County CEED

Supports Chapter: Feeds

For each feed ingredient, check whether it is primarily used as a source of protein, mineral, energy, vitamin, or water in the ration.
Some ingredients may have more than one choice.

Answer Key

FEED WORDS					
Ingredients	Use In Ration				
	Energy	Protein	Mineral	Vitamin	Water
Alfalfa meal		X			
Barley	X				
Beef pulp	X				
Bonemeal		X			
Calcium			X		
Cobalt			X		
Copper			X		
Corn	X				
Cottonseed meal		X			
Milk		X			
Grass	X				
Iodine			X		
Iron			X		
Milo	X				
Molasses	X				
Oats	X				
Phosphorus			X		
Salt			X		
Silage	X				
Soybean meal		X			
Straw	X				
Urea		X			
Wheat	X				

Feeds & Their Function

For each feed ingredient, check whether it is primarily used as a source of protein, mineral, energy, vitamin, or water in the ration.

FEED WORDS					
Ingredients	Use In Ration				
	Energy	Protein	Mineral	Vitamin	Water
Alfalfa meal		X			
Barley	X				
Beef pulp	X				
Bonemeal					
Calcium					
Cobalt					
Copper					
Corn					
Cottonseed meal					
Milk					
Grass					
Iodine					
Iron					
Milo					
Molasses					
Oats					
Phosphorus					
Salt					
Silage					
Soybean meal					
Straw					
Urea					
Wheat					

Sanitation Affects Performance

Supports Chapter: Health/Biosecurity

Learning Objectives

- Youth will understand the role of good sanitation in producing quality food production
- Youth will identify specific sanitation practices used in their production system
- Youth will compare sanitation practices with other species.

Resources/Materials

- Leader Resources*: Total Quality Management Curriculum for Youth Producers, Leader Guide* pg. 13-19; *Pork Quality Assurance* pg. 58-62; *Beef Quality Assurance* pg. 63-64.
- Overview of FSQA program
- Video on *Providing Quality Environment for Poultry or Providing a Quality Environment for Dairy Cows*
- TV and VCR player
- Paper and pencils
- Newsprint and markers, or chalkboard and chalk

Activity

Begin with a discussion of what "sanitation" means.

Introduce the video segment. Hand out pencils and paper, and instruct the youth to draw a line down the middle of their paper. Instruct youth to write down sanitation practices they observe in the video in the left hand column of their paper.

Watch the video.

Now instruct youth to write down sanitation practices they do at home in the right hand column.

Divide the youth into groups of three or four. Try to get some variation of species in each small group. Provide newsprint and markers to each group, and instruct them to divide into three columns labeled 1, 2 and 3. Instruct groups to compare their list of sanitation practices, and list those that appeared on only one list under column 1, those that appeared on two lists under column 2, and those that appeared on three or more lists under column 3. Some examples of practices that may be discussed include cleaning waterers, providing dry bedding, cleaning pens, providing adequate ventilation, disinfecting equipment, docking tails, etc.

Now discuss how or why they do the practices the same or differently for different species. For example we dock lambs tails for sanitation, but dock pigs tails to reduce biting. How often do you clean chicken waterers versus sheep water tanks?

Reflecting Discussion Questions

- What sanitation practices were on all three lists?
- Why are these practices important?
- Why isn't everyone's list the same?
- How do some sanitation practices differ for different species?
- Which practices are the same for all species?

Applying Discussion Questions

- What are some sanitation practices you should do better in your project?
- What are some sanitation practices you didn't know about?
- What practices do you need help with? Who might help you?
- What practices do people do also?

Infectious Disease Spread Activity

Developed by Amber Matthiesen, Jackson County Extension Education Director, and Denise Schwab, Extension Beef Field Specialist, for 4-H Beef Blast 2007.

Objective: To visually demonstrate the spread of disease between animals.

Background: Diseases spread in many ways. Most are spread from animal to animal contact, but humans can also transport disease from one group to another, and so can other animals (birds, rodents, cats and dogs). It is important for youth to understand how quickly and easily diseases can be spread in order to maintain biosecurity of their project animals. A biosecurity plan includes controlling external spread (from other farms to yours) and internal spread (from one group of animals on your farm to another).

Diseases also transmit from animals to humans. Worldwide 60% of diseases affect both humans and animals. These are called zoonotic diseases and would include ringworm, rabies, West Nile virus, and soremouth.

There are two versions of this activity for different age groups. The examples are mostly beef diseases but can be modified to include other specie diseases also.

Younger Member Version

1. Provide each youth with a small cup with 5 to 10 small candies (M&M's). Give 2 or 3 youth (or 5-10% of the group) cups with a different candy (jelly beans). Tell them not to eat their candy yet.
2. Instruct the youth to introduce themselves to other youth and exchange a candy with them. This encourages communications skills as well.
3. After they have had time to meet others and exchange candies, bring them back together for discussion.
4. Ask who started out with jelly beans? That represents a contagious disease like ringworm, warts, sore mouth, club lamb fungus. Then ask who ended up with jelly beans in their cup? They are now exposed to the contagious disease and will likely bring it home to their own farm.
5. Now they can eat their candies.

Discussion Questions:

1. What does "contagious" mean?
2. What are human contagious diseases?
3. What cattle/animal diseases are contagious?
4. Which cattle/animal diseases are contagious to humans?
5. How can these diseases be transmitted other than animal to animal?

6. What steps can you take to prevent disease from occurring?
7. What steps can you take to help reduce the spread of disease?

Older Member Version

Preparation:

1. Prepare baggies of individual candies. Number of candies can be based on the number of diseases used, i.e. 20 candies and 20 diseases.
2. Prepare a sealed envelope for each candy with description of disease inside. Label envelope with candy color and type. Staple or tape sealed envelope to each bag of candy.
3. Place a label on a separate baggie labeled "Collection Bag" for collection of "diseased" candies.

