

# Step Through The Hole

**Background:** This activity can be used to introduce the HACCP plan.

## Instructions:

- Split students into groups of approximately two to six people.
- Give each group a plain sheet of letter-sized paper and a pair of scissors.
- Instruct them to cut the paper, using only the piece of paper and scissors, in such a way that it makes a ring that each person in the group could step through.
- Quietly give one or two groups the set of directions found with this lesson plan (*Directions for Step Through the Hole*) and instruct them to quietly follow the directions EXACTLY, while not letting the other teams know that they have been given the directions.
- The groups that successfully completed the assignment were given clear directions, and therefore had a plan to follow. That is why they were so successful. It is important to have a clear plan regarding the health of your pigs in order to be safe and successful producers.

## Processing Questions:

- Why were some groups able to successfully complete the assignment?
- How does that relate to having a herd health management plan?

**Objective:** To illustrate the importance of having a herd health plan.

## Materials

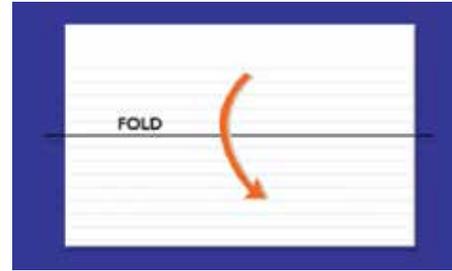
- Paper
- Scissors
- *Directions for Step Through the Hole* handout

**Timeframe:** 5-10 Minutes

**Age:** All

# Step Through the Hole

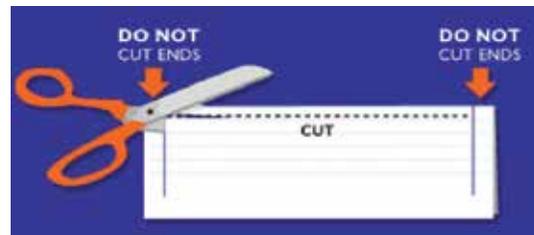
1. Fold the paper in half, the short way (also known as “hotdog” style).



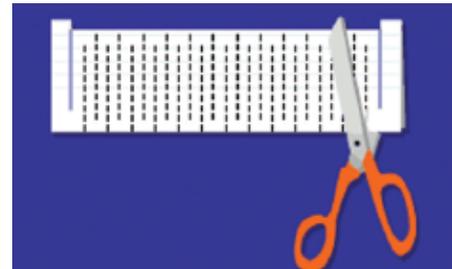
2. Cut two slits near the right and left edges of the folded paper, each perpendicular to the fold. The cuts must come down from the folded half, not up from the unfolded edges. Be sure not to snip off the ends of the paper.



3. Cut off the folded edge from slit to slit, being careful not to cut the fold at each end.



4. Then, make about 40 cuts with your scissors. Alternate each cut, first coming down from the unfolded edge, then coming up from the folded edges. The cuts should be parallel to the first slits you made.



5. Finally, open up the whole sheet. It should unfold kind of like an accordion. If you did it right, the hole is big enough for you to squeeze through!

# Identifying Hazards

**Background:** Discuss that there are three types of hazards: chemical, physical and biological. Explain to the participants that it is important to distinguish between these types of hazards. Inform the students that they will have practice distinguishing between the three.

## Instructions:

- Distribute *Identifying Hazards* worksheet to each participant.
- When finished, poll the audience for the answer to each question and share correct responses.
- Answers
  - *Salmonella* bacteria (biological)
  - Broken needle (physical)
  - Pesticide residue (chemical)
  - Piece of glass (physical)
  - Pathogenic *E. coli* bacteria (biological)
  - Wood chips (physical)
  - Oil and grease residue (chemical)
  - *Listeria* bacteria (biological)
  - Razor blade (physical)
  - Piece of plastic (physical)
  - The parasite *Trichinella* (biological)
  - Violative drug residue (chemical)

## Processing Questions:

- Why is it important to distinguish between the three types of hazards?
- How can you prevent a chemical contaminant?
- How can you prevent a physical contaminant?
- How can you prevent a biological contaminant?
- Which categories do you, as a producer, have the most control over?

**Objective:** To inform the participants the three types of hazards.

## Materials

- Pencil
- *Identifying Hazards* worksheet

**Timeframe:** 5 Minutes

**Age:** All

# Identifying Hazards

According to the HACCP system, hazards can be identified as: biological, physical or chemical.

- Biological hazards are bacteria that cause diseases
- Physical hazards are things like broken needles and metal
- Chemical hazards are chemical residues left in the meat

Classify the following objects in meat as **biological**, **chemical** or **physical**:

\_\_\_\_\_ *Salmonella* bacteria

\_\_\_\_\_ Broken needle

\_\_\_\_\_ Pesticide residue

\_\_\_\_\_ Pathogenic *E. Coli* Bacteria

Wood Chips \_\_\_\_\_

Oil and grease residue \_\_\_\_\_

 *Listeria* bacteria \_\_\_\_\_

Razor blade \_\_\_\_\_

\_\_\_\_\_ Piece of plastic

\_\_\_\_\_ *Trichinella spiralis* parasite

\_\_\_\_\_ Gasoline residue



# Hazard Hunt

**Background:** Discuss the importance of hazard analysis and critical control points with the group. Use examples to illustrate to them how herd health is a crucial component of assuring quality. Explain that this will be their opportunity to identify hazards that may challenge quality in pork production.

## Instructions:

- Divide group into teams of three to five youth.
- Give each team a *Hazard Hunt* worksheet.
- Team members read their scenario and answer the questions on each card.
- Ask for the groups to share their answers.

## Processing Questions:

- The first part of the activity demonstrates hazard analysis. Where could something go wrong?
- The second part demonstrates critical control points. What things do we need to do to prevent a problem from occurring?
- Can you prevent problems that happen either before or after your role in the food supply continuum?
- What are some things that you could do as a consumer to ensure food safety?

## Objectives:

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

## Materials:

- Pencil
- *Hazard Hunt* worksheet

**Timeframe:** 5-10 Minutes

**Age:** All

# Hazard Hunt

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

- What food safety problems could happen on your farm?
- How/where might your pork become contaminated?
- What can you do to prevent these problems?

**Scenario 2:** You run the largest pork harvesting facility in the country. You harvest pigs and sell the products to grocery stores.

- What food safety problems could happen in your plant?
- How/where might your pork become contaminated?
- What can you do to prevent these problems from happening?

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

- What food safety problems could happen in your store?
- How/where might your pork become contaminated?
- What can you do to prevent these?

# Biosecurity

**Background:** Discuss with the participants how facility biosecurity is an important factor in maintaining quality. Explain to them that biosecurity involves the factors that may not be seen.

## Instructions:

- Place Glo Germ in a bag or container.
- Split the class into groups of three to five.
- Have one group transfer a feed sample from one bag or container to the bag or container with Glo Germ.
- You can also have the participants mix the samples together in a container, and place Glo Germ in there as well.
- Have another group walk outside or into another room (prior to the exercise place some Glo Germ on the floor).
- Ask the groups if they think any issues of food safety have been broken.
- Use a black light to demonstrate how disease can be transferred on clothing and shoes, plus how reusing bags or not cleaning out feeders can contaminate feed.

Note: The portion of transferring feeds can be used to illustrate GPP #8.

## Processing Questions:

- When the black light was used, why did spots show up on the feed and shoes?
- What biosecurity practices can prevent this?

## Objectives:

- Youth will understand the importance of biosecurity and how it affects food quality.
- Youth will understand how to provide biosecurity on their operation.

## Materials:

- Glo Germ (can be purchased online at [www.glogerm.com](http://www.glogerm.com) or at any science store)
- Black light
- Feed samples in bags (any size)
- Mixing containers for feed

**Timeframe:** 5-10 Minutes

**Age:** All

# Sunscreen No-No

**Background:** Explain to the participants that even though a topical (applied on the skin) medication may seem harmless, it could have a negative impact on the animal.

## Instructions:

- Before the presentation, cut the bottom of each celery stalk.
- Place several drops of red coloring in one glass and several drops of blue coloring in the other glass. Put several celery stalks in each glass.
- Wait 2 hours and observe what happens. While you are waiting, go on to another lesson or activity.
- Split the celery stalks to observe the water transport system. Also observe the leaves.
- Explain to the students that sunscreens and any other medications applied to the skin of livestock can be absorbed by the body. They must be used with care, and only according to label instructions. It is important to discuss the impacts of any topical medication with a veterinarian before using.

## Processing Questions:

- Why is it important to follow the instructions and talk to a veterinarian when applying topical medications?

**Objective:** To show how sunscreen and other topical medications can be absorbed through the skin of pigs.

## Materials:

- Red and blue food coloring
- 2 glasses or clear plastic cups
- Several celery stalks with leaves
- Knife

**Timeframe:** 5 Minutes

**Age:** All

# Extra-Label Use of Drugs

**Background:** Discuss with students the term “Extra-Label” drug use. Inform them that this should only be prescribed by a veterinarian. Inform them that the following exercise will give them the opportunity to identify drug usage in various situations.

