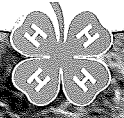


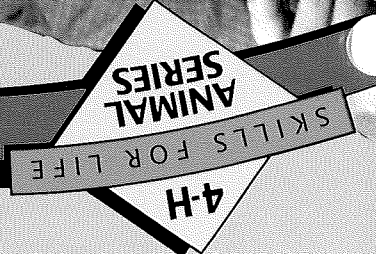
REVIEWED & RECOMMENDED  
National 4-H Curriculum



Swine Youth  
Activity Guide  
Grades 9-12

NAME \_\_\_\_\_  
CORNU \_\_\_\_\_

# GOING WHOLE HOG



National 4-H Curriculum  
BU-08067

# Note to the Project Helper

**C**

congratulations! A young person has asked you to serve as his/her helper for this level of the Swine Project. You may be a family member, project leader or advisor, teacher or a

neighbor. Your role in guiding, encouraging and rewarding progress is very important. How you choose to be involved will often determine the success the youth has in developing important life skills while learning what pigs are all about. The youth's interest in swine is the vehicle leading to life skill development. You'll find that these guides are designed to encourage active involvement and exploration rather than simply providing answers.

## Your Role

- Review this guide and the *Swine Helper's Guide*
- Support youth in his/her efforts to set goals and complete Level 3 of the Swine Achievement Program
- Serve as a resource person to help connect youth with the community, resource materials and others knowledgeable about the project

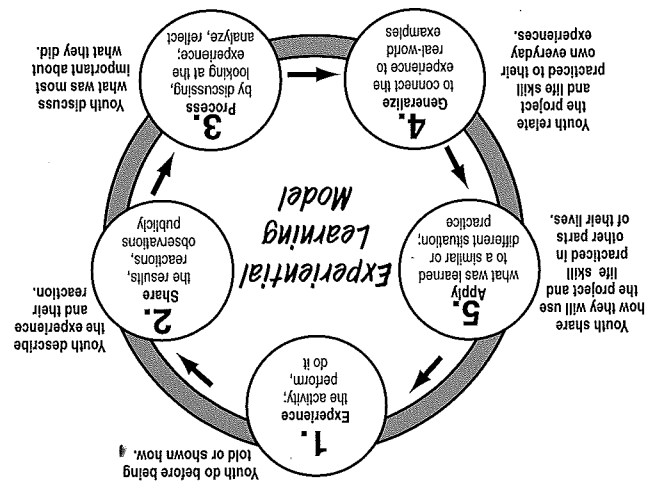
## Project Activity Guides

This project activity is a part of the 4-H "Skills for Life" Animal Science Series. The three youth guides in the swine series are designed for beginner, intermediate and advanced learners respectively. Each guide includes an achievement program to provide challenging activities, a way to expand project experiences beyond the animal and a means to recognize youth for what they have accomplished. The activities in this guide are specifically designed to help youth develop skills in decision making, relating to others, communicating with others and learning to learn.

## Swine Helper's Guide

The fourth piece in the swine series, *Swine Helper's Guide*, provides additional learning-by-doing activities that can be adapted to the family, the classroom, 4-H project groups, clubs or other groups. You'll also find information on characteristics of youth, additional ideas for project experiences helpful hints on developing life skills.

## Experiential Learning Model



Pfeiffer, J.W., & Jones, J.E., "Reference Guide to Handbooks and Annals" © 1983 John Wiley & Sons, Inc. Reprinted with permission of John Wiley & Sons, Inc.

This five-step model is included in each activity in this series. As you can see, the youth first attempt the activity on their own. After the youth do as much as they can and answer the questions, you then meet together and discuss: What they did? What was important about what they did? How does what they did relate to their lives? And finally, how might they use the life and project skills practiced in the future? Sample questions are included following each experience for the youth to answer and the two of you to discuss. Your ability to ask additional thought-provoking questions and to clarify and expand the youths' ideas will add to the educational experience.



Good luck in your role as project helper!

# What's Inside?

## Going Whole Hog

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### Putting the Oink in Pig

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 How Does the Fat Measure Up?  
**Chap. 4 Beyond the Pen**  
 Developing a New Pork Product  
 Building Character  
 Discovering Swine Careers  
 Locating Swine in the U.S.

For more on swine look for these other guides in this get.



### Group Activity Helpers Guide

Developing Life Skills  
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 Science Standards  
 Teaching and Learning Experimentally  
**Chap. 1 Selection and Judging**  
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 Recognition Model  
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 Conducting a Swine Quiz Bowl  
 Running a Swine Skilathon  
 Organizing a Swine Showmanship Clinic  
 Preparing to Say Good-bye  
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 Answer Key: Swine 1, 2 and 3  
 Swine Resources

**The Incredible Pig**  
 Swine Breeds  
 Retail Cuts of Pork  
**Chap. 1 Selection and Judging**  
 Naming the Breed  
 Learning the Parts  
 Judging Market Hogs  
**Chap. 2 Management and Health**  
 Meeting the Budget  
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 Discovering Pork By-products  
 Preparing Pork  
**Chap. 4 Beyond the Pen**  
 Looking Your Best  
 Showing  
 Writing a Thank-you Letter

## Acknowledgments

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 IA; Rex Warner, IN; Robert Thaler, SD;  
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# Having Fun with the Swine Project

**B** Now you are probably an expert on pigs, or certainly know more than you did when you started this project. Whether you raise one or several pigs, you are in an excellent position to share your experiences with others. *Going Whole Hog* provides several opportunities for you to develop your leadership skills as you strive to complete the Swine 3 Achievement Program. You'll also find activities to help you develop a business, explore careers and teach others.

Tape a picture of you and your project helper here.

Photo Caption

## Good Luck with Swine 3 Going Whole Hog

- ### Swine 3 Project Guidelines
- Do a minimum of seven activities in Level 3 of the Swine Achievement Program each year.
  - Complete this level within three years.
  - Participate in a minimum of five of the learning experiences listed each year.
  - Practice and develop the life skills of leading others, making decisions, planning and communicating while you learn to take risks, think creatively, use community resources, explore careers and take responsibility.
  - Keep the Planning Guide current including project goals and listing project highlights as they occur.
  - Share your swine knowledge and skills with others.
  - Have fun!