Instructions:

1. Give each youth a baggie with an envelope. Make sure they do not open their envelopes.
2. Give each youth an empty baggie labeled "Collection Bag".
3. Have youth trade candies with each other until their baggie is empty.
4. Now, explain what they were trading…disease. Have each youth open their envelope. One at a time have them read aloud their candy and what disease it represents.

Discussion Questions:

1. What does "contagious" mean?
2. What are human contagious diseases?
3. What cattle diseases are contagious?
4. Which cattle diseases are contagious to humans?
5. How can these diseases be transmitted other than animal to animal?
6. What steps can you take to prevent disease from occurring?
7. What steps can you take to help reduce the spread of disease?

Disease Key – Older Youth Version

<u>Red M&M-Infectious Bovine Rhinotracheitis (Red Nose)</u>
This disease is caused by a virus that attacks the upper respiratory system. Usually affect younger calves during the fall and winter. Vaccinate 2-3 weeks after weaning.

<u>Blue M&M-Anaplasmosis</u>
This disease is a vector-borne, infectious blood disease caused by parasites. It is not contagious, but is transmitted mostly by ticks. It can also be transmitted

through needles, dehorning equipment, tattoo instruments, flies, and mosquitoes. Tetracycline is given for treatment. Animals who recover from anaplasmosis will always be carriers and can spread the disease.

Green M&M-Pasture Bloat

Bloat is a form of severe indigestion which is a collection of gas in the rumen. Normal gases are eliminated by belching, but some circumstances lead to bloat. To prevent pasture bloat, plant pastures so that no more than 50% of the forage mixture is alfalfa or clover, fill cattle on dry roughage or grass pastures before turning to legume pastures, provide grass hay or graze in a rotation using grass pastures.

Orange M&M-Brucellosis

This disease is also known as “contagious abortion” and “Bangs disease” and caused by infection with a bacterium. Brucellosis causes abortion or premature calving of recently infected animals. There is no treatment for Brucellosis. Prevention for the disease is through vaccination of heifer calves. It affects cattle, buffalo, pigs, sheep, goats, and elk. Aborted fetus and manure in cool environments helps spread the disease.

Brown M&M-BSE or Mad Cow Disease

BSE is a progressive disease that affects the central nervous system of the cattle. There is no known treatment for the disease and is not contagious. It can take from 2-8 years for the signs to appear from BSE. Signs may be similar to those of rabies.

Yellow M&M-Bovine Virus Diarrhea (BVD)

BVD is an infection which can cause numerous problems to the digestive and immune system. It may cause pneumonia, abortions, and calf deformities. There is no good treatment, but good nursing care may help the calf recover. This virus affects most even toed animals, and produces diarrhea and gradual wasting.

Pink Whopper-Calf Scours

Calf scours is not a disease but a symptom of a disease. Treatment for scours is similar regardless of the cause. Antibiotics can be given along with simple fluids given by mouth to help decrease dehydration. The younger the calf, the greater the chance of death. It is fairly common in calves, lambs, and kids.

Chocolate Whopper-Cancer Eye

Cancer eye includes a variety of benign and malignant skin tumors of the eyeballs and eyelids. It appears to affect cattle that have non-pigmented skin, especially around the eye. Treatment includes surgery, cryosurgery (freezing), hyperthermia (heating), or a combination of these.

Red Skittle-Coccidiosis

This is a one of the major cattle diseases. It is caused by a microscopic, one-celled parasite. Younger calves are usually affected when they are placed in pastures or lots contaminated by older cattle. Symptoms include diarrhea, rough coat, loss of appetite and weight, and general weakness. Treatment includes the use of sulfonamide or amprolium in feed and drinking water.

Orange Skittle-Foot-and-Mouth

Foot-and-Mouth disease is a severe, highly communicable viral disease. It causes blister-like lesions on the tongue, nose, lips, mouth, and between the toes leaving painful ulcers. The virus is extremely contagious and spreads rapidly. It has not been seen in the United States since 1929. Foot-and-mouth can affect pigs, cattle sheep, goats, buffalo, and wildlife.

Yellow Skittle-Footrot

Footrot is almost impossible to cure. Footrot is caused by two bacteria—Fusobacterium necrophorum and Bacteroides nodosus—that act together. F. necrophorum is common in most manure; it is very hardy and can live for years in manure. It contributes to footrot in cattle and causes thrush in horses. B. nodosus apparently lives only in sheep hooves. It dies out in soil in two weeks. It grows very slowly, so the incubation period may be long. Foot abscesses may be caused by B. nodosus, but footrot requires the presence of both B. nodosus and F. necrophorum. Moist soil conditions contribute greatly to the cause and spread of footrot.

Green Skittle-Grass Tetany

Grass tetany is a serious, often fatal metabolic disorder characterized by low levels of magnesium in the blood. Typical sings are an uncoordinated gait with convulsions, coma, and death. Cows are often found dead without knowing they were ill. In areas where tetany frequently occurs, feed cows magnesium supplements to prevent disease.

Orange Jelly Bean-Johne's Disease

Johne's is a chronic wasting disease caused by bacteria. It typically starts as an infection in calves, but does not exhibit signs until cattle are 2-5 years old. There is no cure for Johne's disease once they are infected. Eradication is extremely difficult because of the long period of time cattle go without symptoms.

Yellow Jelly Bean-Leptospirosis

Lepto is a cork-screw like bacteria. Symptoms are multiple abortions, yellow mucous membranes and blood in the urine, and milk of lactating cows may become thick, yellow and blood-tinged. Vaccines are available to prevent Lepto and should be given 30-60 days before the breeding season.