Also, discuss with students the importance of distinguishing between over-the-counter and prescription drugs.

## Instructions:

- Ask students to complete copies of *Drug Usage* worksheet you give them.
- Once finished, provide them with the correct answers:
  1. Extra-Label
  2. Label use
  3. Off Label
  4. Label use
  5. Label use
  6. Extra-Label
  7. Extra-Label
  8. Label use

## Processing Questions:

- Why is it important to follow the guidelines when applying medications?

## Objective:

To reinforce the correct ways to use prescription and over-the-counter drugs.

## Materials:

- Pencils
- *Drug Usage* worksheet

**Timeframe:** 5-10 Minutes

**Age:** All

# Drug Usage

**Label Use:** Using medication according to the label instructions

**Extra-Label Drug Use:** Prescribed Only By a Veterinarian

- Veterinarian increases dosage beyond label
- Veterinarian changes frequency of administration beyond label
- Veterinarian changes duration of treatment
- Veterinarian changes disease to be treated
- Veterinarian changes species to be treated
- Veterinarian prescribes any other non-label use of OTC or Rx drug

Label each situation as **extra-label**, **off-label** or **label use**:

- \_\_\_\_\_ 1. The label says to give 10 cc of the drug; your vet says to give 20 cc.
  
- \_\_\_\_\_ 2. Your animal is diagnosed with foot rot and you treat it with an OTC medication approved for foot rot.
  
- \_\_\_\_\_ 3. You use a drug for pneumonia to treat your animal's ringworm after consulting a veterinarian and receiving special instructions on how to use the medication.
  
- \_\_\_\_\_ 4. You use an over-the-counter medication approved for swine on your pig without checking with the veterinarian first.
  
- \_\_\_\_\_ 5. The label says treat the animal twice a day and you treat it once at 8 a.m. and once at 8 p.m.
  
- \_\_\_\_\_ 6. The label says "treat once daily" and your vet tells you to treat the animal at 6 a.m., noon and 6 p.m,
  
- \_\_\_\_\_ 7. The label says to "administer only to lactating females" and your veterinarian says to give the medicine to your 3-week-old, piglet.
  
- \_\_\_\_\_ 8. The label says treat for 5 days. Your first treatment is Monday and you give the last shot on Friday.

# Properly Administering Medications

**Background:** Medications can be given to livestock in several different ways. Your veterinarian not only helps you select the most appropriate medication, but also the best way to administer it to the animal.

## Instructions:

- Break the group into teams of two or three.
- Hand out a copy of the *Properly Administering Medications* worksheet to each participant, and one *Medication Label* worksheet to each group.
- When completed, have the groups share with each other the medications and how to use them.

Note: As an alternative to the exercise, provide examples of actual medication labels for the participants to use instead of the *Medication Label* worksheets.

## Processing Questions:

- Did every label have an answer to the questions? Were there any that didn't?
- Was the information easy to find?
- Was this product over the counter or prescription?
- What were some of the things you learned about your type of medication by doing the worksheet?
- What information was on all of the labels? Was it in the same place on all products?
- Think about some of the times medications have been given to your animals. What was the situation, and which route of administration was used?
- What can you do to improve your animals' health by reading labels?
- Read the label of any products you may have used recently. Is there anything on that label you didn't know before?
- What happens if you don't follow the label directions?
- What is an Extra-Label use of the drug? Both prescription and over-the-counter products can have Extra-Label uses on the veterinarian's prescription.

## Objectives:

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

## Materials:

- Pencils
- *Properly Administering Medications* worksheet
- *Medication Label* worksheets (3)

**Timeframe:** 5-10 Minutes

**Age:** All

# Properly Administering Medications

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

What is the name of the product?

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

What uses is this drug approved for?

Who can administer this product?

Does this make it an over-the-counter or a prescription product?

What is the proper dosage for this product?

How should it be administered?

Is there a withdrawal period for this product? If so, how long is it?

How should this product be stored?

Who manufactured this product?

Is there an expiration date?

What other information is included on the label?

# Properly Administering Medications

## Medication Label #1:

### SuperCill

300,000 units per mL

Injectable Antibiotic

FOR ANIMAL USE ONLY

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

**INDICATIONS FOR USE:** For the treatment of erysipelas in swine caused by *Erysipelothrix rhusiopathiae* (insidiosa).

**WARNINGS:** Discontinue use of this drug for the following time periods before treated animals are slaughtered for food: Swine-7 days. Treatment should not exceed 4 consecutive days.

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

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

**DIRECTIONS FOR USE:** SuperCill should be injected deep within the fleshy muscles. Do not inject subcutaneously, into a blood vessel, or near a major nerve. The site of each injection should be changed. Use a 16 or 18 gauge needle, 1½ inches long. Administer with a sterile needle and syringe. The injection site should be washed with soap and water and painted with a disinfectant such as 70 percent alcohol. Warm the product to room temperature and shake well. Wipe the rubber stopper in the vial with 70 percent alcohol. Withdraw the suspension from the vial and inject deep into the muscle. Do not inject more than 10 mL into one site.

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

Available in 50, 100, and 250 ml bottles.

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

# Properly Administering Medications

## Medication Label #2:

### Repro-PEL

Killed Virus

For use in swine only

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

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

#### DIRECTIONS:

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

#### PRECAUTIONS:

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

For veterinary use only

Big S Drug Co.

Toledo, IA 52342

# Properly Administering Medications

## Medication Label #3:

### Super Iron 100

Injection

100 mg/mL

Iron Hydrogenated Dextran Complex

Approved by FDA

For use in Animals Only

For Intramuscular Use Only

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

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

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

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

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

**DIRECTIONS FOR USE:** Disinfect rubber stopper of vial as well as site of injection. Use a small sterile needle (20 gauge, 5/8 inch). Injection should be intramuscular into the neck.

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

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

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

Marketed by: Big S Drug Co.  
Toledo, IA

# Identification of Animals

**Background:** This activity can be used to introduce the importance of using an identification system for tracking pigs.

## Instructions:

- Group the participants into groups of three or four
- Hand out baggies of grapes (10+ per bag) to groups of participants.
- Have one participant remove one grape and simulate an injection using a stick pin. Place the grape back into the bag.
- Have the youth try to identify the grape that was given the injection.

## Processing Questions:

- Why is it important to identify all animals?
- What are some commonly used forms of animal identification?

**Objective:** Youth will learn the importance of animal identification.

## Materials:

- Zip-top bags
- Grapes (10+ per bag)
- Stick pin

**Timeframe:** 3-5 Minutes

**Age:** All

# Ear Notching

**Background:** The pig's right ear denotes the litter number and the left ear identifies the pig number. The notches, symbolizing specific numbers, are added together for each ear and then read starting with the litter number. For instance, pig 23-4 was born in the 23<sup>rd</sup> litter, and was the 4<sup>th</sup> pig identified. Some producers notch all males with even numbers or odd numbers and the females the opposite. Some producers notch in birth order (this is rare) but most assign pig number in random order.

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 the ear divided into quarters.

With the exception of the number one, the notch numbers are multiples of three (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 litters with this system. Some producers have made modifications to include the number 100 so that more litters can be identified.

The lower quarter of the ear closest to the head identifies the number one. The lower quarter of the ear farthest from the head is the number three. The top quarter of the ear farthest away from the head is 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 tend to be smaller.

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

## Instructions:

- Before beginning this lesson, make several numbers for litter number and also pig number and place them in separate jars.
- Draw a number from each jar.
- Hand out *Ear Notching* worksheets to the students and have them notch according to the number they pulled out.
- If you do not have actual ear notchers, have students draw the notches using colored markers.

Note: A variation to this activity would be to have students apply a tattoo to the sample pig head worksheet, or tag it with an ear tag.

## Processing Questions:

- What are some of the commonly used forms of animal identification?
- Why is it important to develop an identification system for your pigs?

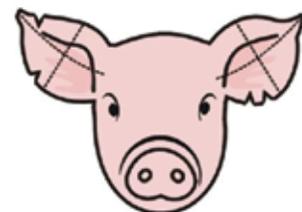
**Objective:** Identify tools and methods for identification of pigs or pens of pigs.

