Assuring Quality Care for Animals

Youth Food Animal Quality Assurance Curriculum Guide

Quality Assurance Test Study Guide

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

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Chapter 1: Ethics and Animal Welfare

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Introduction

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Chapter 1:

Food Animal Quality Assurance *Curriculum Revision 2014*

Note: Pages 2 through 6 of this revision should be placed between pages 2 and 3 of your Ethics and Animal Welfare Chapter in the Youth Food Animal Quality Assurance Curriculum Guide.

For addition Animal Welfare information please refer to GPP #9.

Note: The terms welfare and well-being are used synonymously.

Ethics and Animal Welfare (Well-Being)

Animal care and well-being (welfare) is an all-encompassing area of science, combined with facts, supported by research and moral, as well as ethical, decision making. It is one of the areas that cross both traditional animal sciences and social science. This is not a black and white area and needs to be evaluated as such. Many times asking the following question *"What would the majority of the population think of this practice?"* may give us the insight needed to assess the moral and ethical decision-making power and assure the right decision is made. Keeping this in mind and combining this with sound scientific information, as well as industry standards, will ensure actions and reactions that will be accepted by industry and the

general population. The following are 12 care and well-being principles that youth in the animal project areas should be familiar with, consider in the daily handling of their projects, and be comfortable and confident enough to intervene because of unacceptable practices.

1. **RECORD KEEPING**: This is essential to good care and animal well-being

- ✓ VCPR – Veterinary/Client/Patient/Relationship:
  Using this relationship to work with your veterinary professional will ensure the health as well as the well-being of your animal(s).
  - If asked to verify your relationship you should have:
    - A letter from your veterinary professional kept with your records to assure that a current relationship exists
    - Vet bills from the current year that you have retained
    - A phone call to your vet
    - Current prescription labels
    - VCPR must be validated within 12 months
  - Medication and Treatment Records are paramount to a successful herd health and animal well-being plan.
    - Records document the health history of an individual animal
    - They assure food safety
    - Health data over time will show trends. One can alter environment or management to correct for trends that occur.
    - Records should be kept for 12 months following the sale of the animal (some other government programs may require records of health or movement of animals within state lines or across state lines be kept for longer period of times, i.e., scrapie in sheep and goats)
  - Documented plan for well-being
    - Euthanasia: This is not to be taken lightly. There are times when euthanasia needs to be considered. Animals deserve to be treated with respect during life. If an animal's health is compromised, yet treatable, be sure the animal is cared for as soon as possible. Consult your veterinarian when you are unsure of course of, dosage for, and duration of treatment. If the treatment is not treatable or the animal has not improved within the first two days, euthanasia may be required for the good of the animal. Work with your veterinarian to develop a plan so if necessary your veterinarian is willing to execute timely euthanasia under his/her judgment. Although this is not an easy decision, at times it is the right decision.
    - Handling: There are a number of resources that will help in determining proper ways to handle food, performance, and companion animals. Assure the resources referenced are from reputable sources and available when you need them. Reducing stress of animals during handling by using proper documented techniques for all species will increase the quality of the animal's life.

- Husbandry: Similar resources used to assess handling can also be used to assure proper husbandry practices. Using species-specific resources from credible sources can serve as useful tools. Further species organizational (National Cattlemen's Beef Association, American Sheep Industry Association, National Pork Board, American Rabbit Breeders Association, American Quarter Horse Association, American Kennel Club, etc.) resources can be useful in determining proper husbandry or animal care practices.

2. **EMERGENCY SUPPORT**

✓ Written action plan, emergency detection system, emergency back up. Things happen from time to time. Being prepared to think through what might happen, and how to handle a situation that arises may reduce the impact or the severity of the situation.

3. **SITE ASSESSMENT**

✓ Assess animal well-being each day. The success of your project hinges on the well-being and productivity of your animal(s).

- Assessment with your project advisor, Ag Education Instructor, or 4-H/ANR Extension Educator
- Self-assessment between the periodic visit and keeping documentation of assessment to assure environment is optimal for your animal.

4. **DAILY OBSERVATION**

✓ Animal behavior is one of the best tools that we, as stewards of livestock and other animals, have to assess if an animal is comfortable in their environment and under minimal stress.

- Questions such as:
  - Are they eating as they should?
  - Are they drinking as they should?
  - Are they interacting with other animals with little aggression or reclusiveness?
  - Is their movement normal?
- Discussing with an Educator, Leader, Veterinarian or Parent to determine if an animal is exhibiting normal behavior can help you determine the expected versus unexpected.
- Ill, non-ambulatory or dead animals:
  - Any animal that is exhibiting illness or is sick should be separated from the herd and placed in confinement. This helps to minimize stress on the sick animal, as well as reduces that risk of spreading disease.
  - A non-ambulatory animal or downer (animal which is unable to stand or move itself around the pen) should be moved keeping in mind animal well-being. There are many documented cases of improper animal handling as a result of an animal not able to move itself. Be sure to "THINK BEFORE YOU ACT!"

        - If an animal that is sick or injured does not improve within the first two days of first observation of the condition, consult with your veterinarian, as euthanasia may be necessary.
        - Keeping records will help you to determine if this will be a reoccurring problem.
    - Treatment Pen – Isolating sick or injured animals for a period of time will accomplish a number of things:
        - Assures bio-security of the operation
        - Aids in recovery of the animal in question
        - Assures that sick and treated animals are not mixed in with the general population losing site of the withdrawal period prior to marketing (accurate record keeping is critical)
    - It is important that when contemplating euthanasia you consult with your veterinarian to assure that an acceptable method is used, and you have exhausted all methods to achieve the animal's good health!

5. **ANIMAL EVALUATION**

✓ This is also linked to daily observation and is key to knowing when something is not normal!

- Production and/or Performance – Measurements of average daily gain, weekly weight gain, body condition score or fleshing evaluation, etc., can all be used to assess whether an animal is performing in the manor that it should be, given the environment and feed conditions.
- Physical Evaluation – Skin, hair coat, legs (knees, feet & joints), equal weight on appendages (feet), inquisitive, fearful, etc., are all items that can direct us for change in environment and facilities.
- Skin lesions, abscesses, wounds, rectal prolapse, and behavioral changes as a result of these are other areas that need to be evaluated and should be assessed so treatment can be administered.

6. **BODY CONDITION SCORING**

✓ This can vary from species to species and not all may classify the evaluation of animal thriftiness as body condition scoring. However, we use criteria that is referred to in body condition scoring as a method to determine whether an animal is over, under, or acceptable relative to body condition and period of growth. Refer to species-specific resources to determine the proper way to score an animal relative to production period (dry cow versus nursing).

7. **BODY SPACE REQUIREMENTS**

✓ This is an ever-changing area of debate in the current climate in animal agriculture. Animal welfare and the minimal requirements of animals have been under scrutiny.

- Here are a few questions that should be asked about the environment you have deemed acceptable for your animal(s).
    - Is your animal(s) able to stand up and lie down?

- Can your animal(s) lie down flat on their side with head and limbs not touching feeder or fence – full lateral recumbency?
- Is the environment the appropriate size for your animal?

8. **EUTHANASIA**

✓ This is an appropriate action in some cases (as mentioned before) of chronic illness, animals in severe distress based on injury, animals that are non-ambulatory (downers). For youth exhibitors it is critical that a VCPR is established and used to assess the need for euthanasia, additionally to determine the timeliness as well as the method that will be used to euthanize. Euthanasia is defined as humane death occurring with minimal pain or distress.

- Timeliness minimizes the amount of pain and the time that an animal not improving will have to suffer. If no improvement in two days has occurred, action should be taken; consult your veterinarian.
- Functional equipment should be used as a result of the VCPR relationship that is established early in your project year.

9. **FACILITIES**

✓ This is one of the broader categories in that it not only includes that of housing and the structures we use for such, but it also refers to the penning and maintained equipment (feeders, waters, floors, chutes, alley ways, etc.). Facilities should be appropriate for animals relative to their stages of production.

- Pen Maintenance:
  - Condition of pens can affect other indicators of an animal's well-being
  - Remove sharp protruding objects
  - Floor and footing can cause injury or lameness
  - Bedding should be clean and dry
  - Waste management for confined pen facilities should assure that build-up does not occur
- Feeder Space: Assure all animals have adequate space to reduce stress as a result of feeding. Each species will have different requirements. Refer to resource handbooks and other approved resources so you have a current road map to acceptable space requirements.
- Water Availability: Clean, cool (not cold) water should be made available at all times.
  - Animals should be able to drink freely
  - Flow rate and amount should be set to meet animals' requirements depending on stage of production (growing, finishing, maintenance, etc.) are critical when using automatic waterers

10. HANDLING AND MOVEMENT

✓ Understanding animal movement as a result of proper handling is crucial to reducing animal stress. Anyone working with animals (food, performance, or companion animals) must be trained in proper handling. Understanding vision pattern, effects of foreign

objects, shadows or the effect of lighting will result in handling with the least amount of stress. Preparing the facility to appeal to an animal's comfort level will result in easier animal movement with less stress on the handler and animal.

- Proper Handling:
  - Quiet, calm movement around animals
  - Well-lighted loading and unloading facilities, structures, or transport
  - Reduce distraction from animal site (people, objects, or other animals)
  - Move animals in groups
  - Use proper equipment such as a sorting board in the case of hogs, or rattles, shakers, flags, or similar tools depending on the species you are working with. Refrain from using electrical prods!
  - Reduce noise, and refrain from yelling and shouting to get animals to move

11. VENTILATION

✓ Air quality and temperature plays a role in all species relative to the environment in which we house animals. Proper ventilation will result in conditions that are acceptable to unacceptable and could impact performance, growth and health of the animals in question.

- Temperature control – extreme changes in temperature can be observed by watching animal behavior. Animals will group themselves when chilled and isolate themselves when they are too hot. It is important that one regulate to assure the best conditions for the species in question.
  - Identify proper temperature based on the species thermo-neutral zone
  - Determine air quality through measuring ammonia concentration in the air, particularly important when dealing with confined quarters.

12. **WILLFUL ACTS OF ABUSE**

✓ At no time are willful acts of abuse acceptable! These are defined as acts outside normal accepted production practices that intentionally cause pain and suffering.

- Electrical prods that are applied to sensitive parts of an animal's body
- Malicious hitting, beating or slapping
- Failure to provide adequate food and water that can result in poor animal well-being

✓ If you see any of the above or other questionable actions you should intervene, or notify an Educator, Advisor, Veterinarian, Parent, etc. to intervene if you feel threatened.

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Food Safety and Government Relations

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Food Safety and Government Relations

Since the beginning of youth livestock quality assurance programs nationwide, one area not often clarified is the role of the U.S. Government concerning food safety issues and their regulatory capacity in food animal production. Consumers are exercising their right to know the food they consume is safe. With that in mind, the food animal industry has been met with the challenge to continue to build consumer confidence in food products through education of the producers and the consumers.

This chapter, taken from the *Youth Food Animal Quality Assurance Curriculum Guide*, focuses on the agencies that govern food safety in the United States and the programs used to facilitate food safety regulations. The food animal industry must use these governmental programs to help build consumer confidence. Further, this chapter will look at the tie between the food animal industry and youth producers, and why youth exhibitors are expected to adhere to the regulations put forth by these agencies. A PowerPoint presentation, *Food Safety and Government Relations*, complements this chapter.

Who is Responsible for Food Safety at the Production Level?

- Food animal producers, including youth food animal project members as well as their parents, guardians, and family members, are ALL responsible for food safety at the production level.
    - Regardless of the number of animals **(1 or 1000 head or more)**, anyone who raises an animal intended to produce a product for the food chain is considered a producer.
    - Producers are taking stock in the retail market place, understanding that what they do to and with their livestock **(genetically, nutritionally, and environmentally)** may have an impact **(positively or negatively)** on product

quality, food safety and consumer perception of the individual product, as well as the industry as a whole.

- Often in today's market place the term **"Farm to Table"** (or other similar phrases) is heard referring to the responsibility that the production sector has to produce livestock from birth to harvest and/or the finished product that will end up on the consumer's table.
    - This holistic attitude is what drives consumer confidence in the products produced by the livestock industry.
    - No longer can food animal producers and youth exhibitors assume their responsibility ends at the point of sale or distribution of the food product (meat, milk, and eggs).

How is Food Animal Quality Assurance Defined?

- Quality Assurance is a pledge or promise to:
  (1) Provide a food animal product preferred by consumers, and
  (2) Provide a safe, wholesome food animal product.
- Both definitions may result in a satisfied consumer; however the reasoning for each is clearly different. How we achieve a safe product is the primary reason for understanding animal handling, welfare, health, nutrition, and the positive/negative impacts on common production practices on the consumer's perception of food quality and safety.

What Initiated the Increased Emphasis of Food Animal Quality Assurance Programs for Youth?

- History
    - In the early 1990s, issues with illegal and legal drug residues, improper production practices, and administration of exogenous substances to enhance live animal appearance were deemed to be unlawful. During this time, questions of character education and ethics were brought to the forefront of youth programs nationwide. Those involved in youth food animal programs quickly realized that there was potential for the small percentage of animals in food animal exhibitions (compared to commercial production) to negatively impact consumers' perception of the food animal industry.
- Public Perception
    - If issues of concern are addressed by educators, and curriculum is developed to teach youth producers about proper handling and ethical treatment as well as to provide character education, there is potential to change the public's perception of the food animal industry from negative to positive.
    - Perception is such a strong and convincing source of information for many consumers, and what most see visually is perceived as truth. Some argue that food animal exhibitions and production of animals for exhibitions will never be comparable to the commercial industry. This may be the case with the type of food animals produced for exhibition; however, there is no room for deviation

with regard to ethics and commitment to food safety and positive consumer perception.
    - Youth involved in food animal exhibitions, by definition, are food animal producers. Youth food animal producers at the culmination of the project will sell their animal(s) and food products, which are intended for human consumption. However, the project is not over at the point of sale.
- Youth Exhibitor
    - If livestock tampering and mishandling of project animals is determined as a result of inappropriate actions, the producer (youth exhibitor) will be identified and notified by the fair board.
    - Depending on the infraction that is determined through testing by Food Safety and Inspection Service (FSIS), a division of USDA, or state department of agriculture, youth could be:
        (1) Prosecuted;
        (2) Banned from exhibition for a period of time;
        (3) Stripped of award monies as well as trophies/ribbons; and
        (4) Other actions may result from an infraction to be determined at the completion of an investigation.

Why is Food Safety Important?

- Food safety is not only a concern of our consuming public, but also a priority for governmental agencies that regulate food safety. Further, the production sector, allied industry associations, and meats processing industry have made a strong effort to increase consumer confidence in the food producing animal industry.
- It is critical to assure consumer acceptance and confidence in a market where competing proteins and other alternatives are emerging rivaling products of animal origin.

How is Food Safety Regulated?

- The regulatory agencies that govern food safety and guarantee consumer confidence are federally based and include:
    (1) **United States Department of Agriculture (USDA):** A division of the federal government that enforces regulations related to agriculture.
    (2) **Food and Drug Administration (FDA):** Responsible for regulating medicated animal feed and most animal health products. The FDA approves the product, sets residue tolerance or action levels in edible tissues, and determines how drugs are to be administered in animals.
    (3) **Food Safety and Inspection Service (FSIS):** A division of USDA and inspects all food products from animals in federally inspected packing plants and food processing facilities and examines plant sanitation. The FSIS conducts both routine residue monitoring and targeted food safety surveillance activities.
        (a) Routine testing is conducted on randomly selected carcasses to detect residues that exceed the maximum levels allowed.

(b) Targeted testing is directed toward herds or populations of animals (such as fair animals) with a history of violations or where there is some reason to suspect there could be violative tissue residue, such as visible injection sites in the muscle at marketing.

(4) **Environmental Protection Agency (EPA):** This governmental agency is responsible for the approval and regulation of pesticides used in livestock production. They monitor the environmental impacts of livestock production both physically and chemically.

- Federal Inspection of Food Animal Products
  - Most large packers and processing plants (large or small) are federally inspected if they ship products across state lines **(Interstate Commerce)**. Federal inspection is highly regulated and more detailed in terms of requirements and expectations that must be met in the production of food products.
- State Inspection of Food Animal Products
  - Although state inspection is still used in various operations, it does limit the distribution and marketing options for the product. Contact your state's department of agriculture to determine if there are regulations or requirements that supersede the federal government. All state inspections are equal to that of the federal programs, but are allowed to be more stringent.

HACCP – Hazard Analysis Critical Control Points

- History
  - In 1959, NASA, one governmental agency not typically associated with food production and safety, approached Pillsbury Corporation with two main concerns about the nutritional well-being of astronauts in the space program:
    (1) Food crumbs in the capsule under zero gravity, and
    (2) Absolute assurance of a safe food product free of pathogens and biological toxins.
  - Soon after accepting the contract to develop a product that would fit into these parameters, the product development team for Pillsbury determined the first task would be easy to deal with; however, the second task would be more challenging. Making a product pathogen and biological toxin-free would require a nontraditional approach. The traditional approach, randomly sampling the product and determining if it was safe, was not good enough.
  - The Pillsbury Corporation determined if one could identify points in a process where there is potential for the product to become adulterated or unsafe for consumption, that should be the monitoring point for food safety before the product reaches the packaging line. So Pillsbury initiated a new process for determining food safety and potential hazards in the process. This was the inception of an approach to food safety that was proactive rather than reactive. The concept developed soon became known as **Hazard Analysis Critical Control Point (HACCP)**.
- Hazard Analysis Critical Control Point protects the food system from major food safety hazards (**chemical, microbial and physical hazards**):

    - **Chemical Hazards:** liquid pesticide residue, grease residue, drug residue, cleaning agents, etc.
    - **Physical Hazards:** broken needles, manure, buck shot, wood shavings, etc.
    - **Microbial Hazards:** any type of bacteria (*E. Coli*, *Salmonella*, *Listeria*, etc.)
- The government determined that HACCP plans must be unique, and with the guidance of governmental agencies, each plant would develop their own unique plan using the seven steps listed below:
  (1) Identify areas where hazards can occur concerning food safety and quality
  (2) Find Critical Control Points in the production process of the product
  (3) Establish critical limits for each Critical Control Point
  (4) Monitor the production processes and if any deviated from the Critical limits listed
  (5) Take corrective action if monitoring shows there are deviations outside the limits of the Critical Control Point
  (6) Keep records on each Critical Control Point
  (7) Verify HACCP is working
- Since its development, HACCP has been adopted by the meat industry and most other food production entities. It was fully developed and adopted by the food industry in the 1970s, and then by the meats industry in the mid-1990s.

How Can HACCP be Applied to Youth Livestock Projects?

- All major national quality assurance programs, including Beef, Pork, Sheep, Milk and Dairy Beef Quality Assurance, are based on the concept of HACCP.
- Youth food animal producers can:
    - Implement the 10 GPPs in raising food animals
    - Develop Standard Operating Procedures (SOPs) to avoid hazards
    - Keep accurate records
- Where can hazards occur in food safety at the live animal level?
    - Youth exhibitors can provide food animal products that are free from drug and chemical residues and physical hazards
    - Youth exhibitors must be aware of withdrawal times to avoid drug residues
- An educator's responsibility is to:
    - Teach youth in animal production the proper way to become a steward of animals
    - Continue to develop the core building blocks for character education as well as ethics
    - Deliver a safe product to consumers that they trust and will buy repeatedly

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GPP #1: Use an Appropriate Veterinarian/Client/Patient Relationship (VCPR) as the Basis for Medication Decision-Making

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GPP#1

Use an Appropriate Veterinarian/Client/Patient Relationship (VCPR) as the Basis for Medication Decision-Making

Responsible medication decision-making is established through a current Veterinarian/Client/Patient Relationship (VCPR). Establishing this relationship can be a challenge for youth exhibitors. It is, however, an important step in completing the expectations of your 4-H or FFA project. This importance is based on the health of the project animal(s) as well as preventing drug residue violations, thus providing a safe and wholesome food product for consumers.

KEY TERMS:

Veterinarian/Client/Patient Relationship (VCPR)
Extra-label Use
Food and Drug Administration (FDA)
Over-The-Counter (OTC)
Prescription (R_x)
Veterinary Feed Directive (VFD)
Drug Compounding

VETERINARIAN/CLIENT/PATIENT RELATIONSHIP (VCPR)

This relationship requires that the veterinarian has seen and has knowledge of the animal and has discussed a health plan or any treatments with the owner. This relationship is required in order for a producer to use prescription drugs or a drug that is not specifically labeled for the animal (extra-label use).

A valid VCPR exists when (according to FDA regulations):

- ✓ The veterinarian has assumed the responsibility for making medical judgments regarding the health of the animal(s) and the need for medical treatment, and the client (owner or other caretaker) has agreed to follow the instructions of the veterinarian; and when
- ✓ There is sufficient knowledge of the animal(s) by the veterinarian to initiate at least a general or preliminary diagnosis of the medical condition of the animal(s). This means the veterinarian has recently seen and is personally acquainted with the keeping and care of the animal(s), and/or by medically appropriate and timely visits to the premises where the animal(s) are kept; and when
- ✓ The practicing veterinarian is readily available for follow-up in case of adverse reactions or failure of the regimen of therapy.