### Swine 3 Achievement Program

If you have completed levels 1 and 2, you know each chapter contains swine-related activities that encourage you to practice a certain life skill while doing the activity. In many cases, because this is an activity guide and not a resource manual, you will need to research other sources of information to complete a particular activity. The page of swine resources in the back of this guide is a good place to start, but you'll also want to work closely with your project helper.

Remember this is your own personal guide. Feel free to use it to record your thoughts and ideas. Most questions will not have a "right" answer. The questions will help you explore the subject and your own ideas in more depth. Additional activities are included in *Swine Helper's Guide*. Many of these are fun experiences for you to use with other youth as you develop your leadership skills.

### Your Project Helper

You may choose your own helper. This person might be a project leader or advisor, teacher, family member, neighbor, friend or anyone who has the interest to work with you to complete Level 3. You'll meet with your helper as you set goals, plan and complete activities in this guide. Discussing each activity with your helper and having this person date and initial your achievement program will make this project more interesting and fun. Write the name and phone number of your project helper here:

My Project Helper \_\_\_\_\_

Phone # \_\_\_\_\_

E-mail \_\_\_\_\_

# Setting Goals

## My Swine Project Goals

Name \_\_\_\_\_ # Pigs \_\_\_\_\_ Breed(s) \_\_\_\_\_

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

What I want to do and learn in Swine 3: \_\_\_\_\_

## Learning Experiences

Check (✓) when you do any of the following. Plan to do at least three each year.

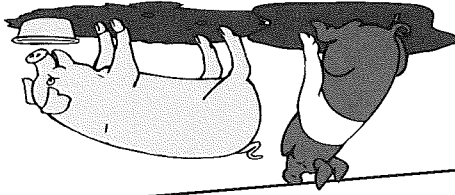
Activity	Year		
	Year	Year	Year
Give a presentation			
Conduct a swine show			
Organize a swine project meeting			
Be a member of a swine organization			
Participate on a judging team			
Exhibit at a fair			
Create a video presentation			
Conduct a swine skillathon			
Coach a livestock quiz bowl team			
Judge a swine show			
Organize a swine showmanship contest			

## What do you know?

Here's an easy way to tell if you learned something new and developed important project skills. BEFORE you start doing the activities in this guide, indicate what you know now; then indicate what you know AFTER you complete the Swine Project Achievement Program. You may be surprised how much you learned! Share the results with your helper.

Begin each statement with the words "I know how to..." then circle 1 (not at all), 2 (somewhat) or 3 (to a great extent).

	Before	After
Decide which sow to keep and which to cull.	1 2 3	1 2 3
Decide which breeding system to use.	1 2 3	1 2 3
Use EPD's to place and present oral reasons of a class of breeding gilts.	1 2 3	1 2 3
Design a preventive herd health program.	1 2 3	1 2 3
Decide feed required to grow a pig to 260 pounds.	1 2 3	1 2 3
Identify and contact a swine breeder of meat buyer in at least three other countries.	1 2 3	1 2 3
Plan and design a swine unit.	1 2 3	1 2 3
Develop an effective response to a neighbor's complaint.	1 2 3	1 2 3
Contact and visit at least two swine organizations.	1 2 3	1 2 3
Analyze personal career preferences.	1 2 3	1 2 3
Prepare a personal resume.	1 2 3	1 2 3
Help others learn each of the four baby pig management practices.	1 2 3	1 2 3
Gather information and analyze a swine ration.	1 2 3	1 2 3

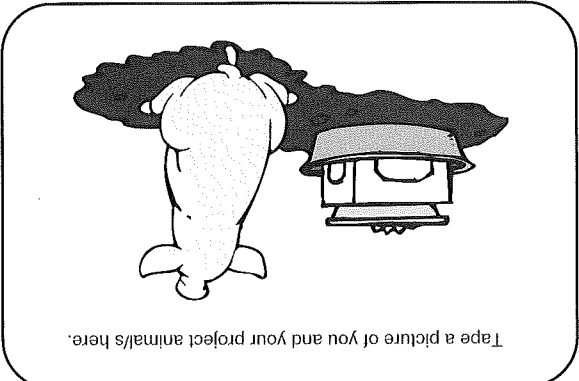


## Swine Project Highlights

Date and list exciting things you do and learn.

Date \_\_\_\_\_


# Swine 3 Achievement Program



### Guidelines

- Do at least seven of the required and More Challenges *Going Whole Hog* Achievement Program activities each year.
- Complete at least 21 of the required and optional activities within three years to complete this achievement program.
- Have your project helper date and initial the activities as you complete them.

Activities	Date Completed	Helpers Initials
<b>Chapter 1 – Selection and Judging</b>		
Planning a Breeding Program		
Understanding Breeding Systems		
Judging Breeding Gilts		
<b>Chapter 2 – Management and Health</b>		
Facilities for Farrowing/Finishing		
Practicing Baby Pig Management		
Maintaining Herd Health		
<b>Chapter 3 – Nutrition and Carcass</b>		
Exploring International Markets		
Designing a Swine Operation		
Buyer to the Packer to the Consumer		
<b>Chapter 4 – Beyond the Pen</b>		
Thinking of the Neighbors		
Finding a Career		
Gaining Experience		
Exploring International Markets		



**More challenges**

### Optional Activities

Select and do any of the More Challenges in Level 3 or make up your own. Record the page and number of each one you complete.

Page #	Date Completed	Helpers Initials

Write your own activity here.

Date \_\_\_\_\_ Helper's Initials \_\_\_\_\_  
Write your own activity here.

Date \_\_\_\_\_ Helper's Initials \_\_\_\_\_  
Write your own activity here.