### Materials:

- Ear notchers (if unavailable you may use colored markers)
- *Ear Notching* worksheet
- Ear taggers (variation)
- Ear tags (variation)
- Tattoo Set (variation)

**Timeframe:** 5-10 Minutes

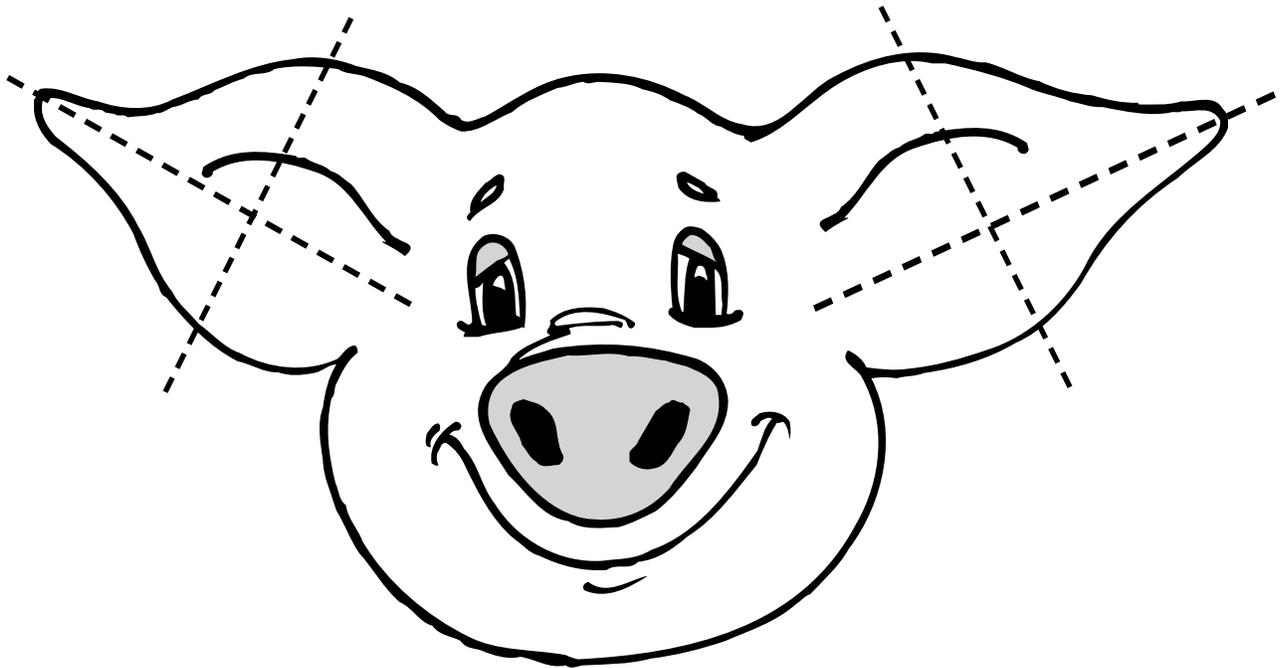
**Age:** All



# Ear Notching

Litter Number

Pig Number



# Completing Treatment Records

**Background:** Discuss the importance of recordkeeping within an operation. Inform the participants the next step is to practice keeping proper records.

## Instructions:

- Hand out *Treatment Record* worksheet to all participants.
- After all have completed the worksheet, discuss the answers with the group.

## Processing Questions:

- What information must be included on a treatment record?
- Why is it important to track all treatments?
- Where did you find the information needed?
- How could you ensure the withdrawal time is followed?
- How would producers maintain identity of the treated animal in a large group?

## Objectives:

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

## Materials:

- Pencils
- *Treatment Record* worksheet

**Timeframe:** 5-10 Minutes

**Age:** All

# Treatment Records

Today is July 12, 20XX, and your name is Jenny Jones. Two days ago the market pig, "Spot" (a 200 lb. blue-butt barrow with the ear notch 36-7), you have been raising since April started having breathing difficulty. Yesterday Spot failed to eat and would not move around unless forced to do so. At your request, Dr. Susan Smith, the local veterinarian, has examined your pig and diagnosed the problem as pneumonia. She administered medications at that time and recorded the treatment on your chart (not shown). She also left with you more medicine for you to give today. You have just finished giving the follow-up medication as the veterinarian directed.

July 20XX						
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		

**Susan Smith, D.V.M.**  
 100 Quality Avenue  
 Hometown, OH 43200  
 Phone: 614-555-5050

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Owner: *Jenny Jones*      Date: *July 11, 20XX*      Indications: *Pneumonia*      Animal ID: *36-7*  
 Directions: *Give 10 ml (cc) intramuscularly on July 12.*  
 Precautions: *Use care in injections to avoid infections.*  
 Warning: Use of this drug must be discontinued *7 days*  
 prior to harvest for human consumption.  
 Active Ingredients: *Biomycin*      Expiration Date: *August 1, 20XX*

Complete the treatment record for the medication you gave your pig.

Treatment Record									
Treatment Date/Time	Animal ID name, species, ID number, description	Condition being treated	Estimated Weight	Treatment Given medication dispensed, amount & route of administration	Person who gave treatment Print name	Instructed Withdrawal	Results	Withdrawal completed	If this is an Extra-Label of Rx drug, list the veterinarian's name, address and phone number who prescribed or directed the treatment.
<i>July 12, 20XX @ 2:00 p.m.</i>	<i>Spot - Market Pig 36-7 Blue-butt barrow</i>	<i>Pneumonia</i>	<i>200 lbs.</i>	<i>Biomycin 10 ml IM</i>	<i>Jenny Jones</i>	<i>7 days for meat</i>	<i>Not part of this scenario</i>	<i>07-19-XX 2:00 p.m.</i>	<i>Susan Smith, DVM 100 Quality Ave, Hometown OH 43200 614-555-5050</i>

What is the first full day this pig could safely be processed (harvested) for food? 07/20/20XX

# Treatment Records

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July 20XX						
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27	28	29	30	31		

**Susan Smith, D.V.M.**  
 100 Quality Avenue  
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							Not part of this scenario		

What is the first full day this pig could safely be processed (harvested) for food? \_\_\_\_\_

# Who's Ready to Go

**Background:** Discuss the importance of knowing which animals have been treated and the amount of time needed to observe withdrawal times.

## Instructions:

- Distribute *Who's Ready to Go* worksheets to the participants.
- Once completed, discuss the answers with the entire group.

## Processing Questions:

- How did you determine which animals can safely be sold?
- What factors did you consider?
- What might happen if pigs are marketed before the withdrawal time is complete?
- What other animal products have withdrawal times?

## Objectives:

- Youth will learn to read a treatment record and calculate withdrawal times.
- Youth will identify, based on treatment records, which animals may be marketed.

## Materials:

- Pencils
- *Who's Ready to Go* worksheet

**Timeframe:** 5-10 Minutes

**Age:** All

# Who's Ready to Go?

Fill in the *Date and Time Withdrawal Complete* for each of the treatments listed on the treatment record.

August - September						
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	1	2	3	4

Treatment Record								
Treatment Date/Time	Animal ID name, species, ID number, description	Condition being treated	Estimated Weight	Treatment Given medication dispensed, amount & route of administration	Person who gave treatment Print name	Instructed Withdrawal	Withdrawal completed	If this is an Extra-Label of Rx drug, list the veterinarians name, address and phone number who prescribed or directed the treatment.
August 1, 20XX 10 a.m.	Swine, 35-11 Hamp/Duroc Barrow	Pneumonia	200 lbs.	LA-200 9 ml, IM	Adam Smith	28 days		Not Applicable
August 2, 20XX 10 a.m.	Swine, 45-8 Hamp Barrow	Lame Right Rear Foot	230 lbs.	Penicillin 10 ml, IM	Adam Smith	11 days		Dr. Jones, Mytown, OH 740-555-1212
August 4, 20XX 10:30 a.m.	Swine, 23-6 Blue-Butt Gilt	Coughing, Fever	240 lbs.	Naxcel 8 ml, IM	Adrian Smith	0 days		Dr. Jones, Mytown, OH 740-555-1212
August 5, 20XX 11 a.m.	Swine, 22-2 Blue-Butt Barrow	Swollen Right Knee	210 lbs.	Tylan 200 4 ml, IM	Amanda Smith	14 days		Not Applicable

# Reading Medication Labels and Inserts

**Background:** These worksheets are designed to help students learn to identify the different parts of a medicine label and insert. It would be valuable to have a PowerPoint slide with the answer bank for each worksheet.

## Instructions:

- Distribute the *Medication Insert* and *Medication Label* worksheets to all participants.
- Once completed, discuss the correct answers.

Note: An alternative activity would be to obtain medicine inserts from a local veterinarian to show students real examples. Go over the different types of inserts with the students to show how to read warnings, special instructions, etc.

## Processing Questions:

- Why is it important to know the components of a medication label and insert?
- What is the difference between a medication label and a medication insert?