How can leaders help youth exhibitors begin to establish a VCPR?

- ✓ *Have a veterinarian speak at a club or project meeting about health plans*
- ✓ *Bring a veterinarian along on a farm tour for the club or livestock project members*

DISTRIBUTION AND USE OF APPROVED ANIMAL DRUGS

BASIC CLASSES OF DRUGS

1. **Over-the-Counter Drugs (OTC)**: Drugs which can be purchased lawfully without a Veterinary Feed Directive or prescription
   - ✓ Producers can purchase OTC drugs and use according to the label directions when necessary. OTC drugs can be purchased from veterinary clinics, feed stores, and animal health industry representatives.
   - ✓ OTC drug labels will have exact instructions on dosage, administration, withdrawal times, and handling/storage.
   - ✓ When using OTC drugs, a producer should still consult with his/her veterinarian.
   - ✓ According to law, a producer must follow the label instructions or the written instructions by the veterinarian exactly.

2. **Prescription Drugs (R_X)**: Drugs that require a veterinarian's written permission for use
   - ✓ When a veterinarian prescribes a drug for use, he or she will provide a form describing use, dosage, route of administration and withdrawal times.
   - ✓ The label of a prescription drug always states "CAUTION" and "Federal law restricts use by or on the order of a licensed veterinarian."
   - ✓ Many drugs/vaccines will say "For Veterinary use only," but are not prescription drugs. This means that the substance is for only animal use and not human use.

What determines if a drug is labeled OTC or R_X?

- ✓ *The margin of safety to the animal*
- ✓ *The effects on the animal from an accidental overdose*
- ✓ *The difficulty of identifying the disease or condition for which the drug is labeled*
- ✓ *The safety of the person handling and administering the drug*

- ✓ *The Food and Drug Administration (FDA) has the responsibility of determining whether or not a drug is OTC or R_X*

TYPES OF DRUG USE

1. **Label Use**: Using the drug EXACTLY as stated on the label.
   - ✓ Medicated feeds may only be used as directed by the label.
   - ✓ It is **ILLEGAL** for a producer or veterinarian to use a medicated feed in a manner other than is directed by the label.
2. **Off Label**: Use of a drug by a producer in a manner other than what is stated on the label and without guidance from a veterinarian under the extra-label policy.
   - ✓ It is **ILLEGAL** to use an OTC drug for anything other than intended unless directed by a licensed veterinarian.
3. **Extra-Label**: Extra-label drug use means using an animal drug in a manner not in accordance with the approved drug labeling.
   - ✓ When labeled drugs are not available to maintain adequate animal care, a veterinarian has the ability to prescribe extra-label drug use.
   - ✓ Only a veterinarian with a valid Veterinarian/Client/Patient Relationship (VCPR) for the operation can direct extra-label drug use.
   - ✓ The following are examples of extra-label drug use:
     - o Increasing the dosage from the recommended label dosage
     - o Changing the frequency or the route of administration
     - o Changing the duration of treatment
     - o Treating for a disease or condition not listed on the label
     - o Treating a species of animal not listed on the label
   - ✓ The producer and veterinarian accept added responsibilities when using drugs in an extra-label manner.
     - o Make sure a medical diagnosis has been made by the veterinarian
     - o Verify that adequate directions for use have been provided and will be followed
     - o Follow extended drug withdrawal times so no violative levels of residues remain in the animal
     - o Maintain identity of all treated animals for the extended withdrawal time
   - ✓ Extra-label drug use under the direction of a licensed veterinarian is used in livestock production when alternatives are not available.
   - ✓ This is most common with species such as sheep, goats, and rabbits because few drugs are FDA approved, as a result of cost, for use in minor species.

When an OTC product is used in an extra-label manner the requirements are as follows:

- ✓ *A VCPR exists.*
- ✓ *Adequate instructions have been given by the veterinarian and are followed by the caretaker*
- ✓ *A withdrawal time has been assigned by the veterinarian so the extra-label drug use does not result in a violative residue.*
- ✓ *Identity of the treated animal is maintained*

- ✓ *The treatment is recorded, and the records are maintained by the producer for at least one year after the animal is treated. The veterinarian must keep these records for two years.*

According to the Animal Medicinal Drug Use Clarification Act of 1994 (**AMDUCA**), FDA has the authority to prohibit the use of certain drugs in food producing animals. Certain drugs are not labeled for use in a specific species and may be prohibited for use in an extra-label manner in that species by the FDA. If in question, use OTC products as intended.

VETERINARY FEED DIRECTIVE (VFD)

The VFD is a category specifically for new antimicrobial drugs used in the feed to treat disease.

- ✓ **Antimicrobial** – A drug used to treat a microbial infection.
- ✓ A producer may not buy VFD products and store them on the farm unless he or she meets one of the following criteria:
  - o Holds a valid feed mill license
  - o Is a distributor of VFD feeds
  - o Has a valid VFD issued by a veterinarian
- ✓ Extra-label use is not permitted.

COMPOUNDING OF ANIMAL DRUGS

(Adapted from the NPB PQA Plus 2013)
Mixing two injectable FDA approved drugs together in a bottle or syringe is called compounding. This is necessary in some cases to fit the specific needs of some patients in order to assure recovery. Withdrawal times are of concern as interactions of different components can result in the formation of new compounds, case destruction, and/or precipitation of active or inactive ingredients. According to the AMDUCA, a veterinarian with a VCPR may be permitted to compound FDA approved drugs following guidelines similar to extra-label drug use. It is illegal to use a compounded drug without a veterinarian's professional opinion determining the safety, efficiency and withdrawal time.

DRUG RESIDUE AVOIDANCE AND TESTING

Identification and documentation of all treated animals will reduce the chance for a drug residue to enter the food chain. This will require that exhibitors are diligent in recording and maintaining an accurate log or record book of medical and therapeutic treatment of each animal. The producer, parent/guardian, and exhibitor have a responsibility for producing a safe and wholesome food product. When an animal or food product is marketed, the seller should be confident that no drug residue exists based on an accurate record system. If a person is unsure, then a drug residue test can be conducted. Severe consequences for producers and youth exhibitors are enforced when drug residues are found. Ignorance is not a defense if a residue is determined in a food product from a youth's project animal.

RESIDUE

- ✓ Presence of a drug in an animal product or by-product
- ✓ Any substance that is prohibited under any federal or state law
- ✓ Any drug used in any manner not authorized under any federal or state law
- ✓ What could cause a drug residue in milk or meat?
    - o Poor animal identification
    - o Treatment not recorded
    - o Not following label directions
    - o Extra-label drug use
    - o Feeding of medicated feed
- ✓ What animals might be considered high risk for drug residue?
    - o Cull breeding animals
    - o Animals that have received an extra-label medication prescribed by a veterinarian
    - o Young animals such as veal calves or feeder pigs sold as roasters
    - o Animals exhibited at shows or fairs

DRUG RESIDUE TEST

- ✓ A drug residue test can be conducted by a veterinarian and sent to the Ohio Department of Agriculture for analysis
- ✓ Can be performed before an animal is marketed to ensure a safe food product
- ✓ Drug residue tests are routine on fair or exposition animals
- ✓ If a drug residue is found in meat or milk, the product will be condemned (thrown away, unfit for human consumption)
- ✓ Producer/youth exhibitor could be:
    - o Subject to a fine
    - o Prohibited from selling livestock and/or food products
    - o Prohibited from showing animals at other exhibitions
- ✓ For example:

  If a dairy cow's milk contains drug residues and the milk is put into the bulk tank with the rest of the herd's milk, then all of the milk from that dairy herd would be condemned, as well as any milk from other producers that came in contact with the contaminated milk.
- ✓ A drug residue test can:
    - o Save money
    - o Ensure safety and quality of animal food products
    - o Enhance the reputation of youth livestock programs

REGULATORY AGENCIES RESPONSIBLE FOR DRUG RESIDUE LIMITS AND TESTING:

- ✓ **Food and Drug Administration (FDA)**: Responsible for regulating medicated animal feed and most animal health products. The FDA approves the product, sets residue tolerance or action levels in edible tissues, and determines how drugs are to be administered in animals.

- ✓ **United States Department of Agriculture (USDA)**: Division of the federal government that enforces regulations related to agriculture
- ✓ **Food Safety and Inspection Service (FSIS)**: Division of USDA and inspects all food products from animals in federally inspected packing plants and food processing facilities and examines plant sanitation. The FSIS conducts both routine residue monitoring and targeted food safety surveillance activities.
    - o Routine testing is conducted on randomly selected carcasses to detect tissue residues that exceed maximum levels allowed
    - o Targeted testing is directed toward herds or populations of animals (such as fair animals) with a history of violations or where there is some reason to suspect there could be violative tissue residue, such as visible injection sites in the muscle at marketing
- ✓ **Ohio Department of Agriculture (ODA)**: Division of the state government that enforces Ohio regulations related to agriculture

Use an Appropriate Veterinarian/Client/Patient Relationship (VCPR) as the Basis for Medication Decision-Making Study Questions

1. What does VCPR stand for?
2. What are your responsibilities in a VCPR?
3. What are three benefits of having a VCPR?
4. How is your veterinarian vital to the medication decision-making process?
5. Describe the three categories of approved drug distribution.
6. How is extra-label drug use defined?
7. What is drug compounding?
8. What are the risks of drug compounding?
9. What animals might be considered high risk for drug residue?
10. Identify three residue avoidance practices.

Veterinary Feed Directive (VFD) Fact Sheet for 4-H Youth Livestock Producers and Families

What is a VFD?

A VFD is a written (nonverbal) statement issued by a licensed veterinarian that authorizes the use of an approved VFD drug or combination VFD drug in or on an animal feed. This written statement authorizes the client (owner of the animal) to obtain and use animal feed bearing or containing a VFD drug or combination VFD drug to treat the client's animals only in accordance with the conditions for use approved by the FDA (Food and Drug Administration).

(1) The client (youth producer) must establish a veterinarian-client-patient relationship (VCPR) to be able to get a VFD. This is true whether the 4-H member has one food-producing animal or several.

When must the VFD be implemented?

January 1, 2017. Starting January 1, 2017, you can no longer stop by a feed store and buy a bag of medicated feed containing certain types of antibiotics that were previously classified as over-the-counter (OTC) drugs. As of January 1, 2017, the FDA requires that clients have a VFD to be able to purchase animal feeds containing these antibiotics.

What is a VFD drug?

Antibiotic drugs required to have a VFD order to be added on or in the feed are those deemed by the FDA to be medically important for human medicine. The FDA is concerned that improper or overuse of these antibiotics may contribute to antibiotic-resistant bacteria making it harder to treat human illnesses. Examples include Aureomycin®, Lincomix®, Neo-Terramycin®, penicillin, and tylosin. For a complete list refer to the "Drugs Transitioning from OTC to VFD Status" link at the end of this document. These antibiotics are no longer allowed to be used for production uses to enhance growth or improve feed efficiency. They are still allowed for therapeutic uses under veterinary supervision to (1) treat animals diagnosed with an illness; (2) control the spread of illness in a herd; and (3) prevent illness in healthy animals when exposure is likely.

Drugs that do not require a VFD are those that are not deemed medically important to humans. Examples include Rumensin®, Bovatec®, Medacox®, monensin, amprolium, and dewormers. These types of medications can still be used over-the-counter (OTC) for production uses to enhance growth or improve feed efficiency, as well as for therapeutic uses (treatment, control and prevention).

What species of animals require a VFD?

Cattle, swine, sheep, goats, poultry, honey bees and fish, as well as other food-producing species, even if they are not intended for food production. For example, backyard chickens kept as pets still require a VFD for certain antibiotics to be legally added to their feed, and a prescription for certain antibiotics to be added to water.

What is a veterinarian-client-patient relationship (VCPR)?

Most states have a definition of what constitutes a valid VCPR written in current law, including Ohio. Ohio law and related regulations are designed to ensure that a veterinarian does not prescribe drugs or recommend treatment without actually seeing the animal or animals in question. To establish a VCPR in order to obtain a VFD, you need to first identify a veterinarian who you wish to work with if you do not already have one. To write a VFD and otherwise treat your animals, the veterinarian must personally see your animal(s), become acquainted with their care, and have done so recently enough that he/she can make medical judgements. To write a VFD, this likely means the veterinarian will have had to examine your animals in the last six months, as that is the longest period of time for which a VFD can be written.

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While all licensed veterinarians in Ohio can write a VFD or a prescription for water-based antibiotic drugs, all may not choose to work with food-producing animals, as they may elect to practice veterinary medicine only in their clinic or on specific species.

Why do I need a VCPR?
The veterinarian is the person most qualified to determine when an animal needs a specific medicine, how much of that medicine it needs each day, and how long it should be administered. By being involved in this process the veterinarian can ensure appropriate drug use, minimize the chance of bacterial resistance developing, and keep antibiotic residues out of our food supply.

How can I establish a VCPR?
The first step is to find a veterinarian who is willing to treat your 4-H project animals. It is up to you to initiate a VCPR, and should be done before you get your 4-H animals. You can look for veterinarians in your area at the Ohio Veterinary Medical Association website (www.ohiovma.org) under the public tab and search by city. If you already have a veterinarian, but he/she has not seen your animals in over a year, you may wish to contact him/her to ensure he/she can work with you on obtaining a VFD if and when you need one. Think of a VCPR as a relationship similar to what you would have with your family doctor.

(1) The veterinarian writing the VFD or prescribing medications must be licensed within the state where the animals are being treated.

Am I going to be able to get medicated feed?
YES. The steps and process are more involved because you can no longer just go to a feed store and buy certain medications to mix in with your feed or buy medicated feeds containing medically important antibiotics. Producers must get a VFD order from their veterinarian and then send or take the VFD order to a feed distributor to get the VFD feed. Your veterinarian may send the VFD directly to where you buy feed.

When I buy my show pigs (for example), will I still be able to get a couple bags of medicated feed from that producer?
If the medicated feed contains an approved VFD drug, you must have a VFD before getting that feed. Your veterinarian must see these pigs to be able to write a VFD. Plus, the producer must be a distributor complying with FDA's distributor requirements to be able to distribute a VFD feed to you once you provide them with a VFD order.

What about feeding water soluble medications?
Beginning January 1, 2017, all antibiotics important to humans that are administered through drinking water will require a written prescription from your veterinarian. You must have established a VCPR to be able get a prescription to buy these drugs or products. Although a VFD and a prescription are not the same, you need to have a VCPR to obtain both. The VFD rules only apply to medically important antibiotics fed on or in feed products, while a prescription applies to many products including medically important antibiotics administered through drinking water. For a list of drugs transitioning from over-the-counter to prescription status, refer to the "Drugs Transitioning from OTC to Prescription Status" link at the end of this document.

What about feeding milk replacer?
Milk replacers are considered feeds. If using medicated milk replacer containing an approved FDA drug mixed with water or mixed with feed, you must have a VFD. Medicated milk replacers will no longer be labeled for continuous feeding and therefore will not be allowed to be used continuously.

How often do I have to get a VFD?
There will be a VFD expiration date that defines the period of time for which the authorization to feed an animal feed containing a VFD drug is lawful. The expiration date specifies the last day the VFD feed can be fed to an animal or group of animals and under the regulations cannot be longer than six months.

A VFD feed or combination VFD feed must not be fed to animals after the expiration date on the VFD. You must contact your veterinarian to request a new VFD order.

What are my responsibilities as the client (youth producer) when using antibiotics important to humans in feed?

(1) Only feed animal feed bearing or containing an approved VFD drug or a combination VFD drug to animals based on a VFD issued by a licensed veterinarian.
(2) Do not feed a VFD feed or combination VFD feed to animals after the expiration date on the VFD.
(3) Provide a copy of the VFD order to the feed distributor if the issuing veterinarian gives you the distributor's copy of the VFD. The veterinarian may send the VFD order directly to your feed distributor.
(4) Keep a copy of the VFD order for a minimum of 2 years.
(5) Provide a VFD order for inspection and copying by the FDA upon request.

USE GOOD MANAGEMENT PRACTICES TO PREVENT DISEASES (and the need for a VFD)!

(1) Observe your animals daily.
(2) Make sure your animals have adequate shelter and enough space relative to their stages of production.
(3) Maintain their pens. Keep the pens clean, making sure bedding is clean and dry. Remove sharp objects. Make sure flooring and footing does not cause injury or lameness.
(4) Provide adequate feeder space, a nutritionally balanced diet relative to their stages of production, and clean, cool water made available at all times.
(5) Handle your animals properly.
(6) Proper ventilation and temperature are important for performance, growth and the health of your animals.
(7) Follow recommended biosecurity guidelines to keep diseases away!
(8) Consult a veterinarian when questions or issues arise.

Links to Additional Information

(1) FDA Summary Fact Sheet: http://www.fda.gov/animalveterinary/developmentapprovalprocess/ucm449019.htm
(2) Requirements for Producers (FDA): http://www.fda.gov/animalveterinary/developmentapprovalprocess/ucm455413.htm
(3) Requirements for Distributors (FDA): http://www.fda.gov/AnimalVeterinary/DevelopmentApprovalProcess/ucm455414.htm
(4) Requirements for Veterinarians (FDA): http://www.fda.gov/animalveterinary/developmentapprovalprocess/ucm455417.htm
(5) Drugs Transitioning from OTC to VFD Status (FDA): http://www.fda.gov/downloads/AnimalVeterinary/DevelopmentApprovalProcess/UCM482258.pdf
(6) Drugs Transitioning from OTC to Prescription Status (FDA): http://www.fda.gov/AnimalVeterinary/DevelopmentApprovalProcess/ucm482106.htm
(7) OSU Veterinary Extension OTC Brochure: http://www.ohiovma.org/downloads/veterinarians/Brochure_VFD.pdf

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Assuring Quality Care for Animals

Youth Food Animal Quality Assurance Curriculum Guide

GPP #2

Establish and Implement an Efficient and Effective Health Management Plan

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GPP #2

Establish and Implement an Efficient and Effective Health Management Plan

Animal health is a key to food safety. Healthier animals grow more quickly and efficiently, and generally require less medical care. Reduced medical care lowers the risk of residues and costs associated with the treatment of sick animals. Developing and implementing an efficient and effective health management plan can have beneficial impacts on animals' health through the use of measures such as vaccination plans, biosecurity protocols, and emergency preparedness.

Learning Objectives

Upon completing this lesson, youth should be able to

1. Describe the components of a health plan for your animal, herd, or flock.
2. Name and describe appropriate internal biosecurity procedures.
3. Name and describe appropriate external biosecurity procedures.
4. Understand the relationship between human, animal and diseases.

Key Terms

Internal biosecurity. Keeping diseases already in one or more section of the herd or flock from spreading to other sections

External biosecurity. Keeping diseases out of a herd, flock, or from an animal

Herd health plan. A plan that is designed to address potential and current health challenges and to help prevent diseases from entering your herd or flock

Rodent and pest control. Include controlling rodents and pests as a part of animal, herd, and flock internal and external biosecurity plans

Components included in a Health Management Plan

1. Development and Maintenance of a Veterinarian/Client/Patient Relationship (VCPR)
2. Development of an Individualized Herd Health Plan
3. Development of a Herd/Flock Level Biosecurity Plan
4. Foreign Animal Disease (FAD) and Agro-terrorism Awareness, Reporting and Prevention

1. *Development and Maintenance of a Veterinarian/Client/Patient Relationship (VCPR)*
   a. Regular observations of animals by your veterinarian are beneficial in maintaining a healthy herd or flock.
   b. Regular observations of animals by your veterinarian fulfill the requirements of a VCPR, as explained in GPP #1.
   c. Your veterinarian can observe your animals in their current environment, and (1) review production records, (2) vaccination records, (3) treatment records, and (4) other veterinary information valuable in evaluating the health status of your animal, herd, or flock.
   d. While your veterinarian is observing your animals, you can discuss and address any health problems you have noted since the last visit.

e. Your veterinarian may observe subtle problems that you have not noticed because of seeing the animals every day.