Green Jelly Bean-Listeriosis

This is a disease of the central nervous system and caused by bacteria that lives almost anywhere-in soil, manure piles, and grass. Animals with Listeria can show

signs of restlessness, loss of appetite, fever and nervous system disorders. Cattle are often seen walking in circles. Treatment includes antibiotics and can be given to the whole herd to prevent spread of the disease. Commonly found in fermented feed like silage.

Purple Jelly Bean-Pinkeye
Pinkeye is a common infectious disease affecting the eyes of cattle. It is characterized by redness and inflammation of the lining of the eyelid and eyeball. A good fly control program will limit the spread of pinkeye within a cattle herd. Antibiotics should be used to treat pinkeye.

White Jelly Bean-Ringworm
Ringworm is a transmissible infectious skin disease caused by a fungus. Direct contact with infected animals is the most common method of spreading the infection. Ringworm will cure itself without treatment, but a topical cream may be used on the affected area.

Peach Jelly Bean-Vibriosis
Vibriosis is an infectious bacterial disease causing infertility. It is a venereal disease spread by infected bulls. Vibriosis is best controlled with vaccination. It is often combined with the vaccine for Lepto. A.I. will also limit the spread of the disease.

Pink Jelly Bean-Warts
Warts in cattle are caused by a contagious virus and are an infection of the skin. Warts spread slowly and can commonly appear on the neck, shoulders, and head. Isolation of infected calves will help prevent the spread of the disease to other animals. Small warts will often disappear on their own. Larger warts may need to be removed. If there is a severe breakout in a herd, vaccination may be required.

Other diseases:
Campylobacter or vibrio abortion
The vibrio organism is taken in orally. It is not a venereal disease. Too high concentrations of sheep and feeding contaminated feeds increase the chance of an outbreak. New sheep that carry the organism will bring it to your flock. The ewe usually is not sick. The fetus and placenta are aborted during the last three to four weeks of gestation. Vaccinate with killed vaccine at breeding and midgestation if abortion has been a problem.

Sore Mouth
Sore mouth (contagious ecthyma) is caused by a virus. Herpes ulcers develop on the lip and tongue of the lamb and on the udder of the ewe. Vaccinate if you have infected sheep running with susceptible sheep (young lambs). It is a virus, so antibiotics are ineffective. Vaccinateat two-three days if you have had previous problems and have brought in unexposed sheep.

Baby Lamb Scours
Scours are due to one of many bacteria. To minimize the problem, an adequate intake of colostrum (eight to 12 ounces of either ewe or cow colostrum) is absolutely essential. Clostridium perfringens type C may be the cause of baby lamb scours. Vaccinate the ewe four weeks prelambing to prevent it.

Coccidiosis
Coccidiosis usually occurs in lambs four weeks or older. It is caused by protozoa. Lambs usually show blackish, blood tinged diarrhea and are reluctant to eat.

Erysipelas
Erysipelas is caused by a bacterium that can affect swine of all ages. Symptoms include a high fever, poor appetite and stiffness. You might notice a bluish color of the ears and belly, or diamond-shaped skin lesions. Vaccinations are effective at preventing erysipelas.

Pseudorabies
Pseudorabies is a serious disease caused by a herpes virus. It is spread in the air, by nasal secretions, nose-to-nose or fecal-oral contact. Raccoons, opossums, skunks and rodents are also carriers. Young pigs may have tremors, convulsions, and die. Sows may abort or have stillborn or mummified piglets. Growing pigs will have flu-like symptoms such as loss of appetite, fever, sneezing and coughing. There is no treatment, but vaccinations are effective.

Swine Dysentery
Swine dysentery, also called bloody scours, is caused by bacterium that affects the large intestine. Small amounts of contaminated manure can carry this disease to other pigs. The best way to prevent swine dysentery is to keep human and pet traffic out of the pig pens.

Exotic Newcastle disease-
END affect poultry and is spread through aerosol and ingesting contaminated feed and water. It affects the respiratory and digestive system, and causes diarrhea.

Clostridial (Black Leg)-
Black leg spores remain viable in the soil for many years. It affects young animals with muscle swelling and is rapidly fatal. Vaccination can prevent disease.

My Biosecurity Plan

Supports Chapter: Health/Biosecurity

External Strategies

Farm Location and Maintenance
I plan to reduce risk from neighboring farms by:

I plan to reduce rodents, wildlife, and birds by:

Transportation Control
When vehicles come to transport my animals, I will reduce risk by:

When feed or delivery trucks come to my farm, I will reduce risk by:

Isolation and Acclimatization
I plan to reduce the risk of disease from new animals by:

I will introduce new animals into my operation by:

Visitor Entry Policy
Visitors to my operation will:

My Biosecurity Plan

Internal Strategies

Vaccination Protocol
My vet and I have decided to vaccinate my project animals for:

When?

I will handle these vaccines to provide the most effectiveness by:

Animal Movement
I will house animals:

The order I care for my animals is:

People Movement
To prevent the spread of diseases by people, I will:

Cleaning and Disinfecting
I plan to clean my buildings (how and when):

Black Light Demonstrations for Iowa FSQA Presentations

Prepared by Larry McMullen, ISU Extension Swine Field Specialist

Demo 1: Importance of Animal Isolation (Bio-Security)

When bringing in new seed stock or bringing animals back home from the fair it is very importance to isolate those animals from the herd for at least 30 to 60 days to avoid any new disease exposure as well as the acclimation of the new or fair animals to the disease profile of the farm.