# Selection and Judging

Chapter 1



## Planning a Breeding Program

**W**

What records would you need to select breeding stock and determine the cost of production? Top producers are using computer-based records programs to help them in making management decisions. Profitability

In today's competitive pork industry requires good records to pinpoint potential losses and see where profits can be maximized. Many producers and 4-H members can use simple, hand-calculated numbers to improve herd productivity and selection.

**Swine Skill:**

Selecting for the breeding herd

**Life Skill:**

Making decisions

**Success Indicator:** Uses performance records to select sows.

### Your Challenge

**1.** First calculate the sow productivity index for each sow in the table. See Pig Facts for help doing these calculations. Use the adjustment tables to figure the number born alive and 21-day litter weight. Select which of the five sows to breed and which ones you would cull.

Sow Performance Records					
Sow					
	A	B	C	D	E
Parity	6	2	1	3	4
Number born alive	9	11	10	8	12
Number after transfers	10	10	10	10	10
Number weaned	9	10	9	8	10
Lactation length (days)	22	20	21	19	23
Litter weaning weight (lb.)	108	125	114	100	140
Adjusted number born alive					
Adjusted 21-day litter weight					
Sow productivity index					
Sows selected to breed					
Reasons for selection					
Sows selected to cull					
Reasons for selection					

### Phase of Production

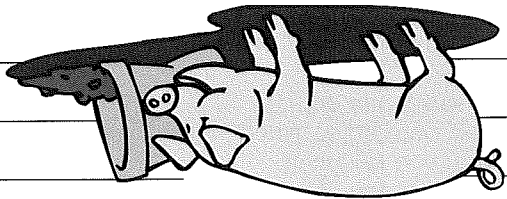
1. Nursing pig
2. Weanling pig
3. Growing pig
4. Finishing pig
5. Sow

- a. 2:1
- b. 1:1
- c. 1.5:1
- d. 7:1
- e. 3.5:1

### Feed Efficiency

**2.** Now match the expected feed efficiency for each phase of production listed.

*Did you know... Hampshires, Durocs and Yorkshires represent 78% of the total purebred hog population in the United States.*




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**Apply What You Learned**  
 How will you change your present record keeping procedures?

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**Generalize to Your Life**  
 What records do you keep? How do the records you keep help you make decisions? What records does your family keep?

**Process What's Important**  
 Based upon your feed efficiency matching exercise what difference does age make? How did you figure feed efficiency? What additional information would you have liked to have had to select the best sow? Why?

**Share What You Did**

- What did you discover about selecting a sow based upon records?
- Why is feed efficiency such an important record to keep?
- Why is it important to keep records in your breeding stock and market hogs?



**WHAT AM I?** Our breed originated in Pennsylvania in 1848 from a mixture of Yorkshire, Lincolnshire and Cheshire swine, all of which came from England.

Feed Efficiency = (Total Feed)/(Total Gain) or (ADFI)/(ADG)  
 Cost per pound of gain = (Total Cost of Feed)/(Total Gain)

Pig Identification	Total Feed Fed	Number of Days Fed	Total Gain	ADG	ADFI	Total Cost of Feed Fed

3. Finally figure the feed efficiency for your own pig(s) or a neighbor's pig. Complete the chart.



## More challenges



1. Visit a veterinarian that has used the "Pig Champ" computer program or one similar. Describe and discuss with your helper how this helps the producer select replacement animals.

2. Visit the web site for STAGES. Identify the top boars in two breeds and two lower profitability boars in two breeds. Report to your helper the profit potential differences between the top and lower boars.

Acknowledgments: Written by Brian Richert, Purdue University.

Litter weight is multiplied by this factor to adjust all litters to a common 21-day weight.

Age weighed	Factor
10	1.5
11	1.46
12	1.4
13	1.35
14	1.3
15	1.25
16	1.2
17	1.15
18	1.11
19	1.07
20	1.03
21	1
22	.97
23	.94
24	.91
25	.88
26	.86
27	.84
28	.82

Factors for adjusting litter weight to a 21-day basis

\*These values are added to the actual production numbers for a specific sow.

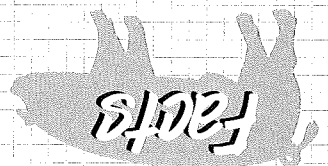
Parity	Number born alive	21-day weight adjustment
1	1.2	6.2
2	0.9	0
3	0.2	1.0
4	0	3.8
5	0	6.2
6	0.2	9.5
7	0.5	11.6
8	0.9	15.2
9+	1.1	21.5

Parity adjustment for number born alive and 21-day litter weight

### Adjustment Factors

The Sow Productivity Index (SPI) provides a measure of sow productivity and is especially useful when culling sows. Profitability is measured by the number born alive and milk production is measured by the adjusted litter weight.

## Sow Productivity Index



$$SPI = 100 + 6.5(L) + W$$

L = Adjusted number of pigs born alive minus the average of the adjusted number born alive for the contemporary group.

W = Adjusted 21-day litter weight for the sow minus the average of the adjusted 21-day litter weights for the contemporary group.

Factors for adjusting 21-day litter weight for the number of pigs nursed after transfers	Number of pigs after transfer	Adjustment factor for 21-day litter weight
0	10+	0
17	9	17
21	8	21
30	7	30
41	6	41
51	5	51

Factors for adjusting 21-day litter weight for the number of pigs nursed after transfers

**EPDs**  
Many genetic programs express the genetic potential of an individual as expected progeny difference (EPD), which is one-half of the estimated breeding value (EBV) of an animal. The EPD is one-half of the breeding value because each individual (sire and dam) contribute only one-half of the DNA to the offspring. The EPD of an individual for a performance trait is relative to the group or population average. The EPD for an individual is the sum of the EPD of both parents.

*Did you know...* Each 1 change in feed efficiency (ex: 3.0 to 2.9) is worth about \$1.50 per pig.