2. *Development of an Individualized Herd Health Plan*
   a. A herd health plan is designed (1) to address potential and current health challenges, and (2) to help prevent diseases from entering into your herd or flock.
   b. To implement a herd health plan, consult with your veterinarian to formulate vaccination and parasite control programs tailored to your animal, herd, or flock.
      1. Consider factors such as (1) the disease profile of the herd, (2) the type of production, and (3) the type of facilities.
      2. The plan may include (1) the different vaccinations for each phase of the operation, and (2) the treatment guidelines for common disease challenges observed on the farm.
   c. A health plan may also be helpful in preventing or controlling potential disease outbreaks.
      1. For example, if you exhibit your steer at different shows during the year, he may be exposed to diseases or parasites from other steers at the shows.
      2. For example, your chicken coop may have previously housed chickens infected with mites, and the mites are still present in the coop.
   d. With the help of your veterinarian, develop a periodic health check of your animals.
      1. Periodically survey the health status of each animal.
      2. Tailor this health check to your animals' needs.
   e. Tailor the herd health plan to your herd or flock and target the diseases of interest.
   f. Knowing the disease status of your animals can help your veterinarian create a specific health plan to help minimize the impact of disease.
   g. Understanding the level of challenges can help you decide on the best strategy for managing your herd or flock health.
   h. Some options for disease control include
      1. Elimination of a disease.
      2. Trying to control or manage a disease.
      3. Developing a treatment plan for targeted disease challenges.
   i. Provide vaccination and parasite control to help prevent your animals from getting diseases that can affect their rate of growth and overall performance and well-being.
   j. When purchasing an animal, make sure to ask for vaccination and parasite control (such as deworming) records.

3. *Development of a Herd/Flock Level Biosecurity Plan*
   a. Biosecurity is a combination of management practices designed to prevent the introduction and transmission of diseases and disease-causing agents into a herd or flock. A biosecurity plan includes (1) barn sanitation, (2) rodent control, (3) caretaker entry policies, (4) visitor entry policies, and (5) general farm security measures. All biosecurity measures should be focused on the prevention of the entry of unwanted diseases. A biosecurity plan should be in place regardless of the number of animals you have.

b. Disease pathogens can move from one farm to another through
    1. *Rodents, wildlife, and birds* – Non-farm animals can transmit diseases or disease agents.
    2. *Pets* – Keep cats and dogs out of the barn, as they can bring in disease if allowed to wander to neighboring farms where there could be sick animals.
    3. *Vehicles and equipment* – Disease pathogens may be present on vehicles or equipment. (i.e. sharing show equipment or borrowing scales)
    4. *Humans* – Humans can transmit diseases. (i.e. visiting multiple farms in one day when looking at pigs)
    5. *New animals* – Introducing new animals or animals that have been off-site. (i.e. taking goats to weigh-ins and bringing them back to your goat herd)
    6. *Clothing and shoes* – Clothing and footwear can be sources of disease agents. (i.e. wearing the same boots from one farm to the next without cleaning and disinfecting them between visits)
    7. *Air* – Wind and air movement may transmit some pathogens.

External Biosecurity – Keeping diseases out of the herd.

1. Control wildlife and pests to prevent contact with your animals with use of perimeter fencing and bird screening.
2. Before purchasing new animals, discuss with your veterinarian a health maintenance program you should start when the new animals get to your farm.
3. When possible, establish an isolation facility or area for quarantining new animals at your farm that is remote and/or isolated from the existing animals.
    a. New animals should be quarantined for at least 10 days before integrating them into the herd or flock.
    b. During the quarantine period, observe and test for diseases, vaccinate, medicate, and acclimate the new animal(s) as recommended by your veterinarian.
4. Limit the number of visitors to your facility and minimize their contact with your animals. Question them about recent contact with other animals and downtime.
    a. Visitors should be away from the same species of livestock at least 24 hours.
5. Consider supplying disposable plastic boots to all visitors.
6. Require everyone to wash hands before entry into animal areas.
7. Change clothes and boots after visiting other farms, livestock markets, or exhibitions before entering your facility.
8. Limit equipment and tools to those that have been cleaned and disinfected if used on another farm. (i.e. Be sure to clean and disinfect scales if taking from farm to farm to weigh animals. This is true for large animal scales as well as small scales to weigh poultry and rabbits.)
9. Clean and disinfect your truck and trailer, or any type of crate or carrier, after each use.

Internal Biosecurity – Keeping diseases already in one or more sections of the herd or flock from spreading to other sections.

1. Work with your veterinarian to periodically survey your herd or flock for different disease challenges.
2. When possible, operate all-in/all-out when cleaning and disinfecting between groups of animals.
3. Establish a traffic pattern for both animals and people that prevents exposure of younger animals to older animals, their manure, or people who have recently been in contact with them.
4. Provide dedicated boots and coveralls at strategic sites in the facility. Wash hands when boots or coveralls are changed. If boot disinfection is difficult, use disposable plastic boots.
5. Practice proper room, pen, coop, and barn sanitation.
    a. An effective internal biosecurity plan includes a complete cleaning and disinfecting of each pen, coop, or building between groups of animals.
    b. Completely remove all organic materials and use compatible soaps and disinfectants to effectively kill harmful organisms.
    c. Allow the pen, coop, or building to dry completely before putting a different or new animal or the next group of animals in it. Complete drying further reduces the chance that disease-causing agents will survive until the next animal(s) arrive.

Rodent and Pest Control

1. Include rodent and pest control in both your internal and external biosecurity plans.
    a. Rodents and pests can bring new diseases into a herd or flock as well as serve as a reservoir of disease affecting a herd or flock.
2. Four elements of effective rodent control include
    a. Denying entrance to facilities and buildings.
    b. Removing sources of food that can attract and maintain rodent populations.
    c. Preventing and denying rodents cover and places to live.
    d. Baiting or trapping to reduce rodent populations.
3. Dogs and cats are unacceptable ways of controlling rodents in and around livestock buildings.
    a. Cats can be a source of disease agents that can infect livestock.
4. Wildlife and other pests can compromise biosecurity.
    a. Sparrows and wild birds can infect a poultry flock with lice and mites.
5. Use perimeter fences, netting and screening to exclude wildlife, birds, pests, and even some insects.

4. *Foreign Animal Disease (FAD) and Agro-terrorism Awareness, Reporting and Prevention*
   a. Producers should increase their awareness of foreign animal diseases (FADs) and report all suspect cases to the Ohio Department of Agriculture.
   b. Producers should take special precautions to prevent the accidental or intentional introduction of FADs onto their farms and report all suspicious activities to local law enforcement.
   c. Producers and exhibitors need to be aware of zoonotic diseases, especially influenza, which can be passed from animals to humans.

Establish and Implement an Efficient and Effective Health Management Plan
Study Questions

1. What is a herd health plan?
2. Name 4 components of a herd health plan.
3. List three benefits of having a VCPR.
4. What is biosecurity?
5. Name six ways disease pathogens can move from one farm to another.
6. Identify six tips to remember when sanitizing and/or cleaning your facilities, equipment, etc.
7. What is external biosecurity?
8. What is internal biosecurity?
9. Name 5 external biosecurity measures.
10. Name 5 internal biosecurity measures.

Assuring Quality Care for Animals

Youth Food Animal Quality Assurance Curriculum Guide

GPP #3: Use Antibiotics Responsibly

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Introduction

Assuring Quality Care for Animals is a complement to the *Youth Food Animal Quality Assurance Curriculum Guide* reflecting the changes in the Good Production Practices. PowerPoint presentations complement each section to assist with instruction.

Using information in this resource should help youth understand how to provide a safe, wholesome food animal product preferred by consumers.

Note – this curriculum alone does NOT certify youth for state-mandated quality assurance training. A County Coordinator or Assistant Instructor must certify youth.

Additional resources and templates referenced in this document may be found at: https://www.pork.org/pqa-plus-certification/

GPP#3

Use Antibiotics Responsibly

The responsible use of antibiotics assures that food animal producers deliver a safe, wholesome product to the retail case. Understanding what is acceptable and what is not will assure that your herd/flock heath program will maintain efficiency of production without over use of antibiotics. Using your established VCPR as intended will assure that you use antibiotics when needed meeting the labeled duration and dosage resulting in a healthy animal. The following chapter will address antibiotic usage in food animal production for both treatment and efficiency of production.

KEY TERMS:

Antibiotics
Medication
Antibiotic resistance
Withdrawal time

ANTIBIOTICS IN FOOD ANIMAL PRODUCTION

Food animal producers use antibiotics for the following three purposes:

- To treat animals for clinical illness administered through:
  - Injections (IM, SubQ or IV)
  - Orally in feed or in water
- Antibiotics are used as sub-therapeutic doses, administered in the feed or water, as a preventative in animals that:
  - Have been or are currently exposed to infections (bacterial), or;
  - If there is a clinical outbreak pattern of disease in operations at a given time of year or a given production stage

- Some antibiotics can be used as a feed ration supplement to improve feed efficiency, accelerating growth and muscle development.

PRINCIPLES AND GUIDELINES FOR RESPONSIBLE ANTIBIOTIC USE

Five principles to guide food animal producers so they will use antibiotics responsibly assuring a safe wholesome food product for consumers (adapted from the National Pork Board PQA Plus Youth Guide):

I. Take appropriate steps to decrease the need for the application of antibiotics considering all alternatives

Working with your veterinarian through your established VCPR you should develop a comprehensive herd/flock health plan. This is key to maintaining the health and productivity of your project animal. A healthy herd/flock will reduce the need for excessive antibiotic use. By preventing disease through appropriate animal management, sanitation, biosecurity, health monitoring, and vaccination you will decrease the use of antibiotics.

II. Assess the advantages and disadvantages of all uses of antibiotics

You should know when to use antibiotics and when you should not. This can be determined by assessing the advantages and disadvantages of all uses of antibiotics. A producer should take into consideration animal health, welfare, environmental impact, food safety, and economic impact of antibiotic use. The use of antibiotics could result in bacterial resistance if they are not used properly. This could have a human health impact and affect the public image of the food animal industry. In some situations a change in management or handling could result in a healthier environment for the animal and could correct the health condition in question. If you typically head for the medicine bottle each time there is a potential health concern: STOP and THINK – are there other alternatives?

If an antibiotic is necessary:

- ✓ Antibiotic use should be minimized by treating only for as long as needed for the desired response to the infection:
  - Using the antibiotic label to determine dose (amount and frequency) and duration (treatment time) is key to proper antibiotic use;
  - Extra-label use of an antibiotic is legal if prescribed by your veterinarian whom you have a VCPR established with, and as outlined in the Animal Medicinal Drug Use Clarification Act. Remember that it is illegal for anyone, including a veterinarian, to use a medicated feed in any other way than intended; and
  - Remember that your veterinarian should be your first point of contact if you are unsure if you should or should not use an antibiotic.
- ✓ In some cases there may be a need for preventative antibiotic therapy which will need to assessed regularly:
  - Food animal drugs are approved by the Food and Drug Administration (FDA) based on human, environmental and animal safety

- FDA also considers the potential for antibiotic resistant bacteria prior to approval
- Although we may look at sub-therapeutic levels of antibiotics to improve efficiency of production (faster growth and more muscle), FDA does not consider those in their decision process
- Measurable benefits such as reduced death, illness, and improved animal welfare are a result of appropriate treatment and disease prevention.
- If using an antibiotic to improve production, one might see measurable benefits including reducing the days to market, improving feed consumption, and reducing animal waste
- Niche' markets (all natural, organic, free range, etc.) may have limitations to the products you can use. Be sure that if you are providing product for those markets you keep in mind animal welfare, management and alternative markets for those food animals you may need to treat in a conventional manner.

III. Use antibiotics only when they provide measurable benefits for the health and welfare of the animal

✓ Evaluate antibiotic use in your animals and determine the measurable benefits of all antibiotics:

- FDA approves products based on their safety (human, animal, and environmental) and efficacy
- Mortality, morbidity and improved welfare of the animals in your flock or herd through disease prevention and treatment are benefits that can be measured
- Improving efficiency of production in your flock or herd can be seen in any number of ways (reduced days on feed, increased feed efficiency, increased muscle growth, etc.) through the proper use of sub-therapeutic antibiotics

IV. Implement management practices described for responsible use of animal health products into your daily routine

✓ ***"Assuring Quality Care for Animals"*** in Ohio and implementing the Good Production Practices will result in you providing a safe and wholesome food animal product to your consumer. This program is recognized as a symbol for youth education in food safety as well as animal welfare, care and management. Implementing the GPP's will result in being confident that you have the tools to know when and when not to use antibiotics, and that you have produced a food animal product that has no violative drug residue.

A violative drug residue is not the same as antibiotic resistance and both should be taken seriously.

✓ Keeping accurate records will reduce the chance for a mistake resulting in violative drug residue.

✓ Understanding how withdrawal times work in order to reduce the chance for a residue is key to a successful herd/flock health management plan.

- ✓ Verification of all actions in the barn is critical to you knowing that you have provided a consumer with a safe wholesome food product as a result of proper management.

V. ***Follow the responsible antibiotic use guidelines and maintain a current veterinarian/client/patient relationship (VCPR)***

- ✓ Utilize your established VCPR for all decisions on antibiotic use and herd/flock health as described in.
  - Extra-label drug use should be in accordance of requirements of your operations VCPR
  - It is illegal for anyone to use medicated feeds in an extra-label application
- ✓ Antibiotics should be used for treatment when there is an appropriate disease that needs to be treated. Look at management practices that may result in a reoccurring outbreak (ventilation, dampness, sanitation, etc.)
- ✓ Once you have determined that antibiotics are the best course of action
  - Administer only when necessary
  - Give to the smallest amount of animals needing treatment
  - Assure you have given the antibiotic for the least amount of time to prevent reoccurrence of the disease
- ✓ Consult with your veterinarian on rare cases of diseases that are not improving after standard antibiotic application. Antibiotics used in treating antibiotic resistance infections in humans and animals should be carefully reviewed prior to use for a disease.
  - Talk with your veterinarian about antibiotic resistance
  - Work through your VCPR and determine which product choices to use
  - Use your written plan of action for use of antibiotics
- ✓ Remember that mixing together injectable or oral medications by a producer is illegal.
  - If this is done the efficacy of the medications as intended individually may change
  - This could also affect the withdrawal time, thus making it hard to know when you can market product from your food animal
- ✓ Take your environment into consideration when handling and disposing of all animal health products, antibiotics included.
  - Assure that food animal pharmaceuticals and medicated feeds are stored properly and are still within their expiration date
  - In the case of medicated feeds, be sure that scoops, troughs, buckets, etc., are cleaned properly after the medication course has been met, and that they are kept separate from non-medicated feeds to avoid cross contamination
  - Properly dispose of outdated or unused medication

Use Antibiotics Responsibly Study Questions

1. What are three reasons why producers/exhibitors may use antibiotics?
2. What are three principles for responsible antibiotic use?
3. What are three guidelines for responsible antibiotic use?
4. What role does a VCPR play in antibiotic use?
5. What are three things a producer/exhibitor can do to minimize antibiotic use?
6. What are three things that need to be recorded when administering antibiotics?

Assuring Quality Care for Animals

Youth Food Animal Quality Assurance Curriculum Guide

GPP #4

Properly Store and Administer Animal Health Products

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GPP #4
Properly Store and Administer Animal Health Products

A primary responsibility of all adult and youth food animal producers is to produce safe food. Freedom from drug residue violations is a component of food safety. It is imperative to know where information can be found about withdrawal times, how to calculate when the withdrawal is complete and when it is safe to market an animal. Everyone responsible for the care of animals must be instructed on methods used to follow label directions, identify treated animals, and record treated animals. Accurate recordkeeping will allow anyone to quickly determine the correct withdrawal time has elapsed before animals leave a location. All food animal producers are responsible for following label directions or directions provided by a veterinarian medicating their animals under a veterinarian/client/patient relationship (VCPR).

Learning Objectives

Upon completing this lesson, youth should be able to

1. Explain and understand medication labels.
2. Understand the importance of correctly storing and handling animal health products.
3. Identify proper techniques for administering medications.

Key Terms

Drug/Medication labels. Drug labels provide important information to producers about medicating animals

Administering medication. The route of administration is stated on the drug labels

Trade name. Commercial name given by manufacturer

Active ingredient. Chemical name(s) of what makes up the active portion of the medication

Indications. Use of the drug for treating a particular disease or set of signs and symptoms

Dosage. Measured portion of medication to be administered at a given time

Directions for use. How to administer medication, proper storage of medication, and other special instructions needed to correctly keep and use medication

Cautions and warnings. Items to pay particular attention to when using the medication

Withdrawal times. Amount of time that must pass after the medication is administered before harvest

Manufacturer's lot number. Reference number that the manufacturer uses to determine the batch in which the product was made

Expiration date. Date the medication should be discarded. This includes medicated feed labels, covered in GPP #5.

Oral medication. Medications given through the mouth

Topical medication. Medications administered by applying them to the skin or on the mucous membranes of the eyes, ears, or nasal passages

Injectable medication. A medication that is given using an infusion method, typically via a syringe and hollow needle

Intramuscular (IM). Injections given in the muscle

Subcutaneous (SQ). Injections given under the skin

Intraperitoneal (IP). Injections given in the abdominal cavity
Intravenous (IV). Injections given in the vein
Intranasal (IN). Injections given in the nasal passages
Intramammary Infusion. In the udder through the teat canal
Sharps. Used needles, knife blades and syringes

Responsibilities for Properly Administering Products

Everyone – exhibitors, parents, guardians, caretakers – are responsible for properly administering products to their animals. It is your responsibility to

1. Read, understand, and follow label directions when giving any medication.
2. Develop a medication record and animal ID system so all caretakers know the medication status of animals prepared for harvest.
3. Identify all treated animals (refer to GPP #6).
4. Keep records for making judgments about marketing animals that have been treated.
5. Use medication records to determine when withdrawal times have been completed.
6. For exhibition animals, record any medication given on your Drug Use Notification Form.

Drug Labels

1. Drug labels provide important information to producers and must be read and understood before giving any medication.
2. If the medication is being used in an extra-label manner, the use/restrictions from your veterinarian should be observed rather than the label instructions.
   a. Remember that extra-label drug use in feed IS NOT an option! It is illegal!
3. You will find valuable information about the medication, including the administration technique on the drug label.
4. Drug labels contain the following (refer to the definitions in Key Terms)
   a. Trade Name
   b. Active Ingredient
   c. Indications
   d. Dosage
   e. Direction for Use
   f. Cautions and Warnings
   g. Withdrawal Times
   h. Manufacturer's Lot Number
   i. Expiration Date

Dosage Example

1. A lamb has foot rot and the label says to give 2cc's per 100 lbs. of body weight once daily for 2 days. The lamb weighs 90 lbs.
   a. How much is the daily dose? 2cc's/100 lbs. x 90 lbs. = 1.8cc's per daily dose
   b. How much total medication needs to be administered? 2 days x 1.8cc's per day = 3.6cc's of total medication administered

Drug Storage

1. Follow proper drug storage instructions indicated on the label.
    a. Always check the drug label for proper storage instructions.
    b. Most medications require storage in a clean, dry, and dark location.
    c. Medications are perishable, and therefore must be protected from damage and stored under the right conditions to remain effective.
    d. Rotate inventory to avoid accumulation of out-of-date products.
    e. Routinely monitor and record refrigerator temperatures.
2. Temperature extremes or exposure to sunlight may decrease the strength of a stored drug.
    a. Some drugs are best stored at room temperature.
    b. Most vaccines and some antibiotics should be refrigerated at 40° F – 45° F.
    c. As a rule, once a bottle of medication has been opened it should be stored in a refrigerator unless specifically directed by the label or your veterinarian.
3. Medications lose their effectiveness over time.
    a. Only purchase enough medication that will be used before the expiration date.
    b. Rotate the inventory to use the bottles/packages with the shortest expiration date first.
    c. Check products regularly to make sure they have not expired, and properly discard those that have.
    d. Label directions will state, "use the entire contents immediately when opened." for many vaccines.
        1. These kinds of vaccines lose their effectiveness quickly and should be discarded, according to the directions on the label, if not used after they are opened or rehydrated.
        2. For example: A modified live vaccine could have an expiration date of July 2015 but is opened on April 15 to vaccinate an animal. The vaccine is no longer effective after April 15 since the modified virus will die.
4. Maintain the identity of all of the medications.
    a. Store the medication in the original container with the product label.
    b. If a medication must be placed in another container, clearly label it immediately to prevent misidentification.
5. Avoid withdrawing an injectable medication and storing it in a syringe that is not labeled for a later treatment.
    a. Unlabeled syringes may have medication in them that could be mistaken for another medicine.
        1. This will result in a poor treatment response and mistakes in withdrawal times.
6. Syringes do not provide protection from contamination and sunlight that a colored glass vial provides.
7. Syringes that have been cleaned and disinfected may have a soap or disinfectant residue that can inactivate the drug of vaccine left in them over time.
8. Prevent contamination by storing medication appropriately.
    a. Keep injectable medications in a tightly sealed, clean bottle.
    b. Clean the rubber stoppers before inserting the needle into the vial.
    c. Use only clean and sterile needles to withdraw contents from multi-dose vials.
        1. Dirty needles can contaminate the contents of the vial.

2. Contamination of the contents can cause injection-site reactions and abscesses.

Administering Medications

Exhibitors, parents, guardians, and producers are all responsible and should work together as a team for proper administration of medications to animals. When drugs are administered properly and recorded, exhibitors will avoid drug residues. Record any medication give to exhibition animals on your Drug Use Notification Form (DUNF).