**Objective:** To familiarize students with the components of a medication label and insert.

## Materials:

- Pencils
- *Medication Insert* and *Medication Label* worksheets

**Timeframe:** 5-10 Minutes

**Age:** All

## Answers to Medication Insert worksheet:

1. Name of drug
2. Active ingredients
3. Species
4. Approved use
5. Dosage
6. Cautions & warnings
7. Route of administration
8. Storage requirements
9. Withholding times
10. Sizes available

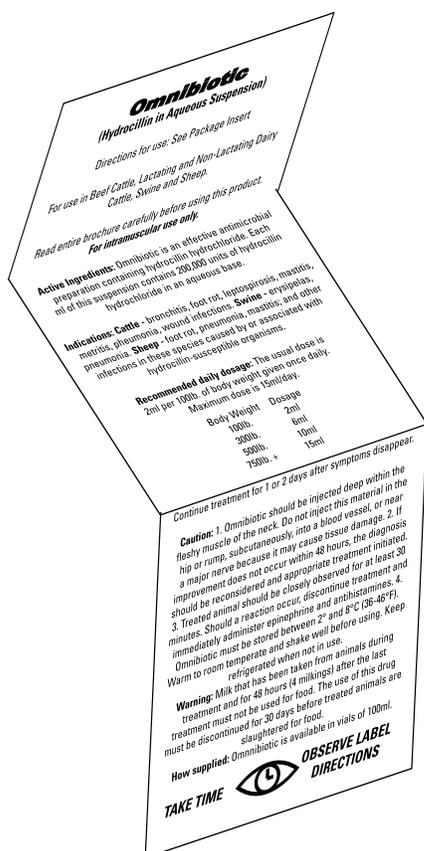
## Answers to Medication Label worksheet:

1. Name of drug
2. Active ingredient
3. Cautions and warning
4. Withholding time
5. Storage
6. Quantity of Contents
7. Name of distributor
8. Expiration date

# Medication Insert

Before administering any drug to an animal, you must have a knowledge of the information found on the drug label. Identify the parts of the medication label.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_



## 1 Omnibiotic (Hydrocillin in Aqueous Suspension) 2

Directions for use: See Package Insert

3 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.

4 **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 15ml/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.

5  
6 **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 temperature and shake well before using. Keep refrigerated when not in use. 7

8 **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.

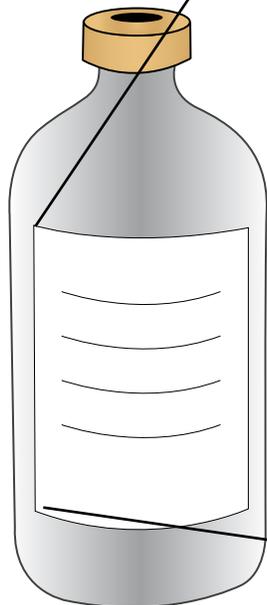
9 **How supplied:** Omnibiotic is available in vials of 100 ml.

10 **TAKE TIME**  **OBSERVE LABEL DIRECTIONS**

# Medication Label

Before administering any drug to an animal, you must have a knowledge of the information found on the drug label. Identify the parts of the medication label.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_



**1 Omnibiotic** **2**  
(Hydrocillin in Aqueous Suspension)

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

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

**5** Store between 2° and 8°C (36-46°F).  
Keep refrigerated when not in use.

**3** **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.

**6** **Net contents:** 100 ml.

**7** Distributed by USA Animal Health, Inc.

Destroy after April 3, 20XX **8**

**TAKE TIME** **OBSERVE LABEL DIRECTIONS**

# Reading Feed Labels

**Background:** Participants should have an understanding of why it is important to properly store, label and account for all medicated feeds. This exercise will give them an opportunity to explore feed labels.

## Instructions:

- Divide students into groups (one group = one *Feed Label* example).
- Distribute *Reading Feed Labels* worksheet to all participants, and give each group one *Feed Label* example.
- When the worksheet is complete, have participants share their answers.

Note: You can also bring real feed labels for the participants to look at.

## Processing Questions:

- Did every label have an answer to all the questions? Were there any that didn't?
- Was the information easy to find?
- Can medicated feed be used extra-label?
- Did the label list the withdrawal time, if any was required?
- Did it list what size animal the feed was formulated for?
- What happens if you don't follow the label directions?
- How can not following the directions on a feed tag affect the quality of the meat produced from your animal?
- Why is it important to read the label every time?
- What other tasks do you do that require reading a label?

## Objectives:

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

## Materials:

- Pencils
- *Feed Label* examples (3)
- *Reading Feed Labels* worksheet

**Timeframe:** 5-10 Minutes

**Age:** All

# Reading Feed Labels

1. What is the name of the feed? \_\_\_\_\_

2. Who manufactured it? \_\_\_\_\_

3. What size of animals should it be fed to? \_\_\_\_\_

4. What form is the feed? \_\_\_\_\_

5. What ingredients are in this feed? \_\_\_\_\_

6. What ingredient is in the largest quantity? \_\_\_\_\_

7. Is this a medicated feed? \_\_\_\_\_

What medication(s) is (are) in the feed? \_\_\_\_\_

What is the withdrawal time for animals on this medicated feed? \_\_\_\_\_

8. How much protein is in this feed? \_\_\_\_\_

9. How many pounds are in the final feed mix? \_\_\_\_\_

10. What can you tell by the order in which the ingredients are listed? \_\_\_\_\_

\_\_\_\_\_

11. What are the feeding directions? \_\_\_\_\_

12. What cautions are listed? \_\_\_\_\_

# Reading Feed Labels - Label 1

## SuperStart

AP-150

Medicated

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

Active Drug Ingredient: Apramycin (as apramycin sulfate).....150 grams per ton

### GUARANTEED ANALYSIS

Crude Protein, not less than	21%	Choline, mg per lb. (min)	550.0
Crude Fat, not less than	10%	Vitamin B12, mg per lb. (min)	0.022
Crude Fiber, not more than	2.50%	Menadione (Vitamin K), mg per lb. (min)	4.5
Vitamin A, I. Units per lb. (min)	6,000	Biotin, mg per lb. (min)	0.09
Vitamin D3, I. Units per lb. (min)	750.0	Folic Acid, mg per lb. (min)	0.09
Vitamin E, I. Units per lb. (min)	55.0	Pyridoxine, mg per lb. (min)	0.018
Riboflavin, mgs. per lb. (min)	4.5	Thiamine, mg per lb. (min)	0.009
Niacin, mg per lb. (min)	30.0	Lysine, not less than	1.60%
d-Pantothenic Acid, mg per lb. (min)	15.0		

**INGREDIENTS:** Dried skim milk, dried whey, animal plasma, heat processed soybeans, fish meal, feeding oat meal, ground corn, meat and bone meal, corn distillers dried solubles, natural and artificial flavors added, sugar, yucca schidigera extract, dehydrated yeast culture, animal fat, cane molasses, monosodium glutamate, methionine, lysine, vitamin A acetate, D-activated animal sterol (source of vitamin D3), riboflavin supplement, niacin supplement, calcium panthothenate, choline chloride, vitamin B12 supplement, menadione dimethylpyrimidionol bisulfite (source of vitamin K), dl alpha tocopheryl acetate (source of vitamin E), biotin, folic acid, pyridoxine hydrochloride, thiamine mononitrate, calcium carbonate, salt, dicalcium phosphate, magnesium oxide, manganous oxide, ferrous sulphate, copper sulfate, cobalt carbonate, ethylenediamine dihydriodide, zinc sulphate and sodium selenite.

SuperGrow Feed Co. • Toledo, Iowa 52342

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

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

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

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

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

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

### WARNING

**DISCONTINUE USE OF THIS MEDICATED FEED  
28 DAYS BEFORE SWINE ARE MARKETED FOR HUMAN CONSUMPTION**

# Reading Feed Labels - Label 1

## SuperStart

AP-150 • Medicated

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

Active Drug Ingredient: Apramycin (as apramycin sulfate).....150 grams per ton

**INGREDIENTS:** Dried skim milk, dried whey, animal plasma, heat processed soybeans, fish meal, feeding oat meal, ground corn, meat and bone meal, corn distillers dried solubles, natural and artificial flavors added, sugar, yucca schidigera extract, dehydrated yeast culture, animal fat, cane molasses, monosodium glutamate, methionine, lysine, vitamin A acetate, D-activated animal sterol (source of vitamin D3), riboflavin supplement, niacin supplement, calcium panthothenate, choline chloride, vitamin B12 supplement, menadione dimethylpyrimidionol bisulfite (source of vitamin K), dl alpha tocopheryl acetate (source of vitamin E), biotin, folic acid, pyridoxine hydrochloride, thiamine mononitrate, calcium carbonate, salt, dicalcium phosphate, magnesium oxide, manganous oxide, ferrous sulphate, copper sulfate, cobalt carbonate, ethylenediamine dihydriodide, zinc sulphate and sodium selenite.

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

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

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

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

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

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

**WARNING DO NOT FEED TO SWINE WEIGHING MORE THAN 75 LBS. BODY WEIGHT.  
DO NOT FEED TO SWINE WITHIN 10 WEEKS OF HARVEST FOR HUMAN CONSUMPTION.**

# Reading Feed Labels - Label 2

## SuperPigPlus

CB

Medicated

Control of swine dysentery (vibriotic dysentery, bloody scours or hemorrhagic dysentery); control of bacterial swine enteritis (salmonellosis or necrotic enteritis caused by *Salmonella Choleraesuis*); aid in the prevention of migration and establishment of large Roundworm (*ascaris suum*) infections; aid in the prevention of establishment of Nodular worm (*oesophagostomum*) infections of swine. Follow carefully the feeding directions, CAUTION and WARNING statement printed on the back of this label.