Procedure:
1.Have 4- 10 participants volunteer to represent livestock (I like to call them market beef animals, lambs, rabbits, etc that will be coming back to the farm) Or you could state that one is a newly purchased seed stock animal and will eventually be introduced into the herd.
2. Use black light to scan the hands of all of the participants. None should glow.
3. Then have one participant represent the fair animal / seed stock. Have them stand away from the other participants. On the fair animal/seed stock representative place some of the black light solution on their hands and rub hands together.
4. Use black light to scan their hands – Glows – representing a potential disease for the herd if the animal is immediately introduced into the herd.
5. Now state the animal is coming to or back to the farm. Move the inoculated individual to the other participants. Have the inoculated individual shake hands with all of the other “animals” This represents the introduction of the animal back into the herd and the close contact may cause a disease to develop and spread if they are mixed together immediately.
6. Using the black light scan all of the participant’s hands – all should glow to some extent. Explain that his represents all of the other animals contracting a new disease that was brought from the fair or from the seed stock from another livestock operation. Also explain the animals may or may not get sick (the severity may vary) due to the natural immunity that may be present in each individual animal.

Demo 2: Carrying Diseases back to the Farm from the Fair (Bio-Security)

Clean clothing and shoes is a must to prevent carrying diseases back from a livestock exhibition (county fair, state fair, expos, breed shows, other farms, etc.) Use this demo to illustrate the importance of changing shoes that have been worn to fairs, etc. before entering the home livestock facilities. It also enforces the need to use plastic boots or dedicated shoes at the exhibition.

Procedure:
1. Secure two volunteers
2. Give one individual a pair of plastic boots and have them put over their shoes.
3. Squirt some of the black light solution on the floor (you may want to use a plastic sheet to keep the solution from getting directly on the floor). Explain that this represents the fairgrounds show ring, barns or another livestock facilities where diseases foreign to the home farm are prevalent.
4. Have each participant step in the solution and stomp their feet. (They love doing this! Graphically give a verbal description of how "messy and dirty" this facility is.
5. Then move the two participants away from that area (2 or 3 feet away). Now explain that they are going back home to do their chores and will be working around their animals.
6. Have the participant with the boots remove them. – Be careful that they do not step on the boots or step into any of the solution. Illustrates how plastic boots can be used to enhance bio-security.
7. Now have the participants walk about 10 feet away – Each about 4 foot apart from another. Then taking a spot to represent them doing chores in their feedlot.
8. Take the black light and track the one with the shoes (no protection) back to their farm. Each step they have taken will be glowing - representing the potential diseases they could be taking back to farm.
9. Next – take the black light and track the one with the plastic boots removed. There should be no glowing in the path that they walked. This illustrates that no disease was carried back to the farm. (Caution – make sure they do not get any solution on them in the process of taking off the boots!)

Demo 3: Drug residue (Healthy Prod. Practices, Injections, Labels, Withdrawals)

Drug withdrawal is very importance to maintain food safety and consumer acceptance. Explain what is drug residue and that the withdrawal time is the metabolism of that drug in the body over time after the drug was discontinued.

Procedure:
1. Take a plastic jug to represent an animal (make it a pig). If you want to be creative – use a marker to make it look like a pig and maybe add some ears, eyes, tail, etc. – A chance for Art 101 to shine forth!!!!
2. Using the black light, scan the jug (Oscar the Pig). It should not glow. Explain this is an animal that is free of any drug residue currently BUT it is extremely sick (a temperature of 106.0 F – Normal is 102 F – this allows discussion of normal body temps of animals) and needs an injection of the drug "Cure All" that has a 7 day withdrawal time.
3. Have some black light solution in a small plastic syringe and simulate giving an injection to pig in the proper neck position by squirting the solution onto the jug (allows discussion where to properly inject vaccines). Then take your hand and

rub the solution over the jug (pig). While rubbing explain that the drug is going into the bloodstream and it is being deposited into the muscle tissue.
4. Now scan the jug to show the intensity of the glow of the pig representing the full intake of the drug. Explain that the drug has cured the pig and the drug is discontinued and the pig must go through a 7 day withdrawal time before it can be legally marketed.
5. Now take a towel and wipe the jug lightly – Scan the jug to show a lower amount of drug intensity. This represents Day 1 – Continue wiping 6 more times to represent each day of withdrawal (each time wiping harder to remove the solution). The glow intensity will get less and less on each day represented.
6. Now state the pig is done with its 7 day withdrawal period and can be legally marketed. NOTE: Even after all of the wiping with the towel some glow will still occur. Explain that this is the accepted USDA drug residue allowed and has been deemed safe for human consumption. Also this is a good time to explain drug research and how a drug is approved for use by USDA for animal use.

Tip: You may want to have someone assist you with this demo – one doing the activity work and one holding and scanning with the black light.

Where to secure a Black Light and Solution

Black Lights and Solutions are available through various outlets; Search web for "Black Light Purchase" Several sources for purchasing will be present. Your office may already have a black light as Extension Families Specialist used them to demonstrate hand washing effectiveness.

The Maze Craze

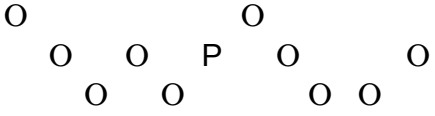
Supports Chapter: Ethics

Learning Objectives
- To demonstrate the importance of communication in building trust
- To demonstrate the responsibility of giving and following instructions
- To build the character traits of fairness, trustworthiness, and responsibility

Resources/Materials
- Leader Resources*: FSQA Ethics Chapter;*
- BOOMERANG!, Lesson 7, The Maze Craze
- Paper plates, brightly colored sheets of paper, masking tape,
- Blindfolds
- Posters of Character Traits
- Large open room

Activity
Before the activity begins, lay the 'Maze' (paper plates and paper) out in a turning, zigzag course – one course for each of two groups. The plates can be different distance apart (5" to 2'). The brightly colored piece of paper should be in the middle of each course. Tape the plates and paper to the floor to minimize slipping. Divide the group into groups of 8. Pair the students in each group and give a blindfold to one in each pair.