Methods of Providing Medication to Animals

1. ***Oral*** – medications given through the mouth
    a. With oral medications there is no risk of broken needles or injection-site reactions.
    b. Oral medications include tablets, pills, capsules, pastes and liquids.
        1. Drenching tubes, balling guns or oral dose syringes are used to place the liquid or pill at the base of the tongue at the back of the mouth.
            a. Consult a veterinarian for proper technique to avoid administering medication into the lungs.
        2. Medication can also be administered through the water and/or feed, especially when a large number of animals are medicated.
            a. These routes are less stressful to the animals as well as the people giving the medication.
            b. Add, per instructions on the label, medications to animals' drinking water.
                1. Medications can be added through a central watering system that has a water medicator installed in the supply line.
                2. Individual animals or small groups of animals can be medicated using their current watering systems provided these animals only have access to the medicated water.
            c. When treating animals for multiple days in a row, medicated feed may be the method of choice.
                1. You must follow all instructions on the feed tag or delivery slip when using medicated feeds.
                2. Remove any residual feed from bins and feeders before adding the medicated feed.
                    a. Medicated feed should be introduced to the affected animals rapidly and in the proper concentration.
                    b. Monitor animals' feed intake because medication must meet healing levels to be effective.
                        1. If daily feed intake is shortened whereby animal is not eating as much, the medication may not meet the healing levels.
                3. Extra-label drug use in feed is ILLEGAL! It is NOT AN OPTION!
            d. Be sure to do the math when putting medication in water or feed for fewer numbers of animals than the instructions listed on the label. Calculate the correct amount of medication to add to the water or feed. Do not over or under medicate!

e. Individual oral treatment may be necessary for certain bacterial diseases because it is the only route that can guarantee beneficial levels of medication.

2. ***Topical*** – applied on the skin or on the mucous membranes of the eyes, ears, or nasal passages
   a. Medications are available as ointments, sprays, dusts, pour-ons, and dips.
   b. Most of the topical medications are for parasite control.
   c. Check if product is approved by FDA for use on food animals.
   d. Take care to prevent chilling of animals when using sprays or dips in cold weather.
   e. Use appropriate protection (gloves, masks, etc.) when applying certain topical medications.

3. ***Injection*** – using an infusion method, typically with a syringe and needle, to deliver medication
   a. Injections are useful when treating individual animals.
   b. Injections may be the only way of medicating animals that are too sick to eat or drink.
   c. Injections may be the only option if the medication prescribed is poorly absorbed from the gut.
   d. Proper identification of the subject animal(s) is paramount.
   e. Proper restraint may be necessary when giving injections.
   f. Injections present a risk of broken needles and injection-site reactions.
   g. Select the proper site for an injection.
      1. Swine: Swine Resource Handbook or http://www.extension.org/pages/27257/injection-reference-for-swine#.VHJZqMkXLgo
      2. Beef: Ohio BQA Manual, Beef Resource Handbook or http://bqa.org/bqainjectionsitedemo.aspx
      3. Sheep: Sheep Resource Handbook
      4. Goats: Goat Resource Handbook
      5. Dairy Cattle: Ohio BQA Manual, Dairy Cattle Resource Handbook
   g. Only inject into clean, dry areas.
   h. When administering injections to animals, a producer should give subcutaneous injections instead of intramuscular injections when the label guidelines allow.
      1. Subcutaneous injections lower the risk of damage to muscle, and subsequently to the meat produced from that animal.
   i. Learn and use injection administration techniques under the guidance and direction of a veterinarian for your respective species of animals.

Intramuscular (IM) – in the muscle

1. Use a spot on the neck just behind and below the ear, but in front of the shoulder. (Refer to the PowerPoint slides for each species.)
2. Do not use a needle to inject in other areas unless directed by a veterinarian, as there may be some bleeding and bruising of the muscle followed by abscesses or scarring.
   a. Scars can stay in the muscle for the life of the animal and be a blemish in the cut of meat, thus damaging the food products.

b. A veterinarian and packer can help to determine acceptable alternate methods to avoid carcass defects, which impact valuable meat cuts in the carcass.
3. Use the proper gauge (size) and length of needle to ensure the medication is deposited in the muscle and not in other tissues.
4. Use IM injections when indicated as the best route of delivering the medication according to the label.

Subcutaneous (SQ) – under the skin
1. Make sure the injection site is dry and clean to avoid infections.
2. Use the proper size and length of needle and angle to avoid injecting into the muscle.
   a. Injecting into the muscle changes drug metabolism and withdrawal times.
3. Most ideal injection sites are in the flank or neck regions or behind the elbow where loose skin is present.
4. Tent the skin and inject into a pocket created under the skin, away from the site of skin puncture.
   a. View the following YouTube video for proper SQ injection methods: http://www.youtube.com/watch?v=4mqcc5UyYuM

Implants – inserted via subcutaneous injections given in the ear of cattle
1. Needles must be clean and sharp.
2. The ear should be clean and dry to prevent infection and to get greater utilization of the implant.
3. Proper placement of the implant is in the middle one-third of the backside of the ear.
4. Work with a veterinarian or animal health supplier to design an implant strategy for the operation.
5. With FDA approved implants, there are no withdrawal times for harvest.

Intraperitoneal (IP) – in the abdominal cavity
1. This technique a SHOULD BE USED ONLY UPON VETERINARY INSTRUCTION and guidance as serious injury, including death, can occur.

Intravenous (IV) – in the vein
1. This technique a SHOULD BE USED ONLY UPON VETERINARY INSTRUCTION and guidance as serious injury, including death, can occur.

Intranasal (IN) – in the nasal passages
1. Withdraw the product from the bottle using a syringe and needle. Remove the needle from the syringe. Use the recommended application tip for administering the product.
2. Keep the animal's head tilted upward during and immediately following administration to help the product be inhaled into the deep nasal passages.

Intramammary Infusion – in the udder through the teat canal
1. Clean and disinfect each teat.

2. Insert only the tip of the cannula (small tube specifically made for insertion into teat canal) into the teat canal for treatment.
3. Infusing a drug into one teat affects the milk produced in all areas of the udder.

Appropriate Needle Usage

1. Evaluate the quality of the needle you are using – all three parts – the hub, shaft, and bevel.
   a. No chips, cracks, burrs
   b. Make sure it is not bent
2. Provide needle-use guidelines that address the following
   a. Use proper animal restraint.
   b. Select the proper site and technique for injection.
   c. Select the proper size and length of needle according to (1) the species, (2) the animal's age, (3) the injection site selected, and (4) the characteristics of the product to be injected.
      1. Use the smallest gauge needle possible.
         a. A 20-gauge needle is smaller in diameter than an 18-gauge needle.
   d. Change the needle when appropriate to maintain cleanliness and sharpness.
      1. Needles should be changed between each animal to avoid spread of blood-borne diseases.
   e. Retrieve dropped needles and immediately properly dispose of them.
      1. Take measures to minimize the loss of needles in areas occupied by the animals.
         a. Packers report finding needles lodged in the tissues around the mouth and throat of animals.
         b. It is your responsibility to inform buyers or processors of any animal potentially contaminated with a needle.
   f. Change bent needles – NEVER straighten a bent needle. Always carefully remove and replace it.
      a. Disposable needles rarely break during initial use. However, the needle shaft is much more likely to break if it has been bent during an injection, straightened and used again, or after repeated use.

Disposal of Used Needles, Surgical Knives and Syringes

1. Used needles, knife blades, and syringes are called sharps.
2. Sharps must be disposed of properly following use to prevent environmental contamination and injury to fellow workers, children, waste handlers and livestock.
3. Dispose sharps in a rigid puncture-resistant container immediately after use.
   a. You can purchase "sharps" containers from many farm supply stores, safety supply houses, drug stores or veterinarians.
   b. Regardless of the container type, it should prevent the penetration of needles through the container surface.
   c. Do not use glass containers as they are more likely to break in the disposal process.
4. Sharps containers must be clearly labeled as a biohazard waste container not for recycling.
5. Securely tighten and seal the cap or lid with heavy tape once the container is full.

6. Ask your veterinarian or local hospital if they accept farm-generated medical wastes for disposal of these containers.

Disposal of Animal Health Products

1. All animal health products, including antibiotics must be properly handled and disposed of to minimize environmental exposure.
2. Do not put unused antibiotics in sewage systems, as they are not designed to remove the antibiotics from the discharge water.
3. Regulations for disposal of unusable antibiotics vary from state to state.
   a. Unless specifically prohibited by local regulations, unusable or unwanted antibiotics should be discarded in a commercial sanitary landfill.

Needle Size and Selection

	Subcutaneous		Intramuscular	
	Gauge	Length	Gauge	Length
Baby Pigs			18 or 20	5/8 in or 1/2 in
Nursery Pigs	16 or 18	1/2 in	16 or 18	3/4 in or 5/8 in
Finisher Pigs	16	1 in	16	1 in
Sows or Boars	14 or 16	1/2 in to 3/4 in	14 or 16	1 in or 1-1/2 in
Calves (<300 lbs)	18-20	1/2 in to 3/4 in	18	1 in or 1-1/2 in
Calves (300-700 lbs)	16-18	1/2 in to 3/4 in	16-18	1 in or 1-1/2 in
Calves & Dairy Cattle (<700 lbs)	16-18	1/2 in to 3/4 in	16	1 in or 1-1/2 in
Sheep and Goats	18-20	1/2 in to 3/4 in	18-20	1 in
Small Animals (all ages)	20-22	1/2 in	20-22	3/4 in or 5/8 in

Properly Store and Administer Animal Health Products
Study Questions

1. Name and define 11 terms found on a drug label.
2. When storing medication, the label states that it should be stored at 36° F in a dark place. Where should you keep it?
3. Name all of the people involved in helping care for your animals and should be aware of medication applications. Make a list, along with their phone numbers.
4. Find a sample of a medication label for your species of animal(s) and answer the following questions:
   a. What is the medication name?
   b. How is the medication administered (orally, topically, injection)?
   c. If it is by injection, what type of injection?
   d. Where on the animal(s) should the injection be given?
   e. How much should you give a 100 pound pig, an 80 pound lamb, a 700 pound steer, etc.?
   f. Is there a withdrawal time, and if so, what is it?
   g. What are the storage instructions?
5. Pertaining to recordkeeping, how can you use drug inventory and usage records to review your animal's, herd's, or flock's health?
6. Fill in the blanks: Extra-label drug use in _____ is NOT an option; it is _____.
7. Name five ways to give injectable medications to your animal and give an example of each.
8. What are sharps?
9. What is the proper way to dispose of sharps?
10. Name three things to remember about appropriately using a needle.

Assuring Quality Care for Animals

Youth Food Animal Quality Assurance Curriculum Guide

GPP #5: Follow Proper Feed Processing Protocols

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Introduction

Assuring Quality Care for Animals is a complement to the *Youth Food Animal Quality Assurance Curriculum Guide* reflecting the changes in the Good Production Practices. PowerPoint presentations complement each section to assist with instruction.

Using information in this resource should help youth understand how to provide a safe, wholesome food animal product preferred by consumers.

Note – this curriculum alone does NOT certify youth for state-mandated quality assurance training. A County Coordinator or Assistant Instructor must certify youth.

Additional resources and templates referenced in this document may be found at: https://www.pork.org/pqa-plus-certification/

GPP #5
Follow Proper Feed Processing Protocols

Protecting the health of an animal and the quality of consumer products starts with selecting and feeding high quality feeds. What an animal eats will affect growth, health, economic return and food safety. Accidental contamination or mistakes made while mixing feeds can cause health problems in animals. These contaminants could also be found in the meat, milk, or egg products, thereby exposing the chemical to consumers.

Only purchase feed with a Guaranteed Analysis listed on the feed tag. For ruminants (beef, dairy, sheep and goats), ruminant-derived protein feeds are NOT allowed to be fed under current federal law. Obtain a Feed Suppliers Confirmation Form, which is a form from your feed supplier that says no ruminant proteins are in the product you will be feeding. Keep this form on file in case you need it.

To produce a high quality product and prevent contamination, proper feed processing and feeding practices should be followed. It is important for youth to have an awareness of proper hygiene when handling feed, techniques for mixing and using both medicated and non-medicated feeds; proper labeling, and recordkeeping practices.

Learning Objectives

Upon completing this lesson, youth should be able to

1. Know the proper feed processing protocols.

Key Terms

Current Good Manufacturing Practices (cGMPs). A set of guidelines for processing medicated feed

Non-Medicated cGMPs. Practices for non-medicated feed

Medicated cGMPs. Practices for medicated feed

Medicated Feed and Current Good Manufacturing Practices (cGMPs)

1. A set of guidelines for processing medicated feed, referred to as current Good Manufacturing Practices (cGMPs), is designed to (1) prevent feed contamination and (2) to provide reasonable assurance the medicated feed is manufactured accurately.
2. The cGMPs must be followed to help ensure safe, wholesome meat for human consumption.
3. Current Good Manufacturing Practices provide standards for
   a. Buildings and grounds
   b. Equipment
   c. Workspace and storage areas
   d. Product quality assurance
   e. Labeling
   f. Recordkeeping
4. Each standard is set to assure the medicated feed products are suitable for feeding livestock intended for human consumption.

Non-Medicated cGMPs

1. *Buildings and Grounds*
   a. Prevent accumulation of dust that could contaminate finished feeds and present a fire hazard.
   b. Construct premises to ensure access to preventative maintenance ease of operation, maintenance, cleaning, pest control and minimize feed contamination.
   c. Ensure adequate space exists for equipment, processing and storing of feeds.
   d. Employ inspection and control procedures to secure compliance with required standards for production, storage and transport of feed and feed ingredients.

2. *Equipment*
   a. Check equipment to be sure it can produce feeds of intended nutritional levels, safety and purity.
   b. Clean up spills, fix leaks in equipment and prevent build-up of feed ingredients.
   c. Check scales to ensure they are accurate and functioning properly.
      1. Weigh feed properly and record on a clipboard.
      2. Put this information into records on the computer or all kept in one secure location.
   d. Avoid contamination of equipment used to transport/store water.
   e. Do not reuse bags used as packaging unless cleaned using appropriate and documented procedures.
   f. Clean feed mixing and handling equipment between medicated and non-medicated feed usage.

g. Minimize the potential for cross-contamination of feed during mixing.
h. Minimize biological, chemical and physical risks by observing good animal feeding practices.

3. *Workspace and Storage*
   a. Design workspaces and storage areas to avoid accidental contamination of feed.
   b. If mixing medicated and non-medicated feeds at the same location, ensure that non-medicated feed work areas, equipment and storage areas are physically separated from medicated feed work areas.
   c. Keep feed work areas separated from equipment or storage used for herbicides, pesticides, fertilizers and ingredients not intended for inclusion in feeds.
   d. Properly label and store agricultural chemicals separately from feed mixing, feed storage, feed areas and feed ingredients.
   e. Store processed feed/feed ingredients separately from unprocessed feed ingredients.
   f. Utilize precautions to minimize spoilage and condensation and limit fungal and bacterial growth.
   h. Utilize pest control programs.

4. *Quality Control*
   a. Collect and test feed samples for composition and consistency. Consult with your feed supplier to administer these tests.
   b. Establish equipment cleanout procedures to prevent unsafe cross contamination of feeds or carryover of medicated feed products.
   c. Use pathogen-control procedures where appropriate.
   d. Provide correct feed to the right animal group, and follow directions for use.
   e. Water should meet hygienic standards.
   f. Avoid contamination of equipment, feed and feed ingredients when disposing of sewage, other waste and rainwater.
   g. Use appropriate feed hauling containers when going to a show.
      1. Make sure container is free of residue.
      2. Do not use an old feed sack.
   h. Feed contaminated with undesirable substances should be clearly marked, not used, and discarded appropriately.

5. *Labeling*
   a. Non-medicated feeds should have a different label than medicated feeds.
   b. All premixed feeds should have a label that identifies content and provides directions for proper use.
   c. Outdated labels and labels no longer used should be discarded promptly.

6. *Recordkeeping*
    a. Visually inspect received feed ingredients for quality or defects.
    b. Written records that contain the (1) delivery date, (2) method, (3) carrier and (4) any observations about color, weight or other quality measurements will be very useful if a question of feed quality or contamination is ever raised.
    c. Samples of ingredients and finished feeds should be taken, identified appropriately and stored for six months.
    d. Keep feed inventory records so you can both trace back and trace forward each batch of ingredients to the group of animals that consumed the feed.
    e. Maintain records regarding production, distribution and use of feed and feed ingredients.
    f. Voluntary recalls of feed/feed ingredients should be guided by FDA procedures or appropriate corrective actions.
    g. Keep feed records for one (1) year for swine, sheep, goats, and poultry; and two (2) years for beef and dairy after the animal(s) are marketed.

7. *Caretaker (youth exhibitor, parent, guardian, producer, etc.)*
    a. Observe proper hygiene to minimize potential hazards to food safety from feed.
    b. Provide training for all caretakers involved in manufacture, storing and handling of feed and feed ingredients.
        1. Document this training

Medicated cGMPs – Special Requirements

In addition to the cGMPs listed above for general feed manufacturing, there are special requirements for use when manufacturing medicated feeds. It is critical to follow these special requirements to ensure your animals receive proper dosages of medication and that proper withdrawal times are adhered to.

When manufacturing or mixing medicated feed, it is critical the feed contains the proper concentration of medication. Too low of a concentration may not have the desired effect on an animal. Too high of a concentration may cause negative health effects or excessive residues that last beyond the labeled withdrawal times.

Remember that extra-label use of medicated feeds is ILLEGAL, so it is important that your feeds are mixed properly and accurately.

Special Requirements

1. Medication
    a. Comply with federal residue levels for feed.
    b. Assess feed additives and veterinary drugs used in medicated feeds for safety.
    c. Identify animals receiving medicated feeds.
    d. It is imperative the required withdrawal time is followed for animals receiving medicated feeds!

2. Equipment
    a. Clean feed milling and handling equipment between medicated and non-medicated feed.
        1. Use a RED feed scoop for medicated feeds.
            a. The idea of "red" means to stop and think – "Is there medication in this feed?"
        2. Use a green feed scoop (or color other than red) for non-medicated feeds.
    b. Clean storage and feeding equipment used for medicated feed after use if a different feed is to be used next.

3. Workspace and Storage
    a. Ensure feed work areas, equipment and storage areas for animal drugs and manufactured feeds are physically separated from other work areas.
    b. Use inventory practices to minimize risk of contamination.

4. Quality Control
    a. Practice proper hygiene to reduce the risk of cross contamination of non-medicated feeds by medicated feeds.
    b. Train all caretakers to properly mix, handle and store feed to minimize possible cross contamination.
    c. Establish equipment cleanout procedures (includes storage containers, feed scoops and feeders) to prevent unsafe cross contamination of feeds, or carryover of medicated feed products.
    d. Ensure storage containers, scoops and feeders are free of contamination from medicated feeds and contaminated feeds.
    e. Provide the correct medicated feed to the right animal(s).
    f. Follow directions for use of the medicated feed.
    g. Clearly mark any medicated feed contaminated with undesirable substances, do not use and discard appropriately.
    h. Minimize the potential for cross-contamination of feed during mixing.
    i. Observe good animal feeding practices that minimize biological, chemical and physical risks.

5. Labeling
    a. Receive, handle and store medications and their labels in a way that prevents confusion.
    b. All medicated feeds should be labeled, describing the feed and providing instructions for use.
    c. Attach the correct label to all medicated feed containers you receive or store.
    d. The label should identify the product and contents, and provide directions about use and withdrawal times.
    e. Promptly discard obsolete labels.

6. Recordkeeping
    a. Visually inspect received feed ingredients for quality or defects.
    b. Keep written records that contain the delivery date, method, carrier and any observations about color, weight or other quality measurements.
        1. This is very useful should a question of feed quality or contamination ever arise.
    c. Keep written records of medicated feed production.
    d. Keep feed records for one (1) year for swine, sheep, goats, and poultry; and two (2) years for beef and dairy after the animals are marketed.
    e. Record any medicated feeds give to exhibition animals on your Drug Use Notification Form (DUNF)

Feed Additives

1. Substances added to feed rations to improve feed efficiency, promote growth or to prevent or treat disease.
    a. Accurately calculate dosage.
        1. Is each animal receiving the same dose?
        2. Calculate dosage for the average weight or average feed intake for the pen of animals according to the label.
    b. Read label carefully.
    c. For FDA-regulated feed additives answer the following
        1. Is the feed additive approved for the species?
        2. Is the feed additive approved at the level being fed?
        3. Can the feed additive be fed to label directions?
    d. For non-FDA-regulated feed additives
        1. What is the appropriate level to feed?
        2. Will too much feed additive have negative consequences?
        3. What information or data supports the claim of the product?
    e. Licenses veterinarians, feed manufacturers and producers may order, produce or use drugs in medicated feeds only if the following conditions are met
        1. The drug is approved by the Food and Drug Administration (FDA)
        2. The drug is used in the manner for which it was labeled and approved
        3. As provided by FDA feed mill license, where applicable
    f. Cautions
        1. Avoid top dressing additives unless specifically labeled.
        2. There can be TOO much of a good thing!
        3. Paylean®/Optablexx® (ractopamine)
            a. Do not restrict water access or intake.
            b. Follow appropriate label dosage.
            c. Only feed to FDA-approved species.
    g. Antimicrobial/Antibiotics
        1. Use preventive strategies, such as vaccinations and sanitation, to avoid overuse.
        2. Consider alternatives before using antimicrobial therapy.
        3. Limit treatment to ill or at-risk animals, treating the fewest animals possible.
        4. Provide following the label instructions.