# Understanding Breeding Systems

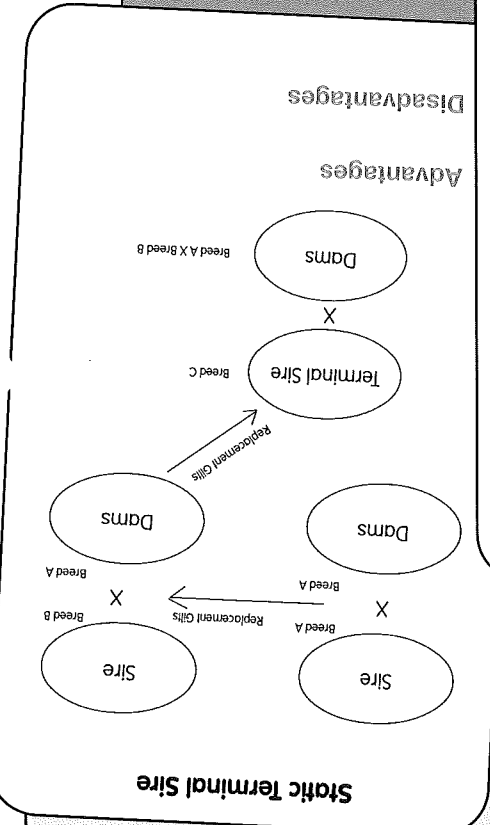
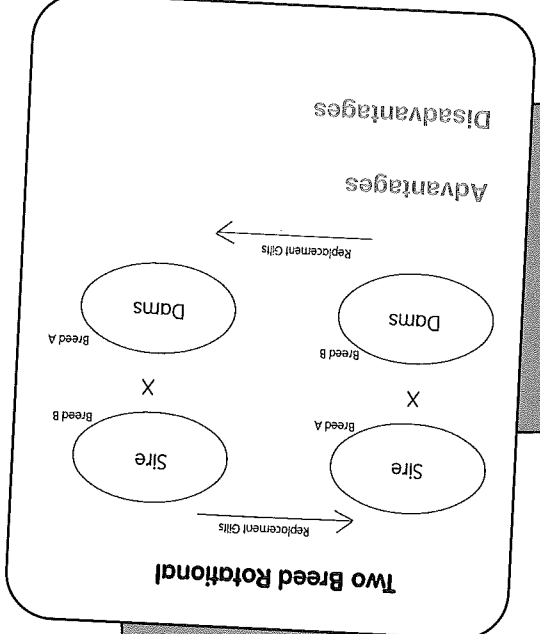
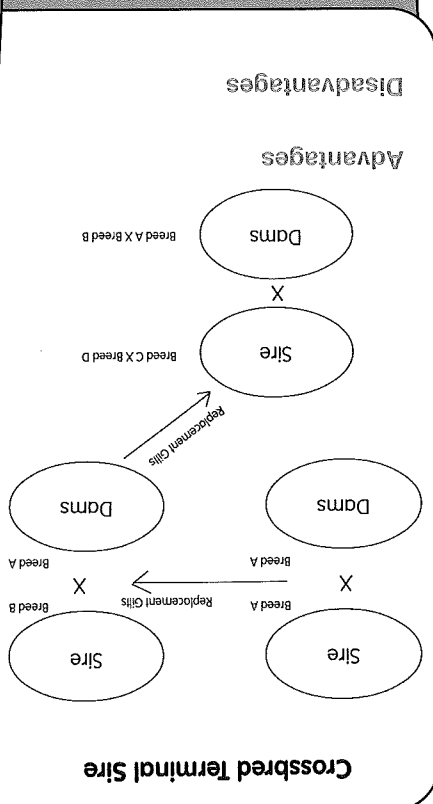
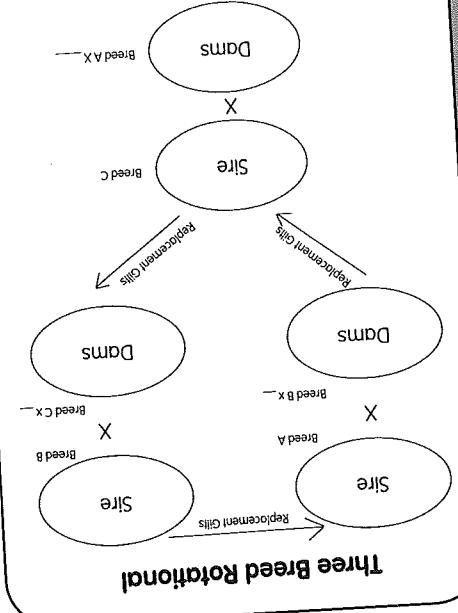
**Swine Skill:** Learning about genetics  
**Life Skill:** Making decisions  
**Success Indicator:** Selects breeds for breeding systems.

**G**enetics is an exciting area of animal science. Many important breeding experiments are being conducted in this area. When breeding swine, genetics play a major role in improving the herd. Breeding swine should be selected for the most economically important traits. White breeds of swine are known as "maternal" breeds because they are noted for

good litter size, milking ability and reproductive traits. Colored breeds of hogs (Duroc, Hampshire, Spots, Poldans and Berkshires) are known as "sire" breeds. These breeds are strong in growth rate and carcass traits. In order to combine the desirable traits of both maternal breeds and sire breeds, a well-planned breeding system needs to be designed.

## Your Challenge

**S** tudy the strengths and weaknesses of the various swine breeds. These can be found in Level 1, Chapter 1, *Chapter 1*. Carefully select the breeds that would work best in the swine breeding systems listed. List the advantages and disadvantages of each crossbreeding system.



**Advantages**

**Disadvantages**

**Advantages**

**Disadvantages**

**Advantages**

**Disadvantages**

**Advantages**

**Disadvantages**

1. Some breeds known as maternal breeds are crossed with what are called sire breeds to obtain F1 crosses. Explain to your helper why this is done.
2. Think about your own family tree beginning with your grandparents. Talk about the characteristics that seem to be dominant throughout your family. Think broader than just physical characteristics. What skills, talents, interests, personality traits and other traits do you see?