Active Drug Ingredients	Carbadox . . . . . 0.0055% (50 grams per ton) Pyrantel Tartrate . . . . . 0.0106% (96 grams per ton)
Guaranteed Analysis	Crude Protein, not less than . . . . . 19% Crude Fat, not less than . . . . . 4% Crude Fiber, not more than. . . . . 4.0% Vitamin A, I. Units per lb. (min) . . . . . 3,000 Vitamin D3, I. Units per lb. (min) . . . . . 375.0 Vitamin E, I. Units per lb. (min) . . . . . 22.5 Riboflavin, mg per lb. (min) . . . . . 2.3 Niacin, mg per lb. (min) . . . . . 15.0 d-Pantothenic Acid, mg per lb. (min) . . . . . 7.5 Choline, mg per lb. (min) . . . . . 350.0 Vitamin B12, mg per lb. (min) . . . . . 0.011 Menadione (Vitamin K), mg per lb. (min) . . . . . 2.25 Biotin, mg per lb. (min) . . . . . 0.05 Folic Acid, mg per lb. (min) . . . . . 0.045 Pyridoxine, mg per lb. (min) . . . . . 0.009 Thiamine, mg per lb. (min) . . . . . 0.0045 Lysine, not less than . . . . . 1.20%

**Ingredients:**

Ground corn, feeding oat meal, dehulled soybean meal, fish meal, dried whey, animal plasma, meat and bone meal, flash dried blood meal, corn distillers dried solubles, wheat middlings, dehydrated alfalfa meal, sugar, animal fat, monosodium glutamate, methionine, lysine, natural and artificial flavors added, dehydrated yeast culture, yucca schidigera extract, cane molasses, vitamin A acetate, D-activated animal sterol (source of vitamin D3), riboflavin supplement, niacin supplement, calcium panthothenate, choline chloride, vitamin B12 supplement, menadione dimethylpyrimidionol bisulfite (source of vitamin K), dl alpha tocopheryl acetate (source of vitamin E), biotin, folic acid, pyridoxine hydrochloride, thiamine mononitrate, calcium carbonate, salt, dicalcium phosphate, magnesium oxide, manganous oxide, ferrous sulphate, copper sulfate, cobalt carbonate, ethylenediamine dihydriodide, zinc sulphate and sodium selenite.

**SuperGrow Feed Co. Toledo, Iowa 52342**

**Feeding Directions:**

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

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

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

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

**CAUTION:** CONSULT A VETERINARIAN BEFORE USING IN SEVERELY DEBILITATED ANIMALS.

**WARNING: DO NOT FEED TO SWINE WEIGHING MORE THAN 75 LBS. BODY WEIGHT.  
DO NOT FEED TO SWINE WITHIN 10 WEEKS OF HARVEST FOR HUMAN CONSUMPTION.**

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

# Reading Feed Labels - Label 3

## SuperFin 950

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

### GUARANTEED ANALYSIS

Crude Protein, not less than	41%	Vitamin E, I. Units per lb. (min)	100.0
Crude Fat, not less	7.5%	Riboflavin, mg per lb. (min)	9.0
Crude Fiber, not less than	3.5%	Niacin, mg per lb. (min)	60.0
Calcium (Ca), not less than	3.75%	d-Pantothenic Acid, mg per lb. (min)	30.0
Calcium (Ca), not more than	4.75%	Choline, mg per lb. (min)	150.0
Phosphorus (P), not less than	2.00%	Vitamin B12, mg per lb. (min)	0.045
Salt (NaCl), not less than	2.50%	Menadione (Vitamin K), mg per lb. (min)	9.0
Salt (NaCl), not more than	3.50%	Biotin, mg per lb. (min)	0.18
Iodine (I), not less than	0.0005%	Folic Acid, mg per lb. (min)	0.18
Vitamin A, I. Units per lb. (min)	12,000.0	Pyridoxine, mg per lb. (min)	0.0037
Vitamin D3, I. Units per lb. (min)	1,500.0	Thiamine, mg per lb. (min)	0.018
		Lysine, not less than	3.25%

**INGREDIENTS:** Meat and Bone Meal, Dehulled Soybean Meal, Flash Dried Blood Meal, Fish Meal, Feeding Oat Meal, Corn Distillers Dried Solubles, Wheat Middlings, Corn Gluten Feed, Dehydrated Alfalfa Meal, Lysine, Animal Fat, Vitamin A Acetate, D-Activated Animal Sterol (Source of Vitamin D3), dl-Alpha Tocopheryl Acetate (Source of Vitamin E), Riboflavin Supplement, Niacin Supplement, Calcium Pantothenate, Choline Chloride, Vitamin B12 Supplement, Menadione Dimethylpyrimidinol Bisulfite (Source of Vitamin K), Biotin, Folic Acid, Pyridoxine Hydrochloride, Thiamine Mononitrate, Calcium Carbonate, Dicalcium Phosphate, Salt, Ethylenediamine Dihydriodide, Manganous Oxide, Magnesium Oxide, Ferrous Sulphate, Copper Sulphate, Cobalt Carbonate, Zinc Sulphate, and Sodium Selenite.

### Super Grow Feed Co., Toledo, Iowa 52342

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

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

Split-sex feeding has been shown to be the most economical method of producing lean and efficient growth in swine. Under such a feeding program, gilts and barrows are fed the same ration up to approximately 75 lbs. body weight.

Recommended rations for split-sex feeding from 75 lbs. body weight until swine reach desired market weight.	Pig Weights (lbs.)					
	75-125		125-175		175-mkt.	
	G	B	G	B	G	B
Ground Shelled Corn, lbs.	1550	1600	1600	1675	1675	1775
SuperFin 950 (non-medicated) lbs.	450	400	400	325	325	225
TOTAL POUNDS	2000	2000	2000	2000	2000	2000
Crude Protein, %	16	15	15	14	14	12

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

MIXING DIRECTIONS FOR BREEDING SWINE	Gestation	Lactation	Full Feed
Daily Intake, lbs.	3-4	4-5	
Ground Shelled Corn, lbs.	1600	1625	1575
SuperFin 950 (non-medicated), lbs.	325	325	400
SuperSow	75	50	25
TOTAL POUNDS	2000	2000	2000

# Calculating Dosage from Medicine Labels

**Background:** Teach participants about the importance of knowing the proper amounts of medication to use.

## Instructions:

- Pass out copies of *Calculating Dosage from Medicine Labels* worksheet.
- Have participants complete the worksheet and discuss the process.
- Answers:
  1. Recommended dosage = 2 ml per 100 lb. body weight.
  2. Minimum/Maximum dosage = 15 ml per day.
  3. Weight of animal = 175 lbs.
  4. Dosage =  $175 \times 2\text{ml per } 100 \text{ lbs.} = 3.5 \text{ ml of Omnibiotic.}$

## Processing Questions:

- Why is it important to know the correct dosage for each pig?

**Objective:** To learn how to calculate medicine dosages.

## Materials:

- Pencils
- *Calculating Dosage from Medicine Labels* worksheet

**Timeframe:** 3-5 Minutes

**Age:** 12+

# Calculating Dosage from Medicine Labels

When Sara weighed her show pig yesterday, he weighed 175 pounds. She has noticed that he is showing symptoms of pneumonia. Sara called the local veterinarian, who suggested that she treat the symptoms with Omnibiotic. Calculate the dosage for Sara's pig.

## Calculation Steps:

1. Identify Recommended Dosage:

2. Identify Minimum/Maximum Dosage:

3. Identify the weight of the animal:

4. Calculate dosage  
(weight x ml/lb = dosage):

### **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 temperature 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:** Omnibiotic is available in vials of 100 ml.

**TAKE TIME**  **OBSERVE LABEL DIRECTIONS**

# Properly Administering Medications

**Background:** Medications can be given to livestock in several different ways. Your veterinarian not only helps you select the most appropriate medication, but also the best way to administer it to the animal.

## Instructions:

- Break the group into teams of two or three.
- Hand out a copy of the *Properly Administering Medications* worksheet to each participant, and one *Medication Label* worksheet to each group.
- When completed, have the groups share with each other the medications and how to use them.

Note: As an alternative to the exercise, provide examples of actual medication labels for the participants to use instead of the *Medication Label* worksheets.