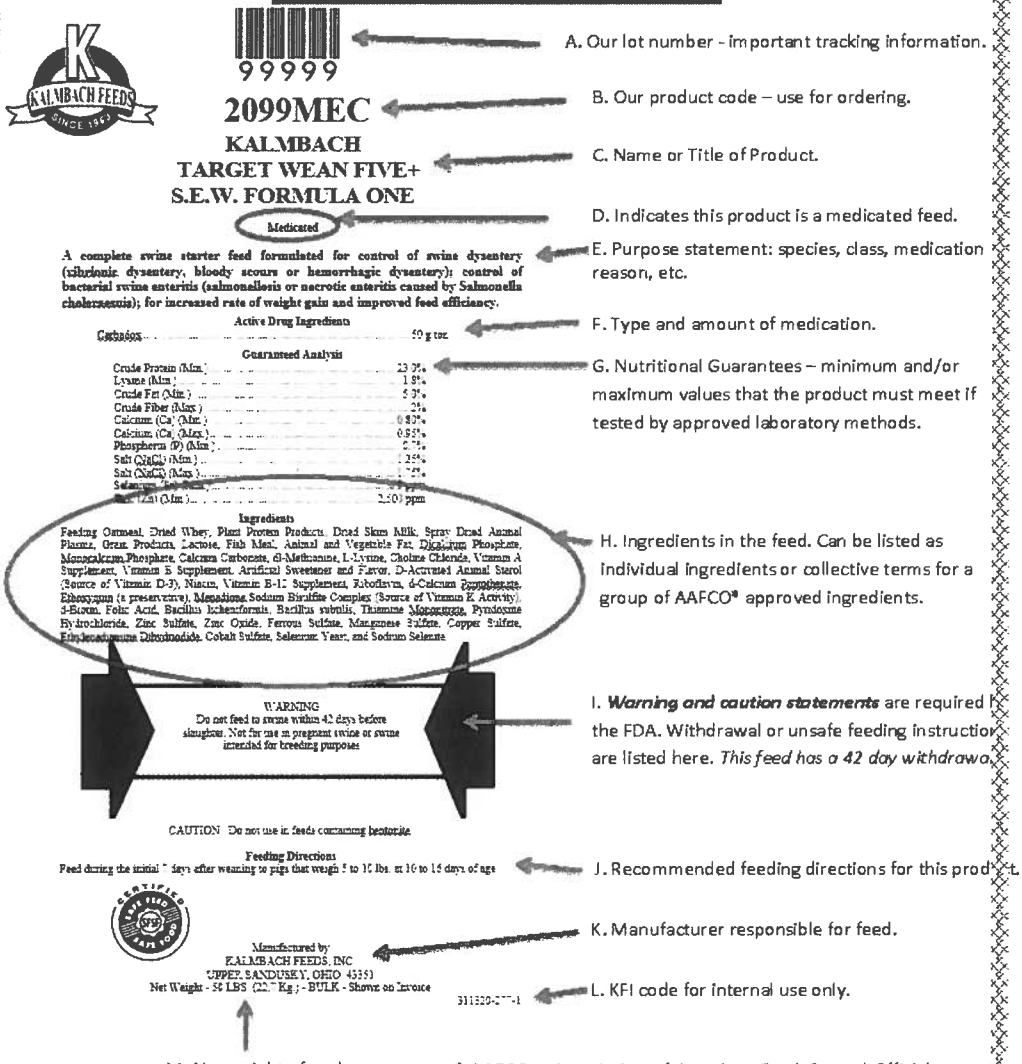
Reading a Feed Product Label

Feed labels are regulated by USDA unless medications are added. The FDA is the regulatory agency for medicated feed labels. Labels must appear on all commercial feeds and ingredients.

The feed label will be in this format:
Brand and/or Product Name
Intended Species and Production Phase
Medicated Statement – must appear below product name if medication is used, as well as a statement of purpose for the medication, which is followed by a listing of active ingredients with their amounts.
Guaranteed Analysis – required, followed by a listing of nutrient analyses required for the product and species; must list "not less than (minimum) or not more than (maximum)" depending on the nutrient
Ingredients – listing of each ingredient in order from highest to lowest concentration
Feeding Directions or Mixing Directions – instructions for feeding or mixing the product
Warning or Caution Statement – includes medication used and withdrawal time; provides instructions with statement
Manufacturer's Name and Address
Net Weight – indicates the weight of the product
Read the feed label before feeding your animals! Know the age and type of animal being fed and its nutrient needs, which may change throughout its life cycle. Look closely to see if there is an active drug ingredient and what the withdrawal time is.

Refer to the sample medicated feed tag on the next page.

Example 1 – Medicated Feed



A. Our lot number - important tracking information.

B. Our product code – use for ordering.

C. Name or Title of Product.

D. Indicates this product is a medicated feed.

E. Purpose statement: species, class, medication reason, etc.

F. Type and amount of medication.

G. Nutritional Guarantees – minimum and/or maximum values that the product must meet if tested by approved laboratory methods.

H. Ingredients in the feed. Can be listed as individual ingredients or collective terms for a group of AAFCO* approved ingredients.

I. ***Warning and caution statements*** are required by the FDA. Withdrawal or unsafe feeding instructions are listed here. *This feed has a 42 day withdrawal.*

J. Recommended feeding directions for this product.

K. Manufacturer responsible for feed.

L. KFI code for internal use only.

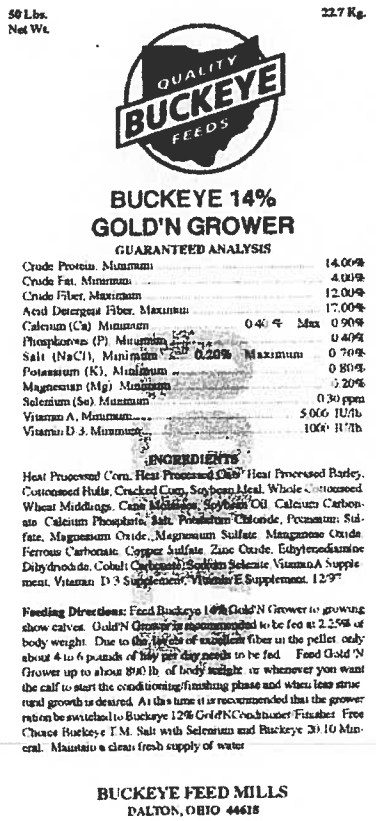
M. Net weight of package.

* **AAFCO** = Association of American Feed Control Officials. This organization sets standard guidelines for all feed companies to follow for labeling products.

Follow Proper Feed Processing Protocols
Study Questions

1. What are the set of guidelines or standards for processing medicated feed called?
2. Name the five categories current Good Manufacturing Practices (cGMPs) set standards for.
3. The goal of feed manufacturing is to produce feeds that _____. Name three.
4. Name three cGMPs, and tell how they can be done on your farm.
5. Name one cGMP that you hope to implement on your farm in 2015.
6. When mixing medicated feeds you can get one of three results. The medication level in the feed can be just right, too low, or too high. Name one possible result of a medication level being too high. Name one result of a medication level being too low.
7. Discuss why there are special requirements for use when manufacturing medicated feeds.
8. Name the nine (9) categories that must be listed on a medicated feed label.
9. What are two ways to identify you have the correct storage container that contains medicated feed?
10. Discuss why it is important to keep feed inventory records.

Non-Medicated Feed Label


50 Lbs.
Net Wt.

22.7 Kg.

QUALITY BUCKEYE FEEDS

BUCKEYE 14%
GOLD'N GROWER

GUARANTEED ANALYSIS

Crude Protein, Minimum			14.00%
Crude Fat, Minimum			4.00%
Crude Fiber, Maximum			12.00%
Acid Detergent Fiber, Maximum			17.00%
Calcium (Ca) Minimum	0.40%	Max	0.90%
Phosphorus (P) Minimum			0.40%
Salt (NaCl), Minimum	0.20%	Maximum	0.70%
Potassium (K), Minimum			0.80%
Magnesium (Mg) Minimum			0.20%
Selenium (Se) Maximum			0.30 ppm
Vitamin A, Minimum			5,000 IU/lb
Vitamin D-3, Minimum			1000 IU/lb

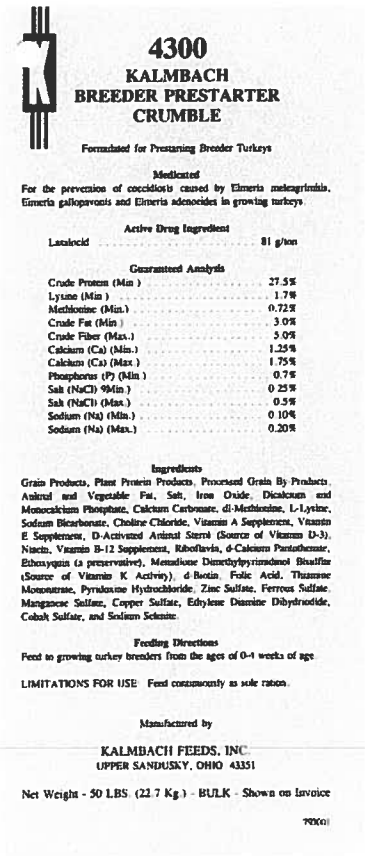
INGREDIENTS

Heat Processed Corn, Heat Processed Oats, Heat Processed Barley, Cottonseed Hulls, Cracked Corn, Soybean Meal, Whole Cottonseed, Wheat Middings, Cane Molasses, Soybean Oil, Calcium Carbonate, Calcium Phosphate, Salt, Potassium Chloride, Potassium Sulfate, Magnesium Oxide, Magnesium Sulfate, Manganese Oxide, Ferrous Carbonate, Copper Sulfate, Zinc Oxide, Ethylenediamine Dihydriodide, Cobalt Carbonate, Sodium Selenate, Vitamin A Supplement, Vitamin D-3 Supplement, Vitamin E Supplement, 12/97

Feeding Directions: Feed Buckeye 14% Gold'N Grower to growing show calves. Gold'N Grower is recommended to be fed at 2.25% of body weight. Due to the levels of roughage fiber in the pellet only about 4 to 6 pounds of hay per day needs to be fed. Feed Gold'N Grower up to about 800 lb. of body weight or whenever you want the calf to start the conditioning/finishing phase and when less structural growth is desired. At this time it is recommended that the grower ration be switched to Buckeye 12% Gold'N Conditioner Finisher. Free Choice Buckeye T.M. Salt with Selenium and Buckeye 20/10 Mineral. Maintain a clean fresh supply of water

BUCKEYE FEED MILLS
DALTON, OHIO 44618

Medicated Feed Label


4300
KALMBACH
BREEDER PRESTARTER
CRUMBLE

Formulated for Prestarting Breeder Turkeys

Medicated

For the prevention of coccidiosis caused by Eimeria meleagrimitis, Eimeria gallopavonis and Eimeria adenoeides in growing turkeys.

Active Drug Ingredient

Lasalocid	81 g/ton

Guaranteed Analysis

Crude Protein (Min.)	27.5%
Lysine (Min.)	1.7%
Methionine (Min.)	0.72%
Crude Fat (Min.)	3.0%
Crude Fiber (Max.)	5.0%
Calcium (Ca) (Min.)	1.25%
Calcium (Ca) (Max.)	1.75%
Phosphorus (P) (Min.)	0.7%
Salt (NaCl) 9Min.)	0.25%
Salt (NaCl) (Max.)	0.5%
Sodium (Na) (Min.)	0.10%
Sodium (Na) (Max.)	0.20%

Ingredients

Grain Products, Plant Protein Products, Processed Grain By-Products, Animal and Vegetable Fat, Salt, Iron Oxide, Dicalcium and Monocalcium Phosphate, Calcium Carbonate, dl-Methionine, L-Lysine, Sodium Bicarbonate, Choline Chloride, Vitamin A Supplement, Vitamin E Supplement, D-Activated Animal Sterol (Source of Vitamin D-3), Niacin, Vitamin B-12 Supplement, Riboflavin, d-Calcium Pantothenate, Ethoxyquin (a preservative), Menadione Dimethylpyrimidinol Bisulfite (Source of Vitamin K Activity), d-Biotin, Folic Acid, Thiamine Mononitrate, Pyridoxine Hydrochloride, Zinc Sulfate, Ferrous Sulfate, Manganese Sulfate, Copper Sulfate, Ethylene Diamine Dihydriodide, Cobalt Sulfate, and Sodium Selenite.

Feeding Directions

Feed to growing turkey breeders from the ages of 0-4 weeks of age.

LIMITATIONS FOR USE: Feed continuously as sole ration.

Manufactured by

KALMBACH FEEDS, INC.
UPPER SANDUSKY, OHIO 43351

Net Weight - 50 LBS. (22.7 Kg.) - BULK - Shown on Invoice

Assuring Quality Care for Animals

Youth Food Animal Quality Assurance Curriculum Guide

GPP #6: Establish Effective Animal Identification, Medication Records and Withdrawal Times

go.osu.edu/AQCA

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Introduction

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GPP#6

Establish Effective Animal Identification, Medication Records and Withdrawal Times

Record keeping is a management tool that has become increasingly important. It is the first and most reliable method of disease surveillance for the food animal industry. Consumers gain confidence in their food supply when food animal producers document management practices that provide a safe and wholesome food supply. This process begins with identifying all animals. Youth exhibitors who show sheep and goats are required by law to identify their animals. Pending laws will require all food animals and poultry flocks to have identification.

KEY TERMS:

Animal ID Plan
Premises Identification
Animal Identification
Animal Tracing
Ear Notches
Tattoos
Ear Tags
Medication Records
Withdrawal Times

✓ ANIMAL IDENTIFICATION

Methods of identification vary from species to species depending on the goals of the producer. Identification can be as simple as a photograph or paint brand, or as detailed as an electronic identification (EID) tag, retinal scan, iris scan, nose print or DNA sample (blood or hair follicle). Some identification methods are permanent, while some are a temporary form of identification. If an animal is registered through a breed association a more permanent form of identification may be required such as an ear notch, tattoo, retinal scan, or DNA sample (blood or hair follicle).

✓ IDENTIFICATION METHODS

Identification allows for enhanced management practices and performance measurements to be collected and easily analyzed. The most efficient identification systems allow an animal to be tracked from birth through harvest. This could eventually become a requirement as consumer groups demand traceability in the food chain. They also allow all health practices performed and movements from location to location to be easily tracked. Refer to **Table 1.1**: Identification Methods

- **NATIONAL IDENTIFICATION PROGRAM RESOURCES**
  Mandatory identification of livestock is not required in all species of food animals at this time except sheep and goats. To keep updated on the national identification progress visit the following websites.
  - USDA National Animal Identification System (NAIS): **http://www.aphis.usda.gov/traceability/**
  - Ohio: ***http://www.agri.ohio.gov/animalid/***

- **PREMISES IDENTIFICATION**
  Premises identification is the process of registering a location where food animals are raised, housed or pass through during commerce. Once registered, a standardized Premises Identification Number (PIN) is assigned by the U.S. Department of Agriculture which consists of seven alphanumeric characters with the right-most character begin a check digit. This standardized PIN differs from the state-assigned Location Identification Number. ***During natural or animal disease disasters Premises Identification Numbers will support:***
  - *Faster traceback capabilities during disease outbreaks*
  - *Faster determination of the extent of an outbreak*
  - *Faster implementation of disease control measures*
  - *Business planning to diminish any effects of a disease outbreak*
  - *Better communications to producers in areas affected by disasters*

- **SCRAPIE IDENTIFICATION FOR SHEEP AND GOATS**
  - ***What animals must have a Scrapie identification tag?***
    All intact sheep and goats, including lambs and kids moving within Ohio for exhibition, must be identified with an official USDA approved ear tag or tattoo when they leave the farm to go to an exhibition. In addition, all sheep and goats (including wethers) must be identified with an official USDA approved ear tag or tattoo and have a Certificate of Veterinary Inspection (CVI) if they are purchased outside of Ohio and enter Ohio to be used for exhibition or breeding purposes.

  - ***What is an official USDA Scrapie identification?***
    The types of identifications permitted for the Scrapie program are:
    - USDA provided ear tags
    - USDA approved ear tags
    - USDA assigned tattoos
    - Registration tattoos and microchips when accompanied by a registration certificate
    - Scrapie Certification Program approved ID

  - ***What type of records do I need to keep?***
    Make sure all ewes, ewe lambs, rams, ram lambs, goat bucks, does and kids are identified by the breeder when you purchase them. A producer or youth exhibitor is required to keep the following records for a minimum of 5 years:
    - Name and address of breeder or producer along with the official USDA Identification on all sheep and goats purchased
    - Name and address of the buyer along with the official USDA Identification of all sheep and goats you sell (except wethers to an Ohio resident)

DO NOT remove ear tags. IT IS A FEDERAL OFFENSE TO REMOVE ANY USDA TAGS.

Additional resources:

- http://www.aphis.usda.gov/animal_health/animal_diseases/scrapie/
- http://www.aphis.usda.gov/animal_health/animal_diseases/scrapie/approved-tag-co.shtml
- Ohio APHIS Department: 614-469-5602

TABLE 1: CHART OF IDENTIFICATION METHODS

Method	Species	Location	Advantages	Disadvantages
Branding	Cattle	Hip, Rib, Shoulder	Permanent; individual Animal ID; freeze brands do NOT affect hide quality	Hot brands damage hide; often is a farm ID instead of individual
DNA	All	Hair, Feathers, Blood	Permanent; unique to each individual	Expensive; not a visible ID tool
Ear Notch	Sheep, Swine	Ear	Permanent; individual animal ID; easy to read with practice	Not visible from a distance; can be mistaken for rips or tears in the ear
Ear Tags	Cattle, Goats, Sheep, Swine	Ear	Easily read from a distance; used for daily management; inexpensive	Easily ripped from the ear leaving no ID in/on the animal
Electronic (EID)/Radio Frequency ID (RFID)	Cattle, Goats, Sheep, Swine	Ear, Rumen, Implant	Individual ID; not easily tamperable; computer management friendly	Expensive; requires electronic readers and equipment; not easily read from a distance
Neck Chains/Leg Bands	Dairy Cattle, Poultry	Rear Pastern- Dairy, Leg - Poultry	Easily visible; used for daily management; inexpensive; easy to apply	May be lost or ripped away from animal leaving no ID
Nose Print	Cattle, Sheep	NA	Unique individual ID; similar to fingerprint; livestock show uses	Not readily available for daily management

Method	Species	Location	Advantages	Disadvantages
Paint Brand	Sheep, Swine	Anywhere	Easily visible from a distance; easily applied; short term ID	Not permanent; easily washed or wiped off
Photo/ Drawing	Dairy Cattle, Goats	NA	Used for registration on colored breeds; displays exact markings	Not useful with animals without distinct markings
Retinal Scanning	All	Eye	Permanent; unique to each animal	Expensive; not readily available; not a visible form of ID
Tattoo	Cattle, Goats, Rabbits, Sheep, Swine	Ear	Permanent; not easily altered	Not visible from a distance; readily depends on application technique
Wing Bands	Poultry	Wing	Relatively permanent	Not easily visible from a distance

ANIMAL TRACING

MEDICATION AND TREATMENT RECORDS

All food animal producers are required to keep medication and treatment records according to FDA Compliance Policy Guide, "Proper Drug Use and Residue Avoidance by Non-veterinarians" (CPG 7125.37). All youth exhibitors in Ohio must fill out a Drug Use Notification Form (DUNF) before exhibiting an animal at a fair.

What should be included in a treatment record?

- ✓ Individual animal identification or identification of groups/pens of animals if all treated
- ✓ Date treated
- ✓ Name of product administered
- ✓ Amount of drug administered (dosage)
- ✓ Route and location of administration
- ✓ Withdrawal period
- ✓ Earliest date the animal(s) will have cleared the withdrawal period
- ✓ Identity of the person who administered the product

What treatment records should be kept and where can they be found?

- ✓ Drug Use Notification Form (DUNF)
  - o Must be filled out for every animal exhibited in Ohio
  - o Can be obtained from county Extension office or fair veterinarian
  - o Official records at fair office ordered from Ohio Department of Agriculture
- ✓ Individual Animal or Pen Treatment Record
  - o Project Record Books
  - o Resource Handbooks
  - o Youth PQA Plus Manual
- ✓ Ohio Beef Quality Assurance Manual
- ✓ Create your own making sure that you have the specified criteria mentioned above
- ✓ Farm Medication Plan
  - o Youth PQA Plus Manual
- ✓ Feed Mixing Records
  - o PQA Plus Manual

How can minimum withdrawal time be determined for a product?