## More challenges



*Did you know... Through the use of mating purebred animals of different breeds emphasizing the traits known strong to each breed through years of selection pressure and EPDs, superior crossbred animals can result.*

**Breeding Systems**

- Heterosis, or hybrid vigor, is the degree to which crossbred hogs deviate from the performance of average hogs of the parental breeds.
- Crossbreeding can improve overall herd performance by as much as 20 percent.
- The offspring which result from crossing two purebreds are called F1 crosses or first generation crosses.
- The Rotational system involves two or more breeds, can maintain 86% heterosis in offspring and in sows and is easy to manage. Offspring from each generation are used for market production as well as replacement gilts.
- The Rotational system involves selecting the top females and using them in a rotational cross that produces replacement gilts. The replacement gilts are then mated to terminal boars for market production. This system allows for 86% heterosis in sows and 100% heterosis in market hogs.
- In the Terminal System, a crossbred gilt is mated to a terminal purebred boar and all animals are sent to market. Both the sows and market animals can maintain 100% heterosis. This system allows for the highest quality final product.

## Facts



*WHAT AM I? We are best known for our growing ability and feed efficiency. We originated from red hogs developed in New York and New Jersey.*

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**Apply What You Learned**  
Where else in your swine project and other areas of your life do you use scientific information (or records) to help make important decisions?

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**Generalize to Your Life**  
How might learning your own genetic health background (health of parents and grandparents, brothers and sisters) influence how you care for yourself?

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**Process What's Important**  
Why is the decision of selecting a herd boar so critical in improving the herd?  
What information do you need to know when selecting a boar for your herd?

- Discuss the importance of careful planning before getting involved in a certain cross-breeding system.
- What are the advantages of a simple, 2-breed crossing system over a complex, 3-breed rotational system?
- What breeds did you select for each breeding system?

**Share What You Did**

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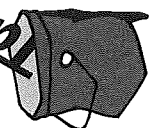
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## Talking it over



# Judging Breeding Gilts

**A**

As you have become more advanced in the swine project and your ability to visually evaluate hogs has improved, you are now

ready to incorporate performance data along with visual appraisal to determine superior breeding stock.

**Swine Skill:** Incorporating performance information in selection decisions

**Life Skill:** Problem solving

**Success Indicator:** Uses EPD's to place and present oral reasons on a class of breeding gilts.

## Your Challenge

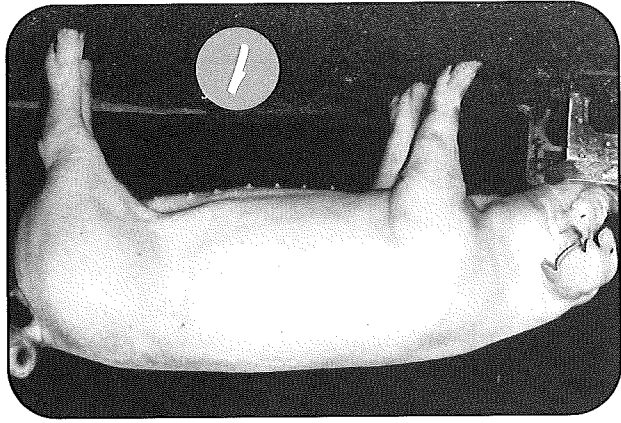
**T**

This activity gives you an opportunity to practice your problem solving skills by combining the genetic information with the visual characteristics of the Chester White gilts shown here. A sample set of reasons on a similar set of Yorkshire gilts is provided to help you organize and

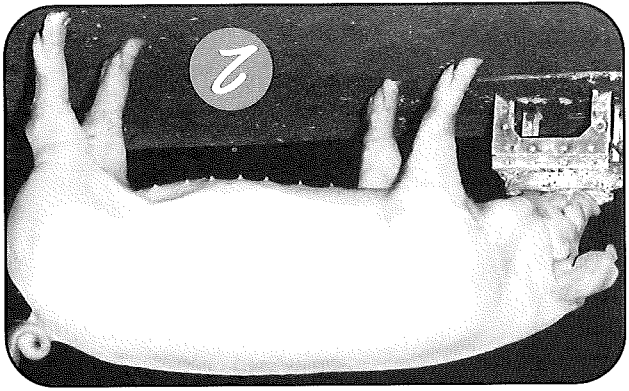
prepare your own reasons for these Chester White gilts. Present your oral reasons to a helper. Remember to include some of the performance terms. Place the class and write your reasons for your placing.

### Chester White Gilts

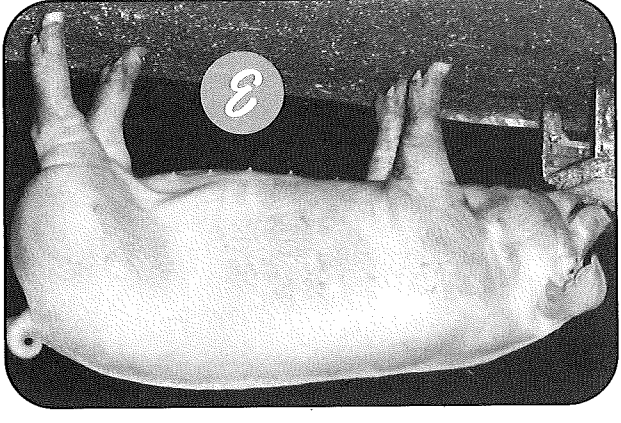
Scenario: These Chester white gilts will be mated to Chester White boars to produce replacement females and elite herd boars for a purebred operation.