Example Maze



Today we are going to do The Maze Craze. Much research has been done with mice and mazes. For decades, scientists have developed complex mazes and put mice at one end of the maze and a piece of cheese at the other end of the maze. Mice work through the maze time after time after time using their sense of smell to make their way to the cheese. Through much practice, mice get faster and faster at getting through the maze to their cheesy reward. Just as mice gain skill in working quickly through the maze you also can learn skills through practice and experience. That is why you carry the same project area year after year, to learn to master the skills involved in that project area.

Just like for the mice, we have developed a maze for you to conquer.

Working in groups of two, the sighted partners must help the blindfolded partners in getting through the maze. When you get to the brightly colored paper, you may no longer lead your partners by the hand or touch them at all. You must give only voice direction to guide them through the maze. Both partners are to stay on the plates as you work through the maze. When you reach the end of the maze, go back to the starting point and wait for more directions.

Do you have any questions? You may touch your blindfolded partners until you get to the brightly colored piece of paper, then you may only give your partners directions by talking to them – no touching. It is important that you listen closely to your partners' directions and to these rules.

Rules: You may not peek under your blindfold. Both partners must stay on the plates. If the blindfolded person slips or steps off a plate, that pair must backtrack two plates and continue from there. Ready, set, go!

(As the groups begin, quietly tell members of one group they can touch and talk after passing the colored paper, thus creating an unfair advantage for one group. Watch the pairs as they work through the maze and note the tactics the leaders use to draw the blindfolded partners through the maze.)

When all have gone through the maze, sit down where they are for discussion.

Reflecting Discussion Questions

- How did it feel to go through the maze blindfolded? The blindfolded partner had to trust the sighted partner. How did it feel to be so dependent on them?
- How did your partner help you through the maze? What did they do to make you trust them?
- Did the blindfolded partner follow your directions? Why or why not?
- Was it difficult to stop touching your partner at the colored plate?
- How did you help them make the right decisions without touching?
- What responsibilities did each of the partners have?

Applying Discussion Questions

- How did it feel when members of the cheating team didn't follow the rules?
- What did you want to do when that happened?
- Where they playing the game fairly?
- Can you think of other situations when you weren't treated fairly?
- How is the consumer like the blindfolded partner? (They are completely dependent on your trustworthiness in producing safe food.) What can you do to build their trust in 4-H food products?
- What can you do to ensure fairness in 4-H livestock events?
- What are your responsibilities as a food producer?

It's All on Your Head!

Supports Chapter: Ethics

Learning Objectives
- To demonstrate the character trait of respect
- To show respect for those different from oneself

Resources/Materials
- Leader Resources*: FSQA Ethics Chapter;*
- *BOOMERANG! It's All on Your Head! Lesson 3*
- Nametags, masking tape, hats or headbands with labels
- Character Traits posters
- Large open room or space to move around and mingle

Activity
Have hats or headbands prepared before the meeting, but keep hidden so they don't see what they say. Ask for 10 volunteers to wear the hats or headbands with different labels on each. Place a hat or headband on each so they don't see what it says.

Now it is time to talk about the County fair! Those of you with hats (headbands) are to walk around the group and talk with as many others as possible about your favorite part of the county fair livestock shows. Those of you without hats are to respond to the labels, not to the people as you know them. Please do not share what the labels say.

After about 5 minutes, stop the class and ask everyone to take their seats. Have those wearing hats to come to the front of the room, but don't remove their hat yet.

Reflecting Discussion Questions
- To those wearing hats, what label do you think was on your hat? What words, looks or body language were communicated to you to give you a clue as to what label you might have? How did that make you feel? Was that fair?
- What happens when people are unfairly stereotyped, as an individual or in a group?

Applying Discussion Questions
- What are some groups who have been unfairly stereotyped? (Jewish people in the Holocaust, African-Americans kept as slaves, 4-H'ers who don't follow the rules, etc)

- What are some ways you can show respect to other people? To your animals?
- Can you disagree with someone (or what they do) and still show them respect? How?

List of Labels

Comedian: make fun of poor clip jobs or first timers	Vet (Expert): Seek my advice; value my opinions
Important: Be impressed with what I say or do	Abusser (Stupid): I treat my animals inhumanely, so be mean to me
Know it all: I ignore the advise of advisors and professionals, I have all the answers	Loner: Ignore me and my ideas
Outsider: Treat me with coldness, distrust and uncertainty	Helpless: Feel sorry for me and give me positive support
Loser: Look down on me and reject me.	Stutterer: Look puzzled when I talk; what I say doesn't make sense
Over-emotional: I worry about being ready, I keep asking what time I'll shows, so calm, comfort and console me	Selfish: I never help others, I can only about me, I always try to be in front of others
Borrower: I never have anything I need, I always borrow everything I need, so try to politely tell me no	Irresponsible, Showoff; I ignore my project until show day, then expect to place on top, I hire professionals to groom my animals, so ignore me
Responsible; I always remember to say please and thank you, I take good care of my animals, so praise me	

Who Can You Trust?

Supports Chapter: Ethics

Learning Objectives
- To demonstrate the character trait of trustworthiness
- To learn to build trusting relationship

Resources/Materials
- Leader Resources*: FSQA Ethics*
- *BOOMERANG! Lesson 4*
- Newsprint and markers or chalk board
- Character Trait posters

Activity
Today we are going to learn about trust. Find a partner who was born in a different month than you. Stand facing your partner, firmly grasping each other's hands or wrists, whichever feels more comfortable. This game is called "Off Balance" and its object is for both of you to balance, yet totally support each other the whole time. Now lean your weight backwards, so that if it weren't for your partner supporting you, you'd fall over.

