Youth Pork Quality Assurance® Plus Handbook

Youth PQA PLUS®

Our Responsibility. Our Promise.

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Introduction

Youth Pork Quality Assurance® Plus (Youth PQA Plus®) - Building a Stronger Industry

Lesson Objectives

- Understand each segment's role in the food supply.
- Identify biological, chemical and physical risks.
- Introduce the 10 Good Production Practices(GPP).

Key Terms

Biological risk
Physical risk
Chemical risk
Good Production Practices (GPPs)
Food safety
Animal well-being
Environmental protection
Worker safety
Food supply continuum

We Care℠: Making Our Industry Stronger

Regardless of the business, trust and transparency are essential to maintaining customer appeal. This has never been more challenging or necessary for the pork industry, as the general public and pork customers want to know how their food is produced.

The We Care initiative addresses these concerns and communicates that the pork industry is responsible and aware of what customers and pigs need. The We Care initiative encourages constant improvement in the pork industry's production practices and promotes a strong record of responsible farming to those outside the industry. The initiative shows how every individual throughout the pork supply chain, including youth, has a role to play in building and maintaining trust in the industry. Youth PQA Plus is one part of the We Care initiative and is a clear representation of the industry's and youth's commitment to responsible farming and continuous improvement.

At the heart of the commitment is a strong code of ethics, which asks each and every pork producer to make the following commitments:

- Produce safe food.
- Protect and promote animal well-being.
- Ensure production practices to protect public health.
- Safeguard natural resources in all of our practices.
- Provide a work environment that is safe and consistent with our other ethical principles.
- Contribute to a better quality of life in our communities.

While the We Care℠ initiative promotes a set of principles which provides guidance to pork producers, the Pork Quality Assurance Plus and Youth Pork Quality Assurance Plus programs encourage producers to use scientific-based best practices, or Good Production Practices (GPPs), based on the overarching principles of the We Care initiative. The program has four key elements:

- **Food Safety** – Refers to the good production practices that eliminate physical, chemical or biological hazards to ensure consumers can have confidence in the safety of our product.
- **Animal Well-Being** – Encompasses producer responsibilities for all aspects of animal well-being, including proper housing, management, nutrition, disease prevention and treatment, responsible care, humane handling and, when necessary, humane and timely euthanasia.

- **Environmental Protection** – Concerns practices pork producers can take to safeguard our natural resources, such as effective management of groundwater, surface water, air quality, manure disposal, land and soil quality and land use.
- **Worker Safety** – Describes a producer's responsibility to provide a safe work environment for all caretakers.

Youth PQA Plus®: What's in it for me?

The Youth Pork Quality Assurance Plus (Youth PQA Plus) program comprises two main elements – food safety and animal well-being.

1. **Food Safety** – The practices that minimize physical, chemical and biological hazards that might be injurious to consumers.

2. **Animal Well-Being** – Producer responsibilities for all aspects of animal care; including proper housing, management, nutrition, disease prevention and treatment, responsible care, humane handling, and when necessary, humane and timely euthanasia.

Food safety and animal well-being have become concerns for consumers, both domestic and international. The Youth PQA Plus program provides benefits to the youth pork producer in relation to these concerns. Following the Good Production Practices may help to improve swine care and management practices. Following good health, nutrition and management procedures can help pigs perform efficiently, and provide a safe wholesome product for consumers.

Youth PQA Plus provides a way to:

- Educate producers and help prevent drug residues.
- Help ensure the wholesomeness of pork and pork products.
- Promote consumer confidence in pig well-being.

Educating producers of all ages about withdrawal times, proper injection techniques and avoidance of violative residues from medications and other animal health products has worked! Today's pork has the lowest residue levels ever.

Youth PQA Plus is also a way to demonstrate to consumers that youth producers are properly caring for their pigs.

- Many packers require youth producers they purchase pigs from to have Youth PQA Plus certification.

- County fairs, state fairs and other livestock shows may also require Youth PQA Plus certification.

Stock shows and county and state fairs are always searching for packers that will purchase exhibitor's show pigs. Packers and consumers have expressed concerns about the safety and wholesomeness of the products from show pigs. If you aren't Youth PQA Plus certified, where are you going to market your pigs? How can you ensure to your packer that your youth swine project will yield quality pork products that are safe for the consumer?

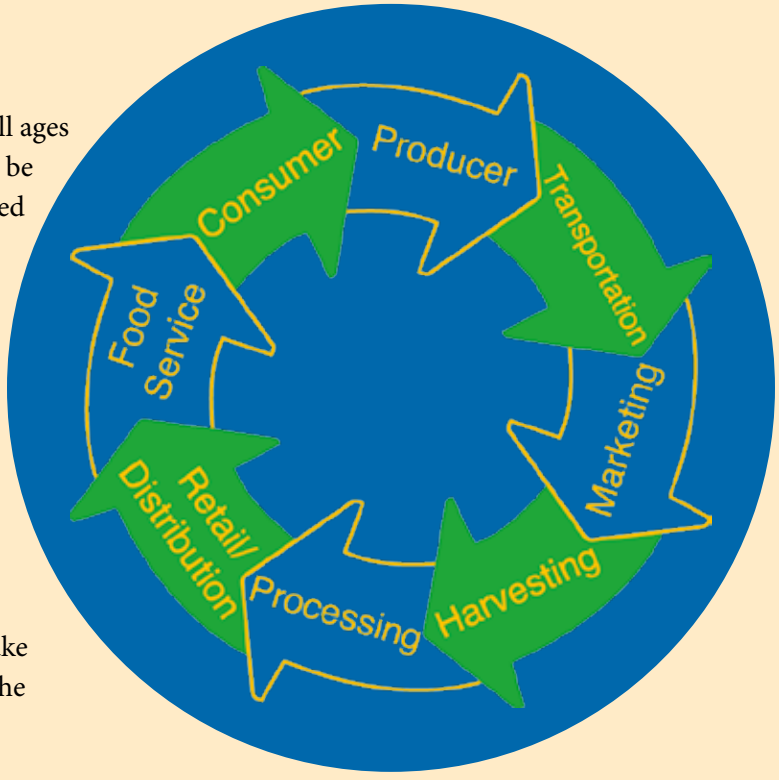
10 Good Production Practices of PQA Plus® and Youth PQA Plus®: Keys to Industry Success

The PQA Plus® and Youth PQA Plus® programs use 10 Good Production Practices (GPPs). When implemented, GPPs will help ensure pork is free from chemical and physical hazards; that pigs are raised in a caring, humane manner; that our natural resources are protected by pork producers; and that all producers work in a safe environment. These 10 GPP's are based on:

- Hazard Analysis and Critical Control Point (HACCP) principles. HACCP principles are the standard for controlling hazards in foods produced and processed in the United States and many foreign countries.
- The Food and Drug Administration's Compliance Policy Guide (CPG) 7125.37 – "Proper Drug Use and Residue Avoidance by Non-veterinarians."
- The Animal Medicinal Drug Use Clarification Act (AMDUCA) of 1994
- Science-based animal care and well-being guidelines

Producers and Food Safety

Farm production is the first of many steps in the food-supply continuum. Therefore, producers of all ages play a vital role in ensuring food safety. Value may be reduced or lost if the product becomes contaminated during any stage of the food-supply continuum so each participant in the process has to take responsibility for safeguarding against hazards. This means the sensible approach to food safety, one that uses the Good Production Practices, is designed to prevent, not detect, problems.

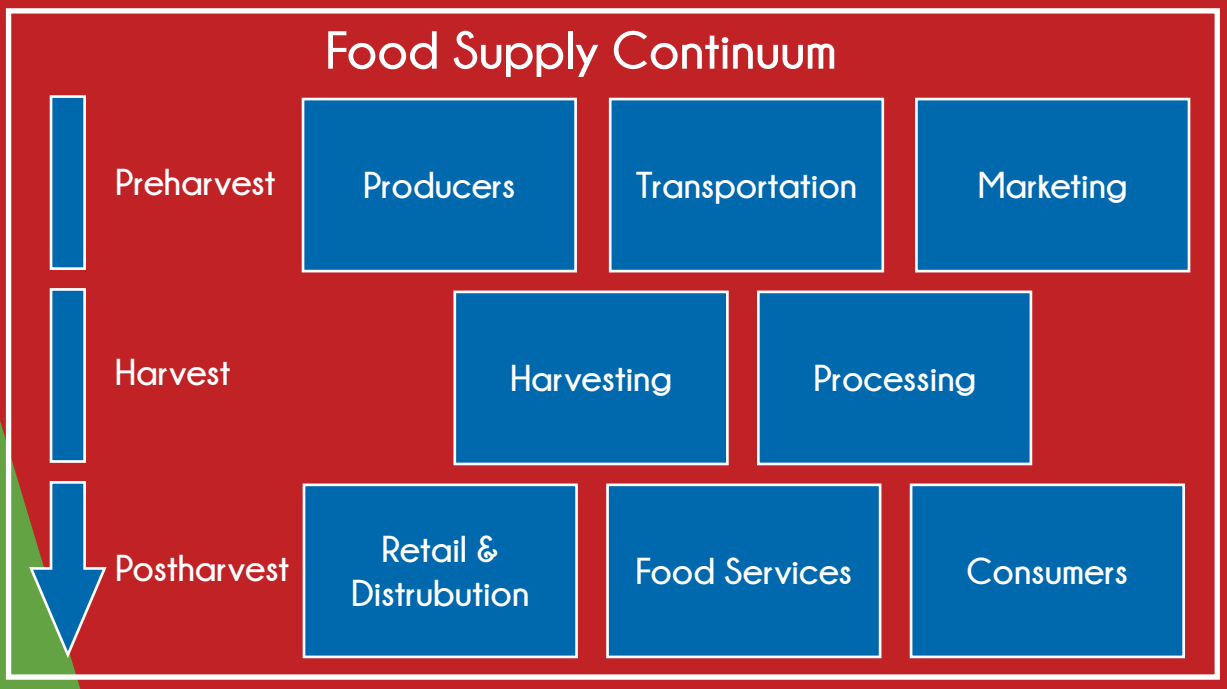


In the food-supply continuum, everyone is responsible for the safety of the product. Each segment, or role, relies on all other segments to make sure the product remains safe as it cycles through the continuum.

Food Supply Continuum

- **Producers** – Start the cycle by raising pigs that are free from violative residue levels and other potential hazards by correctly using animal health products, medicated feeds and providing pigs the proper environment.
- **Transportation & Marketing** – It is important to properly transport and care for pigs until they reach market.
- **Harvesting** – At the packing plant, the packer harvests the animals and prepares the carcasses for processing.
- **Processing** – Carcasses are broken into pieces for retail packaging as fresh pork, frozen pork or further processed ready-to-eat products.
- **Retail & Distribution** – Pork products enter the food supply chain through retail and distribution companies, mainly grocery stores and other distribution points where meat is sold directly to the customer.
- **Food Services** – Pork products are also distributed through the food service industry, where food is served to the public. Examples include schools and restaurants.
- **Consumers** – The consumer's role involves properly storing and cooking pork products. For example, ham lunchmeat needs to be kept at the proper temperature in the refrigerator to keep it properly chilled and safe. If consumers buy a product to cook, such as pork loin, they should follow correct cooking procedures for temperature and time.

As the cycle continues, consumers ultimately affect producers by demanding a high quality product, and it is the responsibility of everyone on the food-supply continuum to give the consumer the pork product they desire.



Producers and Animal Well-Being

Pork producers have a responsibility to provide appropriate conditions so that the pigs in their care maintain good health and physical conditions. Producers also represent the pork industry and have a duty to maintain and promote the tradition of responsible animal care through the application of scientifically sound animal care practices. Now more than ever before, the actions of individual producers can help or harm the industry as a whole.

Producers and Natural Resources

Protecting our environment comes naturally to pork producers; our livelihood is connected to the land, so we feel an inherent responsibility to protect it. Pork producers must take proactive actions to safeguard our natural resources through responsible environmental management on the farm. This includes the effective management of groundwater, surface water, air quality, animal and manure disposal, land and soil quality, land use, and protection against biological, chemical and physical risks.

Biological Risk The presence of a virus, bacteria, protozoa, mold or parasite that could cause a foodborne illness.

Chemical Risk Violative residues in pork from the use of animal health products, such as antibiotics, or other chemicals including pesticides.

Physical Risk Any foreign object or matter in a food item that may cause illness or injury to a person consuming the product. An example is a broken needle in a carcass.

If these risks or hazards are found in pork, consumers may be afraid to purchase pork and pork products. It is up to all producers to be responsible with the products used during production.

Producers and Caretaker Safety

Responsible pork producers understand the importance of health and safety of youth producers, anyone who helps care for their pigs, and their role in maintain public health is vital to their community and long-term business development. Part of that responsibility includes providing appropriate conditions so that all caretakers have safe and cleaning working conditions. This involves working with, and training, caretakers to reduce accidents and injuries.

Humane, Ethical Practices – Benefiting Your Industry

There is increasing customer and consumer interest in the way food animals are raised. Pork producers of all ages recognize that they share a duty to demonstrate responsible production practices in the areas of food safety, animal care, environmental protection, and caretaker safety. Participation in the Youth PQA Plus® Program is critical in building trust and maintaining the integrity of the pork industry.

With proper implementation of the GPPs, Youth PQA Plus can benefit young producers in many ways and encourage a positive perception of the entire United States pork industry. Pork quality starts with the producer, and it is our responsibility to meet or exceed the quality expectations of consumers. By participating in the Youth PQA Plus Program, you will be taking the first step in doing the right thing for your 4-H or FFA project and your industry.

We Care℠

The 10 Good Production Practices (GPPs) are based on four key elements of the We Care initiative.

- Food Safety
- Animal Well-Being
- Environmental Protection
- Worker Safety

The Youth Pork Quality Assurance® Plus (Youth PQA Plus) program comprises two main elements - _____ safety and animal _____.

Youth PQA Plus®

Youth PQA Plus provides a way to:

- _____
- _____
- _____

What does GPP stand for?

G_____

P_____

P_____

Food Safety

As a consumer you need to be sure that you properly store, handle and prepare food at home.

Hazard Labeling

If the listed items were found in or on pork products, what type of hazard would they be? Label each hazard with the correct category by writing the first letter in the blank.

Biological
Physical
Chemical

_____ Salmonella bacteria

_____ Pesticide residue violations

_____ Broken needle

_____ Piece of glass

_____ E. coli bacteria

_____ Listeria bacteria

_____ Oil or grease residue

_____ Razor blade

_____ Drug residue violations

_____ Piece of plastic

You & Food

Name two things you can do to help ensure that the food you eat is safe.

1.

2.

Restaurants & Food

Name two things a restaurant can do to help ensure the food you eat is safe.

1.

2.

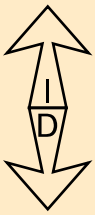
Food Safety

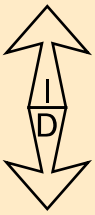
Each role in the food supply continuum can affect the demand for pork products.

Food Supply Demand

Read each story. Color the top of the arrow if the result of the story is an increase in demand, or color in the bottom of the arrow if the result is a decrease in demand.

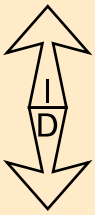
A restaurant chain does not cook its meat thoroughly for several orders. Several people get sick. Will this potentially increase or decrease the demand for pork?

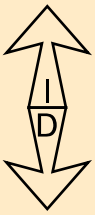




It is reported in the news that pork is now one of the leanest meats. It was announced that today's pork is 31 percent leaner than it was just ten years ago. It has 14 percent fewer calories and 10 percent less cholesterol. Will this potentially increase or decrease the demand for pork?

A consumer at the state fair purchases a grilled pork chop for lunch. He takes a large bite and finds a broken needle in the chop. He reports it to the local health officials. Will this increase or decrease the demand for pork?





The state fair is going on. The public loves to walk through the animal buildings. Many of the individuals passing through the pig building comment on how clean and well kept the pigs are. Will this increase or decrease the demand for pork?

Food Safety

You must identify a potential hazard before you can prevent it.

Hazards

Identify three hazards that may be on a pork production operation or farm.	What is the hazard type? (Biological, Chemical, Physical)	How could you prevent the hazard?

Review

1. GPP stands for: _____

2. T/F – There are 8 GPPs. (If false, make the statement true.)

3. Identify three roles in the food supply continuum.

4. How can you, as a producer, assist in a safe food supply?

5. Identify the three main types of risks and give an example of each:

Risk	Example
_____	_____
_____	_____
_____	_____

Answer Key

1. Good Production Practices

2. F – There are **10** GPPs.

3. Any three of the following: Producer, Transportation, Marketing, Harvesting, Processing, Retail/Distribution, Food Service, Consumer

4. Raise pigs that are free from high residue levels; Correctly use animal health products, medicated feeds and providing pigs the proper environment

5. Biological Risk – Salmonella bacteria, E. coli bacteria, etc.
   Chemical Risk – Drug residue violations, pesticide residue violations, etc.
   Physical Risk – Piece of plastic, broken needle, piece of glass, etc.

Top Five Takeaways

Use the space below to list five things you took away from this section.

GPP #1

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

Lesson Objectives

- Identify the requirements of an appropriate VCPR.
- Explain and understand the use of approved animal drugs.
- Understand the Food and Drug Administration's (FDA) requirement that prohibits extra-label use of drugs in medicated feeds.

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

Veterinarian/Client/Patient Relationship

A working relationship with your veterinarian where he or she advises and guides you in determining which medications are appropriate and when to use them as part of your pig project. You as the producer, are the client, and your pig is the patient.

What does having a VCPR mean for you?

The medical decisions for your swine project should be in the control of the veterinarian and the caretaker. If a veterinarian has agreed to evaluate and/or medicate an animal, any instructions for treatment must be followed by the caretaker if the VCPR is to remain valid.

In a VCPR, the veterinarian must:

- Accept the responsibility for the administration of a drug or medication.
- Provide continued care following the administration of a drug or medication, if needed.
- Be readily available for consultation and reevaluation of treatment results.
- Have working knowledge of the animal and/or operation.

Working Together in the VCPR

1. If the veterinarian is consulted for only a portion of the health program, it is impossible for the veterinarian to know the true scope of the disease challenges and the response to treatments given. Understanding the entire breadth of issues can lead to more timely and accurate diagnosis and facilitate the proper use of the Food and Drug Administration (FDA) approved drugs. Involving the primary veterinarian can also increase the treatment options available.

2. The availability and number of drugs for use in food animal medicine has historically been limited. Allowances have been made by which FDA-approved drugs could be legally used in food-producing animals in a way other than as directed on the label. The Federal Animal Medicinal Drug Use Clarification Act (AMDUCA) extents the privilege of extra-label use of drugs only to veterinarians and only when "the health of an animal is threatened or when suffering and death may result from failure to treat the animal." Extra-label use, as defined by the FDA, means actual use or intended use of a drug in an animal in a manner that is not in accordance with the approved labeling. Only a veterinarian with a VCPR for your animal can direct extra-label drug usage.

3. Veterinarians were given the privilege of extra-label drug use because of their advanced training, access to scientific literature and their ability to draw conclusions from their information resources. As a rule, there is no standard withdrawal time information for extra-label drug use; AMDUCA requires that the veterinarian directing extra-label drug use establish an extended withdrawal time so that no residue violations occur. This involves the veterinarian reviewing the literature and consulting other information resources prior to use as well as providing the producer a written plan for withdrawal prior to marketing the treated animal.

4. Details of the treatment of any food-producing animal must be recorded. Because extra-label treatment regimens have not undergone extensive trials necessary to have a label approved for specific use, the risk of adverse reactions or violative residues is increased compared to on-label use. Therefore, extra-label drug use is accompanied by greater responsibility for documentation. The producer should have records showing the instructions from the veterinarian directing the extra-label drug use and withdrawal prior to marketing as well as the treatment records that result from the application of these instructions. Treatment records serve as important documentation of when, how and with what drug the producer treated his/her animal. It is recommended that treatment records be maintained for at least 12 months after an animal is treated.

Requirement of producers for extra-label use of medications

- Established VCPR.
- Records showing the instructions from the veterinarian directing the extra-label drug use.
- Show documentation of the treatment records that result from the application of these instructions.

What is considered "extra-label" use of a drug?

- Increasing the dosage.
- Changing the frequency and/or route of administration.
- Changing duration of the treatment.
- Treating a disease or condition not stated on the label.
- Changing the species or life stage to be treated.