## Processing Questions:

- Did every label have an answer to the questions? Were there any that didn't?
- Was the information easy to find?
- Was this product over-the-counter or prescription?
- How did you know from looking at the products, the proper route of administration?
- What were some of the things you learned about your type of medication by doing the worksheet?
- What information was on all of the labels? Was it in the same place on all products?
- Think about some of the times medications have been given to your animals. What was the situation, and which route of administration was used?
- What can you do to improve your animals' health by reading labels?
- Read the label of any products you may have used recently. Is there anything on that label you didn't know before?
- What happens if you don't follow the label directions?
- What is an extra-label use of the drug? Both prescription and over-the-counter products can have extra-label uses on the veterinarians prescription.

## Objectives

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

## Materials:

- Pencils
- *Properly Administering Medications* worksheet
- *Medication Label* worksheets (3)

**Timeframe:** 5-10 Minutes

**Age:** All

# Properly Administering Medications

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

What is the name of the product? \_\_\_\_\_

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

What uses is this drug approved for? \_\_\_\_\_

Who can administer this product? \_\_\_\_\_

Does this make it an over-the-counter or a prescription product? \_\_\_\_\_

What is the proper dosage of this product? \_\_\_\_\_

How should it be administered? \_\_\_\_\_

Is there a withdrawal period for this product? If so, how long is it? \_\_\_\_\_

How should this product be stored? \_\_\_\_\_

Who manufactured this product? \_\_\_\_\_

Is there an expiration date? \_\_\_\_\_

What other information is included on the label? \_\_\_\_\_

# Properly Administering Medications

## Medication Label 1

### SuperCill

300,000 units per mL

Injectable Antibiotic

FOR ANIMAL USE ONLY

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

**INDICATIONS FOR USE:** For the treatment of swine for erysipelas caused by *Erysipelothrix rhusiopathiae* (insidiosus).

**WARNINGS:** Discontinue use of this drug for the following time periods before treated animals are slaughtered for food: Swine – 7 days. Treatment should not exceed 4 consecutive days.

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

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

**DIRECTIONS FOR USE:** SuperCill should be injected deep within the muscle. Do not inject subcutaneously, into a blood vessel, or near a major nerve. The site of each injection should be changed. Use a 16 or 18 gauge needle, 1½ inches long. Administer with a sterile needle and syringe. The injection site should be washed with soap and water and cleaned with a disinfectant such as 70 percent alcohol. Warm the product to room temperature and shake well. Wipe the rubber stopper in the vial with 70 percent alcohol. Withdraw the suspension from the vial and inject deep into the muscle. Do not inject more than 10 mL into one site.

**STORAGE:** Store between 2° and 8°C (36° and 46° F) Protect from freezing. Shake well before using. Available in 50, 100, and 250 ml bottles.

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

# Properly Administering Medications

## Medication Label 2

### Repro-PEL

Killed Virus • For use in swine only

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

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

#### DIRECTIONS:

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

#### PRECAUTIONS:

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

For veterinary use only.

*Big S Drug Co. Toledo, IA 52342*

# Properly Administering Medications

## Medication Label 3

### Super Iron 100

Injection

100 mg/mL

Iron Hydrogenated Dextran Complex

Approved by FDA

For use in Animals Only

For Intramuscular use only

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

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

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

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

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

**DIRECTIONS FOR USE:** Disinfect rubber stopper of vial as well as site of injection. Use a small sterile needle (20 gauge, 5/8 inch). Injection should be intramuscular into the neck.

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

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

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

Marketed by: Big S Drug Co. Toledo, Iowa

# Disappearing Residues

**Background:** Residues are substances that remain in an animal's body tissues after the animal has been exposed to that substance. Medications enter an animal's body as a feed additive, water additive, as an injection or pour-on or sometimes by accident. These medications may leave a residue in the animal's body tissue (meat). Residues leave an animal's body at different rates. Sometimes residues take a few hours to leave the animal's body and others take days or months, depending on the medication. Some residues may never entirely leave certain tissues during the animal's lifetime.

In the activity, each rinsing of the glass clears away some of the residue. Each day after you stop giving the animal a medication, some of the residue is removed. The Food and Drug Administration (FDA) establishes and enforces rules about acceptable levels of residues. FDA based the withdrawal times for products to ensure that unsafe residues are not in the product when it is marketed.

## Instructions:

- Split the class into teams of three.
- Have each participant prepare a glass of flavored milk, either from powdered or syrup product, and the homogenized flavored milk. Try to have one participant use powdered, one syrup and one homogenized flavored milk in the group.
- Have participants in each group drink their glass of milk. Record what you observe.
- After each participant has finished his/her milk, fill the empty glass with clean, clear water from the pitcher. Record what you observe.
- Carefully dump the water from the glass into the ice cream bucket.
- Refill the glass with water from the pitcher. Record what you observe.
- Continue dumping and refilling the glass and recording what you observe until the water in your glass appears completely clear.
- Complete the question on the worksheet and discuss the observations.

## Objectives

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

## Materials

- Pitcher or 2-liter pop bottle of water for each group
- Ice cream bucket or similar
- Whole (or 2 percent) chocolate milk (whole works best)
- Whole (or 2 percent) milk
- Chocolate or strawberry syrup
- Powdered chocolate or strawberry mix (have participants in each group try one of the above forms of chocolate/strawberry milk)
- *Milk Residues* worksheet
- Pencil
- A clear glass for each participant (glass or plastic)

**Timeframe:** 15-20 Minutes

**Age:** All

# Disappearing Residues, page 2

## Processing Questions:

- Why was the water cloudy after you drank the milk?
  - The milk left in the glass was residue. Medications and feed additives also leave residues in the tissue (meat) of an animal's body.
- Why was the water less cloudy after each rinsing?
  - Residue is the substance that remains in the glass. The residue remained in the glass until it was rinsed several times. Residues leave an animal's body at different rates. Some residues are gone within a few hours. Others take days or months. Some residues never entirely leave certain tissues. For each day that passes after you give an animal injection, some of the residue is cleared away. The U.S. Food and Drug Administration establishes and enforces rules about how long it is before drug residues in meat reach safe levels for human consumption. They have to ensure that food is safe when it is sold to customers.
- What are some sources of residue in the animal?
  - Leftover medicated feed, medicated water that was cleaned well, injections or treatments close to harvest.
- Why is it important to clean out waterers and feeders?
- How can we make sure our animals don't have residues from medication when we send them to harvest?
- Why is it important to follow FDA withdrawal times?
- Why be concerned?
  - Meat that contains unsafe levels is in violation of federal law. Persons who are very sensitive to certain drugs may react if traces of drugs are in the meat.
  - Consumers expect safe meat. People may lose confidence in the quality of the food products that we produce if there are unsafe levels of residues.

# Disappearing Residues

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

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

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

# Administering Injectable Products

**Background:** Discuss all five types of injections, and then focus on the two most common, intramuscular and subcutaneous. Explain to the participants that they will be practicing injections.

## Instructions:

- Before the activity, cut fruit in half and fill colored water containers.
- Be sure to have enough adults or to provide adequate supervision while working with syringes and needles. Also, adults should have the knives and be responsible for cutting open the fruit to observe the results.
- First, demonstrate both methods including how to properly load a syringe.
- Participants will give an intramuscular (IM) injection into their fruit first.
- An adult should slice it open at the site of the needle puncture to observe placement of the colored water (representing injectable medication). Food coloring should be evenly spread within the meat of the fruit (muscle of the animal).
- Next participants will give a subcutaneous (SQ) injection. Again slice the fruit open at the site of the needle puncture. The food coloring should be just under the skin of the fruit but not into the flesh.
- Members may practice again until time or fruit runs out.

## Processing Questions:

- Which was easier to do? Why?
- Would it be harder to get the injectable product in the right place on an animal than the fruit? Why?
- What does intramuscular mean? What does subcutaneous mean?
- What might happen if you give the injection in the wrong place?
- What other ways can we give injections? When would you use them?
- What would happen if the animal moves while you are injecting it? How could you prevent that?
- Where do we give injections in the pig (i.e., location of injection)?
- What else should we do after giving the injection? (Treatment record)
- What is one technique to reduce the amount of product that leaks out on baby pigs? (IM in small pigs, pull the skin slightly before injecting. Release after needle inserted, and withdraw needle. This keeps medication from leaking back out the hole in the skin).

## Objectives:

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

## Materials:

- Bananas or oranges - 1 per participant
- Rubber-top bottles with colored water
- Towels/newspapers to cover table and for cleanup
- Sharp knife for leaders only
- Selection of clean or unused syringes and needles

**Timeframe:** 15-20 Minutes

**Age:** All

# Needle & Syringe Selection

**Background:** When administering injectables, it is crucial to know the proper techniques. The *Injection Reference Charts* explain how to properly administer injectables in pigs.

## Instructions:

- Distribute *Injection Reference Charts* to each participant.
- After each student has read through the charts, divide into groups of two to four.
- Hand out an *Injection Scenario Card* to each group.
- After all groups have finished, discuss the answers with the group.

## Processing Questions:

- What syringe and needle size did you choose?
- Why did you choose this size?
- What influenced your decision?
- What might happen if you choose too large of a syringe/needle? Too small?