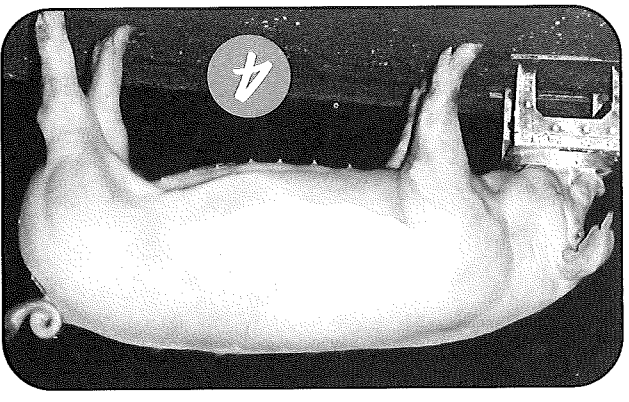
EPDs: .25 NBA, 2.3 LWT, 2.6 DAYS, -.2 BF, MLI = 105.2; Dams SPI = 103.1



EPDs: .85 NBA, 9.5 LWT, 3.27 DAYS, -.08 BF, MLI = 115.8; Dams SPI = 113.9



EPDs: .53 NBA, 4.3 LWT, -0.53 DAYS, .48 BF, MLI = 107; Dams SPI = 100.2



EPDs: .85 NBA, 9.5 LWT, -3.12 DAYS, -.12 BF, MLI = 115.8; Dams SPI = 113.9

WHAT AM I? We are noted for our fast growth. We became a separate breed in 1961.

# Performance Terms for Swine



**Expected Progeny Difference (EPD)** - Best estimate of a sire or dam's genetic worth, given the information available. It is the actual difference in performance a producer can expect from a future progeny of a sire or dam relative to the future progeny of an average parent. Positive EPDs are more desirable for number born alive and 21-day litter weight. Negative EPDs are more desirable for days to 250 pounds and backfat.

**Number Born Alive EPD (NBA)** - Predicts the number born alive for each individual's progeny relative to an average pig. A sow with an EPD of +.5 would be expected to produce daughters that would farrow with .5 more pigs than gilts from a sow whose EPD for NBA is 0.

**21-Day Litter Weight EPD (LWT)** - Predicts the 21-day litter weight for an animal's progeny. A sow with an EPD of +3.4 would be expected to generate daughters which would produce litters 3.4 pounds heavier at 21 days than gilts from a sow whose EPD for LWT is 0.

**Sow Productivity Index (SPI)** - Index for reproductive traits that combines number born alive and 21-day litter weight. Ancestral data and a sow's lifetime data are included in SPI.

**Days to 250 pounds EPD (DAYS)** - Predicts performance of an animal's offspring. A boar with an EPD of -3.0 would be expected to produce progeny that would reach 250 pounds 3 days faster than progeny from a boar whose EPD for DAYS is 0.

**Backfat EPD (BF)** - Predicts offspring's backfat. A boar with an EPD of -.04 would be expected to sire pigs .04 inches leaner than the progeny from a boar whose EPD for BF is 0.

**Maternal Line Index (MLI)** - Places greater emphasis on reproductive traits. Selection on this index is appropriate when the majority of pigs are sold either as replacement gilts or to a gilt producing herd.

**Terminal Sire Index (TSI)** - Combines growth and backfat only and is appropriate to use to select boars for use as terminal sires in a crossbreeding program.

**Swine Testing And Genetic Evaluation System (STAGES)** - Genetic evaluation system provided to members of the Duroc, Hampshire, Landrace and Yorkshire breed association of the National Swine Registry. STAGES utilizes performance records for growth, backfat, litter size and litter weight to predict the genetic value of each pig and its parents.

*Did you know... Durocs are the second most recorded breed of swine in the United States.*

## Oral Reasons Note Card

Class \_\_\_\_\_

I placed this class of \_\_\_\_\_

with \_\_\_\_\_ . I placed \_\_\_\_\_

\_\_\_\_\_ over \_\_\_\_\_ in my top pair because

I grant \_\_\_\_\_ was \_\_\_\_\_

However, I faulted and placed him/her second because \_\_\_\_\_

Going to the middle pair, I placed \_\_\_\_\_ over \_\_\_\_\_ because \_\_\_\_\_

I admit \_\_\_\_\_ was \_\_\_\_\_

However, I faulted and placed him/her third because \_\_\_\_\_

placed \_\_\_\_\_ over \_\_\_\_\_ in my bottom pair because \_\_\_\_\_

I realize \_\_\_\_\_ was \_\_\_\_\_

However, I faulted \_\_\_\_\_ and placed him/her last in this class because \_\_\_\_\_

For these reasons, I placed this class of \_\_\_\_\_

### Oral Reasons Tips and Outline

Each livestock class consists of three pairs: a top pair, a middle pair and a bottom pair. Each pair's reasons have three basic sections: comparison, grant and criticism. Here is a reason's outline that demonstrates this basic format:

**Introduction:** "I placed the class of \_\_\_\_\_, A-B-C-D."

**Opening Statement:** There are three types of opening statements:

outstanding individual (60%), close top pair (30%) and combination animal (10%). Be sure to tell how the animal or pair of animals is the best in the class. Use "...est" terms. Also, use big, general terms, not specifics. **Criticize the top animal:** Unless it has an obvious fault, criticize it by comparing it to the ideal. Be specific. For example, "Ideally, I would like to see the 2 barrow more correct on his rear legs." Don't use the word "lacks!"

**Compare A over B:** Use "...er" terms. Don't describe every difference that exists between the pair. Ask yourself, "What places A over B?" Use a general term backed up by specifics. Don't simply repeat the opening statement; prioritize.

**Grant B over A:** What did you criticize A for? More than likely, the most important advantage B has is what you criticized A for. For example, "Now I'll readily concede the red number 2 barrow has more shape to his rib and more depth through his rear flank." If possible, use identifications (such as sex differences, color differences or conformational identifications) to describe the second, third and fourth place animals when you introduce them in the grant. For example, if talking about a class of Yorkshire gilts you might say, "Admittedly, the large framed number 2 gilt has the most feminine underline of any. In addition, she travels on a larger stride than the number 3 gilt."

**Criticize the second place animal:** Be descriptive, not comparative. If this animal is the worst in the class in a major area, then use an "...est" term to describe this fault and make it first in priority. Do not say any more than three negative things about any animal. As you go from the top to the bottom animal, your criticisms will go from more specific to more general.