Distribution and Use of Approved Animal Drugs

Over-The-Counter (OTC) * Prescription (Rx) * Veterinary Feed Directive (VFD)

Over-The-Counter (OTC)

Over-The-Counter medications can be purchased by anyone from places such as farm supply stores, animal health salespersons, catalogs, and veterinary clinics. The margin of safety for the animal (especially if an accidental overdose occurs), the difficulty in correctly diagnosing the disease and the safety of the person administering the medications are all factors that the FDA considers when determining if the drug can be marketed as an OTC product. Even though VCPRs are not required if using OTC medications in a manner approved on the label, a VCPR should be the basis for all medication decisions. The producer must use OTC drugs only as specified on the label unless directed for an extra-label use by a veterinarian. For example, using penicillin purchased OTC at a higher dose than written on the manufacturer's label requires a veterinarian's direction.

Prescription (Rx)

Prescription drugs are those for which the FDA requires professional oversight for labeled usages because of their danger to either humans or animals. These drugs are available only through veterinarians, pharmacists and distributors on the order of a veterinarian. The manufacturer's label will have the statement, "CAUTION: Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian," identifying this drug as a prescription product. The veterinarian will supply information about the identity of the treated animal, dose, route, frequency of administration and the withdrawal time along with his/her contact name, address, and phone number.

Veterinary Feed Directive (VFD)

A veterinary feed directive drug is an antimicrobial intended for use in, or on, animal feed. Feeds containing a VFD product can only be used with veterinary oversight by a licensed veterinarian issuing a VFD.

Once the veterinarian has the basis for making a diagnosis, he/she can issue a VFD order. The veterinarian provides the original VFD to the client for use to obtain feed from a distributor, or provides it directly to the distributor, while providing the client with a copy of the VFD order. This document allows the producer to buy medicated feed containing the VFD drug. According to FDA regulations the veterinarian, producer and distributor of the VFD feed all are required to keep the VFD order. Any extra-label use of medication in feeds, including VFD feeds, is illegal.

Using a commonly available OTC antibiotic preparation, Procaine Penicillin G (300,000 IU per ml) as an example, let's look at some common situations where a veterinarian must be involved before using it in any way other than what is on the manufacturer's label:

1. Increasing Dosage

The label dosage for Procaine Penicillin G is 3000 International Units (IU) per pound of body weight. This means the label dose for the 200-pound hog is 2 ml daily when using the usual penicillin product (300,000 IU/ml). If you use this penicillin in your hogs, are you following the label direction, or has your veterinarian directed you to use a different dosage for this application? If you are not following label directions, this administration is an illegal action.

2. Changing the Frequency of the Route of Administration

Penicillin G Procaine is labeled only for intramuscular use in swine. Giving it by another route, such as subcutaneously, requires a VCPR and extra-label use and withdrawal instructions from the veterinarian.

**Note: Research shows that giving more than 10 ml of penicillin in any one injection site may result in an even further extended withdrawal time, even though the total dosage of penicillin was given as directed.*

3. Changing the Duration of Treatment

The label direction for Procaine Penicillin G are to treat swine for two days after the symptoms are gone but no more than seven days. Do your treatment protocols match the labeled or extra-label directions for each product to be used? If not, it would only be legal if a veterinarian directed it be used this way.

4. Treating a Disease or Condition Not on the Label

The only labeled use of Procaine Penicillin G in swine is for treatment of Erysipelas infections. Using it to treat anything other than Erysipelas is illegal.

5. Changing the Species of Life Stage to Be Treated

If the Procaine Penicillin G if approved for piglets only, using it at a later life stage, for example in grow-finish hogs, is an illegal use unless directed by a veterinarian, because it is using the drug in a different life stage than what is indicated on the label.

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

- 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 residue violation.
- 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.

Under AMDUCA, the FDA has the authority to prohibit the use of certain drugs in food-producing animals. There are also some drugs that are not labeled for use in swine and are specifically forbidden by the FDA from being used in an extra-label manner in pork production.

Remember:

- **Using a drug in a manner other than what is on the manufacturer's label is legal only if it is done by or on the order of a licensed veterinarian.**
- **Extra-label use of feed medications is not allowed, not even by a veterinarian.**

Compounding of Animal Drugs

Drug compounding is the mixing of two or more FDA-approved drugs to make a different medication for the needs of a particular patient. The mixing of two injectable drugs together in a bottle or syringe is compounding. Because the interactions of the different components may lead to the formation of new compounds or case destruction and/or precipitation of active or inactive ingredients, setting a withdrawal time is extremely difficult. The use of compounded drugs may result in adverse reactions or deaths of animals.

Under AMDUCA, a veterinarian with a VCPR may be permitted to compound FDA-approved drugs following rules very much like those for extra-label drug use. The veterinarian is then responsible for the safety, efficiency and withdrawal time of the compounded drug. Compounding by producers or distributors of animal health products is illegal.

Residue Testing

Residue avoidance starts with the identification and documentation of all treated animals including:

- The date(s) of treatment
- The product administered
- Dosage given
- Withdrawal time

More information will be found in GPP #6. However, animals sometimes lose ear tags, get out of pens and have accidental access to medicated feeds, or sometimes treatments records are lost or destroyed. When questions arise about the residue status of an animal, testing of live animals is necessary. The risk to your reputation as well as that of the industry far exceeds the cost of having the animal tested before market. Youth producers should have a plan of what to do before a residue test is needed as well as contact information of those that can assist with a residue test. When there is any doubt about the residue status of an animal, test them rather than guessing.

Summary

The use of an appropriate VCPR as the basis for medication decision-making is essential to good production practices.

- A VCPR means that a veterinarian has assumed responsibility for making medical judgments regarding the health of the animal(s) and the need for medical treatment, and the client (the owner of the animal(s) or other caretaker) has agreed to follow the instructions of the veterinarian.
- Such a relationship can exist only when the veterinarian has adequate knowledge of the animal(s) to make an initial diagnosis and is personally familiar with the keeping and care of the animal(s) by virtue of examination of the animal(s) and/or the medically appropriate and timely visits to the premises where the animal(s) are kept.
- Under a veterinarian's direction, FDA-approved drugs can legally be used in food-producing animals in a way other than expressly directed on the label, but only when a VCPR exists.
- A VCPR details the veterinary oversight of approved animal drugs used in an operation.
- Approved animal drugs are classified by category; either over-the-counter (OTC), prescription (Rx) or veterinary feed direction (VFD).
- Any extra-label use of medication in feeds, including VFD medications, by a producer or veterinarian is illegal.

With a VCPR, your veterinarian can help you make medical judgments, assist you with withdrawal times and your recordkeeping system, and can provide extra-label drug use under special circumstances.

VCPR

What does VCPR stand for?

V _____

C _____

P _____

R _____

Responsibility

You should always maintain your part of the VCPR. What are your responsibilities in a VCPR?

Benefits

List three benefits of having a VCPR.

1.

2.

3.

Fill in the Blank

Fill in the blanks with the proper term.

A VCPR is when you, as a producer, have a _____ relationship with your _____ where he or she advises and guides you in determining which _____ are appropriate and when to use them as part of your pig project. You, as the _____, are the _____, and your pig is the _____.

How is your veterinarian vital to the medication decision-making process?
Describe the three categories of approved drug distribution.

Over-The-Counter (OTC) _____

_____

Prescription (Rx) _____

_____

Veterinary Feed Directive (VFD) _____

_____

Prescription_____

_____

Veterinary Feed Directive_____

_____

Extra-Label

Put a checkmark beside the phrases that are extra-label use.

____ Your veterinarian tells you to give your pig more medicine than the label states.

____ Your veterinarian tells you to follow the instructions provided on the label.

____ Your veterinarian tells you to give your pig medicine more frequently than the label states.

____ Your veterinarian tells you to continue giving the medication past the treatment period stated on the label.

____ Your veterinarian prescribes a medication to treat a disease other than stated on the label.

____ Your veterinarian prescribes a drug for your pig that is not labeled for use in pigs.

Extra-label drug use can be defined as _____

_____

Extra-Label and Label Use

Label each situation as extra-label or label:

_____ The bottle of medication says to give your pig 10 cc of medication 2 times a day. You decide to give it 10 cc at 8 a.m. and 8 p.m.

_____ A bottle of medication states that it is to be used for beef. You think it will make your pig feel better. Your veterinarian agrees and gives you written permission to use the medication for your sick pig. You give 5 cc of medication as your veterinarian directed.

_____ Your pig is very ill. You call your veterinarian for help. He says that you should give your pig 8 cc of medication when the bottle states that you should give 4 cc.

_____ During a herd check your veterinarian noticed that your sick pig was not getting any better. He recommended giving 8 cc of medication three times a day when the bottle stated to give it two times a day.

VCPR

Fill in the information for your veterinarian and keep in a convenient place.

Name: _____

Address: _____

_____

Office Phone: _____

Cell Phone: _____

Email: _____

How often does your veterinarian look at your animals? _____

Drug Compounding

What is drug compounding?

What are the risks of drug compounding?

Compounding by producers or distributors of animal health products is _____.

Residue avoidance starts with the identification and documentation of all treated animals including:

- _____
- _____
- _____
- _____

Identify 3 residue avoidance practices

1. _____
2. _____
3. _____

Review

Correct each false statement to make it true.

1. T/F – Medical decisions for your pigs should be made by the feed salesman, equipment dealer or neighbor.

2. T/F – One benefit of a VCPR is that your veterinarian will be able to assist you with withdrawal times and recordkeeping.

3. T/F – Scheduling regular herd checks with the same veterinarian is one part of establishing a VCPR.

4. T/F – Extra-label drug use can be recommended by anyone.

5. T/F – A drug may be considered as being used in an extra-label manner if your veterinarian tells you to give your pig medicine more frequently than the label states.

6. T/F – It is okay to increase a drug dose on your own.

7. T/F – Drug compounding may result in a new medication that acts in a different manner than either one of the individual components.

8. T/F – A veterinarian can provide extra-label instructions for medicated feeds.

9. T/F – Withdrawal time is the time after the last feeding/treatment required for a drug to clear the pig's system, or to be rendered inactive and residue levels to be reduced to non-violative levels.

10. T/F – If your pig eats all of the medicated feed provided, you do not need to clean the feeder out before using it for another pig.

11. T/F – Over-the-counter medication is safe for any human or animal.

12. T/F – Dose, route of administration and withdrawal time can be found on a medication label.

13. T/F – When you are unsure of a withdrawal time, the animal should be tested to see if there is a violative medication residue left prior to the animal being sold or harvested.

Answer Key

1. False – Such decisions should be made by you and your veterinarian.
2. True
3. True
4. False – Extra-label drug use can only be recommended by veterinarians.
5. True
6. False – A veterinarian must authorize an increased dose.
7. True
8. False – Extra-label use of feed medication is illegal. A veterinarian cannot provide extra-label directions for medicated feed.
9. True
10. False – You should always clean equipment after use with medicated feed.
11. False – You must read the medication label to see if the medication is appropriate for your animal.
12. True
13. True

Top Five Takeaways

Use the space below to list five things you took away from this section.

GPP #2

Lesson 2 • GPP #2
Establish and Implement an Efficient and Effective Health Management Plan.

Lesson Objectives

- Describe the components of herd health plan.
- Name and describe appropriate internal biosecurity procedures.
- Name and describe appropriate external biosecurity procedures.
- Understand the relationship between human, animal and diseases.

Key Terms

Internal biosecurity
External biosecurity
Herd health plan
Rodent and pest control
Foreign Animal Disease (FAD)

Herd Health

Herd health is a key to food safety. Healthier animals grow more quickly and efficiently. Healthier animals generally require less medical care, reducing risk of residues and costs associated with the treatment of sick animals. The development and implementation of a health management plan can have beneficial impacts on animals' health through the use of measures such as vaccination plans, biosecurity protocols and emergency preparedness.

A health management plan should include these important components:

1. **Development and maintenance of a vet/client/patient relationship (VCPR).**
2. **Development of an individualized herd health plan.**
3. **Development of a herd level biosecurity plan.**
4. **Foreign animal disease and agroterrorism prevention.**

1. Development of a VCPR

Regular observations of animals by your veterinarian are not only beneficial in maintaining a healthy herd, they also fulfill the requirements of a VCPR (as explained in GPP #1). Your veterinarian can observe the pigs in their current environment and review production, vaccination/treatment records and other veterinary information in evaluating the health status of the herd. In addition, any health problems you have noted since the last visit can be discussed and addressed. Many times the veterinarian can provide a "fresh set of eyes" and may observe subtle problems that have gone unnoticed by caretakers seeing them every day.

2. Herd Health Plan

A herd health plan is designed to address potential and current health challenges and to help prevent diseases from entering into your herd. In cooperation with your veterinarian, formulate vaccination and parasite control programs tailored to your herd, considering factors such as the disease profile of the herd, type of production and facilities. The plan can include the different vaccinations for each phase of the operation and treatment guidelines for common disease challenges observed on-farm. It may also be helpful in preventing or controlling potential disease outbreaks. 'If you exhibit your pigs at different exhibitions during the year, your pig may be exposed to diseases or parasites from other pigs at the shows.

Another area to look at is the pens that your pigs are housed in. Your pig's pen may have previously housed a sick animal and germs are still present. Your health management plan may reduce the risk and costs associated with the treatment of sick animals.

Another component of a herd health plan can include the development of a periodic health check of your pigs. This plan can be developed with your veterinarian, in order to periodically survey the health status of your pigs and it can be tailored to your animal's needs. The herd plan can be tailored to the herd and target diseases of interest.

Knowing the disease status of your pigs can help your veterinarian create a specific health plan to help minimize the impact of disease. Understanding the level of challenges can help youth producers decide on the best strategy for managing their herd health. Some options for disease control can include elimination of a disease or to try to control/manage a disease. Other options for disease control can include the development of a treatment plan for targeted disease challenges. When purchasing an animal, be sure to ask when vaccinations and parasite control, such as deworming, last occurred. By providing vaccinations and parasite control you are helping prevent your animals from getting diseases or parasites that can affect its rate of growth, overall animal performance and well-being.

3. Biosecurity

Biosecurity is a combination of management practices designed to prevent the introduction and transmission of diseases and disease-causing agents into a herd. All producers, including youth producers, that are typically associated with a biosecurity plan include barn sanitation, rodent control, caretaker and visitor entry policies and general farm security measures.

Disease pathogens can move from one farm to another through:

- **Rodents, wildlife, birds** – Non-farm animals can transmit diseases or disease agents. *Ex: It is known that more than 10 pig diseases can be carried by rats and/or mice.*
- **Pets** – Keep cats and dogs out of the big barn.

  Ex: Your pet may have visited a neighboring farm where there is a group of sick pigs. You do not want your cat or dog to transmit any illness or disease to your pigs.
- **Vehicles and equipment** – Disease pathogens may be present on vehicles or equipment. *Ex: Borrowing a scale from your neighbor or sharing show equipment.*
- **Humans** – Diseases can be transmitted by humans too. *Ex: Visiting multiple farms in one day when purchasing pigs.*
- **New animals** – Introducing new animals or animals that have been off-site. *Ex: Pigs that have contacted other pigs or facilities such as going to shows or weigh-ins.*
- **Clothing and shoes** – Clothing and footwear can be sources of disease agents. *Ex: Wearing the same boots without cleaning and disinfecting from one location to the next may bring disease in manure stuck on the boots.*
- **Air** – Some pathogens may be transmitted by wind and air movement. *Ex: Locating your pigs close to another pig facility that may have a disease outbreak at some point.*

Biosecurity can be either:

- **External** – keeping diseases out of a herd
- **Internal** – keeping diseases already in one or more segments of the herd from spreading to other segments

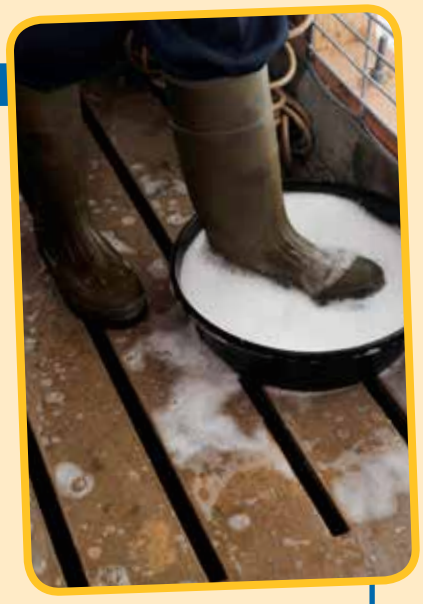
However, all biosecurity measures should be focused on the prevention of the entry of unwanted diseases.

External Biosecurity

- Control wildlife and pests to prevent contact with your animal(s) by including the use of perimeter fencing and bird screening.
- When contemplating the purchase of new animals, ask your veterinarian to discuss the health maintenance program you should start when the new animals get to your farm.
- When possible, establish an isolation facility for quarantining new animals at your farm that is remote and/or isolated from the existing herd. During the quarantine period, observe and test for diseases, vaccinate, medicate and acclimate the new animal as recommended by your veterinarian.
- Limit the number of visitors to your facility and minimize their contact with your pigs. Question visitors about recent contact with other pigs and downtime.
- Consider supplying disposable plastic boots to all visitors. Require everyone to at least wash hands, before entry to animal areas.
- Change clothes and boots after visiting other farms, livestock markets or exhibitions.
- Limit equipment and tools, including scales, to those that have been cleaned and disinfected if they have been used on another hog farm.
- Clean and disinfect your truck and trailer after each use.

An example of external biosecurity would be the isolation of incoming animals to test for unwanted diseases that are not already present in your herd.

Internal Biosecurity



- Work with your veterinarian to periodically survey your pigs for different disease challenges.
- When possible, operate all-in/all-out (AIAO) with cleaning and disinfecting between groups of pigs.
- Establish a traffic pattern for both pigs and people that prevents exposure of younger pigs to older pigs, their manure or people who have recently been in contact with them.
- Develop a routine check of all equipment and have an emergency plan for feed and water delivery.
- Provide dedicated boots and coveralls at strategic sites in the facility. Wash hands when boots and coveralls are changed. Because boot disinfection is sometimes difficult, disposable boots may be better if regular boots cannot be dedicated to a single site.

An example of internal biosecurity is stopping the movement or cross-fostering of baby piglets that have diarrhea.

The process of cleaning and disinfecting a facility is a vital part of controlling the exposure of pigs to pathogens in their environment. Removal of organic material is necessary before disinfection can be effective. Thorough cleaning alone may reduce pathogens by more than 90 percent; disinfection with effective products and completely drying will then inactivate remaining pathogens.

Room/Barn Sanitation

- An effective internal biosecurity plan must include a complete cleaning and disinfection of each pen or building between groups of pigs.
- Completely remove all organic materials and use compatible soaps and disinfectants to effectively kill harmful organisms.
- Allow the pen or building to dry completely before placing the next group of pigs in it as the drying process further reduces the chance that disease-causing agents will survive until the next group of pigs arrives.

Rodent and Pest Control

Rodent and pest control should be included in biosecurity plans as rodents and other pests can compromise both external and internal biosecurity measures. They can bring new diseases into a herd as well as serve as a reservoir of disease affecting a herd.

Four elements of effective rodent control include:

1. Denying entrance to facilities and buildings.
2. Removing sources of food that can attract and maintain rodent populations.
3. Preventing or denying them cover and places to live.
4. Baiting/trapping to reduce rodent populations.

Additional Information for Proper Rodent and Pest Control

- Cats and dogs are an unacceptable way of controlling rodents in and around livestock buildings. Cats can be the source of disease agents that infect pigs and other livestock. Some of these disease agents may present food-safety hazards in pork.
- In addition to rodents, wildlife, feral swine and other pests can also compromise biosecurity.
- Consider perimeter fences, netting and screening to exclude wildlife, birds, feral swine, pests, and even some insects.

4. Foreign Animal Disease (FAD) and Agro-terrorism Awareness, Reporting and Prevention

Pork producers should increase their awareness of foreign animal diseases (FADs) and report all suspect cases to state animal health authorities. Producers should also take special precautions to prevent the accidental or intentional introduction of FADs onto their farms and report all suspicious activities to local law enforcement. Producers and caretakers need also be aware of zoonotic diseases, especially influenza, which can be passed from animals to humans.

Some suggested protocols reduce transmission according to the
"Public Health Fact Sheet – INFLUENZA: Pigs, People and Public Health" include:

- Virus vaccinations for pigs
- Virus vaccinations for caretakers
- Ventilation systems that minimize re-circulation of air in production facilities
- Basic hygiene practices
- Worker biosecurity
- Feed security

Summary

Herd health is a key to food safety. A health management program should include these important components:

- Regular observations of your pigs by your veterinarian are not only beneficial in maintaining a healthy herd as they also fulfill the requirements of a veterinarian/client/patient relationship or VCPR.
- The development and maintenance of a herd health plan will help to prevent and control health challenges within a herd.
- Biosecurity can keep diseases out of a herd, or keep a disease already in one or more segments of the herd from spreading to other segments. Biosecurity includes control of rodents and other pests as well as proper sanitation of the farm.
- Development and implementation of an emergency management plan will help prevent the introduction of foreign animal diseases and provide you with a plan of action if they are suspected.