Be careful not to put too much strain on your partner. Really try to work out a balance between the two of you. Move around together, exploring different levels, different points of balance for your body. Us the support from your partner to explore things that you couldn't do by yourself. You might try leaning backwards balanced on one leg or pivoting around close to the ground. Try all sorts of things. Be sure you support each other.

Now stand back-to-back with your partner. Lean into each other, so once again you are off balance and supporting each other's weight. Move around and explore this new position with the same idea you had when you were holding hands. You are both continually off balance, yet continually supporting each other.

Now, find three other pairs to form groups of 8. One volunteer stand in the center and the other seven form a circle standing shoulder to shoulder. The center person is the "Faller" and the other seven are the "Spotters". In a minute, the spotters will gently push the faller around the group. The person in the middle must keep legs and body as straight and still as possible, keeping your feed together. Those making the circle must be in a spotting stance, with palms in front of you and legs bent, in order to support the middle person. Everyone must

really pay attention during this activity, with no joking around or hard pushes – or we stop the activity.

Before we start, the person in the middle will ask, “Spotters ready?” and the spotters will respond “Spotters ready.” Then the faller can gently fall to the first spotter. Remember you need to GENTLY push the faller around the group.

Reflecting Discussion Questions

- How did it feel to depend on your first partner? What did you do to develop trust in each other?
- Did anyone have difficulty trusting your partner? Why?
- What would have happened if your partner had let go of you or you had let go of your partner?
- Fallers; how did it feel to be dependant on the spotters?
- Spotters; what did you do to show trustworthiness to the faller? How did you feel?

Applying Discussion Questions

- When are some times you need to feel like you can trust others?
- When are times you need to show you are a trustworthy person?
- How can you let people know that you are a trustworthy person?
- What do you do to be a trustworthy food producer?
- How can you show consumers you are a trustworthy producer?

Sportsmanship = Honor without Arrogance

Supports Chapter: Ethics

Learning Objectives
- To learn about good sportsmanship
- To demonstrate the traits of caring, trust, respect and fairness

Resources/Materials
- Leader Resources*: FSQA Ethics Chapter*
- BOOMERANG! Lesson 8
- Candy pieces in four different colors (M&M's™ or Starbursts™ work well), equal number of each color and enough for one for each person
- Four decks of playing cards
- Role-play cards (enough for each person to have one)
- The Spirit of Mastery handout
- Character Traits poster

Activity
Begin by handing each youth a piece of candy to break into groups by candy color. Pass out a deck of cards to each group and ask someone in the group to begin shuffling the deck. Give each person in a group one of the role-play cards.

You are receiving role-play cards. Do not share with anyone what is written on your card. I want to you act as described on your card throughout this activity. Does everyone understand: We are going to play the card game War. Each group's dealer needs to deal all the cards, one at a time, to each player, until all the cards are gone. Do this now. Each person is to keep your cards in a stack, face down in front of you.

Listen to the rules now before you being playing. To play War the people to the right of the dealer begins by putting their top cards face-up in the middle of the group. Each person continues to lay his or her top card on the stack until everyone's top card is played. The highest card is an Ace, followed by a King, then a Queen, then a Jack, then ten, nine, on down to two.

If two or more people play the same highest card during the hand, they have a War playoff. They draw the top two cards from their stack and lay them face-down in the middle. Then a third card is drawn from the top of their stacks and turned face-up. The person with the highest card is the winner of the cards in the middle and all War play-off cards.

Each group plays until one person has all the cards or until “time” is called.

Reflecting Discussion Questions

- What happened in your group?
- Was everyone showing good sportsmanship? How?
- Was your role easy or difficult for you to play? Why?
- If you were to be yourself, were you influenced by how others acted? Why?
- What is good sportsmanship?
- What good sportsmanship traits did you see in your group?
- What bad sportsmanship traits did you see in your group?

Applying Discussion Questions

- Where have you seen good sportsmanship in 4-H livestock events?
- Where have you seen bad sportsmanship in 4-H livestock events?
- How does good sportsmanship show the character traits of caring, respect, trustworthiness, and fairness?

Points of Good Sportsmanship

1. Skill and mastery (being good at something) is admired by others in the group.
2. If someone is better than you at something, you work to become as skilled as that person.
3. Never dislike the person who does better, but encourage him/her (model vs. competitor).
4. Individuals who do well are praised and honored by all.
5. Working hard allows one to reach a personal goal, not to beat someone else.
6. Persons receive honor/praise without arrogance and conceit.
7. Success belongs to everyone in the group, not just the few.

Role Playing Cards

Obnoxious Winner • Each time you win a hand of cars, really rug it in. Say, "All right, I won!" "You guys are such losers!" "Yes, I won, again!" • Whistle, clap, cheer, holler • Stand up and try to get others to high-five you. • Do a victory dance	Gracious Winner • If someone else wins a hand, say things like, "I'm going to need to try harder, if you're this good!" "Way to go" • If you are winning a hand and someone criticizes you, say nothing and keep playing. • If you are winning and someone encourage you, humbly say "Thank you" •
Obnoxious Loser • Accuse others of cheating! • Whine if you aren't winning! • Criticize everyone else who is winning! • Ignore those who are winning and act irritated at them. • Get others that are losing to side with you against them.	Gracious Loser • If someone else wins a hand, say things like, "I'm going to need to try harder, if your this good!" "Way to go!" • If you are winning a hand and someon criticizes you, say nothing and keep playing • If you are winning and someone else enourages you, humbly say "Thank You."
Be Yourself Role-Playing Card	

Ethics Discussion Situations

Supports Chapter: Ethics

Learning Objectives
- To help youth identify situations of poor character decisions

Resources/Materials
- Leader Resources*: FSQA Ethics Chapter*
- Overview of FSQA program
- Situation Cards
- Hersey's Hugs or Kisses, lemon drops (or other sour candy)

Activity
One of the primary goals of 4-H is to teach 4-H'ers to achieve, accomplish, and develop by emphasizing important life skills in combination with 4-H project work. Unfortunately, in the show arena at county and state fairs, the principal "win at all costs" has significantly damaged the character of 4-H shows and good sportsmanship.