For complete information on all animal health products approved for use in food animals visit the Food and Drug Administration's (FDA) website at ***www.fda.gov/cvm***. More details are provided in **GPP #6**.

IDENTIFICATION AND MEDICATION RECORDS

How long should an exhibitor keep records on his/her animals?
Youth exhibitors are required by Ohio Law to keep records for 1 year. Sheep/Goat exhibitors are required by federal law to keep records for 5 years.

Recommendations for the different species are:

Species	Year(s)
Swine, Poultry, Rabbits	1
Beef, Dairy Beef	2
Sheep, Goats	5
Dairy Cows and Heifers	5

WITHDRAWAL TIME

- ✓ This is the period of time that must pass between the last medication treatment and the time the animal will be harvested or that milk or egg products could be used for human consumption.
- ✓ Follow withdrawal time directions on the label or as prescribed by your veterinarian.
- ✓ To avoid violations:
  - Do not market animals for food until the withdrawal time listed on the label or as prescribed by the veterinarian has elapsed.
  - Use only medications approved for the species being treated and do exactly as the label directs or as prescribed by the veterinarian.
  - If ever in doubt, rely on the Veterinarian/Client/Patient Relationship established with the veterinarian. Consult them with questions and concerns.
  - If in doubt, conduct a drug residue test.
- ✓ Calculating withdrawal times for meat and lactating animals.
  - **MEAT**: Animals harvested as soon as the withdrawal time is complete.
  - **LACTATING**: Milk from the first milking after completions of the withdrawal time must be discarded. Even though the withdrawal time may have been complete at the time of the first milking, there is no way to separate the milk that was produced before and after the withdrawal time was complete; therefore, all the milk from the first milking must be treated as having a drug residue. At the next milking, all the milk produced by the animal will have cleared the withdrawal period and is considered acceptable.

MEDICATION INFORMATION

Some products are not compatible when administered or mixed with others. This can affect the product's efficacy, the withdrawal time prior to market and/or cause the animal welfare concerns from product reactions and muscle scarring. You should never combine medications in the same syringes or in the drinking water. Remember, it is illegal for anyone, even a veterinarian, to mix or use feed medications other than according to labeled directions. Mixing together injectable or water medications, including antibiotics, by producers is illegal.

Assuring Quality Care for Animals

Youth Food Animal Quality Assurance Curriculum Guide

GPP #7

Practice Good Environmental Stewardship

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GPP #7
Practice Good Environmental Stewardship

Environmental stewardship requires constant attention, commitment and follow-through with regards to good environmental management practices. Good environmental management practices help protect our natural resources. They also help all producers, including youth producers, be good stewards of the environment and good neighbors in our communities. The goal of environmental stewardship is to protect our natural resources (water, air and land) in all of our production practices.

Environmental conservation is in the long-term interest of all producers, the livestock industries, and the nation. Producers are committed to protecting their local environment for their families, neighbors, and communities. Good stewardship means good business.

Learning Objectives
Upon completing this lesson, youth should be able to
1. Use management practices to protect our natural resources (water, air and land).

Key Terms
Stewardship. The act of caring for or improving over time
Good Environmental Livestock Production Practices (GELPPs)
Good Neighbor
Nutrient Management Plan (NMP)
Emergency Action Plan (EAP)
Inspection
Manure Management

What does it mean to be a Good Neighbor?

A good neighbor

1. Follows laws and regulations in their county.
2. Minimizes odor, dust, and noise.
3. Protects the environment.
4. Takes proper care of livestock.
5. Explains what they do in their operation and why,
6. Helps consumers appreciate food production.
7. Assists neighbors in need and asks for help when they are in need.

Environmental Management Practices

1. General Site Conditions
2. Buildings
3. Manure Management
4. Emergency Action Plan (EAP)
5. Inspection

1. *General Site Conditions*
   a. The production site, including manure storage and mortality removal methods, should be set back an appropriate distance from environmental receptors such as (1) surface water streams, (2) rivers and lakes, (3) drainage well intakes, (4) sinkholes, and (5) drinking water wells.
   b. The production site, including manure storage and mortality removal methods, should be located outside of a flood plain (25-year) or otherwise equipped with flood prevention controls. State/local regulations may prescribe more stringent flood plain restrictions (50- or 100-year) that an operation must meet.
   c. The production site, including manure storage and mortality removal methods, should be maintained to prevent "clean" run-on water from entering the production site and mixing with manure. Surface flow or storm water that has come into contact with manure should be contained and land-applied according to a nutrient management plan.
   d. The production site should be maintained to minimize erosion or ponding of water and vegetative areas mowed and trimmed.
   e. Spilled manure and feed should be cleaned up in a timely manner.
   f. Insect and rodent populations should be controlled inside and outside the buildings and at mortality storage/compost sites.

2. *Buildings*
   a. Drinking water and cooling systems should be routinely checked and maintained free of leaks.
   b. Pens, service aisles, travel lanes and feed alleys should be free of excessive manure or spilled feed.
   c. Building ventilation systems should be maintained in good working order and free of excessive dust buildup.

d. Trash, animal health consumables, and needles should not intentionally be disposed of in under-building manure pits.

3. *Manure Management*
   a. Each state has different nutrient management requirements that producers should follow on their farm.
   b. Manure storage systems should be sized to contain the anticipated manure generation from the maximum number of animals that could be housed at the operation for the time periods between manure removal set forth in the operation's Nutrient Management Plan (NMP).

4. *Emergency Action Plan (EAP)*
   a. Emergency contact phone numbers should be posted near telephones, the entrance gate and/or outside the buildings.
   b. An EAP should be created for each individual site. Once the plan is completed, each site should have a copy available in case of an emergency. The information should be shared with all people/employees to ensure best execution of the EAP.
   c. The EAP templates include (1) Operation Information: (2) Site Contacts Plan; (3) Hazard Plan; and (4) Maintenance/Training Center. These templates are included in this document. They can also be downloaded from http://eap.pork.org.

5. *Inspection*
   a. A thorough inspection of the production site, including manure storage and mortality removal methods, should be conducted at a frequency that allows timely corrective action of problems that may be observed. The inspection should be conducted no less frequently than once a month.
      1. Production buildings should be inspected at least weekly.
      2. Situations may arise when a more frequent inspection schedule may need to be temporarily implemented. For example, lagoons should always be inspected immediately following a significant 24-hour precipitation event or during a period of extended precipitation.
   b. It is recommended that inspection checklists be developed for the facility and that it be used to document each facility inspection.
   c. Daily, weekly, and monthly inspections should include:
      1. Manure storage and disposal method
      2. Insect and rodent population control method
      3. Drinking water and cooling
      4. Pens, alleys, and facilities free of excessive manure
      5. Fencing
      6. Building ventilation system – temperature, odor, dust
      7. Disposal of animal health products method
      8. Cooling and heating systems
      9. Proper shelter – shade
      10. Emergency contact list

Summary

Consider implementing a few basic environmental practices to be good environmental stewards (from which the inspection checklist should be developed):

1. Proper manure storage and disposal
2. Spilled feed in the manure should be cleaned up in a timely manner
3. Control insect and rodent populations
4. Drinking water and cooling systems should be routinely checked
5. Pens, alleys, and facilities should be free of excessive manure (proper drainage)
6. Fencing
7. Building ventilation systems (proper temperature, odor, and dust)
8. Cooling and heating systems
9. Proper shelter (i.e. shade)
10. Emergency contact list

Practice Good Environmental Stewardship
Study Questions

1. Define environmental stewardship.
2. Why is it important to practice good environmental stewardship?
3. What does it mean to be a good neighbor? List the seven characteristics.
4. Identify three examples of good management practices for each of the following: General Site Conditions; Buildings; Manure Management; and Inspection.
5. What are the 10 items daily, weekly, monthly inspections should include?
6. What four areas should be included in an Emergency Action Plan (EAP)?

Source: *Youth Pork Quality Assurance Plus Handbook*, National Pork Board, 2014
November 1, 2015

Assuring Quality Care for Animals

Youth Food Animal Quality Assurance Curriculum Guide

GPP #8

Maintain Proper Workplace Safety

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Introduction

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Using information in this resource should help youth understand how to provide a safe, wholesome food animal product preferred by consumers.

Note – this curriculum alone does NOT certify youth for state-mandated quality assurance training. A County Coordinator or Assistant Instructor must certify youth.

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GPP #7
Maintain Proper Workplace Safety

You and your family are obligated to provide a work environment that promotes the health and safety of caretakers, those who are watching after and caring for your animals. Safety is everyone's responsibility including exhibitors, family members, friends, and so on. If any one person does not take a personal responsibility for working in and maintaining a safe work area, that person puts himself/herself and others at risk.

Learning Objectives
Upon completing this lesson, youth should be able to
1. Use practices that promote health and safety of all caretakers

Key Terms
Safety
Personal protective equipment (PPE)
Hazards
Emergency Action Plan (EAP)
Respiratory health
Electrical safety
Personal hygiene
Safe animal handling

Safety
The safety responsibilities of all people working in the barns include:
1. Know which jobs have high accident and injury risk.
2. Understand safety practices.

3. Know what to do to reduce injury risk.
4. Use safe animal handling practices.
5. Properly use safety equipment, safety devices and personal protective equipment (PPE).
6. Report unsafe acts and housing hazards, accidents, near-accidents, injuries and illnesses immediately.

Youth owners and caretakers are responsible for all aspects of safety including:
1. Assigning responsibility
2. Conducting safety assessments
3. Defining hazard risks for all activities
4. Sourcing and allocating resources to ensure safety in all operational activities
5. Measuring progress and evaluating performance of safety and environmental management.
6. Reviewing all program components and making adjustments.

Youth owners and caretakers will:
1. Ensure appropriate resources are utilized to eliminate/reduce hazards.
2. Ensure that show goals do not alter or suspend proper safety procedures at any time.
3. Encourage and support caretakers to reinforce the importance of their safe actions.
4. Observe the housing area to detect and correct potential problem areas.
5. Initiate corrective action immediately.
6. Stop activities being performed unsafely, and correct the conditions before continuing the work.
7. Ensure all caretakers are trained in proper job procedures, including safety precautions.
8. Actively and promptly investigate all activities to determine the root cause of the incident.
9. Ensure all care takers follow the instructions and guidelines.

Controlling Hazards

Controlling exposures to hazards is the fundamental method of protecting caretakers. The basic strategies for controlling workplace hazards, in order of preference per OSHA guidelines, include:
1. Eliminating the hazard from the method, material, facility or machine.
2. Lessening the hazard by limiting exposure or controlling it at its source.
3. Training personnel to be aware of the hazard and to follow safe work procedures to avoid it.
4. Prescribing personal protective equipment (PPE) for protecting caretakers against the hazard.

These four controls are crucial to a safe, healthful workplace for all caretakers because they make it more difficult for accidents to occur and for work-related health problems to develop.

Emergency Action Plan (EAP)

An emergency action plan (EAP) will prepare producers to take immediate action when someone is hurt, a fire starts or tornadoes are threatening. In an emergency, time cannot be wasted. It could be the different between life and death. Each farm should have caretakers trained in first aid who can provide immediate care. Producers and caretakers should be

encouraged to take classes in first aid and CPR-AED such as those taught by the American Red Cross and other groups. All caretakers must be familiar with emergency procedures for the operation.

An EAP covers (1) who to notify in case of an emergency, (2) what your need to say to them, and (3) what actions to take. An EAP includes:

1. The Farm Emergency Information Sheet listing who to call, what to say, and what steps to follow in case of an emergency
2. Directions to the facility
3. People at the farm who are trained in first aid
4. Where first aid kits, fire extinguishers and alarms are located
5. The evacuation plan, which indicates how to exit each building, as well as wher to meet once you have exited.
6. The emergency farm map, which includes:
   - Building layout
   - Location of emergency exits
   - Location of fire extinguishers
   - Location of tornado shelter areas
   - Hazard locations
   - Animal numbers per barn
7. Emergency contact information outside the building for caretakers or neighbors to use if they notice something is wrong

If someone is injured in an accident and needs immediate help:

1. Make sure the injured individual is cared for immediately by a person trained in first aid.
2. Without putting yourself in danger, stabilize the accident scene if the hazard still exists. By doing this, you can prevent further danger to the injured person or others.
3. Notify the appropriate contact listed on the Farm Emergency Information Sheet.
4. Notify an adult that an accident has occurred. He or she shall judge the extent of the accident scene to be controlled.
5. Follow the farm procedures for accident investigation.

If a fire starts:

1. Rescue or remove everyone in immediate danger.
2. Sound the fire alarm.
3. If the fire is small, confine fire and smoke by closing all windows and doors in the area. Extinguish small fires with a portable fire extinguisher. Never use water on an electrical fire.
4. If the fire is too large, call the fire department, then evacuate the building.
5. Once outside the building, go immediately to the designated meeting place. Do not go back in!

If a tornado warning is sounded:

1. Go to the designated tornado shelter, which will be an interior area of the building that is structurally sound without outside windows or skylights. Examples are showers and utility rooms.
2. Stay away from windows, but stay inside the building. A diagram with shelter assignments should be posted so people will know where they should go to seek shelter.

There is a potential when mixing and removing manure from pits that a hazardous gas called hydrogen sulfide could be released into the building above the pit. Hydrogen sulfide is very dangerous. Do not enter buildings while manure is being agitated and removed.

If people or animals are unconscious when manure is being agitated or removed, you must not enter the room. You can lose consciousness quickly! If people or animals are down, contact emergency medical services as outlined in the EAP, and start emergency ventilation.

Every county in the United States has an emergency coordinator who is responsible for responding to all emergencies at the county level. Sharing your emergency plan with the county coordinator and including them in your plan will be helpful when responding to emergencies in the future. The EAP templates include (1) Operation Information: (2) Site Contacts Plan; (3) Hazard Plan; and (4) Maintenance/Training Center. These templates are included in this document. They can also be downloaded from http://eap.pork.org.

Fire Prevention and Safety

Good housekeeping helps prevent fires. Remove weeds and brush from all sides of the buildings. Keep work areas clean and clutter free. Make sure all stairs, aisles and exits are free of obstructions. Keep flammable liquids in labeled fireproof containers.

Report any observed fire hazards to an adult immediately. Electrical motors and appliances are a significant source of fire hazards. Check each regularly for exposed wiring, broken insulation, improper grounding and improper installation.

If caretakers smoke, they should do so only in designated areas. Never smoke in areas where flammable and combustible materials are stored. Make sure flammable substances are kept in fireproof containers, properly labeled and stored in safety cabinets approved for flammable materials.

Hearing Health and Safety

Working on farms will be noisy at times. When people are exposed to high noise levels for a number of years without taking precautions, they can suffer hearing loss. This type of hearing loss is irreversible and cannot be restored.

Noise levels in swine barns, especially, can reach damaging levels. Noise levels in poultry barns may also be high. Wear hearing protection while conducting these tasks if you are in any of these working environments:

1. Feeding animals in breeding, gestation and farrowing barns
2. Power washing
3. Processing piglets
4. Treating and vaccinating animals
5. Bleeding animals
6. Sorting animals
7. Moving animals
8. Loading animals
9. Pregnancy checking in breeding barns
10. Artificially inseminating sows and gilts in breeding barns
11. Working around aeration fans for grain bins
12. Feed processing

Personal Protective Safety Equipment (PPE)

Personal protective safety equipment (PPE) can help you do your job safely. PPE is designed to protect you from loud noises, dust, chemicals, and other substances that can harm your health. When using PPE, you should wear the equipment for the entire time you are working on the task requiring it. If you remove PPE while performing a task, you will not be adequately protected. Know how to correctly wear the PPE and make sure it fits properly to prevent injuries. Keep you PPE clean and in good shape, and check it for damage each time you wear it.

Store your PPE in proper storage location when you are done using it. Never store PEP in areas with chemicals that are being used or stored. Always wear the correct protective clothing and equipment for the job.

Respiratory Health and Safety

Varying levels of dust are commonly found buildings where animals are housed. Short-term inhalation of very small amounts of dust alone is not necessarily harmful. Long-term, continuous exposure to dust may result in respiratory problems.

Inhalation of the fungus *Hisoplasma capsulatum*, a fungus thriving in damp soil rich in organic material, and particularly common in poultry coops and old barns (and where bats live), can cause Histoplasmosis. This is a non-contagious disease. The chance of developing symptoms increases with the number of spores inhaled. The mildest forms of Hisoplasmosis produce no signs or symptoms; however the severe form, Disseminated Histoplasmosis, is usually fatal if untreated.

Dust masks help block the entry of dust and spores into the lungs and may reduce your risk of respiratory problems or exposure to the fungus causing Histoplasmosis.

Electrical Safety

Accidental contact with electrical currents can cause injury, fire, extensive damage and even death. Do not perform any electrical work unless you have been trained and authorized to do electrical work.

Electrical accidents can be prevented by taking the appropriate precautions including:

1. Ensure that electrical outlets and plugs are in good condition.
2. Make sure electrical power cord insulation is not cracked, kinked, broken or the cord ends have loose connections or ground plugs removed.
3. Wear insulated footwear when working with electrical tools or appliances.
4. Do not overload an outlet.
5. Keep all electrical cords away from heat sources.
6. Ensure that the power is turned off and that lockout procedures are used each time that an element of the electrical system is open to physical contact.
7. Immediately inform an adult of any faulty equipment so it can be repaired or replaced.

Personal Hygiene

Bacteria, fungi, parasites and viruses that may be present in animals or their manure can cause disease in people. Transmission to people may be prevented with simple procedures:

1. Wash hands before and after working in the barn and with animals. Wash hands before you eat or drink; before and after using the toilet; after cleaning animal housing or animal care areas; and whenever hands are visibly soiled.
2. Wear impermeable gloves when caring for sick animals or when assisting a veterinarian with any type of procedure.
3. Wear facial protection whenever exposure to splashes or sprays is likely to occur such as during power washing.
4. When bites, scratches or lacerations occur while working with animals, wash the injured area with soap and water immediately and consult the designated First Aid person.
5. Establish designated areas for eating, drinking and similar activities. These activities should never be done in animal care areas or in the laboratory area.

Needle Sticks and Cuts

Performing procedures, and giving medication and vaccinations to animal can lead to injury if you are not careful. Punctures, cuts, and needle stick injuries are among the most common and can occur when giving injections, castrating, etc. Stay focused and attentive. Fatigue increases your changes of injury so take advantage of scheduled breaks so you do not become too tired and in order to stay focused.

Dispose of all sharps in designated puncture-proof sharps containers.

Needle sticks are not to be taken lightly. Certain antibiotics and other medications designed for animals can result in severe medical reactions, or even death. If a co-worker is accidentally injected with a medication and has a seizure, stops breathing, or has any physical reaction, call 911 immediately to summon professional emergency medical help. Have the medication bottle available for the responders to read.

In case of severe cuts, control the bleeding first and summon the person trained in First Aid at your farm. If the injury is minor, wash the wound with soap and water, cover with a sterile bandage, report the injury, and seek medical attention if necessary.

All accidental injections and cuts should be reported to an adult immediately.

Guards and shields should be in place on all mechanical equipment.

Safe Animal Handling
Many accidents and injuries occur when handling animals. Many tasks require people to be in close contact with the animals. To avoid accidents or injuries while working with animals, you must understand typical animal behavior, responses to different environments, handling animals of various types and sizes, and how to use handling equipment. These topics are covered in GPP #9: Provide Proper Animal Handling and Care.

Summary
(1) *Safety is everyone's responsibility.* This includes the youth owner and caretaker. If any person does not take personal responsibility for working in and maintaining a safe work area, that person puts himself/herself and others at risk.

(2) *Control hazards.* Controlling hazards is the fundamental method of protecting caretakers. The basic strategies for controlling housing hazards, in order of preference, include:
1. Eliminating the hazard from the method, material, facility or machine.
2. Abating the hazard by limiting exposure or controlling it at its source.
3. Training personnel to be aware of the hazard and to follow safe work procedures to avoid it.
4. Prescribing personal protective equipment (PPE) for protecting employees against the hazard.

(3) *Develop an emergency action plan.* Develop and implement an emergency action plan. This will prepare people to take immediate actions when someone is hurt, a fire starts or tornadoes are threatening. All caretakers must be familiar with emergency procedures for the operation.