Herd Health Plan

A herd health management plan helps keep your animals healthy.

What is a herd health plan? _____

List 4 items to include in your herd health plan.

1. _____

_____

2. _____

_____

3. _____

_____

4. _____

_____

Benefits of a VCPR

List three benefits of having a VCPR.

1. _____

_____

2. _____

_____

3. _____

_____

Biosecurity

What is Biosecurity?

_____

_____

Disease pathogens can move from one farm to another through:

- _____
- _____
- _____
- _____
- _____
- _____

Sanitation Tips

Identify 6 tips to remember when sanitizing and/or cleaning your facilities, equipment, etc.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

External and Internal Biosecurity

What is External Biosecurity?

_____

_____

_____

_____

_____

What is Internal Biosecurity?

_____

_____

_____

_____

_____

Read the description below, and identity the statement as an internal or external biosecurity measure:	External	Internal
Locate new animals away from other swine herds and major transportation routes.		
Work with your veterinarian to regularly survey your herd for different disease challenges.		
Control wildlife and pests to prevent contact with your animal(s).		
Establish an isolation facility for quarantining new stock to your farm.		
Operate all-in/all-out with cleaning and disinfecting between groups of animals.		
Limit the number of visitors to your facility.		
Establish a traffic pattern for both pigs and people that prevents exposure of younger pigs to older pigs, their manure or people who have recently been in contact with them.		
Develop a routine check of all equipment and have an emergency plan for feed and water delivery.		
Minimize visitors' contact with your pig(s).		
Supply disposable plastic boots to all visitors.		
Provide dedicated boots and coveralls at strategic sites in the facility.		
Change clothes and boots after visiting other farms, livestock markets or exhibitions.		
Wash hands when boots and coveralls are changed.		
Use disposable boots if regular boots cannot be dedicated to a single site.		
Limit equipment and tools to those that have been cleaned and disinfected if they have been used on another hog farm.		
Clean and disinfect your truck and trailer after each use.		

Cleaning and disinfecting your facility before new animals arrive can prevent disease outbreak in your animals.

Herd Health and Biosecurity

Check YES if the task should be included in a herd health plan or is a proper biosecurity step, otherwise check NO.

	YES	NO
Consult your veterinarian about your herd health.		
Allow your cat to spend a lot of time with your pig so it is not lonely.		
Consult your veterinarian about current disease problems.		
Clean your animals' pens as little as possible.		
Review your recordkeeping system with your veterinarian.		
Change feeds often so that your animal will gain the most weight possible.		
Discuss current vaccination plan with your veterinarian.		
Schedule regular herd health checks with a veterinarian.		
Move your pig from one pen to another without disinfecting the pen first.		
Take biosecurity measures in your operation.		
Contact your local rodent/pest control personnel for a thorough rodent analysis.		
Take steps to decrease the rodent population on your pig operation.		
Clean and disinfect all show ring supplies.		
Consult with your veterinarian about an effective disinfectant.		
Weigh your pig daily to ensure weight gain.		

Review

Correct each false statement to make it true.

1. T/F – It usually costs less money to prevent disease than to treat a disease.
2. T/F – You, as a producer, should involve your veterinarian in creating your herd health plan.
3. T/F – A herd health plan should include regularly scheduled veterinarian herd health checks.
4. T/F – Biosecurity includes keeping diseases from entering a herd and keeping a disease already in one or more pigs in the herd from intensifying or spreading to other pigs.
5. T/F – Vehicles and equipment can be involved in the spread of pathogens and disease from one farm to another.
6. T/F – If you have six pigs or fewer, you do not need to take biosecurity measures on your farm.
7. T/F – Rodent control is a part of biosecurity.

8. What are the four components of a health management plan?

_____

_____

9. Define external biosecurity.

_____

_____

10. Define internal biosecurity.

_____

_____

11. Identify 3 biosecurity measures.

_____

_____

_____

Answer Key

1. True
2. True
3. True
4. True
5. True
6. False – No matter the number of pigs, you should always take biosecurity measures.
7. True
8. VCPR, individualized herd health plan, herd level biosecurity plan, and foreign animal disease and agroterrorism prevention
9. Keeping diseases out of a herd
10. Keeping diseases already in one or more segments of the herd from spreading to other segments
11. Limit on-farm visitors, wear plastic boots, clean and disinfect buildings and equipment, deny rodents entrance to facilities and building, remove sources of food that can attract and maintain rodent populations, deny rodents "cover" or places to live, bait or trap to reduce the number of existing rodents, ask all on-farm visitors to wear plastic boots over their footwear, require all individuals to shower-in and shower-out, etc.

Top Five Takeaways

Use the space below to list five things you took away from this section.

GPP #3

Lesson 3 • GPP #3
Use Antibiotics Responsibly.

Lesson Objectives

- Explain the importance of proper antibiotic use to protect animal health and optimize effectiveness.
- Explain the importance of minimizing the risk of antibiotic resistance, thereby protecting public health.

Key Terms

Antibiotics
Medication
Antibiotic resistance

Antibiotics in Pork Production

Pork producers use antibiotics for three purposes:

- **Treatment of Illness** – The administration of antibiotics to combat a clinical illness. Antibiotics administered for treatment are delivered by injection, in feed or in water.

- **Control or Prevention of Disease** – The administration of antibiotics in animals that have been, or are being, exposed to a bacterial infection, or are in operations that have historically experienced clinical outbreaks of disease at certain production stages. Antibiotics for control/prevention are typically delivered in feed or water.

- **Improve Nutritional Efficiency** – Antibiotics administered to enhance the efficiency of pigs in converting feed to muscle. Antibiotics to improve nutritional efficiency are typically delivered in the feed.

The basis for using antibiotics responsibly during pork production involves evaluating their use to protect animal health, optimize effectiveness and minimize the risk of developing antibiotic resistance, thereby protecting public health.

Principles and Guidelines for Responsible Antibiotic Use

The National Pork Board has developed the following five principles to guide producers to use antibiotics responsibility:

Principle I. Take appropriate steps to decrease the need for the application of antibiotics.

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

Principle III. Use antibiotics only when they provide measurable benefits.

Principle IV. Fully implement the management practices described for responsible use of animal health products into daily operations.

Principle V. Have a working veterinarian/client/patient relationship (VCPR) and follow the responsible antibiotic use guidelines.

Principle I: Take Appropriate Steps to Decrease the Need for the Application of Antibiotics

A. Preventive strategies, such as implementing biosecurity programs, appropriate animal husbandry, hygiene, routine health monitoring and vaccination programs, can help decrease the need for antibiotics.

A comprehensive herd health plan as described in GPP #2 is key to maintaining animal health and productivity. Maintaining a healthy herd will minimize the need for antibiotics. This includes talking with your veterinarian about the health status of your herd – how it can be improved and how it can be protected.

Principle II: Assess the Advantages and Disadvantages of All Uses of Antibiotics.

Producers should consider the advantages and disadvantages of all uses of antibiotics, including animal health, welfare, environmental, food safety and economic impact. Consideration should include the potential for development of resistant bacteria that may impact animal and/or human health and the public image of the pork industry. Antibiotic treatment may not always be the most effective strategy. Consider management options that could be as, or more, effective than antibiotics. Medication should not always be the first option in addressing health problems.

A. Antibiotic use should be minimized by treating only for as long as needed for the desired clinical response.

- Antibiotic use involves both dose (amount and frequency) and duration (length of treatment).
  - Label instructions can provide valuable guidance on the optimum dose and duration of treatment.
  - Extra-label use of an antibiotic must be by or on the order of a veterinarian, within the context of a VCPR and as outlined in the Animal Medicinal Drug Use Clarification Act as described in GPP #1. It is illegal for a producer or veterinarian to deviate from the label when using antibiotics in the feed.
  - Administration of antibiotics in chronic, non-responsive cases may not be effective.

Work with your veterinarian to create proper procedures for any herd health regimen that requires antibiotics.

B. Periodically assess the need for continuing preventative antibiotic therapy.

- Review, with your veterinarian, the use of antibiotics on a regular basis.
- Assess if there are other management changes you can make to reduce the need for antibiotics.
- Ask yourself, "Is the condition that was initially diagnosed, and that required antibiotic treatment still present?"
- Don't let antibiotic use become routine.

Principle III: Use Antibiotics Only When They Provide Measurable Benefits

A. Assess the measurable benefits of all antibiotics.

- The Food and Drug Administration (FDA) approves products based on their safety (human, animal and environmental) and efficacy. The agency considers the risk to public health from antibiotic resistant bacteria.
- The FDA does not consider economic benefit in the approval decision. Producers have to assess potential economic benefits for their operation when deciding on product use.
- Reduced death, illness and improved animal welfare are measurable benefits that can result from the appropriate treatment and prevention of disease.
- The measurable benefit from increased nutritional efficiency can reduce days to market, improve feed utilization and reduce animal waste.
- Producers may have the option of supplying markets that require certain restrictions for antibiotics based on marketing decisions. Consider pig welfare, management implications and economic impact of adopting those specified production practices when choosing if you will participate in that market.

Evaluate these benefits on your farm to ensure there are measurable benefits from using anitbiotics.

Principle IV: Fully Implement the Management Practices Described for Responsible Use of Animal Health Products into Daily Operations

A. Complete the Youth Pork Quality Assurance® Plus (Youth PQA Plus®) program and fully implement the Good Production Practices.

Youth PQA Plus is recognized as the industry's commitment to the production of safe and wholesome pork. Implementation of the PQA Plus Good Production Practices (GPPs) is an important step toward using antibiotics responsibly. Implementation of GPPs will also help you ensure there are no drug residue violations in the animals you deliver to the packing plant. The issue of drug residues is separate from, and not related to, antibiotic resistance.

B. Pork producers have long been required to follow the guidelines set forth in the FDA's published Compliance Policy Guide (CPG) 615.200 (Proper Drug Use and Residue Avoidance by Non-Veterinarians):

- Accurate records of treatment as described in GPP #6 should be used to evaluate effectiveness.
- Medicine withdrawal as described in GPP #6 must be followed to avoid residues.

Make sure to keep written records of all medication uses. Whether the drug is used according to the label or in an extra-label manner, or it is a veterinary feed directive (VFD) product, the written records should include identification of the animal(s) treated (individual animals, pens, lots, etc.), the date(s) of treatment, the drug(s) administered, who administered the drug(s), the amount administered, and the withdrawal time prior to slaughter.

Maintain medication and treatment records. Written records are essential for verifying that you are using antibiotics wisely. In this instance, the job isn't done until it is written down. Protect yourself, public health, your industry and the confidence consumers and government agencies have in your ability to produce a safe product, by keeping a written record of every antibiotic use on your farm.

Principle V: Have a Working Veterinarian/ Client/Patient Relationship (VCPR) and Follow the Responsible Antibiotic Use Guidelines

The National Pork Board has developed the following six guidelines to help producers, in cooperation with their veterinarian, use antibiotics responsibly:

A. Use professional veterinary input as the basis for all antibiotic decision-making.

- As described in GPP #2 the responsible use of antibiotics should meet all requirements of a VCPR.
- Prescription and the use of antibiotics in a manner other than what is on the label (extra-label drug use) must meet all the requirements of a VCPR.
- It is illegal to use extra-label antibiotics in feed, even by a veterinarian.

B. Antibiotics should be used for treatment only when there is an appropriate clinical diagnosis.

- An accurate diagnosis includes identification of factors contributing to the cause of the disease.
- Culture and sensitivity results can aid in the selection of antibiotics. Look for management factors such as ventilation, pig flow, etc., that may be contributing to the disease.

C. Limit antibiotic treatment to ill or at-risk animals, treating the fewest animals indicated.

- Responsible use of antibiotics during treatment includes administering antibiotics only when necessary, to the smallest number of animals feasible and for the least amount of time necessary to prevent reoccurrence of the disease.

D. Antibiotics that are important in treating antibiotic resistant infections in human or veterinary medicine should be used in animals only after careful review.

- Ask your veterinarian which antibiotics are recommended for any disease condition on your farm and how they could impact antibiotic resistance.
- Work with your veterinarian to consider product choices and develop treatment protocols to minimize development of resistance or cross-resistance.
- Have a written action plan for antibiotic use, and review it regularly with your veterinarian.

E. Mixing together injectable or water medications, including antibiotics, by producers is illegal.

F. Minimize environmental exposure through proper handling and disposal of all animal health products, including antibiotics.

- Water medications and feeders need to be properly adjusted to deliver the desired dose and avoid spillage and waste.
- Ensure proper handling and disposal of any outdated or unused animal health products through communication and training.

Summary

Pork producers use antibiotics for three purposes:

- Treatment of Illness
- Control or Prevention of Disease
- Improve Nutritional Efficiency

Principles for responsible antibiotic use include:

- Principle I. Take appropriate steps to decrease the need for the application of antibiotics.
- Principle II. Assess the advantages and disadvantages of all uses of antibiotics.
- Principle III. Use antibiotics only when they provide measurable benefits.
- Principle IV. Fully implement the management practices described for responsible use of animal health products into daily operations.
- Principle V. Have a working veterinarian/client/patient relationship and follow the responsible antibiotic use guidelines.

Guidelines for responsible antibiotic use include:

- Guideline A. Use professional veterinary input as the basis for all antibiotic decision-making.
- Guideline B. Antibiotics should be used for treatment only when there is an appropriate clinical diagnosis.
- Guideline C. Limit antibiotic treatment to ill or at-risk animals, treating the fewest animals indicated.
- Guideline D. Antibiotics that are important in treating antibiotic resistant infections in human or veterinary medicine should be used in animals only after careful review and reasonable justification.
- Guideline E. Mixing together injectable or water medications, including antibiotics, by producers is illegal.
- Guideline F. Minimize environmental exposure through proper handling and disposal of all animal health products, including antibiotics.

While antibiotics are very powerful in the treatment of many bacterial diseases, some bacteria have developed ways to resist antibiotics.

Pork Producers & Antibiotics

List three reasons why pork producers may use antibiotics.

1.

2.

3.

Principles and Guidelines

List three of the principles and guidelines for responsible antibiotic use that you currently follow.

1.

2.

3.

List one that you plan to implement in your operation this year.

Goal

Write one goal about antibiotic use that you have for your operation.

Antibiotics and Your VCPR

What role does your VCPR play in antibiotic use?

_____

_____

_____

Minimize Antibiotic Use

List 5 things you can do to minimize the use of antibiotics in your operation.

1. _____
2. _____
3. _____
4. _____
5. _____

Antibiotic Records

List three things that needed to be recorded when administering antibiotics.

1. _____
2. _____
3. _____

Review

Correct each false statement to make it true.

1. T/F – Implementing biosecurity programs, practicing appropriate hygiene, routinely monitoring health and participating in vaccination programs can help decrease the need for antibiotics.

2. T/F – Antibiotics can be given for any length of time.

3. T/F – Antibiotics can be used in swine to improve nutritional efficiency.

4. T/F – Antibiotics can be used as a substitute for good management.

5. T/F – Antibiotics can be administered through food, water or injection.

6. T/F – Antibiotics are only used for treatment of illness.

7. T/F – Taking steps to ensure biosecurity can also help prevent illness or disease in your animals.

8. T/F – It is okay to treat all animals with antibiotics, even if they are not considered at-risk.

9. T/F – It is okay to use antibiotics labeled for humans for your pigs without justification.

10. T/F – It is not a problem if a healthy pig finds and eats medicated feed.

11. T/F – Implementing biosecurity measures may decrease the need for antibiotics.

12. Identify three uses for antibiotics in pork production.

Answer Key

1. True
2. False – Antibiotics use should be minimized by treating only for as long as needed for the desired clinical response.
3. True
4. False – Antibiotics should only be used to supplement good management.
5. True
6. False – Antibiotics can also be used to prevent bacterial infection and improve nutritional efficiency.
7. True
8. False – Limit antibiotic use to ill or at-risk animals.
9. False – Such decisions should be made in consultation with your veterinarian, along with careful review and justification.
10. False – You should prevent pigs from eating medicated feed when it is not needed for treatment.
11. True
12. Treatment of illness, control or prevention of disease and improve nutritional efficiency

Top Five Takeaways

Use the space below to list five things you took away from this section.

GPP #4

Lesson 4 • GPP #4
Properly Store and Administer Animal Health Products.

Lesson Objectives

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

A primary responsibility of all pork producers is to produce safe food. A component of food safety is freedom from drug residue violations. This involves knowing where the information can be found about withdrawal times, how to calculate when the withdrawal is complete and when it is safe to market an animal. All animal caretakers must be instructed on methods used to follow label directions, identify treated animals and record treated animals. Well-kept records will allow anyone to quickly determine that the correct withdrawal time has elapsed before animals leave a location. All caretakers are responsible for following label directions or directions provided by a veterinarian medicating the animals under a veterinarian/client/patient relationship (VCPR).

Key Terms

Drug/Medication labels
Administering medication
Trade name
Active ingredient
Indications
Dosage
Directions for use
Cautions and warnings
Withdrawal times
Manufacturer's lot number
Expiration date
Oral medication
Topical medication
Injectable medication
Intramuscular
Subcutaneous
Intraperitoneal
Intravenous
Intranasal
Sharps

Everyone – exhibitors, parents, caretakers – who may be involved in treating pigs must know and use proper techniques for administering medications.

Responsibilities for Properly Administering Products

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.

Drug Labels

The drug label provides important information to producers. Labels should be read and understood before giving any medication. 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. The drug label is where caretakers find valuable information about the medication, including the administration technique.

Drug labels contain the following:

- **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.
- **Direction 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, which will be covered in GPP #5.

Drug Storage

Follow proper drug storage instructions located on the label. Most medications require storage in a clean, dry and dark location. Inventory rotation needs to be implemented to avoid accumulation of out-of-date products. Consider routine monitoring and recording of refrigerator temperatures.

Medications are a perishable commodity, meaning they must be protected from damage and stored under the right conditions in order to remain effective.

The strength of a stored drug may be decreased by temperature extremes or exposure to sunlight. Some drugs are best stored at room temperature while others require refrigeration. Most vaccines and some antibiotics should be refrigerated at 40° F - 45°F. Always check the label for storage instructions. 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.

Over time, medications can lose their effectiveness. To avoid using these medications, limit the supply to only what will be used well before the expiration date. The inventory should be rotated so that those bottles/packages with the shortest expiration date are used first. Regularly check products for expiration and properly discard those that have expired.

In addition to preserving the value of drugs in storage, it is also important to maintain their identity. Medication should be stored in the original container with the product label. If a product is placed in another container, it should be clearly labeled immediately to prevent misidentification.

Some medications are injectable. You should avoid withdrawing the medication and storing it in a syringe that is not labeled for a later treatment. Unlabeled syringes may have medication in them that could be mistaken for another medicine. This will result in a poor treatment response and mistakes in withdrawal times. Syringes do not provide protection from contamination and sunlight that a colored glass vial provides. Syringes that have been cleaned and disinfected may also have a soap or disinfectant residue that can inactivate the drug of vaccine left in them over time.

It is important to store medication appropriately to prevent contamination. Injectable medications should be kept in a tightly sealed, clean bottle. Clean the rubber stoppers before inserting a needle into the vial. Use only clean needles to withdraw contents from multi-dose vials. Dirty needles can contaminate the contents of the vial. This contamination can be the cause of injection-site reactions and abscesses.

For many vaccines, the label directions will state, “use the entire contents immediately when opened.” These vaccines lose their effectiveness quickly and should be discarded, according to the label, if not used after they are opened or rehydrated.

Administering Medications

Medications are commonly administered to pigs in three ways: orally, topically or by injection. Each method has advantages and disadvantages based on the situation.

Extra-label drug use in feed IS NOT an option; it is illegal.

Methods of Providing Medication to Pigs

1. Oral

Oral medications are those given through the mouth. When a large number of animals are medicated, water and/or feed can sometimes be used as vehicles to deliver the medication. These routes are less stressful to the animals as well as to the people giving the medication. An added benefit to oral medications is that there is no risk of broken needles or injection-site reactions.

Medicated feed may be the method of choice when treating animals for multiple days in succession. When using medicated feed, all instructions on the feed tag or delivery slip must be followed. Residual feeds should be removed from bins and feeders so that the medicated feed is introduced rapidly and in proper concentration. Feed intake should be monitored because medication must meet healing levels to be effective and may not reach these levels if daily feed intake is shortened. Extra-label drug use in feed is not an option; it is illegal.