It is extremely important for 4-Hers with livestock projects to have a basic understanding of livestock ethics, showring etiquette and place proper animal care and good sportsmanship on a higher level than "win at all costs".

What is ethics? One way to sum up ethics is the statement "Just Do The Right Thing." Webster defines ethics as a set of moral principles or values, the principles of conduct governing an individual or a group. We help to shape these moral principles or values
by helping youth develop their character traits. This chapter will look at ways to help 4-H'ers develop their character traits of caring, trustworthiness, respect, fairness, responsibility, and citizenship.

Character education is not an innovative idea. Yet there is renewed interest in the need for rebuilding character among youth and assisting them to embrace traits that form the foundation of a democratic society. These traits also shape an understanding of a common ethical ground.

These six character traits are:
Caring – showing concern for others
Respect – treating people like you would like to be treated
Trustworthiness – doing what you say you will do; being honest – don't lie, cheat or steal
Fairness – listening to others; playing by the rules
Responsibility – doing the right thing; considering the consequences of your actions; being accountable for your decisions
Citizenship – helping others and obeying the law.

Work in groups of 3-5 youth. Read the situation statement. If the groups chose the unethical option give them lemon drops, if they chose not to do it they are of high character and receive Hersey's Hugs or Kisses.

Situation 1: You want to make your lambs look heavier muscled. You've heard that Paylean will build muscles in pigs and wonder if it would work in sheep.

What do you think about feeding Paylean to sheep?
Would you try to feed Paylean to sheep?
Why?
Who else is being affected by your decision?
Is this illegal or unethical?
What alternative would be better?

Discussion questions within each group:

- Discuss whether good or bad character traits were being exhibited.
- How would adults (parents or fair staff) view this situation different from youth?
- How would food regulation staff view this situation differently?

Situation 2: Your steer is almost too heavy to show at the fair and you need to get some weight off him. Your buddy suggested, maybe if you don't feed or water him for two days before fair he would make weight.

Would you try to starve a few pounds off the steer?
Why?
Who else is being affected by your decision?
Is this illegal or unethical?
What alternative would be better?

Discussion questions within each group:

- Discuss whether good or bad character traits were being exhibited.
- How would adults (parents or fair staff) view this situation different from youth?
- How would food regulation staff view this situation differently?

Situation 3: It was a really hot summer and your pigs just didn't grow well. But your dad has some really great looking pigs in his finisher. You know others cheat, so you are debating about pulling a few of them out and trying to change ear tags so you can show them at fair.

Would you try to switch their ear tags?
Why?
Who else is being affected by your decision?
Is this illegal or unethical?
What alternative would be better?

Discussion questions within each group:
- Discuss whether good or bad character traits were being exhibited.
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Situation 4: Two days before fair your best wether starts to show signs of club lamb fungus on his poll. You know the vet won't allow him to show at fair because his is contagious and can spread this disease to other lambs. You've heard that a little black shoe polish might cover up the spot long enough to fool the vet.

Would you try to cover up this contagious disease?
Why?
Who else is being affected by your decision?
Is this illegal or unethical?
What alternative would be better?

Discussion questions within each group:
- Discuss whether good or bad character traits were being exhibited.
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Situation 5: You have a lamb that has some respiratory disease. Your neighbor's vet has suggested he use Nuflor to treat this in the past. You are thinking about treating the lamb with Nuflor, even though it is not labeled for sheep.

Would you treat a lamb with an unlabeled product?
Why?
Who else is being affected by your decision?
Is this illegal or unethical?
What alternative would be better?

Discussion questions within each group:
- Discuss whether good or bad character traits were being exhibited.
- How would adults (parents or fair staff) view this situation different from youth?
- How would food regulation staff view this situation differently?

Reflecting Discussion Questions
- When have you seen bad character traits exhibited?
- What did you think of those people?
- When have you seen good character traits exhibited?
- What was your impression of those people?

Applying Discussion Questions
- What other situations require good character traits?
- What can you do to help others learn good character traits?

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Tommy's Story

Developed by Denise Schwab, ISU Beef Field Specialist

Characters Needed:

Narrator	Father (seed hat)
Leader (4-H shirt)	Agent (Extension Coat)
Grandparents (glasses & sweater)	
Veterinarian (lab coat)	Neighbor (seed hat, prod)
Judge (cowboy hat & beer can)	FFA Advisor (FFA jacket)
Uncle	Friend (dope)
Tommy (no reading) (4-H shirt)	

Read Skit

Processing:

Why do you think Tommy thought it was OK to cheat? Or to take drugs?
Why did the adults in his life tell him it was OK to do unethical things?
What if everyone was this unethical?
Does everybody really do these things?
What can you do to prevent unethical practices?
What kind of examples to adults in Iowa county set?
How do you feel about them?

Narrator: When Tommy was 10 years old, his father registered a lamb born December 24, as being born on January 2. His father said to Tommy,

Father: It's O.K. kid, everybody does it."

Narrator: When Tommy was 11 years old, his father bred the family's flock of purebred ewes with a ram of another breed and registered the lambs as purebreds. His father said to Tommy,

Father: "It's O.K. kid, everybody does it."