(4) *Develop safety procedures and plans.* Prevention is an important part of keeping individuals safe. Therefore, develop safety procedures for:

- Fire Prevention and Safety
- Hearing Health and Safety
- Lockout/Tagout Program
- Personal Protective Equipment
- Respiratory Health and Safety
- Hazard Communication Plan
- Machine Guarding
- Electrical Safety
- Slips, Trips, and Falls
- Safe Lifting
- Personal Hygiene
- Needle Sticks and Cuts
- Safe Animal Handling
- Grain Bin Safety

Maintain Proper Workplace Safety
Study Questions

1. What are the six safety responsibilities of all people working in the barns?
2. Name three aspects of safety that youth owners and caretakers are responsible.
3. What are four ways to control exposure to hazards?
4. What does EAP stand for?
5. What does PPE stand for?
6. Identify five keys to creating an emergency action plan.
7. What are 10 things, you as a producer, plan to do to promote health and safety?
8. What are three tasks where ear protection should be worn?
9. What are two tasks where dust masks should be worn?
10. Identify four things an EAP should include.

Source: *Youth Pork Quality Assurance Plus Handbook*, National Pork Board, 2014
Backyard Poultry PowerPoint, Miller, 2014

November 2015

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GPP #9

Provide Proper Animal Handling and Care

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GPP #9
Provide Proper Animal Handling and Care

Providing proper quality care of your animals can help reduce production costs, increase performance, improve product quality, and improve safety to humans and animals. Animals have three basic needs – water, food, and shelter. Furthermore, animals must be handled in a kind and humane way at all times, including in preparation by youth exhibitors for a show. When youth are handling their animals, they must consider if they would want the consumer to see what they are doing. Would consumers find the practice acceptable? Would exhibitors want to be treated the way they treat their animals?

Many factors within an animal's environment influence its overall well-being. Good Production Practice (GPP) #9 will explain these factors and provide strategies on how to implement each one.

Lesson Objectives

Upon completing this lesson youth should be able to

1. Understand the role of daily observation and animal evaluation.
2. Provide feed, water, and the environment (this includes shelter) that promotes animal well-being.
3. Provide proper care, handling and transportation for animals.
4. Protect animal health and provide appropriate treatment when necessary.
5. Understand why intentional acts of neglect or abuse are unacceptable.
6. Understand the importance of euthanasia in a timely manner of sick or injured animals that fail to respond to treatment.

Key Terms

Recordkeeping
Euthanasia
Daily observation record
Treatment pen
Emergency action plan
Emergency detection system
Emergency backup system
Ventilation
Temperature control
Body condition score (BCS)
Average daily gain
Mortality rate
Lameness
Skin lesions
Abscesses
Wounds
Flight Zone
Point of balance
Willful acts of abuse
Animal movement

Every caretaker (youth exhibitor, parent/guardian, producer, etc.) has the ethical responsibility to protect and promote the well-being of the animals in his or her care by:

1. Providing feed, water, and an environment that promotes the well-being of his/her animals.
2. Providing proper care, handling and transportation for animals at each stage of their lives.
3. Protecting animal health and providing appropriate treatment, including veterinary care when needed.
4. Using approved practices to euthanize, in a timely manner, those sick or injured animals that fail to respond to care and treatment, and to properly dispose of the carcass.

Recordkeeping

Veterinarian/Client/Patient Relationship (VCPR)

A VCPR requires that the caretaker and veterinarian work together to ensure the health and well-being of the animals on that farm or in the youth's possession. Recordkeeping includes documentation of the VCPR, medication and treatment records, and caretaker training records.

Medication and Treatment Records

Medication and treatment records provide the health history of each individual animal and help to ensure food safety.

The Food and Drug Administration (FDA) expects producers to maintain medication records that will indicate:

1. The animal(s) that were treated
2. The date(s) of treatment, including last day of administration
3. The drug(s) administered
4. The route of administration
5. The person who administered each drug
6. The amount of each drug administered
7. The withdrawal time prior to harvest

Documented Caretaker Training Program

Animal caretaker training can be as simple as you showing each individual what to do and writing this down in a notebook. However, it can be much more extensive. Producers may use

training manuals, CDs, DVDs, videos and/or intensive on-the-job training. Training is essential for worker safety as well as for assurance that animals are being handled and cared for properly. You want to ensure your animals are being cared for in a manner that will not decrease the quality of the final meat product or compromise animal well-being.

Training helps to increase productivity and efficiency among caretakers. Caretakers who are trained have a greater understanding of project goals and are often more willing to help meet those goals.

As technology changes, it is important to realize these changes and teach caretakers about them. There is an increasing number of new products, equipment and techniques for caretakers to learn and understand. Technology in the various animal industries is changing, just like it is in the rest of the world. Whenever you implement something new on your farm, you should teach your animals' caretakers about it. For example, if you purchase a different brand of feed that you intend to mix medication with, it is important for you to train anyone who may feed your animal on how to properly mix and feed the new products.

One of the most important factors in animal well-being is the skill of the people caring for the animals. The people caring for your animals are the people that ensure your animals' well-being. Three common areas in which producers train animal caretakers are:

1. Euthanasia – Every operation will at some time have a sick or injured animal that does not respond to care and treatment. Therefore, it is important to have a written action plan ready if animals with conditions of concern are found. Your plan should be as simple as calling your veterinarian when euthanasia is needed. Your veterinarian can help you make euthanasia and treatment decisions.
2. Handling – Animal handling includes caretakers being aware of the flight zone, point of balance, environment, types and sizes of animal, group sizes, and the equipment used.
3. Husbandry – Husbandry is traditionally understood as a blend of the producer's self-interest and his/her duties of humane treatment for the animals in his/her care.

Daily Observation

Daily observation and animal care are key factors to addressing animal health and well-being and facility or management issues. Daily observation can also help to assess the effectiveness of health and nutrition programs, the suitability of facilities, and the quality of caretakers. One way to document that someone has observed the animals every day is by keeping a log or record. An example of this might be recording the daily temperature or amount of feed given on a calendar posted inside the door.

Daily observation helps ensure that sick animals do not go unnoticed and that animal caretakers are doing their job.

The best way to fully assess the animals' environment and health is to walk the pens daily. Recording such information as water intake or high/low temperatures within the barn can be a useful management tool. For example, a decrease in water intake can be an early indicator of

illness in the herd, flock, or individual animal. Large difference in high/low temperatures can be an indicator the ventilation system is not functioning properly. Recording animal, facility or management concerns as you walk through the facilities also will promote corrective actions.

Recording Daily Observations
Recording daily observations can be as simple as posting a calendar, paper or poster inside the door of the facility or room where the caretaker can initial and date the document daily.

Water Availability

Water is the most important nutrient requirement and is necessary for normal body function, growth and reproduction. The quality and quantity of water an animal receives is important and should be monitored regularly. Poor water quality can reduce consumption rates and negatively impact the health of the animal. Waterers should be designed so animals can drink freely and have flow rates that easily meet their water intake requirements. It is important to:

1. Provide clean, fresh, and cool water daily.
2. Ensure the supply of water is sufficient for the number of animals.
3. Clean watering devices on a regular basis.
4. Know the water requirements for the animal(s).
5. Know that water requirements change depending on weather, maturity of the animal, feed consumption, and stage of production (lactation, egg laying).

Refer to the *Water Requirements for Livestock* included in this document.

Feed Availability

Feed systems must be checked daily to prevent the occurrence of out-of-feed events. Bins should be checked to make sure they have adequate feed supply and there is no bridging (blocking the flow) of feed. Feeders should be checked daily to assure they are in good working order and that feed delivery is not blocked. Out-of-feed events can negatively impact the animals' well-being by increasing aggression, decreasing average daily gain and average daily feed intake. It is important to:

1. Know the nutrient needs of your animal(s) and feed them appropriately.
2. Feed the proper amount to the animal daily.
3. Avoid restricting feed to maintain a weight or lose weight for a show.
4. Refer to GPP #5 to learn about following proper feed processing protocols.

Seriously Ill, Non-Ambulatory or Dead Animals

Caretakers should consult their veterinarian if they observe an ill or disadvantaged animal. An animal should be considered non-ambulatory if it refuses to stand up or if it can stand without support but refuses to bear weight on two of its legs. Animals that have no prospect for recovery after two days of intensive care should be humanely euthanized.

Treatment Pen

Caretakers should have a plan for how an animal could be isolated from the rest of the herd or flock for treatment or recovery when needed. Once an animal has been identified as ill or injured, it may need to be moved to a treatment area if its health and well-being are compromised by its fellow pen mates or if treatment of the animal is affected by remaining with the group.

Properly managed treatment pens can aid recovery and provide easier follow-up treatment. The treatment pen might be a temporary or permanent separate pen or enclosure or it might be an individual stall. An important consideration is providing adequate treatment and supportive care for the animal. This includes easy access to feed and water.

Caretakers must have a method for tracking animals that enter a treatment pen to know what treatments have been administered and how long the animal has been receiving treatment. This information will help caretakers evaluate the effectiveness of the treatment, and if necessary, make good decisions about timely euthanasia. Remember, when an animal in a treatment pen has shown no improvement or has no prospect for improvement after two days of intensive care, the animal should be euthanized.

Emergency Support

Written Action Plan – In case of an emergency, quick communication is important. A written action plan can provide directions on what to do in case of an emergency. The plan may consist of a list of phone numbers of people to contact should an emergency occur. You may include a phone number for the fire department, your veterinarian, the facility owner and equipment suppliers.

Emergency Detection System – Many commercial operations have an emergency detection system that will warn them of power failures, temperature changes, and other emergencies.

You should consider how you can detect an emergency in your operation. Action should be taken immediately when an emergency occurs. If your house is located near the facility where your animals are and you can visually see when the power is off or if a fire occurs this would count as a detection plan.

Emergency Backup System – If your buildings use a mechanical ventilation system, you should also have a manual or automatic system in place in the event that ventilation is interrupted due to a power outage or other situation. These may be curtain drops, a backup generator or another device, plan or system.

Shelter (The Animal's Environment)

Shelter is needed to provide animals an escape from harsh environments. Animals at different ages and stages of production require different amounts of space.

1. Provide sufficient space for the animal based on the animal's weight at the end of the project or to a mature weight.

Ventilation

Both air temperature control and air quality can impact the well-being of your animals. These two factors can be controlled through proper ventilation management. Housing systems must provide conditions that are conducive to good health, growth and performance at all stages of an animal's life.

Temperature Control

Thermoregulation is the ability to control body temperature, even when surrounding temperature is different. Animals have the ability to thermoregulate in their environment provided the temperatures are not too extreme. Provisions for heating and/or cooling should be present and in working order during extremes in the weather. The facility should provide moderate temperature to prevent the animals from displaying extreme temperature behaviors. Animals perform these behaviors in an effort to regulate their body temperature. Behaviors such as huddling together and shivering indicate the temperature is too cold. If the temperature is too hot, animals will avoid contact with each other and have increased respiration rates.

Temperature is impacted by:

- Air flow (ventilation)
- Density of animals
- Humidity
- Season
- Supplemental heat or cooling sources

An animal's body loses heat in four ways:

1. Evaporative – moisture lost from the animal's skin or lung surface
2. Conductive – transfer of heat from one object to another. If the animal is in touch with the floor, the floor material can conduct heat away from the animal if it is made of good conducting material.
3. Radiant – radiation of heat from one surface to another surface not in contact
4. Convective – transferred along a temperature gradient between the surface temperature of the animal and the air temperature a short distance away. A draft in a barn will cause body heat to be lost more readily than if there is no air movement.

Upper and lower critical temperatures define the thermal comfort zone (or the range of temperature the animal is comfortable) where the animal does not have to huddle, shiver, or pant or sweat to regulate its body temperature. Keeping animals above or below their critical temperature can negatively influence thermal comfort, feed intake, growth, feed efficiency and health. Different species and ages of animals have different comfort zones. Know at what temperature your animals can become heat or cold stressed, and the range of temperature where your animals are comfortable.

An animal's comfort zone can be influenced by the following:

- Species
- Age
- Body weight
- Type and amount of feed fed
- Level of activity
- Stage of production
- Hair coat length or density
- Body condition

1. Bedding, supplemental heat or other environmental modification is recommended when air temperatures approach the lower critical limit. Clean and dry bedding is an excellent insulating material and provides the animal with comfort and protection from the cold.
2. Except for brief periods above an animal's upper critical thermal air temperatures, some form of cooling should be provided when temperatures approach upper critical limits.

Refer to the *Comfort Zones* table in this document.

Sanitation

Several microorganisms live inside and outside the animal and facilities. They expose animals to possible diseases and parasites. Removing wastes promptly is a good sanitation practice. Cleaning the housing areas between moving animals in and out is important to prevent disease transmission. Keeping facilities clean can also reduce fly problems and odors.

Air Quality

Air quality can be controlled with a ventilation system that is in working order and that can operate without interruption. This is true whether the ventilation system uses a natural flow of air or mechanical assistance. There are several contaminants, such as dust and various gasses that contribute to the quality of air within the animal's environment. Some animals may experience watery and matted eyes, and difficulty breathing, if they are exposed to poor air quality. In case of a power failure, make sure windows are open.

Ammonia is a common air contaminate that can directly impact the well-being of an animal through irritation of the respiratory tract. Proper ventilation and sanitation are critical to keep the ammonia concentration in the air at low enough levels to keep your animals healthy.

Facilities

The state of repair of the animals' facilities can directly impact their well-being. Facilities are defined as barn structural components – pens, feeders, waterers, floors, chutes, and alleyways.

Pens, Floors, and Alleyway Maintenance

The condition of the pens, floors, and alleyways can affect other indicators of your animals' well-being. Sharp protruding objects could affect the number and type of skin lesions found on your animals. Pens with broken slats and uneven flooring could contribute to lameness or other

leg injuries. Floors should be rough enough to minimize slips and falls, but not so rough as to injure the pad or sole of the hoof or foot. Non-slip flooring is essential in areas where animals are handled, such as loading ramps, scales, or restraint chutes.

Chute Maintenance
Chutes should be in a good state of repair and not cause injury to an animal. Before leading or unloading animals, inspect the chute for damage.

- Sharp, protruding or otherwise injurious items should be removed or repaired.
- Broken or missing cleats should be repaired or replaced.
- Moving parts such as cables, pulleys and hinges should be inspected regularly and maintained as necessary.
- Ramps and chutes should be kept free of potential distractions.

Feeder Maintenance
There are a wide variety of feeders and feeding equipment available today. Feeders should be in a good state of repair to allow unobstructed feed delivery to the animals, and not cause injury to the animals. Regularly inspect individual, group, or automatic feeders for cracks, sharp edges, plugged openings, etc. The number of feeding spaces and their size should allow your animals to consume their daily ration without unnecessary fighting and competition. Feeders should be cleaned on a regular basis.

Waterer Maintenance
Several types of waterers and waterer designs are available for use for different species of animals. Whatever type is used in your operation, waterers must be in a good state of repair to allow water delivery to the animals and not cause them injury. Waterers should be designed and positioned so animals can drink freely and have flow rates that easily meet the animals' water intake requirements. Enough waterers should be available within the pen to decrease competition for water.

Waterers need to be cleaned and maintained on a regular basis. Certain individual and group waterers may need to be cleaned daily depending on the environmental conditions. Also, in areas where water may freeze, consider using heated waterers. When doing so be sure to follow the manufacturers' instructions.

Body Condition Score (BCS)

Body Condition Scoring (BCS) is a tool producers can use to visually evaluate the effectiveness of the nutritional and animal health management programs of their animals. Decisions can be made on how to adjust feeding and health management practices as a result of visual body condition scores. For beef cattle, BCS ranges from 1 to 9, with a score of 1 being emaciated (extremely thin) and 9 being very obese. Areas such as the back, tail head, pins, hooks, ribs, and brisket of beef cattle can be used to determine BCS. An ideal body condition score for beef cattle ranges from 5 to 7 across many stages of production.

Dairy cattle, sheep, swine, and goats (dairy and meat) are scored on a 5-point scale, with 3 being the average or ideal body condition score for each species. The United States does not recognize a body condition scoring system for rabbits and poultry. However, use visual appraisal and handle these animals to determine if they are over or underweight for their species and breed.

Two animals with the same BCS can vary greatly in weight. Also, two animals that weigh the same can vary in body condition score. The BCS can change depending upon the breed within each species, how much feed the animal has consumed prior to scoring (fill), or the stage of the production cycle.

While a low body condition score (emaciated or thin) is a potential indicator of an animal's well-being showing it needs immediate attention, a high body condition score showing the animal is obese also has increased health risks. Investigate animals with low or high body condition scores to find the cause. Consult with an adult or veterinarian to determine whether their condition is related to management practices or the animal's health, or both.

Body Space

It is important for your animal to be comfortable. Your animal must have the proper amount of space to continue to grow and perform. Your animals must have enough space to:

- Stand, lie down, eat, drink, defecate, and urinate comfortably.
- Easily lie down fully on its side without having to lie on another animal, and be able to easily stand back up from a laying position.
- Lie down with head and limbs not touching a feeder, fence, or stall/pen/coop sides.
- Spread wings comfortably within coop or pen.
- Move around and get away from each other if necessary.

Refer to your species Resource Handbooks for space requirements of each respective species.

Refer to the Ohio Livestock Care Standards for additional housing requirements for livestock at http://www.agri.ohio.gov/LivestockCareStandards/.

Animal Evaluation

Animal evaluation will help verify that other aspects of the well-being program have been successfully extended to the animals themselves.

Production Performance

The production performance of an animal can often be an indicator of the animal's well-being. When the well-being of an animal is compromised, the production performance of that animal may also be compromised. Some production performance measures to track include average daily gain, feed efficiency, and mortality rates.

Average Daily Gain – The average amount of weight an animal gains each day over a period of time. If this is an extremely low number it may mean that your animal is not getting proper nutrition or an adequate amount of feed. This could be due to the type of feed, the caretaker, or other factors.

Feed Efficiency – Calculated as pounds of weight gained per pound of feed consumed. Feed efficiency is usually the primary driver of profitability for meat-producing animals. If your animal eats a large quantity of feed and does not gain a lot of weight, it may have an illness that prevents it from gaining weight, or it may be eating feed that is not providing sufficient nutrition.

Mortality Rates – Death rates. When calculating these rates, be sure to include animals that die naturally and those euthanized.

Lameness

A lame animal is one that cannot bear full weight on one or more limbs. There are several factors that can contribute to lameness including (1) bacterial infections; (2) heredity; (3) foot and leg structure; (4) injury or trauma; or (5) nutrition. To detect lameness, animals should be observed while they are standing or walking on a flat surface. Animals diagnosed as lame should be treated, culled or humanely euthanized depending on the cause and degree of lameness.

Skin Lesions

If skin abscesses or wounds are present, count how often they occur and note their location. These factors provide important clues about their sources and ways to prevent them. Look for and note skin lesions on these areas:

- Main part of the body (shoulder, belly, back, flank and limbs (both front and back legs)
- Hooves or feet
- Head and ears (includes the cheek, ears, snout/nose, mouth, chin)
- Tail and genital areas

Abscesses

Abscesses are fluid-filled pockets in or under the skin that may cause the skin to be raised. They can be observed after a deep bruise, a penetrating injury, or an injection. Pay attention to how many animals have abscesses and if one location is more common than others.

Wounds

Wounds are defined as breaks that completely penetrate the skin, such as bites or other lesions that penetrate through the skin. Note the wounds and their location, such as on the shoulder, leg, vulva or other parts of the body, and work to identify the likely cause of the wounds.

Shoulder Sores

Shoulder sores are caused by pressure compressing the blood vessels supplying the skin and tissues covering the shoulder blade. This pressure interrupts the blood flow causing tissue

damage and the formation of lesions. Should sores and lesions should be kept clean and treated according to veterinary advice.

Rectal Prolapses

Rectal prolapses are the turning inside-out of the rectal lining. Common causes in pigs are coughing or piling to stay warm. Docking tails too close to the body or the animals' genetics also may contribute to the occurrence of rectal prolapses. It is important to isolate or treat animals as quickly as possible to prevent further injury and to enhance the chance of full recovery. Consult your veterinarian for a treatment plan; however it is also very important to find and address the contributing cause.

In poultry, a prolapsed oviduct is a condition where the lower part of a hen's oviduct turns inside out and protrudes through the vent. This happens most often when a hen starts laying at too young an age, lays unusually large eggs, or is too fat. It may also be due to a nutritional deficiency of calcium and phosphorus. If left untreated, other chickens may pick at her vent. This may eventually result in pulling out the oviduct and intestines causing the hen to die from hemorrhaging and shock. Hens with prolapsed oviducts that have been reversed may never be good egg layers, and may be prone to more prolapses.

Hernias

Hernias, or ruptures, are the protrusion of the intestines through the muscles of the abdomen or groin. In pigs, those with large hernias that touch the ground or cause difficulty walking should be euthanized.

Tail Biting

Tail biting in pigs is a behavior that negatively impacts the well-being of other pigs. Tail biting can result in open wounds, bleeding, infection and even death. Several factors may contribute to tail biting behavior including (1) nutritional deficiencies, (2) inadequate access to feed and water, (3) high ammonia concentrations, (4) excessive noise, (5) uncomfortable temperatures, or (6) overcrowding. When an outbreak of tail biting behavior occurs, it is important to identify and correct the cause of the behavior, though this can be difficult to accomplish due to the multiple causes of tail biting. Injured animals should be treated, and the biter(s) should be identified if possible and housed separately.