Medications may also be given to the pigs in drinking water. Medicated water can be delivered to the pigs quickly in facilities that have a water medicator installed in the supply line. In other cases, it is necessary to empty water fountains or to block them so the pigs have access only to medicated water. Water medications are a flexible treatment option allowing for the modification of dosage based on current water consumption patterns. For some bacterial diseases, individual oral treatment may be necessary because it is the only route that can guarantee beneficial levels of medication.

2. Topical

Some medications are administered by applying them to the skin of the pig. Examples include sprays, dusts, pour-ons, and dips. Most of the topical medications are for parasite control. Care must be taken to prevent chilling of pigs when using sprays or dips in cold weather.

3. Injection

Injections are useful when treating individual animals and may be the only practical way of medicating pigs that are too sick to eat or drink. Some medications are poorly absorbed from the gut, making injections the only option. Restraint of some kind may be needed to administer the drug by injection. It is also important to properly identify the pig at this time. Injections present a risk of broken needles and injection-site reactions. Only inject into clean, dry areas.

Administration of Injectable Drugs

Improper injection techniques cause a significant loss to the pork industry each year. Injection-site reactions, broken needles and lack of product effectiveness are consequences of improper injection techniques.

There are five ways to give injectable medications to pigs:

1. In the Muscle (Intramuscular – IM)

- Use a spot on the neck just behind and below the ear, but in front of the shoulder.
- Do not use a needle to inject in the ham or loin, unless directed to do so by your veterinarian. There may be some bleeding and bruising of the muscle followed by scarring. This scar can stay in the muscle for the life of the pigs and be a blemish in the cut of meat. This standard applies to sows, as well as market hogs. While sows may not be going to market soon, they are at greater risk for blemishes because of the repeated injections they typically receive over their productive life in the form of vaccinations and farrowing medications.
- The veterinarian and packer can help to determine acceptable alternate methods to avoid carcass defects, which impact valuable meat cuts in the carcass.
- Use the proper size and length of needle to ensure the medication is deposited in the muscle, not in other tissues.

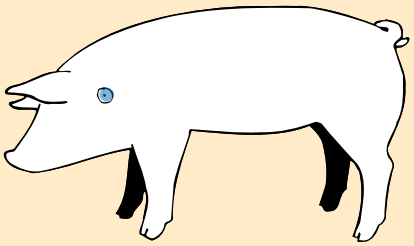


Table 1: Recommended Needle Size

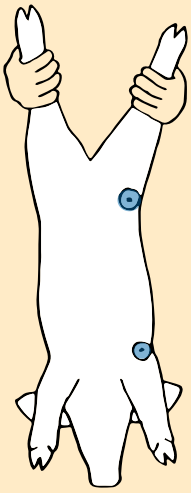
Intramuscular Injection	Gauge	Length
Baby Pigs	18 or 20	⅝" or ½"
Nursery	16 or 18	¾" or ⅝"
Finisher	16	1"
Breeding Stock	14, 15 or 16	1" or 1½"

2. Under the skin (Subcutaneous – SQ)

- Use proper length of needle and angle to avoid injecting into muscle, as that changes drug metabolism and withdrawal times.
- Slide the needle under the skin away from the site of skin puncture before depositing the product.
- For small pigs use the loose flaps of skin in the flank or behind the elbow.
- For larger pigs inject in the neck behind the ear at the same location as for IM injections.

Table 2: Recommended Needle Size

Subcutaneous Injection	Gauge	Length
Nursery	16 or 18	½"
Finisher	16	¾"
Breeding Stock	14, 15 or 16	1"



3. In the Abdominal Cavity (Intraperitoneal – IP)

This technique SHOULD BE USED ONLY UPON VETERINARY INSTRUCTION and guidance as serious injury, including death of the pic, can occur.

4. In the Vein (Intravenous – IV)

This technique SHOULD BE USED ONLY UPON VETERINARY INSTRUCTION and guidance as serious injury, including death of the pig can occur.

5. In the Nasal Passages (Intranasal – IN)

- 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.
- Keep the pig's head tilted upward during and immediately following administration to help the product be inhaled into the deep nasal passages.

Appropriate Needle Usage

1. Prevention

A. Evaluate the needle you are using - no chips, cracks, burrs and make sure it's not bent. Information is available on the Checkoff website, *pork.org*.

- This includes the quality of the needle/hub.

B. Provide needle-use guidelines to all animal caretakers that address:

- Ensuring proper animal restraint.
- Selecting the proper site and technique for injection.
- Selecting the proper size and length of needle according to the pig's age, the injection site selected and the characteristics of the product to be injected.
- Changing the needle when appropriate to maintain cleanliness and sharpness.
- Taking measures to minimize the loss of needles in areas occupied by hogs. Retrieve dropped needles. Packers report finding needles lodged in the tissues around the mouth, throat and jowls of sows and market hogs. As many of these needles are intact, it must be assumed that they have been dropped in a pen and chewed on by the pig.
- Changing bent needles – NEVER STRAIGHTEN A BENT NEEDLE, ALWAYS CAREFULLY REMOVE AND REPLACE IT.
- Considering the appropriate number of needles that would be reasonable to use for a particular job. Then account for and reconcile the number of needles at the beginning of the job and the number of needles at the finish.

Pork Checkoff-funded research on needle strength shows that disposable needles will rarely break during the 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. Never straighten and reuse a bent needle. Always carefully discard and replace it.

2. Identification of Hogs that are at Risk of Carrying a Broken Needle

- Establish a plan for immediately identifying hogs known or suspected of harboring a broken needle fragment.
- Provide permanent identification of the animal if the identification applied at the time of the incident is not permanent.
- The permanent identification should be recognizable by all caretakers and packers.
- Record all pertinent information regarding the event (information could include activity, guage and brand of needle, location, restraint used, person giving the injection, person who reported it).

3. Communications with Your Packer/Show Management

- How are the hogs marked?
- How is the packer to be notified?
- Keeping broken needles out of the pork supply helps maintain the confidence of consumers when purchasing our products. No matter where you market your hogs or pigs, you must be diligent in informing buyers or processors of any pig potentially contaminated with a needle.

Disposal of Used Needles and Surgical Knives

Used needles, knife blades and syringes are called "sharps." These devices must be disposed of properly following use to prevent environmental contamination and injury to fellow workers, children, waste handlers and livestock.

Sharps should be disposed of in a rigid puncture-resistant container immediately after use. Glass containers are not acceptable because they are more likely to break in the disposal process. Appropriate containers can be purchased from many farm supply stores, safety supply houses, drug stores or veterinarians. Regardless of the container type, it should prevent the penetration of needles through the container surface.

Sharps containers must be clearly labeled as a biohazard waste container not for recycling. When the container is full, the cap or lid should be securely tightened and sealed with heavy tape. For disposal of these containers, ask your veterinarian or a local hospital if they accept farm-generated medical wastes.

All animal health products, including antibiotics, must be properly handled and disposed of to minimize environmental exposure. Sewage systems and septic tanks are not designed to remove antibiotics from the discharge water. Regulations regarding the disposal of unusable antibiotics vary from state to state. Unless specifically prohibited by local regulations, antibiotic that are no longer wanted should be discarded in a commercial sanitary landfill. These landfills are monitored by the Environmental Protection Agency and engineered to contaminating ground water.

Summary

Drug labels contain the following:

- Trade Name
- Active Ingredient
- Indications
- Dosage and Directions for Use
- Precautions
- Warnings
- Withdrawal Times
- Manufacturer's Lot Number
- Expiration Date

Always refer to the label for correct storage of any product.

Medications are commonly administered to pigs in three ways:

- Oral
- Topical
- Injectable

There are five ways to give injective medication to pigs:

- In the Muscle (Intramuscular – IM)
- Under the Skin (Subcutaneous – SQ)
- In the Nasal Passages (Intranasal – IN)
- In the Abdominal Cavity (Intraperitoneal – IP)
- In the Vein (Intravenous – IV)

Never straighten and reuse a bent needle!

Develop a standard operating procedures (SOP) for needle usage and consider including:

- Prevention of needle breakage
- Identification of hogs that are at risk or carrying a broken needle
- Communications with your packer

Drug Labels

Draw a line between each term and its definition.

Trade Name	Measured portion of medication to be administered at a given time
Active Ingredient	Date the medication should be discarded
Indications	Items to pay particular attention to when using the medication
Dosage	Commercial name given by manufacturer
Direction for Use	Reference number that the manufacturer used to determine the batch in which the product was made
Cautions and Warnings	Chemical name(s) of what makes up the active portion of the medication
Withdrawal Times	How to administer medication, proper storage of medication, and other special instructions needed to correctly keep and use medication
Manufacturer's Lot Number	Use of the drug for treating a particular disease or set of signs and symptoms
Expiration Date	Amount of time that must pass after the medication is administered before harvest

Medication Storage

A medication label states that it should be stored at 36˚F in a dark place. Where should you keep it?

Caretakers

List all caretakers that are involved in helping care for your pigs and should be aware of medication applications.

Name	Phone

Reading a Medication Label

Get a medication label off of an empty bottle and attach it in the space below. Answer the following questions about the medication:

What is the medication name?

How is the medication administered (orally, topically, or by injection)?

If it is an injection, what type of injection?

Where on the pig should the injection be given?

How much should you give a 100 lb pig?

Is there a withdrawal time?

What are the storage instructions?

Labels

Read the medication label below. Write each term next to the matching content on the label.

1. Trade Name
2. Active Ingredient
3. Indications
4. Dosage
5. Direction for Use
6. Cautions and Warnings
7. Withdrawal Times
8. Manufacturer's Lot Number
9. Expiration Date

Omnibiotic
(Hydrocillin in Aqueous Suspension)

Directions for use: See Package Insert

For use in Beef Cattle, Lactating and Non-Lactating Dairy Cattle, Swine and Sheep.

Read entire brochure carefully before using this product.
For intramuscular use only.

Active Ingredients: Omnibiotic is an effective antimicrobial preparation containing hydrocillin hydrochloride. Each ml of this suspension contains 200,000 units of hydrocillin hydrochloride in an aqueous base.

Indications: Cattle - bronchitis, foot rot, leptospirosis, mastitis, metritis, pneumonia, wound infections. **Swine** - erysipelas, pneumonia. **Sheep** - foot rot, pneumonia, mastitis; and other infections in these species caused by or associated with hydrocillin-susceptible organisms.

Recommended daily dosage: The usual dose is 2 ml per 100 lb. of body weight given once daily. Maximum dose is 15 ml/day.

Body Weight	Dosage
100 lb.	2 ml
300 lb.	6 ml
500 lb.	10 ml
750 lb. +	15 ml

Continue treatment for 1 or 2 days after symptoms disappear.

Caution: 1. Omnibiotic should be injected deep within the fleshy muscle of the neck. Do not inject this material in the hip or rump, subcutaneously, into a blood vessel, or near a major nerve because it may cause tissue damage. 2. If improvement does not occur within 48 hours, the diagnosis should be reconsidered and appropriate treatment initiated. 3. Treated animal should be closely observed for at least 30 minutes. Should a reaction occur, discontinue treatment and immediately administer epinephrine and antihistamines. 4. Omnibiotic must be stored between 2° and 8°C (36-46°F). Warm to room temperate and shake well before using. Keep refrigerated when not in use.
Warning: Milk that has been taken from animals during treatment and for 48 hours (4 milkings) after the last treatment must not be used for food. The use of this drug must be discontinued for 30 days before treated animals are slaughtered for food.
How supplied: Omnnibiotic is available in vials of 100 ml.

TAKE TIME  **OBSERVE LABEL DIRECTIONS**

Recordkeeping

How can you use drug inventory and usage records to review your herd's health?

Medication Dosage

Discuss determining the proper medication dose for the four scenarios below.

1. It is May 12 and your pig has diarrhea. The medication label says to give 2 cc/100 lbs of body weight twice daily for 3 days. Your pig weighs 325 lbs. The expiration date on the bottle is May 20. How much medication should you give your pig?

2. On December 5 your pig's ears are down, and it is breathing very hard. Your veterinarian recommended a medication. The medication label says to give 2 cc/100 lbs once a day. Your pig weighs 150 lbs. The expiration date on the medication is December 4. How much medication should you give your pig?

3. On July 8 it is really hot and sunny outside. Your pig has scraped its leg. You decide to give your pig medication to prevent infection. You drive with your father to the barn to give your pig the medication. Your father had used this medication yesterday and left the bottle of medication on the dash of the truck. The medication label says to give 4 cc/200 lbs. every six hours. Your pig weighs 250 lbs. The medication label says that this medication should be kept at 40°F and in a dark place. How much medication should you give your pig?

4. It is September 18 and your pig is not eating. Your veterinarian says it needs medication and tells you what medication to use. The medication label says to give 1 cc/50 lbs once a day. Your pig weighs 260 lbs. The medication label states that the expiration date is October 10. How much medication should you give your pig?

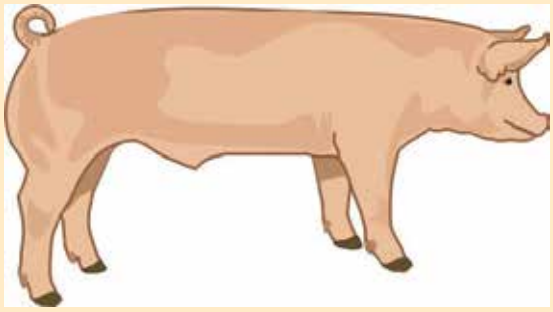
Properly Administering Products

1. _____
2. _____
3. _____
4. _____
5. _____

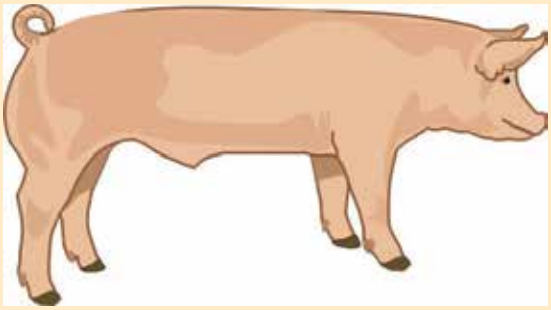
Administering Medication to Pigs

Describe three ways to administer medications and indicate on the drawings where the medication should be administered.

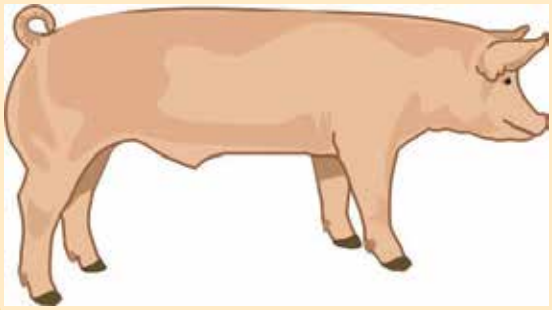
Oral



Topical



Injection



Extra-label drug use in _____ in NOT an option; it is _____.

Giving Injectable Medication

List the 5 ways to give injectable medications to pigs and an example of each.

1.

2.

3.

4.

5.

Sharps

What are sharps?

What is the proper way to dispose of sharps?

Appropriate Needle Usage

Identify three things to remember about appropriately using a needle.

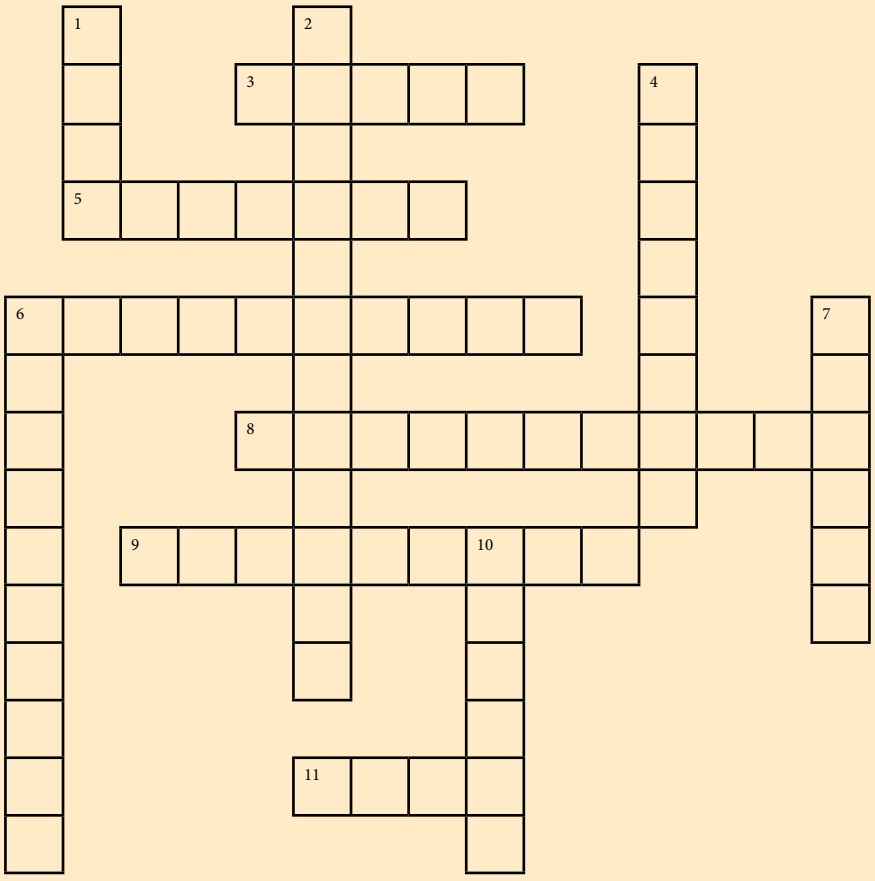
1. _____

2. _____

3. _____

Anyone caring for your animals should be concerned about your animals' health as well as food safety.

Crossword



ACROSS

3. Needles should not have ___.
5. Administering medication on the skin.
6. ___ are a way to give medication if an animal is no longer eating.
8. In the vein or ___.
9. Intraperitoneal or in the ___ cavity.
11. ___ medication is usually fed to an animal or placed in its water.

DOWN

1. Needles should not be used if they have been ___.
2. Under the skin or ___.
4. ___ should be aware that they must identify a hog that is at risk of carrying a broken needle.
6. In the nasal passages or ___.
7. Intramuscular or in the ___.
10. Selecting the proper ___ length and gauge for injections is important.

Review

Correct each false statement to make it true.

1. T/F – The dosage is the amount of medication to be given over a week's time.

2. T/F – Medication is safe to use after its expiration date.

3. T/F – Inventory records should show how much medication is in stock.

4. T/F – Veterinarians are responsible for following label directions for medications and antibiotics.

5. T/F – Withdrawal times are used to indicate how much time must pass between when the medication is administered and when the animal can be harvested.

6. T/F – The active ingredient is the chemical name(s) of what makes up the active portion of the medication.

7. T/F – The directions for use identify items in which to pay particular attention to when using the medication.

8. T/F – Over time, medications can lose their effectiveness.

9. T/F – Topical medications are administered by applying them to the skin of the pig.

10. T/F – It is acceptable to simply straighten a bent needle and use it again.

11. T/F – Glass containers may be used to dispose of sharps.

12. Identify four things found on a drug/medication label.

13. Identify five ways to give injective medication to pigs.

Answer Key

1. False – The dosage is the amount of medication to be given at one time.
2. False – After the expiration date, the medicine may no longer be effective or have the same impact.
3. True
4. False – All caretakers are responsible for following label directions or directions provided under a VCPR.
5. True
6. True
7. False – The cautions and warnings identify items in which to pay particular attention to when using the medication.
8. True
9. True
10. False – Never straighten a bent needle. Always carefully remove and replace it.
11. False – Glass containers are not acceptable because it is more likely to break in the disposal process.
12. Trade name, active ingredient, indications, dosage and directions for use, precautions, warnings, withdrawal times, manufacturer's lot number and expiration date
13. In the muscle, under the skin, in the nasal passages, in the abdominal cavity and in the vein

Top Five Takeaways

Use the space below to list five things you took away from this section.

GPP #5

Lesson 5 • GPP #5
Follow Proper Feed Processing Protocols.

Lesson Objectives

- Know the proper feed processing protocols.

Although youth are not mixing their feed, it is important for them to have an awareness of proper hygiene when handling feed, techniques for applying both medicated and non-medicated feeds, proper labeling, and recordkeeping practices.

Current Good Manufacturing Practices (cGMPs)
Non-Medicated cGMPs
Medicated cGMPs

Medicated Feed & Current Good Manufacturing Practices (cGMPs)

A set of guidelines for processing medicated feed, referred to as current Good Manufacturing Practices (cGMPs), is designed to prevent feed contamination and to provide reasonable assurance that the medicated feed is manufactured accurately. The cGMPs must be followed to help ensure safe, wholesome meat products for human consumption.