## Objectives:

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

## Materials:

- Pencils
- *Injection Reference Charts*
- *Injection Scenario Cards* (3)

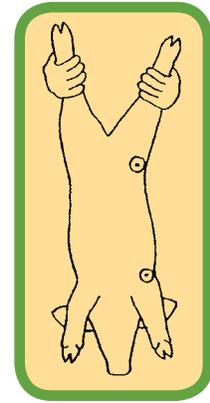
**Timeframe:** 5-10 Minutes

**Age:** All

# Injection Reference Chart

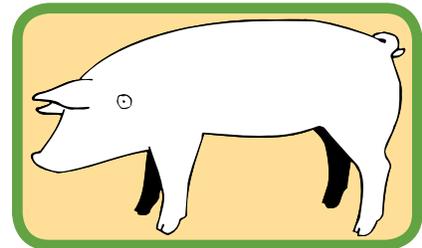
## Subcutaneous (SQ): Deposits the drug under the skin

- Inject only into clean, dry areas
- Use the loose flaps of skin in the flank and elbow of small pigs
- Use the loose skin behind the ear of sows
- Slide needle under the skin away from the site of skin puncture before depositing the compound



## Intramuscular (IM): Deposits the drug into the muscle

- Use a spot on the neck just behind and below the ear
- The neck area should be used for IM injections (see area outlined in figure to the right)
- Improper injections may damage the ham or loin and can result in condemnation of the meat cut
- Use proper needle size to ensure medication is deposited in the muscle



## Intranasal (IN)

- Withdraw product from container, remove needle, attach applicator tip
- Tilt pig's head upward during and after treatment to ensure medication reaches nasal passages

## Intraperitoneal (IP)

- Should be used only upon veterinary instruction and guidance as serious injury to abdominal organs can occur

## Intravenous (IV)

- Should be used only upon veterinary instruction and guidance as serious injury or death of the animal can occur

## Correct Injection Techniques

- Ensure proper restraint of the animal prior to injection
- Ensure proper syringe adjustment
- Ensure proper needle placement onto the syringe
- Prevent swelling and/or abscessation at the injection site by:
  - Using sterile needles
  - Injecting only into clean and dry areas
  - Preventing contamination - don't use the same needle to inject pigs and remove product from multidose vials.
- Consult with your veterinarian about potential adverse drug and vaccine reactions

CONSULT PRODUCT LABEL FOR APPROVED ROUTES OF ADMINISTRATION.

# Injection Reference Chart

## Needle Usage Guidelines

- Correct needle use is not an option—it is a necessity.
- Change the needle regularly.
- A sharp needle minimizes tissue damage.
- A sharp needle assists in delivering the product into the right site in the muscle or under the skin.
- To protect yourself and others, safely remove and properly dispose of used needles.
- Promptly get medical attention if accidental self-injection occurs.
- Under normal use, a needle shaft will rarely break but:
  - Discard a needle if it bends during use.
  - Never straighten a bent needle.
- If a needle breaks in a pig and you can't retrieve it, mark or identify the pig.
- Check with your packer about their policy for identifying and handling a pig that may have a physical hazard like a broken needle in its muscle.

### Intramuscular Injection

	Gauge	Length
Baby Pigs	18 or 20	$\frac{5}{8}$ " or $\frac{1}{2}$ "
Nursery	16 or 18	$\frac{3}{4}$ " or $\frac{5}{8}$ "
Finisher	16	1"
Breeding Stock*	14 or 16	1" or $1\frac{1}{2}$ "

\*depends on backfat depth and method of restraint.

### Subcutaneous Injection

	Length
Nursery	$\frac{1}{2}$ "
Finisher	$\frac{3}{4}$ "
Sows	1"

## Keep Accurate Records

- Accurate records are essential to using animal health products like antibiotics correctly and judiciously. Written records of all treatments should:
  - Be kept for at least a year following the marketing of the medicated animal.
  - Be used to evaluate the success of a treatment regimen and should include:
    1. Identify the animal medicated
    2. Date(s) of treatment
    3. Name of medication administered
    4. Who administered the medication
    5. Amount of medication administered
    6. Withdrawal time prior to harvest
    7. Name of the veterinarian giving directions, if use is other than what is indicated on the label

Identify Treated Animals • Maintain Treatment Records • Observe Withdrawal Times

# Needle & Syringe Selection

**Scenario 1:** You will be giving iron shots to newborn pigs. The label says to give them 1 cc per pig intramuscularly.

Syringe Size: \_\_\_\_\_ Needle Size/Gauge: \_\_\_\_\_ Length: \_\_\_\_\_

Explain your choices:

Where will you give the injection?

---

**Scenario 2:** Your 4-H pigs are coughing a little. Your veterinarian suggested you give them 3 cc of Superbiotic subcutaneously.

Syringe Size: \_\_\_\_\_ Needle Size/Gauge: \_\_\_\_\_ Length: \_\_\_\_\_

Explain your choices:

Where will you give the injection?

---

**Scenario 3:** You are preparing your sows for breeding. You need to vaccinate them against the major reproductive diseases. You need to give each sow 5 mL intramuscularly.

Syringe Size: \_\_\_\_\_ Needle Size/Gauge: \_\_\_\_\_ Length: \_\_\_\_\_

Explain your choices:

Where will you give the injection?

# Broken Needles

**Background:** Although needles may seem safe to use after being bent and straightened, damage may be present that cannot be seen by the eye. This activity illustrates how a needle that may be bent can cause damage.

## Instructions:

- Pass out toothpicks and candy to the group.
- Ask participants to “inject” the candy with the toothpick, then bend it strongly without breaking it.
- Now have the students pull out the toothpicks and inject the candy again. The toothpicks should break, illustrating damage to the animal.

## Processing Questions:

- How would this affect the quality of your pigs if this happens to them?
- If this does happen, what should you do?
- How can you avoid having needles break on your farm?

**Objectives:** To show the potential of a needle breaking if it is straightened and reused.

## Materials

- Toothpicks
- Gummy, flexible candy (orange circus peanut chews work well)

**Timeframe:** 5-10 Minutes

**Age:** All

# Examples of Needles

**Background:** The proper use of needles is important when administering injections. The purpose of this activity is to show participants the various types of needles available and how each should be used.

## Instructions:

- Show needles to participants.
- For each needle, quiz the youth on how the needles should be used.
- Demonstrate the proper disposal of needles to youth.

## Processing Questions:

- Why is there a need for different types of needles?
- How should you dispose of a needle after using it?

**Objectives:** To familiarize youth with various types of needles.

## Materials:

- Various types and sizes of needles
- Sharps container(s)

**Timeframe:** 5 Minutes

**Age:** All

# Feed Mixing

**Background:** Introduce the activity by explaining to the youth that their task is to mix a ration according to the directions.

## Instructions:

- This activity can use numerous resources to create a feed ration. Below is an example of what can be used:
- 1195 lb. Corn (2 Tbsp Raisins)
- 600 lb. Oats (1 Tbsp Chocolate chips)
- 200 lb. Soybean meal (1 Tbsp Peanuts)
- 5 lb. Vitamin/mineral premix with Aureomycin (1/4 tsp Sunflower seeds)
- Distribute *Feed Mixing* worksheet to each participant.
- Have participants choose any mixer they prefer. Be sure some use too small of a mixer, some have large mixers, and some have plastic bags.
- Have the students choose their measuring device (measuring cups, etc). Be sure to let some students eyeball the amount of ingredients. This will show how important measuring is to getting the proper mixture.
- You can have the participants divide the mixture into smaller baggies if possible.
- Inform the participants that they can mix it up as long as they think is needed.
- Once the mixtures have been created, the participants can enjoy the snack!

## Processing Questions:

- Is the product evenly distributed? Why or why not?
- Did you select the proper mixing equipment?
- Did you measure the ingredients accurately? Was it hard or easy to be exact? Why?
- Why is even distribution of all feed ingredients important to the animal?
- What difference would mixing equipment make?
- How was your mixer similar to a feed mixer? How was it different?
- What could you do to get more uniform distribution of all feed particles?

## Objectives:

- Youth will learn about feed current Good Manufacturing Practices (cGMPs)
- Youth will learn the concepts of particle size, particle separation, and adequate mixing

## Materials:

- *Feed Mixing* worksheet
- Feed ingredients (raisins, chocolate chips or M&M's, peanuts, sunflower seeds, coconut, sugar, flour, or various cereals)
- Measuring utensils; measuring spoons, measuring cups, plastic spoons, etc.
- Mixing utensils; plastic spoons, large and small paper cups, plastic bowls, plastic Zip-lock<sup>®</sup> bags

**Timeframe:** 3-5 Minutes

**Age:** All

# Feed Mixing Worksheet

**Your task is to mix the following ration:**

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

**First choose any mixer you prefer. Measure ingredients and mix.**

**Observe your feed mixture and compare it with others.**

Is the product evenly distributed? Why or why not?