Feather Pecking

Mild feather pecking is normal in poultry flocks, and is an establishment of a social hierarchy referred to as pecking order. Feather pecking occurs when one bird pecks or pulls at the feathers of another. This can damage plumage and injure a bird's skin, and sometimes this behavior leads to cannibalism.

Feather pecking can occur in any production system, including free-range systems. Feather pecking is more common among floor-raised chickens in commercial facilities and among chickens in large free-range systems.

Animal Behavior

Animal behavior can also give you an indication of the care your animal is receiving. If your animals are repeatedly exposed to unpleasant handling or abuse they may show signs of fear in the presence of humans. Animals that have been repeatedly exposed to pleasant handling are generally relaxed around people and will typically be easier to move, and as a result, have better meat quality.

Euthanasia

Euthanasia is defined as humane death occurring with minimal pain or distress. Animals that are not responding to care or unlikely to recover must be euthanized humanely. Timely euthanasia, as well as using the appropriate methods and equipment, is critical to the well-being of these animals.

Timely Euthanasia

The definition of "timely" is:

- Animals showing no improvement or prospect for improvement after two days of intensive care should be humanely euthanized.
- Severely injured or non-ambulatory animals with the inability to recover are euthanized immediately.
- Any animal that is immobilized with a body condition score of 1 should be euthanized immediately.
- Pigs with large hernias that touch the ground or cause difficulty walking should be euthanized.

Events that call for timely euthanasia can happen any day of the week. Personnel trained in euthanasia should always be available to respond if called, including nights, weekends, and holidays.

Functional Equipment

Any equipment used for the euthanasia of animals must be kept in proper repair and must be functional. Caretakers trained in euthanasia must have access to this equipment.

Refer to the Ohio Livestock Care Standards to review acceptable methods of euthanasia by species at http://www.agri.ohio.gov/LivestockCareStandards/.

Safe Animal Handling

Using best animal handling and movement practices will contribute to the good well-being of the animal and a safer work environment for the handler. When animals are improperly handled they become distressed, which can lead to physical injury to the animal, injury to the handler, increases in the incidence of non-ambulatory animals, increased time to load and unload animals, and reduced growth rates and performance. Additionally, improper handling also significantly contributes to carcass shrink, trim loss and poor meat quality.

Proper handling is best achieved by first understanding some general behaviors normally exhibited by that respective species of animal, as well as that species' physical characteristics such as how they can see, hear, smell, learn and remember experiences. Two instinctive behaviors of animals that a handler should understand, and use to his or her advantage when possible, are (1) Flight Zone and Point of Balance and (2) Following/Herding (Flocking) Instinct.

Flight Zone

The flight zone is an imaginary circle around an animal that it considers its individual space. This principle also applies to working the collective flight zone of a group of animals. When a handler enters the flight zone, the animal(s) may become tense and want to react. An animal's two main instincts are fight or flight.

- The size of the flight zone is determined by the animal's familiarity with humans and will vary from animal to animal within the same species.
- A completely tame animal has no flight zone. A handler can walk directly up to the animal and touch it. Leading is the most effective way to move very tame animals.
- Handlers should work with an animal from the edge of its flight zone.
- When a handler enters an animal's flight zone, the animal will move away. If the animal does not see an escape route, it may attempt to turn around and run past the handler.
- Handlers on farms can reduce the size of the flight zone by spending time walking through the herd or flock.

Refer to the *Flight Zone* diagram in this document.

Point of Balance

The point of balance is located behind the animal's shoulders. The animals respond to a handler's approach relative to the point of balance. If a handler enters an animal's flight zone, the animal will move:

- Forward if the handler approaches from behind the point of balance.
- Backward if the handler approaches from in front of the point of balance.

Because the eyes of pigs, sheep, cattle, and goats are on the side of their head, their vision is approximately 310 degrees, leaving a blind spot directly behind them. The blind spot means that a handler cannot rely on a visual reaction to get the animal to move when standing directly behind it. Ideally to move the animal forward, enter the point of balance from the rear, just inside the animal's flight zone. Moving in and out of the flight zone and behind the point of balance allows the animals to remain calm and move in an orderly fashion.

Following/Herding

Animals instinctively group together to be in visual or physical contact with each other. This instinctive behavior also causes animals to follow each other in order to maintain that contact. The caretaker can take advantage of this behavior when moving animals at any age or size. Examples where this is effective when a handler is moving animals include:

- Up or down a ramp or chute
- Through hallways or alleyways

- Into or out of a pen or room

When these concepts are not used or are used incorrectly, animals can be injured when trying to escape, either through contact with other animals or through contact with an object in their environment such as a gate, feeder or chute. Visual gaps between pens, alleys, ramps, gates, chutes or other places can appear to be an escape route to an animal, and can result in injuries to the animal and/or cause them to pull back. This also puts the handler and other people in the area at risk for injury.

For more information refer to *Understanding Flight Zone and Point of Balance for Low Stress Handling of Cattle, Sheep, and Pigs*, by Dr. Temple Grandin, revised August 2015, at http://www.grandin.com/behaviour/principles/flight.zone.html.

Environment

During movement, an animal may come across unfamiliar or distracting elements within its environment. Animals typically slow, stop or change direction when they encounter something new or unfamiliar such as changes in:

- Floor surface (i.e. transition from concrete alley to a wooden chute)
- Footing/traction (i.e. wet, slippery chute or loose cleats)
- Temperature (i.e. moving from a warm building to an outdoor chute/ramp on a cold day)
- Lighting (animals move best from dark areas to lighter areas)
- People, equipment, trash, other animals or objects in their path or peripheral vision area
- Drafts or wind
- Doorways that may change the width of the alley

It is important to understand the potential effects human interactions have on animals and their behavior. A person's intentions are not always understood by the animal, creating fear and/or a negative reaction to a handler. Additionally, animals that have had regular, positive interactions with people will typically be less fearful and easier to handle.

Walking animals slowly on a daily basis will help them become used to positive interactions with people. If an animal has had a bad handling experience in the past, it may be more difficult to handle the next time.

Act calmly and avoid sudden movement, loud noises and other actions that may frighten or excite an animal. This includes shouting to other handlers when working as a team to move animals. Calm animals are easier to handle than excited, agitated animals. Frightened animals bunch together and will be harder to sort and move. Animals should be moved at their normal walking pace. Aggressive handling must be avoided as it can lead to animals becoming non-ambulatory due to injury, stress or fatigue.

Aggressive handling includes:

- Overuse, or improper use, of electric prods – the use of electrical prods is very stressful for the animal and should be avoided
- Loud noises and yelling
- Grabbing and pulling ears and tails
- Grabbing wings and/or feathers
- Moving animals too fast
- Moving too many animals per group
- Overcrowding animals in chutes, ramps, and alleyways
- Rough physical contact

Willful acts of neglect or abuse are unacceptable. Willful neglect and abuse are defined as acts outside of normally accepted production practices that intentionally cause pain and suffering. Animal movement is a leading area where willful abuse can occur. Anyone knowledgeable of possible animal abuse or neglect should report these actions immediately to the proper responsible persons.

Animal Movement

Proper handling and movement of animals is also an element of proper animal care. The handling and movement of animals involves many unfamiliar, stressful experiences for those animals. Handle and move animals in a manner that causes the least possible amount of stress. Handlers should be quiet and calm during animal movement. Take measures daily to get your animals accustomed to human contact. This will help make movement and loading easier on the animals and handlers. Animals do not understand why they are being moved.

Eliminate visual distractions, such as people and other animals, from the path of animal movement. This helps your animals to move more freely. Additionally, moving fewer animals at a time will help allow you to have more control and provide your animal more room to move.

Each person handling your animals should be trained in proper handling techniques for that species prior to any animal movement. Handlers should use the most effective tools for movement for that species. For example, for pigs one of the most effective tools is a sorting board or panel. Use of electric prods is very stressful for pigs and should be avoided. If using a prod, never do so in sensitive areas such as the eyes, nose, anus, testicles, etc.

If an animal appears aggressive or agitated, it may be safer for the handler to move out of the way than to risk a potential injury.

Use proper equipment when loading and transporting animals. Always load animals in a calm, careful manner to help prevent stressing the animals. Electric prods, buzzers and slappers should be avoided. Treat animals humanely at all times.

Stress

It is important for handlers and caretakers to recognize stress in an animal. Knowing what an animal's "normal" behavior is through daily observation will help you know when they become stressed. Stressed animals will have reduced performance, are more susceptible to diseases, and have a higher mortality rate.

Reduce stress in show animals by:

- Handling and training an animal regularly to reduce excitement of the show
- Keeping animals on a regular feeding and exercise schedule
- Getting animals accustomed to strange or flavored water
- Trying not to mix animals at shows to avoid fighting
- Avoiding changing feed at the show

Stress indicators may include:

- Lack of appetite
- Abnormal posture
- Slower than normal growth
- Rapid breathing
- Restlessness
- Lameness or alteration of gait
- Dull or depressed attitude
- Unusual vocalizations
- Self-isolation from pen mates
- Blotched skin

Types of Stress

- *Thermal* – factors that lead to thermal stress include temperature (heat or cold), humidity, wind, and solar radiation
  --Results of air temperature, speed of air movement, humidity, insulating effects of facilities
  --Extreme heat/humidity and cold
- *Physical* – caused by the physical component of an animal's environment. This includes objects that could cause the animal injury.
  --Lack of food and water
  --Lack of shelter
  --Facilities that can cause injury to the animal
- *Disease* – results from the onset and spread of disease
- *Behavioral* – factors that affect normal behavior of the animal
  --Being moved to a new area
  --Being placed in a new group of animals
  --Exposed to new environments or people (i.e., at the fair)

Is all stress bad? There are acceptable management practices for all food animal species that cause short-term stress and may also be painful (i.e., castration, vaccination, dehorning, beak trimming, weaning, etc.)

- Make sure these practices are done at the correct stage of production or age
- Make sure these practices are performed in a humane and proper manner

Group Sizes

Many changes occur in an animal's surroundings from home to when they reach the fair and/or show ring. Show animals are generally raised in a somewhat quiet, subdued environment with little stress. Loading and transporting can be stressful to the animal, particularly if handlers become frustrated. Animals that are mixed together may instinctively fight to determine a pecking order. Upon arriving at a show, the new sights, smells and sounds can affect an animal's behavior. To minimize stress, animals can be loaded and unloaded onto a trailer to get used to the practice before going to the fair or show.

Non-Ambulatory Animals

An animal that cannot get up or walk on its own is called non-ambulatory. An animal may become non-ambulatory due to injury, illness or fatigue. Determining the specific cause will help handlers identify the appropriate way to care for the animal.

Medical treatment is an option for an animal that is non-ambulatory due to injury or illness. When the likelihood of recovery is high, the animal should be moved to a pen where competition for feed and water is reduced and where the animal can be monitored and treated regularly. When animals become non-ambulatory due to illness or injury and the likelihood of recovery is low, even with treatment, the animal should be humanely euthanized.

In the case of animals becoming non-ambulatory due to fatigue, quietly and humanely move the animal to a pen and allow it to recover before attempting to move it again. Most animals recover after a few hours of rest. The best way to prevent the occurrence of fatigued animals is to minimize stress by using good animal handling practices.

Handling Equipment

There are different types of handling and sorting equipment on the market available to help sort or move animals in a safe, humane and efficient manner. Learn what equipment is the most versatile, least stressful, and most humane for your species of animal.

Proper animal handling is also important during transportation, as transportation can be stressful for animals.

- Move animals when it is not too hot or too cold.
- If you do need to transport animals when it is hot, ensure they are shaded and there is good air movement throughout the trailer. Keeping the trailer moving will help increase air flow and aid in keeping the animals cool.
- If you have to transport animals when it is cold outside, make sure there is some bedding or straw on the trailer flooring, and that any holes are plugged up or vents in the trailer are closed to help stop drafts.

Use proper equipment for loading your animals. Always load your animals in a calm, careful manner to help prevent stressing the animals. Animals should be treated humanely at all times.

Willful Acts of Abuse

Willful acts of neglect or abuse are unacceptable and are not tolerable! Willful abuse and neglect are defined as acts outside accepted practices that purposely cause pain and suffering including, but not limited to:

- Purposely applying prods to sensitive parts of the animal such as eyes, ears, nose, genitals or anus.
- Hitting or beating an animal
- Failure to provide minimal food, water, shelter, and care that results in significant harm or death to animals.

All handlers, caretakers, youth exhibitors, parent/guardians, etc. should be familiar with what is considered willful acts of abuse and know that these are unacceptable and not tolerable. If a willful act of abuse is observed, immediately try to stop the situation if safely possible. If a young person does not feel safe in stopping the situation, he/she should immediately find a responsible person to intervene.

Refer to Ohio's Livestock Care Standards for additional informational about animal care and well-being at http://www.agri.ohio.gov/LivestockCareStandards/.

Summary

Record any key events that contribute to a good animal well-being. These include:

- Establishment of a veterinary client/patient relationship.
- Administration of medication and treatments.
- Documenting caretaker training events.
- Daily observations.

Plan for different types of emergencies by developing a written emergency action plan and having emergency backup equipment in place for the site.

Provide feed, water, and an environment that promotes animal well-being:

- Manage facility ventilation to achieve desired air temperature and good air quality.
- Evaluate pens, flooring, chutes, and alleyways to ensure they are in a good state of repair and not causing injury to the animals.
- Evaluate feeders and waterers to ensure they are in a good state of repair and allow for adequate feed and water delivery.
- Assess body condition scores and manage nutrition and health care to maintain good body condition.
- Provide adequate space for the animal's size.
- Evaluate animals for signs of how well they are interacting within their environment.

Use approved practices to euthanize, in a timely manner, those sick or injured animals that fail to respond to care and treatment.

Apply basic animal handling concepts, including animal instincts/behavior, the flight zone, point of balance, acceptable tools and handling aides, when handling and transporting animals of various sizes/types.

Recognize and report any incident of willful abuse or neglect.

Provide Proper Animal Handling and Care
Study Questions

1. Name four ways by which every caretaker has an ethical responsibility to protect and promote his/her animal's well-being.
2. What is timely euthanasia?
3. Describe five of the main components of animal evaluation.
4. Describe how to promote animal well-being in the following areas: Feed, Water, and Environment
5. What are five ways to reduce your animal's stress?
6. Your animal's space is considered adequate when the animal is able to _____. (List)
7. Describe how proper ventilation is important to an animal's well-being.
8. Define and describe body condition scoring for your species of animal.
9. Why is proper facility maintenance important to your animal's well-being?
10. A willful act of abuse could include, but is not limited to:
    (a) _____
    (b) _____
    (c) _____

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November 2015

Assuring Quality Care for Animals

Youth Food Animal Quality Assurance Curriculum Guide

GPP #10: Utilize Tools for Continuous Improvement

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Introduction
Assuring Quality Care for Animals is a complement to the *Youth Food Animal Quality Assurance Curriculum Guide* reflecting the changes in the Good Production Practices. PowerPoint presentations complement each section to assist with instruction.

Using information in this resource should help youth understand how to provide a safe, wholesome food animal product preferred by consumers.

Note – this curriculum alone does NOT certify youth for state-mandated quality assurance training. A County Coordinator or Assistant Instructor must certify youth.

Additional resources and templates referenced in this document may be found at: https://www.pork.org/pqa-plus-certification/

GPP #10
Utilize Tools for Continuous Improvement

The foundation of the Youth Quality Assurance program is continuous improvement. All new animal caretakers must be trained in their duties, whether caring for one or 100+ animals. Conducting site assessments on a regular basis is an excellent way to benchmark how the animal care practices are implemented and measure the animals' well-being. There are three core areas that should be evaluated when measuring and benchmarking the well-being of your animals: (1) records; (2) facilities, and (3) animal observations. Using only one of these alone to evaluate well-being can be misleading.

Learning Objectives
Upon completing this lesson, youth should be able to:
1. Understand the importance of educating all animal caretakers.
2. Use appropriate resources to evaluate your records, facilities, and animal observations.

Key Terms
Prepare-Tell-Show-Do-Review (PTSDR)
Animal well-being assessments
Corrective action plan

Training Animal Caretakers
1. All caretakers, regardless of age, who care for their animals' well-being, should be engaged in training and educational opportunities consistent with their responsibilities.
2. An effective training program is vital to understanding and implementing the Good Production Practices (GPPs) for promoting food safety while improving animal production efficiency.

3. All caretakers must be trained in their duties. Training is essential for the caretakers' safety, as well as assurance that all animals in their care are treated humanely and in a manner that will not jeopardize the safety of the food product.
4. A technique called the PTSDR method may be used to train others. The steps below illustrate this technique:

Step 1: Prepare Stage

1. Prepare to train by focusing on the objectives and outcomes to achieve within a training program.
2. Determine time constraints needed for an individual to obtain a desired skill.
3. Identify activities that should be implemented in the training program to enhance the knowledge and skills of individuals.
4. Gather materials needed to carry out activities and the entire training program.

Step 2: Tell Stage

1. Address key points needed to obtain knowledge and skills.
2. Share information needed to complete the task. For example, if teaching a session on animal handling, discuss an animal handling brochure applicable to the animals for which the caretaker is responsible.

Step 3: Show Stage

1. Demonstrate how to complete a specific task. For example, demonstrate how to properly handle or move animals for which the caretaker is responsible. This may take place in the barn with the animals.

Step 4: Do State

1. Enable the individuals to practice what they have already been told and what has been shown to them.

Step 5: Review Stage

1. Evaluate the individual on his or her performance of a desired task.
2. Give individual feedback and recommendations for improvement.

Documentation of Training

1. Regardless of the type of educational program used in training, and whether or not it was formal or informal training for the caretakers, it is important to document that they have had training. Training records should include the names of trainees and trainers, topics covered, and the date of training.

Conducting Animal Well-Being Assessments

1. Conduct site assessments on a regular basis to benchmark how the animal care practices are implemented and to measure the animals' well-being on the farm.

a. Be aware of your animals' well-being every day.
b. This will help detect changes in environment that could negatively affect your animals.

Exhibitors should look for the following during well-being assessments:

1. *Checking Water*
   a. Clean, cool water must be available at least twice daily and in a quantity sufficient to fully satisfy the animals, if not provided free choice.
   b. Where there are several animals in a pen, there should be enough waterers, or a large enough watering source, to decrease competition for the water.
2. *Checking Feed*
   a. Adequate amounts of feed should be available to the animals, based on the daily feeding schedule.
   b. Feed should be kept in a safe and secure area to maintain the cleanliness of the feed.
   c. Record on a calendar all changes in feed.
3. *Pens and Floors*
   a. Review pens for objects protruding from fences, gates, and walls that could affect the number and type of skin lesions on the animal.
   b. Look for broken boards, slats, and other flooring that could contribute to lameness or other leg injuries.
   c. Floors should not be slippery, and the surface covered with enough bedding to minimize slips and falls. Concrete floors should be rough enough to minimize slips and falls, but not so rough as to injure the pad of the hoof
4. *Chute Maintenance*
   a. Sharp, protruding, or otherwise injurious items should be removed or repaired.
   b. Broken or missing cleats should be repaired or replaced.
   c. Moving parts such as cables, pulleys and hinges should be inspected regularly and maintained as necessary.
   d. Ramps and chutes should be kept free of potential distractions.
5. *Animal Observation*
   a. Animals should have enough space to move around and lay freely.
   b. Evaluate environment to make sure temperature and air quality are correct for the specific phase of production.
   c. Observe animals for signs of sickness or injury.
   d. Observe animals sleeping, eating, and drinking regularly every day.
   e. Record mortalities and euthanasias daily.

4-H Leaders and FFA Advisors

1. Great resources to include in your regular site assessments.
2. They may detect slight environmental changes that could affect the well-being of the animals.
3. A useful resource for learning about new equipment, production practices and research.
4. Discuss results of site assessments to develop and implement an action plan for identified problem areas.

5. File documentation of assessments and corrective actions for future review and comparison.
6. Useful resource when developing and implementing a corrective action plan.

Develop and Implement an Action Plan

1. Developing and implementing a corrective action plan is the final step of conducting a site assessment.
   a. This action plan documents what actions have been or will be taken to correct the issue(s) identified during the assessment.
   b. This final step helps to demonstrate the exhibitor's commitment to continuous improvement to the industry, industry partners, customers and general public.
   c. Involve 4-H leaders and FFA advisors to provide ideas or advice on how an issue may be corrected or who to connect with for additional help.

Utilize Tools for Continuous Improvement
Study Questions

1. Who are all of the caretakers of your animals and what are the tasks for which they are responsible?
2. What is one thing a caretaker of your animals can be trained on related to their tasks?
3. What is PTSDR and why is this process important for teaching caretakers?
4. What are three tips to developing and implementing an action plan?
5. What are the five areas you should observe when conducting animal well-being assessment?
6. Identify three resources that could provide you help with animal well-being assessments.