The current Good Manufacturing Practices provide standards for

- Buildings and grounds
- Equipment
- Work space and storage areas
- Product quality assurance
- Labeling
- Recordkeeping

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

- Prevent accumulation of dust that could contaminate finished feeds and present a fire hazard.
- Premises should be constructed to ensure access to preventative maintenance ease of operation, maintenance, cleaning, pest control and minimize feed contamination.
- Ensure adequate space exists for equipment, processing and storage of feeds.
- Employ inspection and control procedures to secure compliance with required standards for production, storage and transport of feed and feed ingredients.

2. Equipment

- Check equipment to be sure it can produce feeds of intended nutritional levels, safety and purity.
- Clean up spills, fix leaks in equipment and prevent build-up of feed ingredients.
- Check scales to ensure they are accurate and functioning properly. Caretakers are encouraged to weigh feed properly and record on a clip board. This information then needs to be put into records on the computer or all kept in one secure location.
- Avoid contamination of equipment used to transport/store water.
- Bags used as packaging shall not be reused unless cleaned using appropriate and documented procedures.
- Clean feed mixing and handling equipment between medicated and non-medicated feed usage.
- Minimize the potential for cross-contamination of feed during mixing.
- Observe good animal feeding practices that minimize biological, chemical and physical risks.

3. Workspace and Storage

- Design workspaces and storage areas to avoid accidental contamination of feed.
- If mixing non-medicated and 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.
- Feed work areas also should be separated from equipment or storage used for herbicides, pesticides, fertilizers and ingredients not intended for inclusion in feeds.
- Properly label and store agricultural chemicals separately from feed mixing, feed storage, feed areas and feed ingredients.
- Store processed feed/feed ingredients separately from unprocessed feed ingredients.
- Utilize precautions to minimize spoilage and condensation and limit fungal and bacterial growth.
- Employ pest control programs.

4. Quality control

- Feed samples can be collected and tested for composition and consistency. Consult with your feed supplier to administer these tests.
- Establish equipment cleanout procedures to prevent unsafe cross contamination of feeds or carryover of medicated feed products.
- Use pathogen-control procedures where appropriate.
- Provide correct feed to the right animal group and follow directions for use.
- Water should meet hygienic standards.
- Avoid contamination of equipment, feed and feed ingredients when disposing of sewage, other waste and rainwater.
- Use appropriate feed hauling containers when going to show. (ie. Make sure the container is free of residue and do not use an old feed sack).
- Feed contaminated with undesirable substances should be clearly marked, not used, and discarded appropriately.

5. Labeling

- Non-medicated feeds should have a different label than medicated feeds.
- All premixed feeds should have a label that will identify conten and provide directions for proper use.
- Obsolete labels should be discarded promptly.

6. Recordkeeping

- Visually inspect received feed ingredients for quality or defects.
- Written records that contain the delivery date, method, carrier and any observations about color, weight or other quality measurements will be very useful if a question of feed quality or contamination is ever raised.
- Samples of ingredients and finished feeds should be taken, identified appropriately and stored for six months.
- Feed inventory records should enable the manager to perform both trace-back and trace-forward of each batch of ingredients to the group of animals that consumed it.
- Maintain records regarding production, distribution and use of feed and feed ingredients.
- Voluntary recalls of feed/feed ingredients should be guided by FDA procedures or appropriate corrective actions.

7. Caretaker

- Caretakers should observe proper hygiene to minimize potential hazards to food safety from feed.
- Provide training for all caretakers involved in manufacture, storing and handling of feed and feed ingredients and document the training.

Medicated cGMPs – Special Requirements

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

1. Medication

- Comply with federal residue levels for feed.
- Feed additives and veterinary drugs used in medicated feed should be assessed for safety.
- Identify animals receiving medicated feeds and ensure those animals receive that appropriate withdrawal period.

2. Equipment

- Clean feed mining and handling equipment between medicated and non-medicated feed. (i.e. Have a red dipper for medicated feeds and a green dipper for non-medicated feeds. The idea of "red" means to stop and think – "Does this have medication in the feed?")
- Clean storage and feeding equipment used for medicated feed after use if a different feed is to be used next.

3. Workspace and Storage

- Ensure that feed work areas, equipment and storage areas for animal drugs and manufactured feeds are physically separated from other work areas.
- Inventory practices shall be used to minimize risk of contamination.

Pig Grower

Medicated
for pigs between 30 and 75 pounds

Administer to swine in complete feed for reduction of the incidence of cervical abscesses; treatment of BACTERIAL SWINE ENTERITIS (SALMONELLA or NECROTIC ENTERITIS caused by Salmonella choleraesius or VIBRONIC DYSENTERY), maintenance of weight gains in the presence of ATROPHIC RHINITIS.

Active Drug Ingredients	
Chloretracycline	100g/Ton
Sulfathiazole	0.011% (100g/Ton)
Penicillin	50g/Ton
Guaranteed Analysis	
Crude Protein	min 18.00%
Lysine	min 1.10%
Crude Fat	min 6.50%
Crude Fiber	max 4.00%
Calcium	min 0.60%
Calcium	max 1.10%
Phosphorus	min 0.40%
Salt	min 0.40%
Salt	max 0.90%
Selenium	min 0.30 PPM
Zinc	min 0.30 PPM

Ingredients: Grain Products, Plant Protein Products, Processed Grain By-Products, Animal Fat, Animal Protein Products, Calcium Phosphate, Lignin, Sulfonate, Ground Limestone, Salt, L-Lysine Monohydrochloride, Methinone Supplement, Zinc Oxide, Zinc Sulfate, Ferrous Sulfate, Manganous Oxide, Copper Sulfate, Calcium Iodate, Sodium Seleite, Vitamin A Acetate, Vitamin D-3 Supplement, Menadione Dimethylpyrimidinal Bisulphate, Riboflavin Supplement, Niacin, Calcium Pantothenate, Vitamin B-12 Supplement, Thiamine Mononitrate, Folic Acid, Choline Chloride, Pyridoxine Hydrochloride, Biotin, Ethoxyquin (as a preservative).

Feeding Directions: Feed as the only ration to pigs weighing from 30-75 pounds bodyweight.

Caution: In order to obtain the desired performance results, the animal should be self-fed.

Warning: Withdrawal 7 days prior to slaughter; contains high levels of copper, do not feed to sheep.

Manufactured by: Skill-a-thon Feed Mills

Net Weight 50 pounds (22.7 Kilograms) or as shown on shipping document.

4. Quality Control

- Proper hygiene to reduce the risk of cross contamination of non-medicated feeds by medicated feeds.
- Provide training for all caretakers for proper mixing and handling and storage of feed to minimize possible cross contamination.
- Establish equipment cleanout procedures (includes storage containers, feed scoops and feeders) to prevent unsafe cross contamination of feeds or carryover of medicated feed products.
- Ensure storage containers, scoops and feeders should be free of contamination from medicated feeds and contaminated feeds.
- Provide correct medicated feed to the right pig and follow directions for use.
- Medicated feed contaminated with undesirable substances should be clearly marked, not used and discarded appropriately.
- Minimize the potential for cross-contamination of feed during mixing.
- Observe good animal feeding practices that minimize biological, chemical and physical risks.

5. Labeling

- Receive, handle and store medications and their labels in a way that prevents confusion.
- All medicated feeds should be labeled, describing the feed and provides instructions for use.
- Make sure the correct label is fixed to all medicated feed containers you receive or store.
- The label should identify the product and contents, provide directions about use and state withdrawal times.
- Obsolete labels should be discarded promptly.

6. Recordkeeping

- Visually inspect received feed ingredients for quality or defects.
- Written records that contain the delivery date, method, carrier and any observations about color, weight or other quality measurements will be very useful if a question of feed quality or contamination is ever raised.
- Keep written records of medicated feed production.
- Retain records for one year after the animal(s) are marketed.

Documenting Feeding Quality							
Week of: _____	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Pen/Group: _____							
Buildings and Grounds							
Dust accumulation on finished feeds							
Adequate and clean space for equipment, processing and storange of feed							
Free from feed spills							
Absent from leaks in equipment							
Absence of build-up of feed ingredients in equipment							
Scales are accurate and functioning properly							
Minimized risk of cross-contamination of feed during mixing							
Minimized biological, chemical and physical risks							
Workplace and storage							
Work areas for medicated and non-medicated feeds are physically separated							
Feed work areas separated from equipment and storage used for herbicides, pesticides, fertilizers and ingerdients							
Processed feed and feed ingredients stored separately from unprocessed feed ingredients							
Pest control programs employed							
Minimal spoilage and condensation and limited fungal and bacterial growth							
Quality control							
Equipment cleanout procedures completed (physical cleanout, flushing sequencing of production and delivery sequencing)							
Pathogen-control procedures used							
Provide correct feed to the right animal group and follow direction for use							
Water meets hygienic standards							
Avoid contamination of equipment, feed and feed ingredients when disposing of sewage, other waste and rainwater							
Appropriate feed hauling containers used when going to show							
Contaminated feed containers clearly marked and discarded appropriately							
Labeling							
Non-medicated feeds have different label than medicated feeds							
Premixed feeds have a label to identify content and provide directions for proper use							
Recordkeeping							
Received feed ingredients visusally inspected for quality and defects							
Written records present containing delivery date, method, carrier and any observations about color, weight or other quality measurements							
Samples of ingredients and finished feeds taken, identified and stored for 6 months							
Records maintained regarding production, distribution and use of feed and feed ingredients							
Caretaker							
Observe proper hygiene to minimize potential hazards to food safety from feed							
Medicated cGMPs, - Medication							
Comply wiht federal residue levels for feed							
Animals receiving medicated feeds identified - receive appropriate withdrawal period							
Medicated feed label identifies product and contents, directions about use and withdrawal times							

Mixing Medicated Feed

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

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

Summary

Current Good Manufacturing Practices (cGMPs) set standards for:

- Buildings and grounds
- Equipment
- Work space and storage areas
- Product quality assurance
- Labeling
- Recordkeeping

The cGMPs should be followed to ensure safe, wholesome meat products for human consumption.

Feed Supplier

Ask your feed supplier if they use current Good Manufacturing Practices. Write their response below.

Feed Manufacturing Goals

Complete the sentence: The goal of feed manufacturing is to produce feed that ___

1.

2.

3.

cGMPs

List three current Good Manufacturing Practices and tell how they can be done on your farm.

1.

2.

3.

Goals

List one cGMP that you hope to implement on your farm next year.

Mixing Medicated Feeds

When mixing medicated feeds you can get one of three results. The medication level in the feed can be just right, too high, or too low.

Name one possible result of a medication level being too high?

Name one possible result of a medication level being too low?

Review

Correct each false statement to make it true.

1. T/F – Feed mixing equipment needs to be cleaned a minimum of once a year to be considered safe.

2. T/F – One good manufacturing practice is to keep good records of when feed is mixed with any medication.

3. T/F – Feed that meets nutritional specifications is one goal when manufacturing quality feed.

4. T/F – When manufacturing or mixing medicated feed, it is critical that you make sure the feed contains the proper drug concentration.

5. A set of guidelines for processing medicated feed, are referred to as

Answer Key

1. False – To prevent cross contamination, you should clean out scoops, measuring containers, mixing equipment and/or buckets between each use.
2. True
3. True
4. True
5. Current Good Manufacturing Practices (cGMPs)

Top Five Takeaways

Use the space below to list five things you took away from this section.

GPP #6

Lesson 6 • GPP #6
Establish Effective Swine Identification, Medication Records and Withdrawal Times.

Lesson Objectives

- Identify tools and methods for identification of all animals.
- Understand the importance of premises identification and traceability.
- Explain the importance of identifying and tracking all treated animals.
- Explain the minimum standard of medication and treatment records.
- Identify the recommended length of time to maintain written medication and treatment.
- Define, calculate and follow withdrawal times.

Key Terms

Swine ID Plan
Premises Identification
Animal Identification
Animal Tracing
Ear Notches
Tattoos
Ear Tags
Medication records
Withdrawal times

Swine ID Plan

The Swine ID Plan is an initiative to implement a set of industry developed and approved program standards, for the purpose of improving pre-harvest traceability and disease surveillance. This plan will help meet increasingly strict customer demands and will help protect animal health. The program standards are consistent with the federal and state codes of regulations and there are three key components – premises identification, animal identification and animal tracing.

1. Premises Identification

Premises identification is the process of registering a location where livestock 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 after the site is registered through the state. The standardized PIN consists of seven alphanumeric characters with the right-most character being a check digit. This standardized PIN is different than 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

2. Animal Identification

Animal identification is the process by which pigs are officially identified individually or as part of a group or lot. You will be responsible for officially identifying your swine in compliance with the Swine ID Plan's program standards, which includes the parameters for officially identifying groups and individual animals.

There are two primary methods of animal identification, permanent and temporary.

Permanent

- Ear notches
- Tattoos

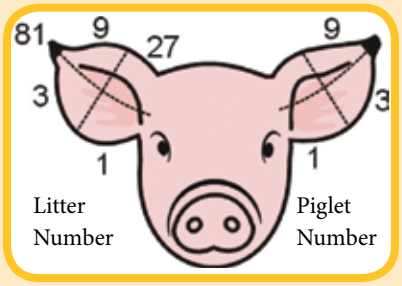
Temporary

- Ear tags
- Paint brands
- Marking crayon/stick marks




Ear Notches

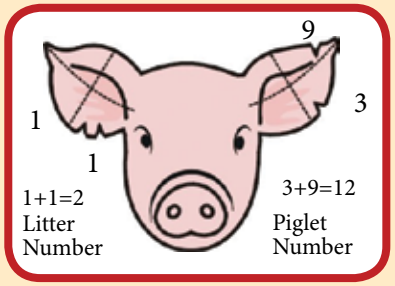
One permanent method of identifying individual pigs is through ear notching. Ear notching systems may be site-specific. You should keep records of the specific system you use. One method uses the pig's right ear to denote the litter number and the left ear to identify the piglet number. The notches, symbolizing specific numbers, are added together for each ear and then read starting with the litter number. For instance, piglet 23-4 was born in the 23rd litter and was the fourth pig identified. The ear can basically be drawn in half from the tip of the ear down the middle to the base. Imagine another line going from the top of the ear to the bottom of the ear, halfway from the tip and you have divided the ear into quarters (quadrants).



With the exception of the number 1, the notch numbers are in multiples of three (1, 3, 9, 27, 81). With the exception of the number 81 at the very tip of the ear, up to two notches may be placed in each quadrant. By adding the notches together, producers can identify up to 161 distinct litters with this system. Some producers have made modifications so that more litters can be identified.

The lower quarter of the ear closest to the head identifies the number 1. The lower quarter of the ear farthest from the head is the number 3. The top quarter of the ear farthest away from the head if the number 9. The top quarter of the ear closest to the head is the number 27.

Taking a notch out of the tip of the ear denotes the number 81. Obviously only one notch is permitted here. The pig's left ear identifies the pig number and follows the same basic structure, except that the numbers 27 and 81 are not used because litter sizes are generally smaller.



If done consistently, ear notches are permanent forms of individual identification. They seem complicated at first, but are easy to read with practice.

This pig would be identified as 2-12. In the right ear, which is the litter number, the pig has been notched twice in the 1 position. By adding 1 plus 1, we get the litter notch of 2. In the pig identification ear, the left ear, the pig has been notched in the 3 and 9 position. By adding 3 plus 9, we get the pig identification number of 12.

Tattoos

Tattoos can be used for swine. The advantage of using tattoos for identification is that they are permanent and not easily altered. Like an electronic identification system, they are hard to read from a distance. This can create a problem when you are searching for a specific pig in a pen.

Ear Tags

Ear tags are also a common form of swine identification. Most ear tags are easily read from a distance. They are great to use for daily management and are inexpensive, however, they can be easily ripped from the ear leaving no identification on the animal and may be cumbersome to apply. Ear tags are often used for show identification on finisher pigs that may be youth projects like your animals. Some ear tags include electronic identifiers. These types of ear tags are computer-friendly, but may be hard to read from a distance and can be expensive. Your pigs may have ear notches that were placed on your animals at the location where it was born and an ear tag for show record purposes.

Paint Brands & Crayon/Marking Stick Marks

Another form of identification that can be used is a paint brand or crayon/marking stick mark. Each of these methods is visible from a distance and easily applied, however, they can easily be washed off, wiped off, or rubbed onto pen mates. They are not permanent forms of identification, but are useful when immediately moving a treated pig to a sick pen.

3. Animal Tracing

Animal tracing can be accomplished by using the program standards in the Swine ID Plan. A movement record would include the animal's or group's identification number, PIN of the sending and receiving premises, the date of movement, number of head moved and the reason for movement. Records will be maintained for three years after the swine leave the premises and will be available to animal health officials for inspection. Although, there are no official regulations in regard to animal training from show to show or for jackpot shows, exhibitors are encouraged to keep records of the shows in which they have participated in case they are needed for future use. Exhibitors should check with each show to confirm required paperwork and records needed for that particular show.

Methods of identifying treated pigs individually include:

- Paint marks are easy to apply and can be used temporarily, but may rub off or rub onto untreated pen mates.
- Tattoos are permanent, but depending on the type, the tattoo may be hard to apply and difficult to read at a distance.
- Ear tags are the easiest to see but are more cumbersome to apply than some other methods.
- Ear notches can be recorded on a card to identify treated animals.

Identifying individual animals or groups of animals is essential to meaningful records.

Caretakers must be familiar with site-specific identification systems.

- Pen or room number
- Group (building or site)

When treated animals are identified by pen, room or group number, it is important that the entire group remains intact until the withdrawal time has elapsed. Any pig removed from the group should be individually identified and their withdrawal time recorded.

Medication Records

There are several reasons related to food safety for keeping records of all medications given to food-producing animals. The primary reason is to make sure withdrawal times have elapsed before marketing.

Keeping and maintaining records is also a basic expectation of regulatory officials. Medication records provide documentation that demonstrates a drug was used properly. In instances where a residue violation found at harvest has been traced to a farm, the producer will be expected to provide complete medication records to the investigator. All food-animal producers must keep medication and treatment records for one year from the last day of treatment.

The FDA expects ALL producers, including youth producers, to maintain medication records that will indicate (Table 3):

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.

Table 3. Animal Medication Record (minimum requirement)

Date	ID	Product	Amt Given	Route	Given by	Withdrawal time
9/17	145	Penicillin	10ml	IM	Bill P	7 days

Withdrawal Times

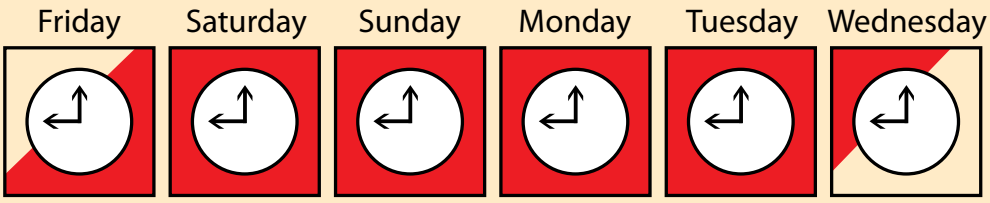
The withdrawal time is the period required for the medication to be metabolized, broken down or excreted so that the level remaining in the body of the animal at harvest is below the level established as safe for humans. This withdrawal time is established by the FDA based on the results of extensive testing. If the drug has a withdrawal time, it will be found on the label, package insert or the feed tag. In the case drugs are used in an extra-label manner, the veterinarian must assign an adequate withdrawal time so there are no harmful residues at harvest.

Other countries may require withdrawal times different than the United States for some products. For example, Japan has different withdrawal times for various drugs and medications. One source for export maximum residue level (MRI) information, or for more information about withdrawal times for export markets, is the National Pork Board website, *pork.org*. This website contains the most current information on international requirements. Another source might be your packer. Your packer should inform you of their alternative markets and the differing withdrawal times.

As a reminder, nearly all injectable vaccines are labeled with a 21-day withdrawal time. If there is a possibility that a pig will soon be sold as food, it should not be vaccinated unless the withdrawal time can be met.

Calculating Withdrawal Times

Each withdrawal day is a full 24 hours starting with the last time the pig is treated or has had access to medicated feed, water, topical or injectable products. If a pig is last treated at 9 a.m. on Friday with a drug having a 5-day withdrawal, the withdrawal would be completed at 9 a.m. on the following Wednesday.



In the case of medicated feed or water, the withdrawal time begins when all the medicated feed is removed from the feeder or the water supply and has been cleaned and flushed. The withdrawal starts at the time the medicated feed or water is physically removed from the pigs' environment, not the last time the feed bin was filled with medicated feed or medication was put in the water supply.

Medication Information

Some products are not compatible when administered or mixed with others. This can affect the product's efficiency, the withdrawal time prior to market and/or cause 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.