Did you select the proper mixing equipment?

Did you measure the ingredients accurately? Was it hard or easy to be exact? Why?

# Peanut Butter & Jelly Time

**Background:** The purpose of this activity is to show how important it is to detail all of the steps in a process. Just because we know how to do it does not mean that someone else knows how to do it as well. In order to ensure that all steps are accounted for, proper detail must be clearly communicated. This activity will demonstrate the results if this does not occur.

## Instructions:

- Ask everyone to write out the instructions for making a peanut butter and jelly sandwich on the sheet of paper.
- After everyone has finished, select a set(s) of directions to use in making a sandwich.
- If time permits, go through this process with more than one set of directions.
- Collect the set of instructions, and either have another volunteer (or yourself) follow the directions to making the peanut butter and jelly sandwich.
- It is critical that whoever does this step follows the directions EXACTLY. We are preconditioned to simply make the sandwich our way, but in this case the person must follow only the instructions.
- Once the directions are completed, enjoy the sandwich and discuss.

Note: It may work best if the group does not see the materials for the sandwich before the participants write the directions. It would be valuable to discuss how materials (jars, bread packaging) might have been different than expected.

Also, this activity can be done with other everyday processes, such as putting a pillow in a pillow case.

## Processing Questions:

- How close were the directions you created to the directions we used?
- Why would there be more than one set of directions?
- How important is clear communication when working with others?
- Why would it be important to have only one set of directions for your swine operation?

**Objectives:** To illustrate the importance of clear communication and directions.

## Materials:

- Jar of peanut butter
- Jar of jelly
- Plastic knife (for spreading)
- Plate/paper towel
- Loaf of bread
- Pencils
- Sheets of paper

**Timeframe:** 5-10 Minutes

**Age:** All

# PQA Crossword

**Background:** The puzzle can be used either before the program begins as a preview or as a review tool at the end.

**Instructions:**

- Distribute *PQA Crossword* worksheets to each participant.
- When completed, share the correct answers with the group.

**Processing Questions:**

- Check for a need to clarify any of the answers

**Objectives:** To introduce/  
review key concepts of the  
Youth PQA program.

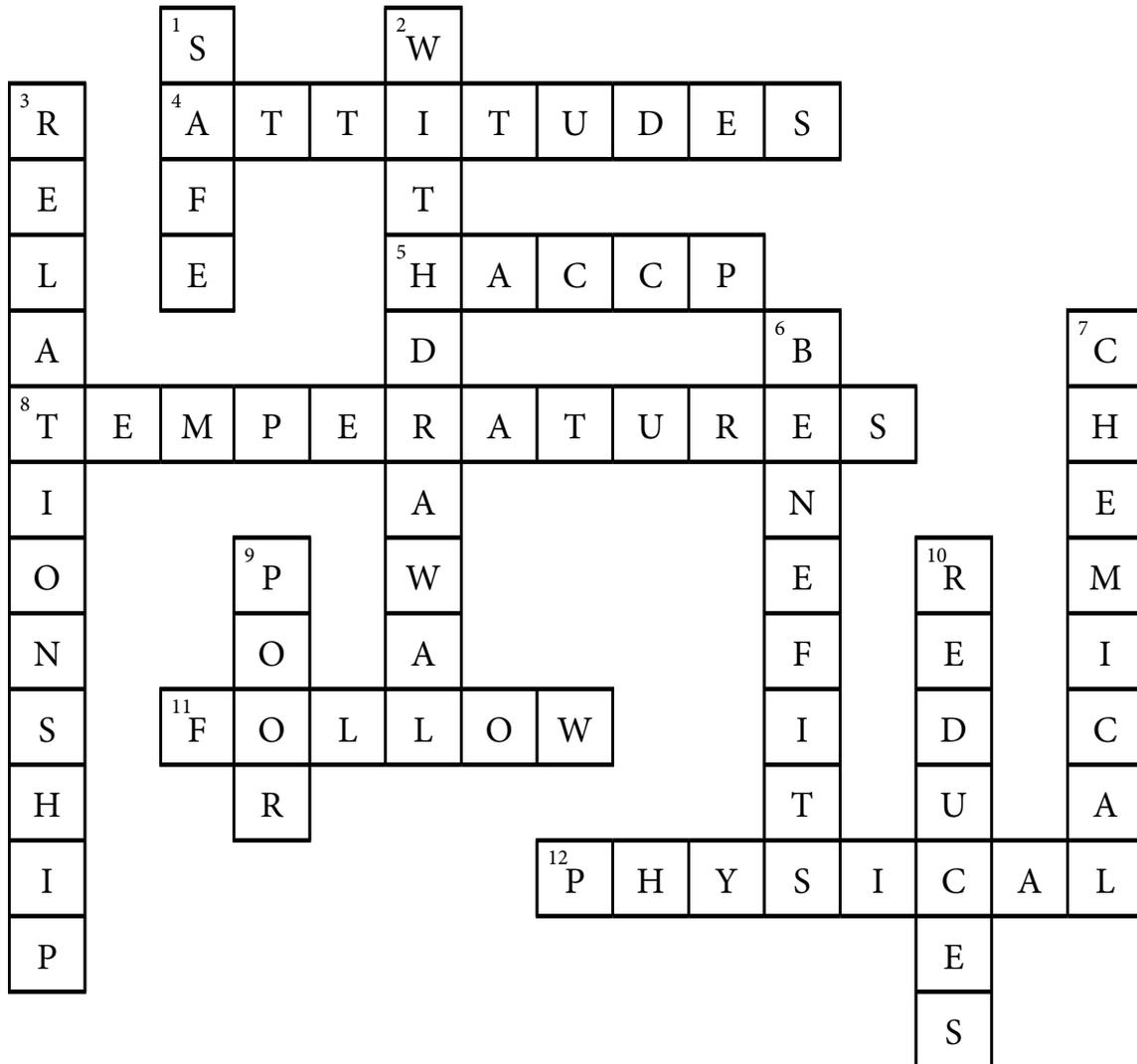
**Materials:**

- Pencils
- *PQA Crossword* worksheet

**Timeframe:** 5-10 Minutes

**Age:** All

# PQA Crossword-Little Things Make a Big Difference



**ACROSS**

4. Producer \_\_\_\_ play an important role in quality assurance.
5. The \_\_\_\_ system is designed to prevent food safety problems.
8. Proper cooking \_\_\_\_ prevent food safety problems.
11. Good producers \_\_\_\_ the labels for every additive, drug or chemical used.
12. \_\_\_\_ hazards include broken needles or other metals.

**DOWN**

1. It is important to provide a \_\_\_\_ product to consumers.
2. Treated animals must have the correct drug \_\_\_\_ time calculated.
3. A close working \_\_\_\_ with the veterinarian is important.
6. The entire pork industry \_\_\_\_ from your commitment to quality assurance.
7. \_\_\_\_ hazards include antimicrobial and chemical tissue residues.
9. \_\_\_\_ managers rely solely on drugs to maintain herd health.
10. Better animal identification \_\_\_\_ the chance of drug residue problems.

# PQA Word Search

**Background:** The word search can be used either before the program begins as a preview or as a review tool at the end.

**Instructions:**

- Distribute *PQA Word Search* worksheets to each participant.
- When completed, share the correct answers with the group.

**Processing Questions:**

- Check for a need to clarify any of the answers

**Objectives:** To introduce/  
review key concepts of the  
Youth PQA program.

**Materials:**

- Pencils
- *PQA Word Search* worksheet

**Timeframe:** 5-10 Minutes

**Age:** All

# PQA Word Search-Creating Premier Care & Management

O R J S O Q B A A E B Q E Y N  
 A Y S S R O T I S I V F R S Y  
 E S L E V S I S O L A T E D E  
 F S H C S T L S S S R L C K M  
 T Q A C V S E H P L A N O M H  
 P A N A F C O U D C W P R J F  
 G A D A U A H L S R L Q D A N  
 T Z L R T D M Z A Y J D S C E  
 M C I J K U M Q N U D J X R J  
 F T N T T R I U M M N L E W W  
 Y P G L U O W Y W K H N Z R J  
 C Q T L K Z X X V W S X A B V

Search for the following underlined key words:

1. A herd health management plan can control many health problems.
2. Consumers depend on safe food supplies.
3. Biosecurity means keeping your pig safe from the introduction of diseases from other pigs.
4. Newly purchased pigs should be isolated from other pigs.
5. Limit visitors to your facilities if they have had recent contact with other swine.
6. Pigs should have access to good quality water and balanced diets.
7. Never poke your pig in the buttocks!
8. Proper handling is improved when using a sorting board.
9. Improper handling results in carcass losses from bruising, PSE meat, & DFD meat.
10. Written records of feed formulation should be retained for one year.
11. Feed should be measured using scales or metering devices.
12. An annual review of the Good Production Practices is part of premier management.