Narrator: When Tommy was 12 years old, his 4-H leader and county agent tagged and weighed newly purchased lambs a month after the ownership deadline. They both told him,

Leader and Agent: "It's O.K. kid, everybody does it."

Narrator: When Tommy was 13 years old his grandparents bought him a show lamb and left it with the breeder who fed and fit the lamb until the day before the county fair. His grandparents said,

Grandparents: "It's O.K. kid, everybody does it."

Narrator: When Tommy was 14 years old, his veterinarian issued health papers for sheep he never inspected and that had foot rot and lamb fungus. He said,

Veterinarian: "It's O.K. kid, everybody does it."

Narrator: When Tommy was 15 years old, his neighbor used an electric animal prod on his lambs to get them to brace. He told Tommy,

Neighbor: "It's O.K. kid, everybody does it."

Narrator: When Tommy was 16 years old and after winning the Grand Champion Market Lamb at the county fair, he saw is dad having a beer with the judge and paying the judge $200 for making his son's lamb champion. The judge and his father said,

Judge & Father: "It's O.K. kid, everybody does it."

Narrator: When Tommy was 17 years old, his FFA Advisor used Lasix on his market lamb at the state fair to make it weigh into a lighter class. The uncle told Tommy,

FFA Advisor: "It's O.K. kid, everybody does it."

Narrator: When Tommy was 18 years old, his uncle pumped the loin of his lamb at a national sheep show. His uncle said,

Uncle: "It's O.K. kid, everybody does it."

Narrator: When Tommy was 19 years old a friend offered him some cocaine. His friend said,

Friend: "It's O.K. kid, everybody does it."

Narrator: When Tommy was arrested later that night for using cocaine and called his family to ask them to bail him out of jail, they told him,

ALL: "How could you have done this disgraceful act to your family, you never learned any of this at home, where did you go wrong?"

Narrator: After hearing of his arrest, Tommy's 4-H leader, FFA advisor, grandparents, uncle, veterinarian and neighbors were also shocked. If there is one thing the adult world can't stand, it's a kid that breaks the rules

An Open Letter to All Who Work With Youth Livestock Projects

In the next couple months, young people will be selecting livestock to begin next year's youth livestock projects. All of us that touch the lives of these young people must keep in mind the intent and purpose of these projects and the impact they have on young people. The development of today's youth through livestock projects is important to many families. The reactions, remarks, and ethics that we as adults convey to young people, can influence them for the rest of their lives.

Before starting this year's livestock project, please sit down with your child and develop goals for the coming year. It is important that the goals include sportsmanship, work ethics, honesty, and fun. When the livestock project or attending shows ceases to be enjoyable for the young person, it is time to re-evaluate the purpose of the project.

We are all in the "kid business" of helping to properly develop today's youth. Let's all do it in a constructive and honest way.

The following short story is written to make all of us think before we act. The story was written as fiction-let's all work to keep it fictional.

Thank you and good luck with this year's projects, and let's all have fun.

LEARNING BY EXAMPLE

When Tommy was 8 years old, his father registered a lamb born December 24, as being born on January 2. His father said to Tommy, It's O.K. kid, everybody does it."

When Tommy was 9 years old, his father bred the family's flock of purebred ewes with a ram of another breed and registered the lambs as purebreds. His father said to Tommy, "It's O.K. kid, everybody does it."

When Tommy was 10 years old, his 4-H leader and county agent tagged and weighed newly purchased lambs a month after the ownership deadline. They both told him, "It's O.K. kid, everybody does it."

When Tommy was 11 years old, his parents bought him a registered ewe lamb to show at the county fair and changed the ear tag to their own flock tag. His parents said, "It's O.K. kid, everybody does it."

When Tommy was 12 years old his grandparents bought him a show lamb and left it with the breeder who fed and fit the lamb until the day before the county fair. The breeder and his grandparents said, "It's O.K. kid, everybody does it."

When Tommy was 13 years old, his veterinarian issued health papers for sheep he never inspected and that had foot rot and lamb fungus. He said, "It's O.K. kid, everybody does it."

When Tommy was 14 years old, his neighbor used an electric animal prod on his lambs to get them to brace. He told Tommy, "It's O.K. kid, everybody does it."

When Tommy was 15 years old and after winning the Grand Champion Market Lamb at the county fair, he saw is dad having a beer with the judge and paying the judge $200 for making his son's lamb champion. The judge and his father said, "It's O.K. kid, everybody does it."

When Tommy was 16 years old, his FFA advisor falsified the numbers on Tommy's winning sheep proficiency award entry. His advisor said, "It's O.K. kid, everybody does it."

When Tommy was 17 years old, his uncle used Lasix on his market lamb at the state fair to make it weigh into a lighter class. The uncle told Tommy, "It's O.K. kid, everybody does it."

When Tommy was 18 years old, his older brother pumped the loin of his lamb at a national sheep show. His brother said, "It's O.K. kid, everybody does it."

When Tommy was 19 years old, his entire family was aware of the clenbutural being given to his market lambs. They told him, "It's O.K. kid, everybody does it."

When Tommy was 20 years old a friend offered him some cocaine. His friend said, "It's O.K. kid, everybody does it."

When Tommy was arrested later that night for using cocaine and called his family to ask them to bail him out of jail, they told him, "How could you have done this disgraceful act to your family, you never learned any of this at home, where did you go wrong?" After hearing of his arrest, Tommy's 4-H leader, FFA advisor, grandparents, uncle, veterinarian and neighbors were also shocked.

If there is one thing the adult world can't stand, it's a kid that breaks the rules . . .

By Larry Mrozinski
January 14, 1995

The goal of 4-H is to help young people become productive citizens. Youth need the help of all adults in their life to do this. Please help us teach our youth good ethics through the 4-H livestock program!