Summary

Develop a Swine ID Plan

Exhibitors should develop a specific plan to identify treated animals. The plan should include:

- Premises Identification
- Animal Identification
- Animal Tracing

Medication Records

Medication records are important as they help ensure food safety, are an expectation of regulatory officials and act as a useful management tool. Medication records should indicate:

- The animal(s) that were treated.
- The date(s) of treatment, including last date of administration
- The drug(s) administered.
- The route of administration.
- The person who administered the drug.
- The amount of each drug administered.
- The withdrawal period prior to harvest.

Withdrawal Times

Withdrawal time is the period required for the medication to be metabolized, broken down or excreted so that the level remaining in the body of the animal is below the level established as for humans.

Swine ID Plan

Identify the three parts to a Swine ID Plan

1. _____

2. _____

3. _____

Permanent identification is _____

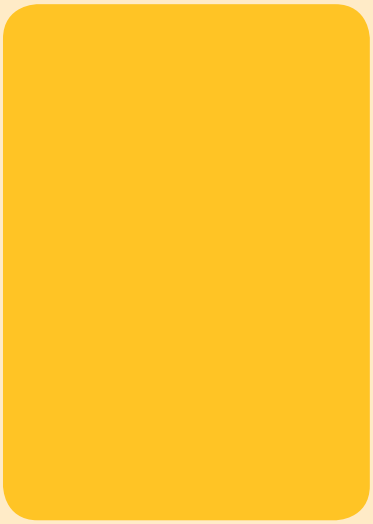
Example _____

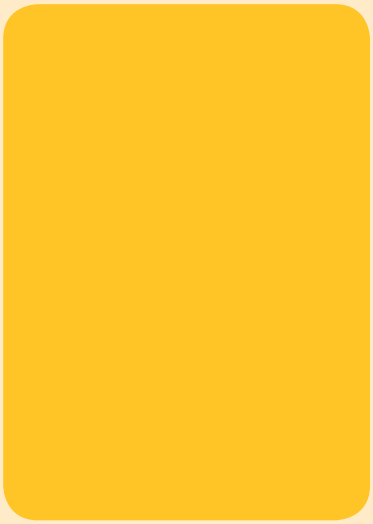
Temporary identification is _____

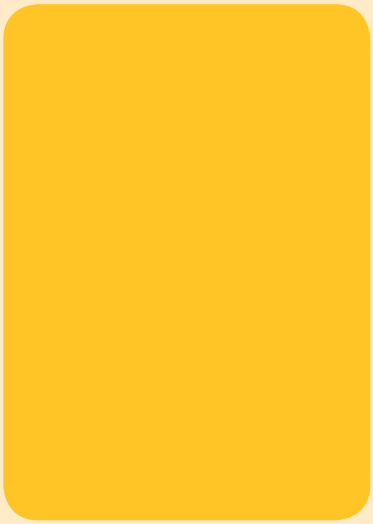
Example _____

Photo Time

Photograph (or draw a picture of) three different types of identification. Place them below and identify each one. List one benefit for each type of identification.







_____ _____ _____

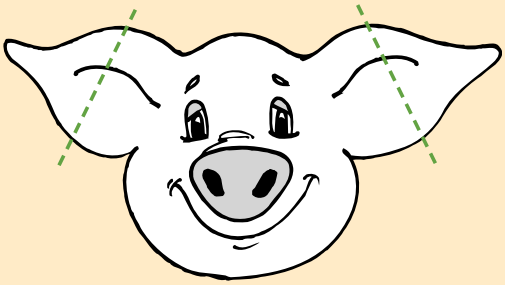
_____ _____ _____

_____ _____ _____

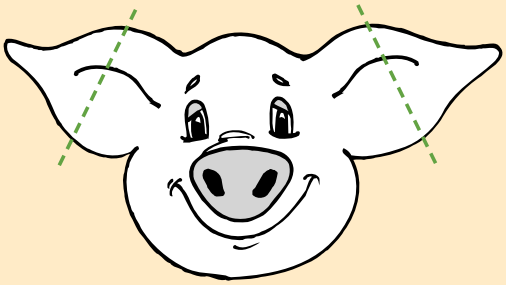
_____ _____ _____

Ear Notching

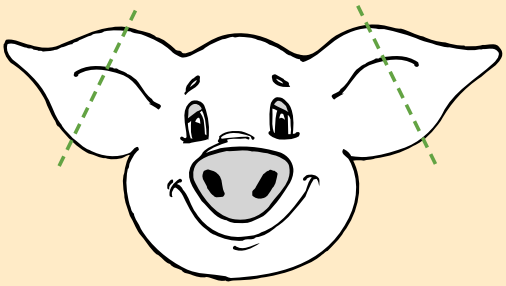
Draw notches on the pig's ears to show 12-4. What does the number 12 stand for? What does the number 4 stand for?



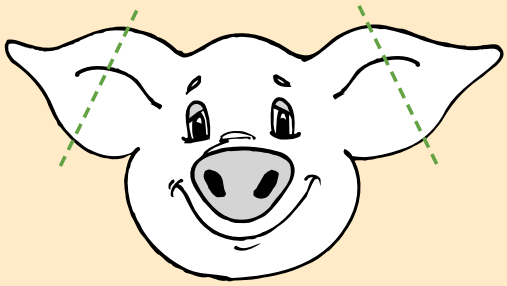
Draw notches on the pig's ears to show 31-6. What does the number 31 stand for? What does the number 6 stand for?



Draw notches on the pig's ears to show 5-2. What does the number 5 stand for? What does the number 2 stand for?



Draw notches on the pig's ears to show 11-10. What does the number 11 stand for? What does the number 10 stand for?



Good Management

Animal identification is a good management practice. What role does it play in the swine industry?

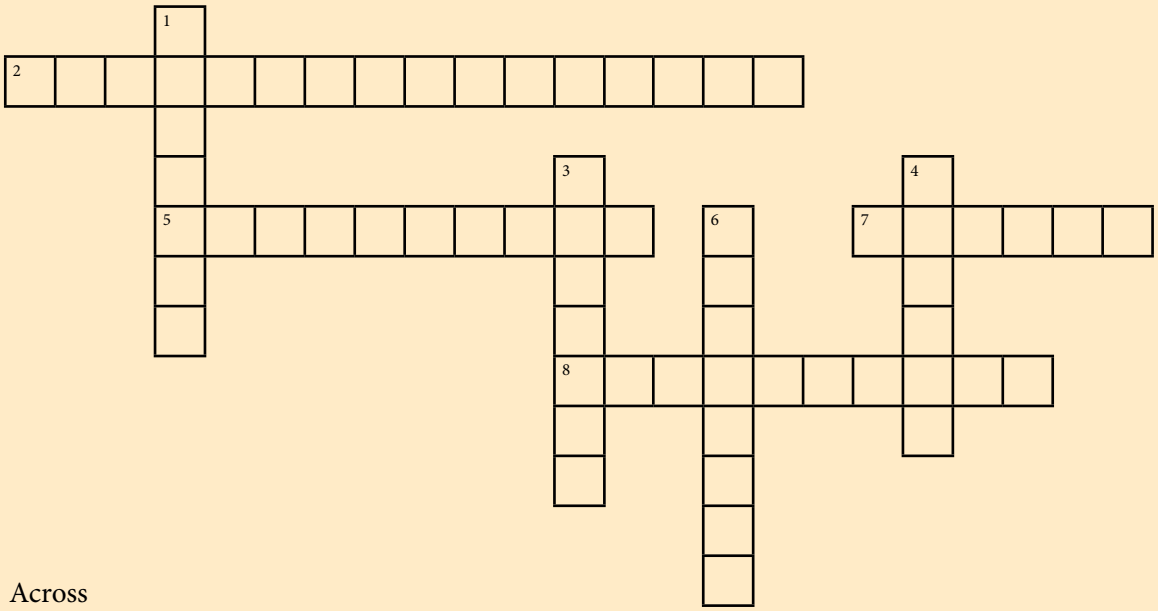
How does animal identification impact a treatment record?

Your Management

How do you currently identify and track your animals? Take a picture of the animal identification you use and place below.

Do you think you need to change the way you track your animals? If so, how?

Identification Crossword



Across

2. Identification aids in keeping _____.
5. Identification that is computer-friendly.
7. Identification that is permanently written on the animal but is often hard to read.
8. Identification that is easy to read but often wipes off over time.

Down

1. Swine should be able to be tracked from birth to _____.
3. A pen of pigs with the same withdrawal time is called a _____.
4. Identification that is used by many livestock shows.
6. Identification that is permanent and often used on swine.

Medication records help provide documentation that a medication was used properly. Packers are also having an increasing interest in on-farm recordkeeping. If you have records in place, it implies that this good production practice is being followed. Reviewing treatment records can help provide insight to what is happening in your entire herd.

Medication & Treatment Records

Medication and treatment records can help you answer management questions about your herd. List 3 questions that treatment records can help you answer. Example: Are more animals being treated this year than last year?

1.

2.

3.

FDA Requirements

List 7 items the Federal Drug Administration (FDA) expects producers to include in treatment records.

1.

2.

3.

4.

5.

6.

7.

Withdrawal Time

Withdrawal time is the amount of time required for medication to be broken down, deactivated or excreted by an animal's body. The withdrawal time is dependent on how fast the animal clears the drug from its body and how much medication was given. Observing withdrawal times helps eliminate _____.

Take a picture of a medication label and paste it in the box. Circle the withdrawal time.

Calculating Withdrawal Times

Your pig was last treated at 9 a.m. on Saturday the 12th with a drug that has a five-day withdrawal time. Shade in the calendar date when the withdrawal time would be complete.

S	M	T	W	R	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Medication and Treatment Record Fill In

Your pig has been sick for 3 days. You decide to have your veterinarian look at your pig. He gives it an antibiotic, but gives it an extra-label dosage. He gives it 10 cc of medication instead of the 8 cc of medication the label calls for. The medication is given on Monday the 7th. The medication label says that the normal withdrawal time is 4 days. Your veterinarian says to use a withdrawal time of 7 days. What date is the withdrawal time up? Fill in the information treatment record below.

Medication and Treatment Record

Treatement Date/Time	Animal ID	Product	Amount	Route	Person who gave treatment	Instructed Withdrawal Time	Withdrawal Completed	If this is an Extra-Label of Rx drug, list the vet's name, address and phone number who prescribed or directed the treatment

What other information would you keep track of?

Review

Correct each false statement to make it true.

1. T/F – Animal identification is a management tool that allows you to record the movement of pigs. These records may help in a disease outbreak.

2. T/F – When looking at a pig's ear notches, the pig's right ear denotes the pig number and the left ear identifies the litter number.

3. T/F – If ear notching is used for animal identification and adequate records are kept, a pig can be tracked from birth to harvest.

4. T/F – A benefit of using ear tags is that they are easy to read from a distance.

5. T/F – Treated animals should be tracked differently than untreated animals.

6. T/F – When treated animals are in a pen or group, it is important that the entire group stay together until their withdrawal time is up.

7. T/F – You do not need to record animals that have been treated for an illness.

8. T/F – Animal identification is considered one management tool.

9. T/F – Animal identification is one item that should be included in records.

10. T/F – The primary reason for keeping medication records is to ensure that medication withdrawal times are met.

11. T/F – It is important to identify treated animals to ensure withdrawal times can be tracked to individual animals.

12. List two types of animal identification and give an example of each.

13. List 3 items of information that the FDA requires on medication and treatment records.

Answer Key

1. True
2. False – The right ear is the litter number, the left ear is the piglet number.
3. True
4. True
5. True
6. True
7. False – All animals that have been treated with medication must be recorded.
8. True
9. True
10. True
11. True
12. Permanent – Ear notches; Temporary – Ear tags
13. Date treated, animal/pen ID, product used for treatment, amount given, route of administration, who gave the drug, withdrawal time

Top Five Takeaways

Use the space below to list five things you took away from this section.

GPP #7

Lesson 7 • GPP #7

Practice Good Environmental Stewardship.

Lesson Objectives

- Use management practices to protect our natural resources (water, air and land).

Stewardship
– The act of caring for or improving over time

Key Terms

Stewardship
Good Environmental Livestock Production Practices (GELPPs)
Good neighbor
Nutrient Management Plan (NMP)
Emergency Action Plan (EAP)
Inspection
Manure Management

The goal of environmental stewardship is to protect our natural resources (water, air and land) in all of our production practices.

Environmental stewardship requires constant attention, commitment and follow-through regarding good environmental management practices. These management practices help protect our natural resources and help all producers, including youth producers, be good stewards of the environment and good neighbors in our communities.

What does it mean to be a good neighbor?

A good neighbor:

- Follows laws and regulations in their county.
- Minimizes odor, dust and noise.
- Protects the environment.
- Takes proper care of livestock.
- Explains what they do in their operation and why.
- Helps consumers appreciate food production.
- Assists neighbors in need and asks for help when they're in need.

Environmental conservation is in the long-term interest of ALL producers, the pork industry, and the nation. As residents in rural America, producers are committed to protecting their local environment for their families, neighbors and communities. Good stewardship means good business.

Environmental Management Practices

General Site Conditions

- The production site, including manure storage and mortality removal methods should be set back an appropriate distance from environmental receptors such as surface water streams, rivers and lakes; drainage well intakes; sinkholes; and drinking water wells. The site should be located to minimize impacts on neighbors and public use areas. State/local regulations may require minimum setback distances that an operation must meet.
- 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.
- 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.
- The production site should be maintained to minimize erosion or ponding of water and vegetative areas mowed and trimmed.
- Spilled manure and feed should be cleaned up in a timely manner.
- Insect and rodent populations should be controlled inside and outside the buildings and at mortality storage/compost sites.

Buildings

- Drinking water and cooling systems should be routinely checked and maintained free of leaks.
- Pens, service aisles, travel lanes and feed alleys should be free of excessive manure or spilled feed.
- Building ventilation systems should be maintained in good working order and free of excessive dust buildup.
- Trash, animal health consumables and needles should not intentionally be disposed of in under-building manure pits.

Manure Management

- Each state has different nutrient management requirements that producers should follow on their farm.
- 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 NMP.

Emergency Action Plan (EAP)

- Emergency contact phone numbers should be posted near telephones, the entrance gate and/or outside the buildings.
- Visit http://eap.pork.org or call the Pork Checkoff Service Center at 800-456-7675 for your copy of the EAP template.

Inspection

- 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, but no less frequently than once a month. Production buildings should be inspected at least weekly. 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. It is recommended that inspection checklists be developed for the facility and that it be used to document each facility inspection.

Daily, weekly, and monthly inspections should include:

- Manure storage and disposal method
- Insect and rodent population control method
- Drinking water and cooling
- Pens, alley and facilities free of excessive manure
- Fencing
- Building ventilation system – temperature, odor, dust
- Disposal of animal health products method
- Cooling and heating systems
- Proper shelter – shade
- Emergency contact list

Summary

To be good environmental stewards, consider implementing a few basic environmental practices:

- Proper manure storage and disposal.
- Spilled feed in the manure should be cleaned up in a timely manner.
- Control insect and rodent population.
- Drinking water and cooling systems should be routinely checked.
- Pens, alley and facilities should be free of excessive manure (proper drainage).
- Fencing
- Building ventilation systems (proper temperature, odor and dust)
- Proper disposal of animal health products.
- Cooling and heating systems
- Proper shelter – i.e. shade
- Emergency contact list

Stewardship

What is it? _____

_____

A Good Neighbor

- _____
- _____
- _____
- _____
- _____
- _____
- _____

Environmental Management Practices

Identify three examples of good management practices for each of the following:

General Site Conditions

- _____
- _____
- _____

Buildings

- _____
- _____
- _____

Manure Management

- _____
- _____
- _____

Inspection

- _____
- _____
- _____

Review

Correct each false statement to make it true.

1. T/F – The goal of environmental stewardship is to protect our natural resources in all of our production practices.

2. T/F – Good stewardship has little effect on good business.

3. T/F – When selecting a production site, consideration must be given to distance from surface water streams, rivers and lakes, drainage well intakes, sink holes, and drinking water wells.

4. T/F – Rodent and insect control has little to do with practicing good environmental management practices.

5. T/F – Trash, animal health consumables and needles can be disposed of in under-building manure pits.

6. T/F – Emergency contact phone numbers should be posted near telephones, the entrance gate and/or outside the buildings.

Answer Key

1. True
2. False – Good stewardship means good business.
3. True
4. False – Insect and rodent populations should be controlled inside and outside the buildings and at mortality storage/compost sites.
5. False – Trash, animal health consumables and needles should NOT be disposed of in under-building manure pits.
6. True

Top Five Takeaways

Use the space below to list five things you took away from this section.

GPP #8

Lesson 8 • GPP #8

Maintain Proper Workplace Safety.

Lesson Objectives

- Use practices that promote health and safety of all caretakers.

As one of the We Care℠ ethical principles, pork producers affirm their obligation to provide a work environment that promotes the health and safety of caretakers. This section will address the basic components of workplace safety. A comprehensive guide to design, develop and implement a farm safety program, the Employee Safety Toolkit is available on *pork.org*.

Key Terms

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

For a safety program to work, it has to be everyone's responsibility – exhibitor, family members, friends, etc.

Safety is Everyone's Responsibility

For a safety program to work, it has to be everyone's responsibility – exhibitor, family members, friends, etc. 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.

The safety responsibilities of all people working in the barns include:

- Know which jobs have high accident and injury risk.
- Understand safety practices.
- Know what to do to reduce injury risk.
- Use safe animal handling practices.
- Properly use safety equipment, safety devices and personal protective equipment (PPE).
- 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:

- Assigning responsibility.
- Conducting safety assessments.
- Defining hazard risks for all activities.
- Sourcing and allocating resources to ensure safety in all operational activities.
- Measuring progress and evaluating performance of safety and environmental management.
- Reviewing all program components and making adjustments.

Youth owners and caretakers will:

- Ensure appropriate resources are utilized to eliminate/reduce hazards.
- Ensure that show goals do not alter or suspend proper safety procedures at any time.
- Encourage and support caretakers to reinforce the importance of their safe actions.
- Observe the housing area to detect and correct potential problem areas.
- Initiate corrective action immediately.
- Stop activities being performed unsafely, and correct the conditions before continuing the work.
- Ensure all caretakers are trained in proper job procedures, including safety precautions.
- Actively and promptly investigate all activities to determine the root cause of the incident.
- Ensure that all caretakers 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 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 looming. In an emergency, time cannot be wasted; it could be the difference between life or 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 who to notify in case of an emergency, what you need to say to them and what actions to take. An EAP includes:

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

Visit *http://eap.pork.org* or call the Pork Checkoff Service Center at 800-456-7675 for your copy of the EAP template.

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

- Make sure the injured individual is cared for immediately by a person trained in first aid.
- 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.
- Notify the appropriate contact listed on the Farm Emergency Information Sheet.
- Notify an adult that an accident has occurred. He or she shall judge the extent of the accident scene to be controlled.
- Follow the farm procedures for accident investigation.

If a fire starts:

- Rescue or remove everyone in immediate danger.
- Sound the fire alarm.
- 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.
- If the fire is too large, call the fire department, then evacuate the building.
- Once outside the building, go immediately to the designated meeting place. **Do not go back in!**

If a tornado warning is sounded:

- 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.
- 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 country in the U.S. 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.

Pork Checkoff provides an Emergency Action Plan tool that generates a farm-specific EAP from information entered by the producer. The Emergency Action Plan tool is available at *pork.org*.

Fire Prevention and Safety

Good housekeeping helps prevent fires. Remove weeds and brush from all sides of the building. 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 a swine farm 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 can reach damaging levels. Wear hearing protection while conducting these tasks:

- Feeding animals in breeding, gestation and farrowing barns.
- Power washing.
- Processing piglets.
- Treating and vaccinating animals.
- Bleeding animals.
- Sorting animals.
- Moving animals.
- Loading animals.
- Pregnancy checking in breeding barns.
- Artificially inseminating sows and gilts in breeding barns.
- Working around aeration fans for grain bins.
- Feed processing.

Personal Protective Equipment (PPE)

Personal protective 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 your PPE clean and in good shape, and check it for damage each time you wear it.

Store your PPE in the proper storage location when you are done using it. Never store PPE 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

Low levels of dust are commonly found in swine confinement buildings. 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. Dust masks help block the entry of dust into the lungs and may reduce your risk of respiratory problems.

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:

- Ensure that electrical outlets and plugs are in good condition.
- Make sure electrical power cord insulation is not cracked, kinked, broken or the cord ends have loose connections or ground plugs removed.
- Wear insulated footwear when working with electrical tools or appliances.
- Do not overload an outlet.
- Keep all electrical cords away from heat sources.
- 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.
- 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:

- 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.
- Wear impermeable gloves when caring for sick animals or when assisting a veterinarian with any type of procedure.
- Wear facial protection whenever exposure to splashes or sprays is likely to occur such as during power washing.
- 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.
- 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

Guards and shields should be in place on mechanical equipment

Processing young piglets can lead to injury if you are not careful. Punctures, cuts and needle stick injuries are among the most common injuries and occur when giving injections or during piglet processing. Stay focused and attentive. Fatigue increases your chances 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 stick injuries 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.