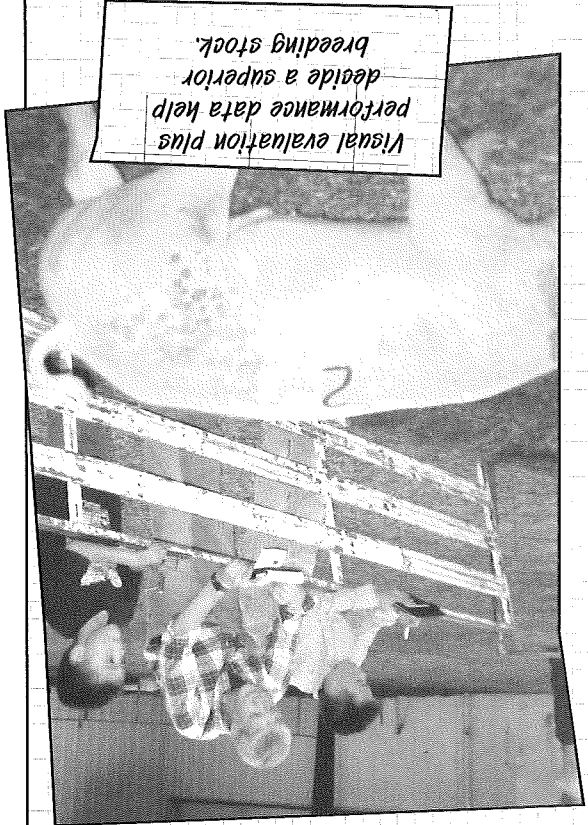
- Compare B over C
- Grant C back to B
- Criticize C
- Compare C over D
- Grant D back to C
- Criticize D

Properly used, this format will allow you to completely describe all of the important points in a class in a well organized and easy to follow manner. Here's the start of another sample set of reasons for market hogs following this format:

**Opening Statement:** "I started the class with the only belted barrow, as he is the heaviest muscled, leanest and most correctly designed individual of the four.

**Criticize the top animal:** "Ideally, I would like to see the 1 barrow have more shape to his rib."

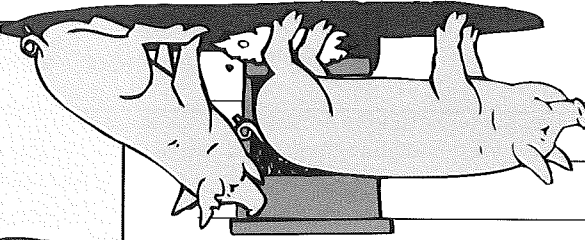
**Compare 1 over 2:** "However, I still used 1 over 2, mainly because he is more muscular. He has more shape and expression from his shoulders to his hip. In addition, he has more dimension to his ham and stands more correctly on his rear legs. On the rail, he should hang the highest percent of lean of any barrow in the drive."



# Facts



Acknowledgments:  
Written by Clint Rusk



1. Judge a youth swine show.
2. Coach a judging team.

## More challenges



Total points deducted = 16  
Your score is a 34 (50-16)

Then compare your third and fourth numbers.  
Placing: 1 over 3  
Deduct: 2+6=8

Then compare your second number with the third and fourth numbers.  
Placing: 2 over 1  
Deduct: (correct placing) 0  
(correct placing) 0

Then compare your second number with the third and fourth numbers.  
Placing: 4 over 2  
Deduct: 4+2=6  
(correct placing) 0

Start with the first number in your placing and compare it to each of the other numbers one at a time.  
Placing: 4 over 1  
Deduct: 4+2=6  
(correct placing) 0

Your placing: 4-2-1-3  
Official placing: 2-3-4-1  
Official cuts: 4-2-6

The following example shows how to figure a "busted" placing.

Your placing: 3-2-1-4 Score: 40  
3-2-4-1 Score: 46

For example:  
Official placing 2-3-4-1  
Cuts 4-2-6

"Cuts" are assigned to the three pairs of each official placing in a judging contest. These numbers can not total more than 15 and are assigned according to the difficulty of the decision in placing the animals. If your placing is only a switch away from the official placing, then you simply subtract the "cut" on that pair from the perfect score of 50 points. Likewise, if you switch both the top and bottom pair, you would subtract both cuts from 50 points.

## Determining Your Score



Did you know...The Hampshire hog, originated in southern Scotland and northern England.

- Tell how it felt to incorporate performance terms in your reasons.
- Is it easier or harder to use performance data to select gilts? Why?
- How could you improve your performance reasons?

### Share What You Did



**Process What's Important**

Which of the given traits would be most important to consider when you are trying to increase the litter size of your herd? Did you place more emphasis on the performance data or the visual traits of the gilts? Why?

**Generalize to Your Life**

How would you convince a swine breeder to utilize performance information when selecting their replacement gilts?

**Apply What You Learned**

Describe what traits you would look for in a boar to breed to the #3 gilt on the previous page that would genetically improve her first litter of pigs.



**My Farrowing Facility**

**V** isiting local swine breeders and/or area commercial swine operations managers discuss plans for building a farrowing unit for your swine operation. Have your helper assist you with designing a farrowing facility. First, using a pencil sketch the floor plan of the farrowing facilities you need based on the number of sows you intend to farrow.

Next using a Computer Assisted Design (C.A.D.) program develop a floor plan for our farrowing operation. The sketch you draw will help service as a guide to the develop of the floor plan. To get help obtaining a C. A. D. program contact your local library, your local school district, or search for free downloads on the Internet.

### Your Challenge

## Facilities for Farrowing

**F**arrowing facilities range from pasture systems with small, individual sow huts to enclosed farrowing houses. Pasture systems with huts should be fitted with a farrowing rail around the walls to prevent the sow crushing pigs against the wall when she lies down. Farrowing houses contain individual farrowing pens or stalls designed to provide a comfortable place for the sow to farrow and to protect the newborn pigs.

The newborn piglets need special attention because they are born with little energy and have little ability to regulate their own body temperature and can easily be injured. Designing a facilities that meets the needs of the sow the piglets can be a challenge. In this activity you will design a farrowing facility for a swine operation based on the number of sow you intend to raise.