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.

Safe Animal Handling

Many accidents and injuries on a pig farm occur when handling animals. Many tasks require people to be in close contact with the pigs.

To avoid accidents or injuries while working with animals, one must understand typical animal behavior, animal responses to different environments, handling pigs of various types and sizes and how to use handling equipment. These topics are covered in GPP #9, "Provide Proper Swine Care to Improve Swine Well-Being."

Summary

SAFETY IS EVERYONE'S RESPONSBILITY
This includes the youth owner and other caretakers. 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.

Control Hazards

Controlling exposures to 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.

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.

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

Safety Is Everyone's Responsibility

Safety Responsibilities Working in Barns

- _____
- _____
- _____

Youth Owners and Caretakers are Responsible for All Aspects of Safety

- _____
- _____
- _____

Youth Owners and Caretakers Will…

- _____
- _____
- _____

Controlling Hazards

Identify four ways to control exposure to hazards:

1. _____
2. _____
3. _____
4. _____

Emergency Action Plan

Identify five keys to creating an emergency action plan:

1. _____
2. _____
3. _____
4. _____
5. _____

Promoting Health and Safety

Ten things you, as a producer, plan to do to promote health and safety

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Review

Correct each false statement to make it true.

1. T/F – Safety is everyone's responsibility.

2. T/F – OSHA outlines strategies for controlling workplace hazards.

3. T/F – An Emergency Action Plan (EAP) prepares producers to take immediate action when there is an emergency.

4. T/F – Good housekeeping has little to do with fires.

5. Identify four things an EAP should include.

6. Identify three tasks where ear protection should be worn.

Answer Key

1. True
2. True
3. True
4. False – Good housekeeping helps prevent fires
5. Farm emergency sheet, directions to the facility, people at the farm who are trained in first aid, where first aid kits, fire extinguishers and alarms are located, the evaluation plan, the emergency farm map, and emergency contact information.
6. Feeding animals in breeding, gestation and farrowing barns, power washing, processing piglets, treating and vaccinating animals, bleeding animals, sorting animals, moving animals, loading animals, pregnancy checking in breeding barns, artificially inseminating sows and gilts in breeding barns, working around aeration fans for grain bins, and feed processing

Top Five Takeaways

Use the space below to list five things you took away from this section.

GPP #9

Lesson 9 • GPP #9
Provide Proper Swine Care to Improve Swine Well-Being.

Lesson Objectives

- Understand the role of daily observation and animal evaluation.
- Provide feed, water and an environment that promotes pig well-being.
- Provide proper care, handling and transportation for pigs.
- Protect pig health and provide appropriate treatment when needed.
- Understand why intentional acts of neglect or abuse are unacceptable.
- Understand the importance of euthanasia in a timely manner of sick or injured pigs that fail to respond to treatment.

Many factors within a pig'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.

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
Feed efficiency
Mortality rate
Lameness
Skin lesions
Abscesses
Wounds
Shoulder sores
Rectal prolapses
Hernias
Tail biting
Flight zone
Point of balance
Willful acts of abuse
Animal movement

Every caretaker has an ethical responsibility to protect and promote the well-being of the pigs in his or her care by:

- Providing feed, water and an environment that promotes the well-being of his/her animals.
- Providing proper care, handling and transportation for pigs at each stage of life.
- Protecting pig health and providing appropriate treatment, including veterinary care when needed.
- Using approved practices to euthanize, in a timely manner, those sick or injured pigs 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 pigs on that operation. Record keeping includes documentation of the VCPR, mediation and treatment records, and caretaker training records.

Medication and Treatment Records

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

The 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 that animals are being cared for in a manner that will not decrease the quality of the final pork 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 pork industry is changing, just like it is in the rest of the world. Whenever you implement something new on your farm, you should teach you pigs' 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 pig 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 pigs' well-being. Three common areas in which producers train swine caretakers are:

- **Euthanasia** – Every operation will at some time have sick or injured pigs that do 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.
- **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.
- **Husbandry** - According to the Swine Care Handbook, husbandry is traditionally understood as a blend of the producer's self-interest and their duties of humane treatment for the animals in their 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 the sick animals do not go unnoticed and that animal caretakers are doing their job.

The best way to fully assess the pigs' 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. Large differences in high/low temperatures can be an indicator that the ventilation system is not functioning properly. Recording animal, facility or management concerns as you walk through the facilities also will promote corrective actions. Talk with your Youth PQA Plus advisor about the advantages of tracking daily observations of the animals for your operation.

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.

Feed and Water Availability

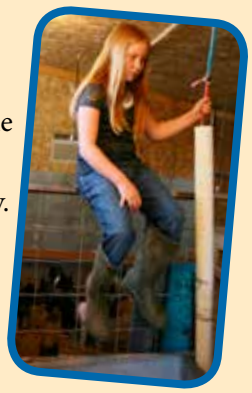
Feeders and waterers need to be cleaned regularly.

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 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 pigs' well-being by increasing aggression, decreasing average daily gain and average daily feed intake.

Table 1: Water Requirements by Phase

Production Phase	Water Requirement (gallons/pig/day)
Nursery	0.7
Growing	2 to 3
Finishing	3 to 5
Gestating Sows	3 to 6
Lactating Sows	2.5 to 7
Boars	5

Adopted from Diseases of Swine 10th Ed. 2012



Water is an important nutrient for normal body function, growth and reproduction. The quality and quantity of water a pig receives is important and should be monitored regularly. Poor water quality can reduce consumption rates and negatively impact the health of the pig. Water must be available at least twice daily and in a quantity sufficient to fully satisfy the pigs. Waterers should be designed so animals can drink freely and have flow rates that easily meet the pigs' water intake requirements. Specific information about appropriate water requirements per day can be found in Table 1.

Seriously Ill, Non-Ambulatory or Dead Animals

Youth 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 animals could be isolated from the rest of the herd for treatment or recovery when needed. Once a pig 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 a pig in a treatment pen has shown no improvement or has no prospect for improvement after two days of intensive care, the pig 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 if an emergency occurs. 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 or other emergencies.

You should consider how you can detect an emergency in your operation, especially if your pigs are kept at another location. 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.

VENTILATION

Both air temperature control and air quality can impact the well-being of your pigs. 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 the pig's life.

Temperature Control

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 pigs from displaying extreme temperature behaviors. Pigs perform these behaviors in an effort to regulate their body temperature. These behaviors are the best indicator of the pigs' perception of the temperature in their environment as seen in Figure 1. It is important to assess these behaviors without disturbing the pigs. If air temperature is too cold, pigs will huddle together, shiver and excessively pile onto each other to keep warm. If the air temperature is too hot, pigs will try to avoid body contact with other pigs and have increased respiration rates. Respiration rates are assessed by counting breaths per minute. Normal ranges for healthy pigs can be found in Table 2.

Figure 1

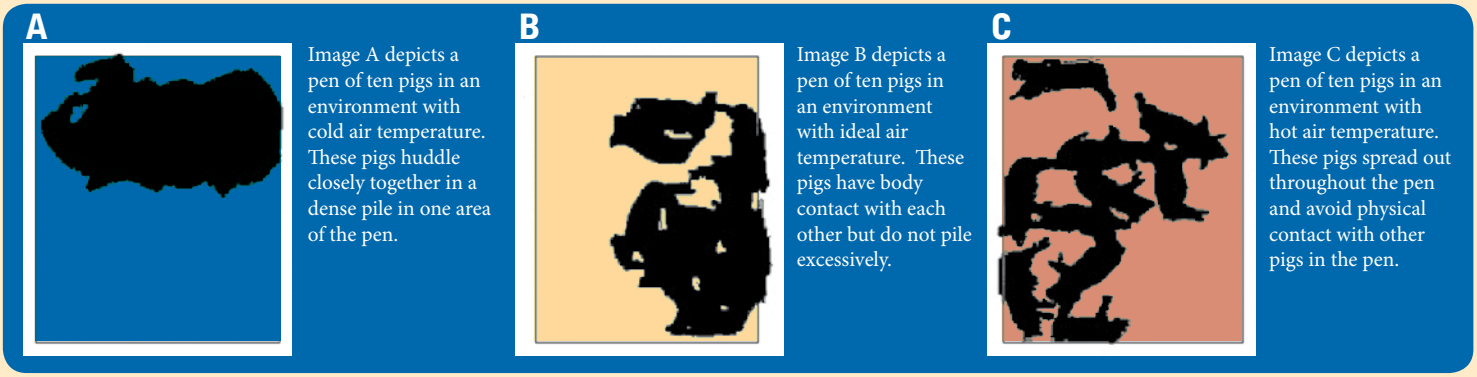


Table 2: Normal Respiration Rates for Swine

Production Phase	Respiratory Rate (breaths/minute)
Nursery	25-40
Growing	30-40
Finishing	25-35
Boars	13-18

Adopted from Diseases of Swine, 2016.

Table 3 gives the critical limits and preferred temperature ranges for pigs in various stages of production. Upper and lower critical temperatures define the thermal comfort zone or the range of temperatures that the pig does not have to shiver, huddle, or pant to regulate their body temperature. Keeping pigs above or below their critical temperature cannot only negatively influence thermal comfort, but also feed intake, growth, feed efficiency and health.

Table 3: Thermal Limits for Swine

Production Phase	Lower Critical Limit[1]	Upper Critical Limit[2]	Preferred Range
Nursery, 30-75lbs	40°F	95°F	65-80°F
Growing, 75-150lbs	25°F	95°F	60-75°F
Finishing, 150lbs-Market	5°F	95°F	50-75°F
Boars	5°F	90°F	60-75°F

Adopted NRC (1981): Chapter 2; DeSchazer and Overhultz (1982): Chapters 1 and 2; Hahn (1985): Chapters 1 and 2.

1. Bedding, supplemental heat or other environmental modification is recommended when air temperatures approach the lower critical limit.

2. Except for brief periods above these air temperatures, some form of cooling should be provided when temperatures approach upper critical limits.

Remember the air temperature measurements should be recorded at pig height (approximately 1 foot above the ground), and remember to avoid taking temperatures near inlets and direct heat sources.

Regardless of whether pigs are kept indoors or outdoors, it may be necessary to provide supplemental heating or cooling for pigs when temperatures are outside the pigs' critical temperatures. Examples of supplemental heating include using heat lamps or brooders for zone heating, gas or electric heaters or bedding. Examples of supplemental cooling can include misters, evaporative cooling cells, fans, shelters, shade trees or wallows. Work with your advisor to determine which supplemental heating or cooling method is best for your swine project.

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 the natural flow of air or mechanical assistance. There are several contaminates, such as dust and various gases, that contribute to the quality of the air within the pigs' environment. Watery and mattery eyes, bloodshot eyes and breathing difficulty are indications that pigs may be exposed to poor-quality air. In case of power failure, make sure your windows open.

Ammonia is a common air contaminate that can directly impact the well-being of the pig through irritation of the respiratory tract. Ammonia concentrations in the air can be measured using diffusion tubes throughout the facility. Air samples should be taken at pig height (approximately 1 foot above ground). Samples should be taken in the building center at one-third intervals down the length of the barn.

FACILITIES

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

Pens, Flooring and Alleyway Maintenance

The condition of the pens, floors and alleyways can affect other indicators of your pigs' well-being. Sharp protruding objects could affect the number and type of skin lesions found on your pigs. Pens with broken slats 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 of the hoof. Non-slip flooring to provide good footing 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 the animal. Before loading or unloading pigs begins, 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 pigs and not cause injury to the animals. The number of feeding spaces and their size should allow your pigs to consume their daily ration without unnecessary fighting and competition.

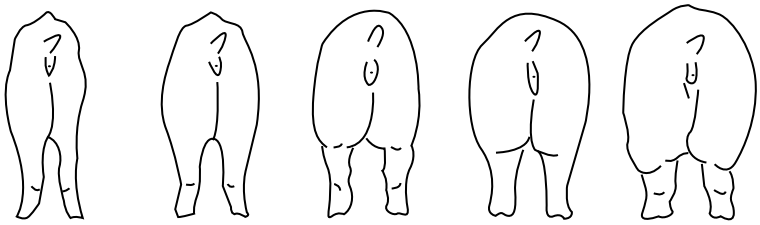
Waterer Maintenance

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

BODY CONDITION SCORE (BCS)

Body condition scores are useful to assess the adequacy of the nutrition program and to help visually identify animals that may require additional attention. Body condition scoring has been adopted from the industry standard that is based on a 1(emaciated) to 5(obese) scale as shown in Figure 2.

Figure 2. Body Condition Scoring

Image					
Score	1	2	3	4	5
Condition	Emaciated	Thin	Ideal	Fat	Obese
Detection of Ribs, Back Bone, "H" Bones and Pin Bones	Obvious	Easily detected with pressure	Barely felt with firm pressure	None	None

Taken from "Assessing Sow Body Condition" by R.D.Coffey, G.R. Parker, and K.M. Laurent (ASC-158; 1999)

Animals should be fed according to their body condition. While a body condition score of 1 is a potential indicator of a pig's well-being, showing it needs immediate attention, an obese pig (BCS 5) also has increased health risks. Investigate low- or high-BCS animals further and increase (low BCS) or decrease (high BCS) the daily caloric intake of these animals as necessary. Pigs that are either too thin or too fat could be an indication of a management need and a cause for a discussion with your advisor.

BODY SPACE

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

For pig space to be considered adequate, the pig must be able to:

- Easily lie down fully on its side without having to lie on another pig and be able to easily stand back up from a laying position.
- Lie down without the head having to rest on a raised feeder.
- Additionally, a sow housed in a stall must be able to lie down fully on its side without the head having to rest on a raised feeder and the rear quarters coming in contact with the back of the stall at the same time. The pig should also be able to easily stand back up.

ANIMAL EVALUATION

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

Production Performance

The production performance of a pig can often be an indicator of the well-being of the pig. When the well-being of a pig is compromised, the production performance of that pig 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 a pig 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 – When calculating these rates, be sure to include animals that die naturally and those euthanized.

Lameness

A lame pig is one that cannot bear full weight on one or more limbs. There are several factors that can contribute to lameness including bacterial infections, heredity, foot and leg structure, injury or trauma or nutrition. To detect lameness, pigs should be observed while they are standing or walking on a flat surface. Pigs that are 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 – the shoulder, belly, back, flank and limbs (both front and back legs)
- Hooves
- Head and ears – includes the cheek, ears, snout, mouth and 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 pigs 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 – for example, on the shoulder, 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. Shoulder 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 are pigs coughing or piling to stay warm. Docking tails too close to the body or the pigs' 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 a full recovery. Your advisor can help you with a treatment plan but finding and addressing the contributing cause is also very important.

Hernias

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

Tail Biting

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

Swine Behavior

Swine behavior can also give you an indication of the care your animal is receiving. If your animals is repeatedly exposed to unpleasant handling or abuse it may show signs of fear in the presence of humans. Pigs that have repeated exposure to pleasant handling are typically relaxed around people and will generally 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. Pigs 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 pigs.

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 pigs 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 pigs must be kept in proper repair and must be functional. A maintenance record can help to demonstrate that the condition of the equipment is being addressed. Euthanasia equipment should be centrally located for use throughout the site. Caretakers trained in euthanasia methods must have access to this equipment.

SAFE ANIMAL HANDLING

Using best pig-handling and movement practices will contribute to good well-being of the pig and a safer work environment for the handler. When pigs are improperly handled, they become distressed, which can lead to physical injury to the pig, injury to the handler, increases in the incidence of non-ambulatory pigs, increased time to load and unload pigs and reduced growth rates. Additionally, improper handling also significantly contributes to carcass shrink, trim loss and poor meat quality. Improper handling and transport of pigs is one of the largest profit-reducing issues facing the pork industry today. Proper handling is best achieved by first understanding some general behaviors exhibited by the pigs, as well as understanding the pig's physical characteristics such as how they can see, hear, smell, learn and remember experiences. The main instinctive behaviors of a pig that a handler should understand, and use to his or her advantage when possible, include:

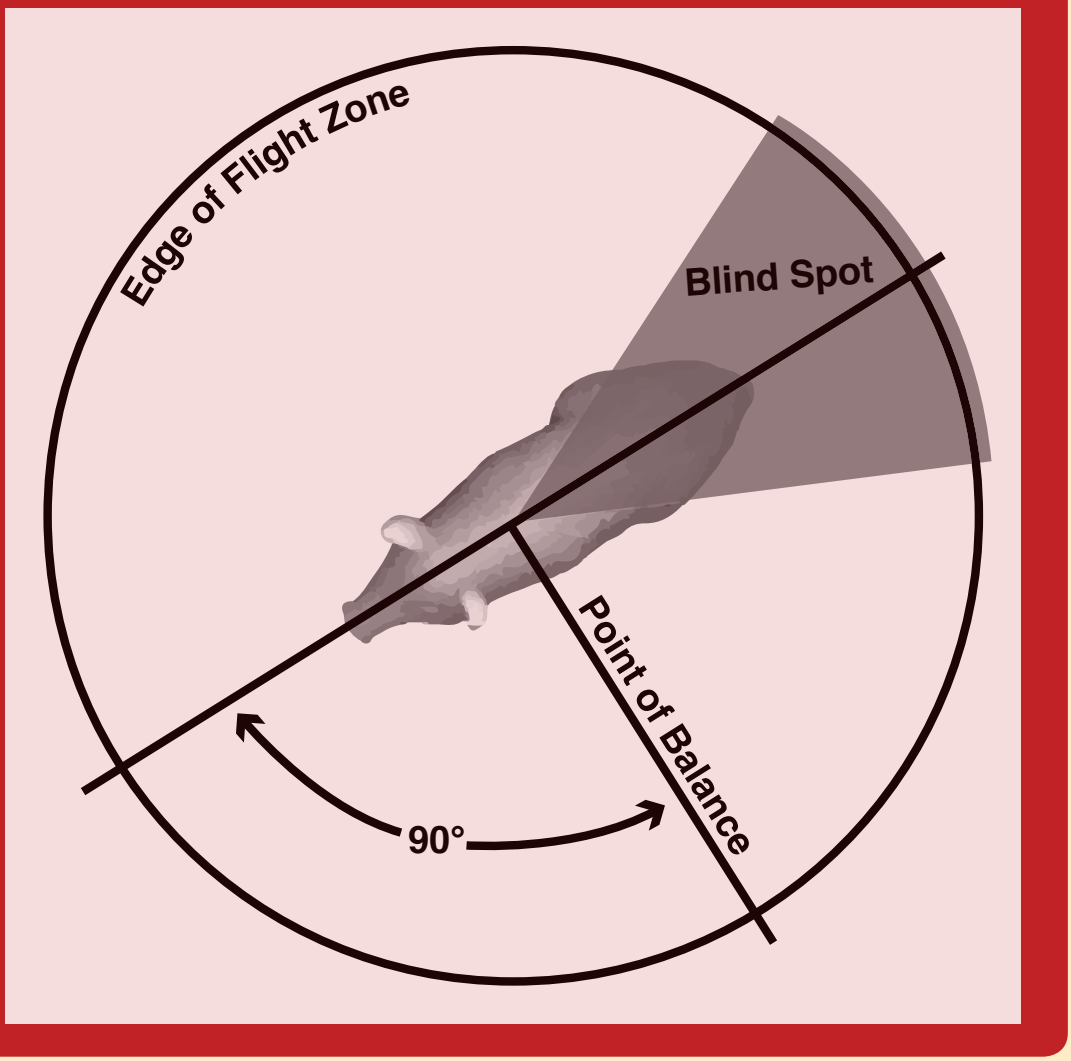
- Flight Zone and Point of Balance
- Following/Herding Instinct

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 pigs.

- The size of the flight zone is determined by the pig's familiarity with humans and will vary from pig to pig.
- A completely tame pig has no flight zone. A handler can walk directly up to the pig and touch it.
- Handlers should work with an animal from the edge of its flight zone.
- When a handler enters a pig's flight zone, the pig will move away. If the pig does not see an escape route, it may attempt to turn around and run past the handler.

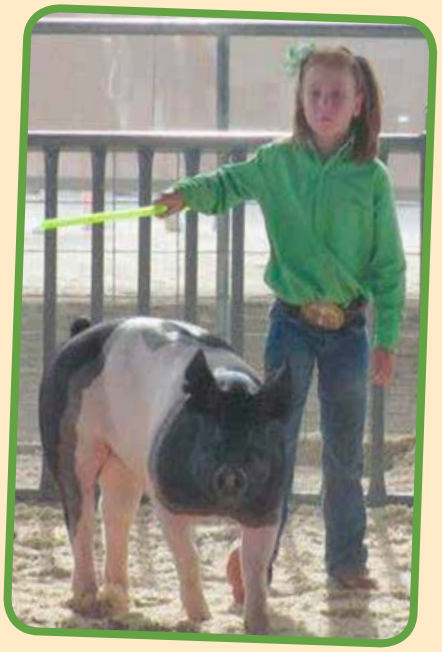
A Pig's Flight Zone, Point of Balance and Blind Spot



Point Of Balance

The point of balance is located at a pig's shoulders. The pig responds to a handler's approach relative to the point of balance. If a handler enters a pig's flight zone, the pig 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 a pig's eyes are on the sides of its head, a pig's vision is approximately 310 degrees, leaving a blind spot directly behind it. This blind spot means that a handler cannot rely on a visual reaction to get a pig to move when standing directly behind it. Ideally, to move the pig 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 pigs to remain calm and move in an orderly fashion.

Following/Herding

Pigs instinctively group together to be in visual or physical contact with each other. This instinctive behavior also causes pigs to follow each other in order to maintain that contact. The caretaker can take advantage of this behavior when moving pigs at any age or size.

Examples where this is effective include when a handler is moving pigs:

- Up or down a ramp or chute.
- Through hallways.
- Into or out of a pen or room.

When these concepts are not used or are used incorrectly, pigs can be injured when trying to escape, either through contact with other pigs 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 a pig and can result in injuries to the pig and/or cause them to pull back.

Environment

During movement, a pig may come across unfamiliar or distracting elements within its environment. Pigs 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 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 – pigs 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 pigs and pig behavior. A person's intentions are not always understood by the pig, creating fear and/or a negative reaction to a handler. Additionally, pigs that have had regular, positive interactions with people will typically be less fearful and easier to handle.

Walking pigs slowly on a daily basis will help them become used to positive interactions with people. This will train the pigs to quietly get up and calmly move away from the handler. Pigs can recall previous experiences, and if they have had a bad handling experience in the past, they may be more difficult to handle the next time.

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

Aggressive handling includes:

- Overuse, or improper use, of electric prods.
- Loud noises and yelling.
- Grabbing and pulling ears and tails.
- Moving pigs too fast.
- Moving too many pigs per group.
- Overcrowding pigs 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. The National Pork Board strongly advises anyone with knowledge of possible animal abuse or neglect to report these actions immediately to the proper responsible persons.

ANIMAL MOVEMENT

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

Eliminate visual distractions, such as people and other pigs, from the path of animal movement. Removing distractions will help your pigs to move more freely. Additionally, and depending upon their size, you should only move five or fewer pigs at a time. This will help allow you to have more control and provide your pig more room to move.

Each person handling your pigs should be trained in proper handling techniques prior to any animal movement. Handlers should use the most effective tools for movement. One of the most effective tools is a sorting board or panel. Sorting boards block the pig's path and vision while protecting the person holding the sorting board. Use of electric prods is very stressful for pigs and should be avoided. Pigs should never be prodded in sensitive areas such as the eyes, nose, anus, testicles, etc.

Handlers should rely on a sorting board instead of their body to turn or stop large finishing pigs. A bi-fold panel is a particularly useful device as it creates a corralling effect, reduces an escape route for the pig and increases safety for the handler. 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.

When loading and transporting your pigs, be sure to use proper equipment. You should always load your pigs in a calm, careful manner to help prevent stressing your animals. Electric prods, buzzers and slappers should be avoided. You should treat your animals humanely at all times.

Group Sizes

According to the article, "Handling/Management to Prevent Stress in Show Pigs" by Dr. Jodi Sterle, many changes occur in the pig's surroundings from home to when they reach the show ring. Show pigs are generally raised in a somewhat quiet, subdued environment with little stress. Loading and transporting can be stressful to a pig, particularly if handlers become frustrated. Pigs that are mixed together will instinctively fight to establish a pecking order. Upon arriving at a show, the new sights, smells and sounds can affect a pig's behavior. To minimize stress, pigs can be loaded and unloaded onto a trailer to get used to the practice before it is time to go to the show. Everyone handling the animals should be trained and be able to move the pigs at a slow pace, keeping tempers in check. The use of an electric prod is a stressful event and it should be avoided or absolutely minimized. It is recommended to move pigs in small groups of three to five pigs.

Non-Ambulatory Pigs

Non-ambulatory pigs are a challenge that a stockperson may face at some point. A pig that cannot get up or walk on its own is called non-ambulatory. A pig 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 pig.

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

In the case of pigs becoming non-ambulatory due to fatigue, quietly and humanely move the pig to a pen and allow it to recover before attempting to move it again. Most pigs will fully recover after two to three hours of rest. Fatigued pigs can be recognized by open-mouth breathing, squealing, blotchy skin, stiffness and muscle tremors. The best way to prevent the occurrence of fatigued pigs is to minimize stress by utilizing good animal handling practices.

Handling Equipment

There are many different pieces of handling and sorting equipment on the market to help you sort or move pigs in a safe, human and efficient manner. The most commonly used handling equipment is a physical barrier like a sorting board or panel. This is the most versatile of moving equipment and can be used to provide both a physical and a visual barrier.

Using an electric prod to move a pig is stressful and should not be the primary tool for moving pigs. It should only be used as a last resort, and should never be applied to sensitive areas such as eyes, ears, nose, genitals or rectum. If regular use of an electric prod is needed, evaluate your handling procedures and facilities.

If it is necessary to use a prod, it should be applied to the back of the pig behind the shoulder, and the duration of the shock should not exceed one second. The pig should be allowed time to respond before another shock is given. Electric prods should not be used when moving pigs from the pen.

Proper animal handling is also important during transportation. Transportation can be stressful for a pig. Move pigs when it is not too hot or cold. If you do have to transport pigs when it is hot, ensure that your pigs are shaded. Place wet straw or wood shavings in the bottom of the trailer. This will help keep your pigs cool during transport. If you keep the trailer moving it will help increase air flow and aid in keeping your pigs cool.

If you have to transport pigs when it is cold outside, make sure that your pigs have enough straw or bedding and plug any holes in the trailer to help stop drafts.

No matter what the temperature, it is always good to give your pigs water immediately after transport, and during, if possible.

Use proper equipment for loading and transporting your pigs. You should always load your pigs in a calm, careful manner to help prevent stressing your animals. Animals should be treated humanely at all times.

Understanding pig behavior, including flight zone, point of balance, herding instinct and using proper handling techniques can ease handling and decrease stress. Proper use of handling equipment (i.e. minimizing electric prod use, increasing use of sort board) can facilitate handling and reduce injuries to both pigs and handlers. These details should be the focus of caretaker training.

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 production 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 rectus.
- Hitting or beating an animal
- Failure to provide minimal food, water and care that results in significant harm or death to animals.

There are currently no national laws or regulations on improper handling or abuse of swine. However, most local or state governments have laws that address animal cruelty. All producers, including youth, should familiarize themselves with such laws in their locations.

All caretakers 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. Discuss the situation with the appropriate authority (owner, manager, law enforcement, etc.). The National Pork Board strongly encourages anyone with knowledge of possible animal abuse or neglect to report these actions immediately to the proper responsible persons.

The National Pork Board endorses adherence to the **See It? Stop It!** initiative and its principles.

See It? Stop It! enforces the perspective that willful acts of abuse are unacceptable and will not be tolerated.

See It? Stop It! empowers anyone working on a farm or in a farm setting where animals being raised or transported, to immediately report any instances of animal abuse or neglect.

Summary

Record key events that contribute to good pig 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 pig 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 to maintain good body condition.
- Provide adequate physical space for the pig's size.
- Evaluate animals for signs of how well they are interacting within their environment. Areas to evaluate include production performance, mortalities, lameness, skin lesions, abscesses and wounds, rectal prolapses, ruptures/hernias, tail biting and behavior.

Use approved practices to euthanize, in a timely manner, those sick or injured pigs 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 pigs of various sizes/types.

Recognize and report any incident of willful abuse or neglect.

Every caretaker has an ethical responsibility to protect and promote the well-being of the pigs in his or her care by:

- _____
- _____
- _____
- _____

Technology & Pork

Discuss with a friend how technology impacts the pork industry. Write the key points you discussed below.

Discuss with a friend how technology impacts your farm or pigs. Write the key points you discussed below.

Daily Observations

Record five things you should daily observe when checking you animal(s)

1. _____
2. _____
3. _____
4. _____
5. _____

Scenarios

What would you do to improve each situation?

Pigs don't have sweat glands to help keep them cool. The temperature is very hot in your barn. What is a sign that your pigs are too hot?

How would you help your pigs cool off?

A new litter was just born. Young pigs need to be kept warm. What are some signs that your pigs are cold?

What would you do to keep the pigs warm?

Pigs need plenty of water each day. How can you make sure that your pigs are getting enough water?

Emergency Backup Plan

It is a good idea to have an emergency action plan for your farm. This can be as simple as a list of contacts to call in case of an emergency. Fill out the contacts below.

Contact	Phone (1)	Phone (2)
Your name:		
Parent's name:		
Alternate caretaker:		
Farm employee:		
Farm employee:		
Veterinarian:		
Police:		
Fire department:		
Other:		
Other:		
Other:		

Timely Euthanasia

- _____
- _____
- _____
- _____

Animal Evaluation

Describe five of the main components of animal evaluation

Record five things you should daily observe when checking you animal(s)

1. _____
2. _____
3. _____
4. _____
5. _____

Promoting Pig Well-Being

Describe how to promote pig well-being in the following areas:

Feed

Provide proper care for pigs by…

_____

_____

Provide proper handling for pigs by…

_____

_____

Provide proper transportation for pigs by…

_____

_____

Water

Provide proper care for pigs by…

_____

_____

Provide proper handling for pigs by…

_____

_____

Provide proper transportation for pigs by…

_____

_____

Environment

Provide proper care for pigs by…

_____

_____

Provide proper handling for pigs by…

_____

_____

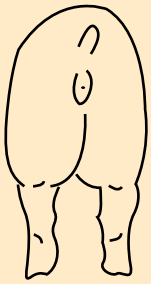
Provide proper transportation for pigs by…

_____

_____

Body Condition Scoring

Score each of the pigs below from one to five.



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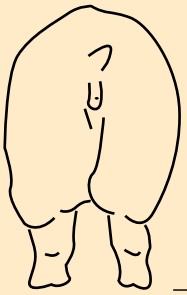

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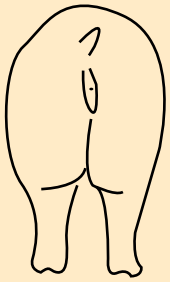

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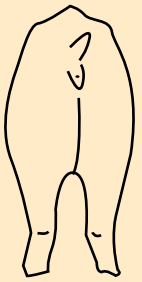

_____

Movement

Check each item that helps make moving your pigs less stressful.

- ☐ Move six or less pigs at a time.
- ☐ Take steps daily to get your pigs accustomed to human contact.
- ☐ Move your pigs as fast as you can. The less time it takes the less stressed they will get.
- ☐ Make loud noises to get your pigs to move faster.
- ☐ Be as quiet as possible when moving your pigs.
- ☐ Move your pigs in a calm manner.
- ☐ Move obstacles out of your pigs' view during movement.
- ☐ Use a sorting board to help you move your pigs.
- ☐ Use people to assist you that have been trained in animal handling.

Body Space

Pig space is considered adequate when, the pig is able to:

- _____
- _____
- _____
- _____
- _____
- _____

Proper ventilation, space and facility maintenance is important to a pig's well-being. Describe how…

Ventilation _____

_____

_____

Space _____

_____

_____

Facilities _____

_____

_____

_____ acts of neglect or _____

are _____ and are not _____.

A willful act of abuse could include, but is not limited to:

- _____
- _____
- _____

Review

Correct each false statement to make it true.

1. T/F – One way to show that someone has observed the animals every day is by keeping a log or record.

2. T/F – Feed efficiency is the amount of feed consumed per day.

3. T/F – Daily observation of animals can help determine the condition of a facility.

4. T/F – Pigs that have repeated exposure to pleasant handling are typically more relaxed around people and will generally be easier to move.

5. T/F – It is okay if a pig has to lie on another pig.

6. T/F – The maintenance of your pig's pen can impact the well-being of your pig.

7. T/F – If your pig's pen is too small, it can cause your pigs to be crowded and possibly become stressed.

8. T/F – Aggressive handling does not have an effect on meat quality.

9. T/F – If a willful act of abuse is observed it should be stopped immediately.

10. T/F – A pig's point of balance is located in their mid-section.

11. T/F – Flight zone is an imaginary circle around an animal that is considered its individual space.

12. What are three components of your project that should be recorded?

13. A pig with a body condition score of 5 is considered

    _____.

14. Give an example of an event that calls for timely euthanasia:

Answer Key

1. True
2. False – Pounds gained per pound of feed consumed.
3. True
4. True
5. False – For body space to be considered adequate, a pig must be able to lie down on its side without having to lie on another pig.
6. True
7. True
8. False – Meat quality may be negatively affected in pigs that have been handled aggressively.
9. True
10. False – A pig's point of balance is located at their shoulders.
11. True
12. VCPR, administration of medication and treatments, documenting caretaker training events, and daily observations
13. Obese
14. Animals showing no improvement after two days of intensive care, severely injured or non-ambulatory pigs with the inability to recover, any animal that is immobilized with a body condition score of 1, pigs with large hernias that touch the ground and cause difficulty walking.

Top Five Takeaways

Use the space below to list five things you took away from this section.

GPP #10

Lesson 10 • GPP #10

Utilize Tools for Continuous Improvement.

Lesson Objectives

- Understand the importance of educating all animal caretakers.
- Use appropriate resources to evaluate your records, facilities and pig observations.

Key Terms

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

The cornerstone of the Youth Pork Quality Assurance® Plus (YPQA Plus®) program is continuous improvement. All new animal caretakers must be trained in their duties. 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 pigs; records, facilities and pig observations. Using only one of these alone to evaluate well-being can be misleading.

Training Animal Caretakers

Advances in science and technology continually provide new opportunities as well as new products, equipment and techniques for the pork industry. To stay abreast of these changes, everyone from the most senior manager to the youngest caretaker should be engaged in training and educational opportunities consistent with their responsibilities. An effective training program is vital to understanding and implementing the PQA Plus® Good Production Practices (GPPs) for promoting food safety while improving pork production efficiency.

All animal caretakers must be trained in their duties. This training can come from training manuals, CDs/DVDs and videos. Training is not only essential for the caretakers' safety but also for assurance that the animals in their care are treated humanely and in a manner that will not jeopardize the safety of the pork product.

Throughout a training program, a technique called the PTSDR method may be used to train others. The steps below illustrate this technique:

1. Prepare → **2. Tell** → **3. Show** → **4. Do** → **5. Review**

Step 1: Prepare Stage

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

Step 2: Tell Stage

- Address key points needed to obtain knowledge and skills.
- Share information needed in order to complete the task.
    - For example, when conducting a training session on animal handling, the trainer might discuss an animal handling brochure that covers specific information the trainee would need to know in order to properly handle or move pigs.

Step 3: Show Stage

- Demonstrate how to complete a specific task.
    - Continuing the example above, this is the point at which the trainer would demonstrate how to properly handle or move pigs. This may take place in a barn with the animals.

Step 4: Do Stage

- Enable the individuals to practice what they have been already told and what has been shown to them.
    - Trainee has opportunity to practice properly moving and handling pigs, as they were told and then shown in the examples above.

Step 5: Review Stage

- Individual is evaluated on his or her performance of a desired task.
- After evaluation is completed, the individual is given feedback and recommendations for improvement.

Documentation of Training

Regardless of the type of educational program used for training, and regardless of how formal or informal the training event for the animal caretakers, documentation of the training is important. Training records should indicate the names of trainees and trainers, topic covered and the date of the training. Attention should be given to make sure the caretakers are trained and proficient in tasks before they perform them without supervision.

Conducting Animal Well-Being Assessments

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 on the farm. You should be aware of your animals' well-being every day. The success of your operation is dependent upon the well-being and productivity of your animals. Assessing animal well-being on a regular basis will help detect changes in the environment that could negatively affect your pigs.

Exhibitors should be looking for the following during their well-being assessments:

- **Checking Water**
  - Water must be available at least twice daily and in a quantity sufficient to fully satisfy the pigs. Enough waters should be available within a pen to decrease competition for the resource.
- **Checking Feed**
  - Adequate amounts of feed should be available to pigs.
  - Feed should be kept in a safe and secure area to maintain the cleanliness of the feed.
  - Record on a calendar all changes in feed.
- **Pens and Floors**
  - Review pens for objects protruding from fences that could affect the number and type of skin lesions on pigs.
  - Look for broken slats that 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 of the hoof.
- **Chute Maintenance**
  - 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.
- **Animal Observation**
  - Animals should have enough space to move around and lay freely.
  - Evaluate the environment to make sure temperature and air quality are correct for the specific phase of production.
  - Observe animals for signs of sickness or injury.
  - Observe animals sleeping, eating, and drinking regularly every day.
  - Mortalities and euthanasias should be recorded daily.

4-H leaders and FFA advisors are great resources to include in your regular site assessments. Having a second set of eyes observe your farm and facilities can be useful in detecting slight environmental changes that could affect the well-being of your pigs. Additionally, these individuals serve as a useful resource for learning about new equipment, production practices and research. It is suggested that the results of these site assessments be discussed with your 4-H leader and/or FFA advisor in order to develop and implement an action plan for identified problem areas. These assessments and documentation of corrective actions made should be filed and kept for future review and comparison.

Develop and Implement an Action Plan

The final step of conducting a site assessment is to develop and implement a corrective action plan for any area that needs improvement. A corrective action plan documents what actions have been or will be taken to correct the issue(s) identified during the assessment. This final step helps to demonstrate the industry's commitment to continuous improvement to our industry partners, customers and the general public. Some issues, such as written euthanasia plans or poor air quality, may be corrected relatively quickly. In this case, your corrective action plan should document how the issue was corrected. Other areas, such as inadequate medication and treatment records or low body condition of pigs, may require extra resources or time to correct. In this case, your corrective action plan should document a detailed description of how you plan to correct the issue and a timeline for expect implementation.

Training or retraining of caretakers may also be part of the corrective plan in efforts to correct the issue or prevent it from occurring again in the future. A 4-H leader and/or FFA advisor can be a useful resource when developing and implementing your action plan. He or she can provide ideas or advice on how an issue may be corrected or connect you with other experts.

Summary

Perform ongoing training for all animal caretakers in their duties and in providing care for the animals, equipment and co-workers in the operation.

Conduct and document regular site assessments to identify areas for improvement and benchmark progress towards continuous improvement.

Develop a corrective action plan to improve areas identified during the site assessment. Implement the corrective action plan to demonstrate you are committed to continuous improvement.

Tasks & Training

List all caretakers in your operation, the tasks they are responsible for and one thing they can be trained on related to their tasks.

Name	Task	Training

Prepare – Tell – Show – Do – Review

Prepare _____

_____

Tell _____

_____

Show_____

_____

Do_____

_____

Review_____

_____

Identify three tips to developing and implementing an action plan

1. _____
2. _____
3. _____

_____ and _____ are
great resources to include in your regular site assessments.

Animal Well-Being Assessments

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 on the farm.

Checking Water

_____

Checking Feed

_____

Pens and Floors

_____

Chute Maintenance

_____

Animal Observation

_____

Review

Correct each false statement to make it true.

1. T/F – Animal caretaker training does not have to be documented.

2. T/F – The cornerstone of the Youth Pork Quality Assurance Plus program is continuous improvement.

3. T/F – Only the newest employees need to be engaged in training and educational opportunities about their specific responsibilities within the operation.

4. T/F – Training is only for the benefit of the workers' and caretakers' safety.

5. T/F – You should be aware of your animal well-being every day.

6. Identify the five things to look for during well-being assessments.

7. Identify the three core areas that should be evaluated when measuring and benchmarking the well-being of your pigs.

Answer Key

1. False – It is important to keep track of training through documentation to ensure each caretaker knows what he or she is doing.
2. True
3. False – Everyone from the most senior manager to the newest employee should be engaged in training and educational opportunities consistent with their responsibilities.
4. False – Training is not only essential for caretaker safety but also for assurance that the animals in their care are treated humanely and in a manner that will not jeopardize the safety of the pork product.
5. True
6. Checking water, checking feed, pens and floors, chute maintenance and animal observation
7. Records, facilities and pig observations

Top Five Takeaways

Use the space below to list five things you took away from this section.