# Management and Health



Swine Skill: Designing Farrowing Facilities

Life Skill: Problem Solving

Success Indicator: Plans and designs a swine farrowing unit.



## More challenges



1. Write a paper that compares and contrasts the pasture systems and farrowing houses for farrowing pigs.

*Did you know...* The National Pork Board reports that pigs can be aggressive animals when housed in pens as a group until they have an established order of dominance. Pigs at the lower end of the pecking order can suffer severe bites from more dominant animals, and subordinates could have reduced access to their daily diet unless steps are taken to minimize these conflicts. Gestation stalls are one way in which producers can provide more individual attention to pregnant sows as well as provide protection from other pigs.



*Sows are very protective of their young.*

- Farrowing sows (400 - 450 lbs) need 27 - 35 square feet of pen space.
- Either solid floors or slotted floors may be used in swine units. Slotted floors separate the manure from the animals and the pigs will stay cleaner. Solid floors will require more cleaning, but can help regulate the temperature of the farrowing facilities better than slotted floors.
- Desirable temperature for raising baby piglets is 90 F.
- Choose a ventilation and temperature control system.
- Decide on a water and feeding system.
- Electric power is needed for heat lamps or to power other heating devices for the baby piglets.

## Farrowing Unit Design Tips



**Additional Resources:**  
 Livestock Waste Facilities Handbook (1993)  
 3rd. ed. Midwest Plan Service,  
 Iowa State University, Ames, Iowa.

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**Apply What You Learned**  
 How can this activity be useful to anticipate environmental factors that might effect the growth and development of the baby piglets?

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**Generalize to Your Life**  
 How can you use what you learned about C.A.D. programs better help you manage your personal finances.

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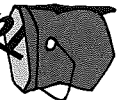
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**Process What's Important**  
 Why is it important to consider all the consequences of farrowing sows before making a decision?

- What considerations were made in your mind about the "site" on which to build your farrowing unit?
- Why did you choose the type of farrowing unit that you did for your operation?
- Discuss C.A.D. programs and the various applications they have to the wine industry.

**Share What You Did**

## Talking it over




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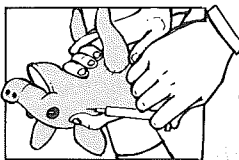
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**Note:** Iron may also be given to the pig orally (by mouth).



1. Read the instructions on the bottle for the iron product you are using. Learn how to get the correct amount of iron into the syringe and how to remove air from the syringe and needle.
2. Hold the pig carefully and disinfect the injection site.
3. Inject the proper amount of iron into the neck muscle.

**Proper Procedures**

Pigs sometimes need shots to keep them well—just as people do. For example, many nursing pigs get iron-deficiency anemia about seven to ten days after birth. They may get anemic for four different reasons:

- Fast-growing pigs increase their blood volume rapidly and need additional iron for the hemoglobin to carry oxygen.
- The pigs only store a low amount of iron in their bodies.
- The mother's milk is low in iron.
- The baby pig may have no contact with iron in the soil.

Since iron is an important part of the body's red blood cells, it is important to supply them with iron to keep them healthy.

**Anemia and Iron Shots**

**T**o complete this activity, help four to five of your friends learn four baby pig management practices. You'll want to learn the practices first using the information given. Use a cloth model pig, or something other than a live pig, for practice. (See Swine Resources, page 36, for ordering a pattern for a realistic, small pig.) Feel free to ask for help in completing this activity. Here are some hints and information of each of the four practices.

**Your Challenge**

**F**our important management practices are necessary during the first few days of a baby pig's life in order to keep it healthy and identify it. These include giving iron

**Practicing Baby Pig Management**

**Swine Skill:**

Giving iron shots, clipping needle teeth, shortening a pig's tail, identifying a pig, communicating through demonstrating

**Life Skill:**

Helps others learn each of four baby pig management practices.

**Success Indicator:**

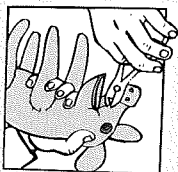
Helps others learn each of four baby pig management practices.

**Clipping Needle Teeth**

A pig is born with eight sharp needle teeth. These needle teeth are used many times when competing for a nursing spot. They make small cuts around litter mates' noses and faces and on the sow's udder. Sometimes the sow may even lay on her stomach and refuse to nurse the litter. For these reasons, needle teeth are often clipped.

**Proper Procedures**

1. Disinfect the teeth nippers.
2. Hold the pig's head with one hand. Place a finger of the same hand in the back corner of the pig's mouth (behind the needle teeth) so the mouth is open far enough to expose the needle teeth.
3. Move the nippers into the mouth from the front and as perpendicular as possible to the teeth.
4. Clip the teeth slowly and carefully. You need only to blunt the teeth, not take out the tooth.

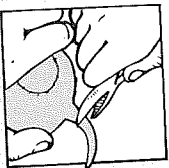


**Shortening Tails**

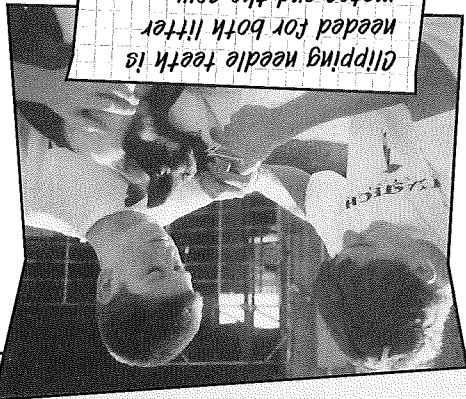
Pigs sometimes bite the tails of other pigs. This leads to infections and sometimes even death. The most common way to prevent tail biting is to shorten the pig's tail at a very young age.

**Proper Procedures**

1. Disinfect the clippers.
2. Hold pig carefully by its rear legs.
3. Clip no closer than 1/2 inch from the body.



Clipping needle teeth is needed for both litter mates and the sow.



shots, clipping needle teeth, shortening tails and identifying each pig. In this activity, you'll have an opportunity to learn each of these and demonstrate your skill to others.

2. Find the words of the baby pig management practices listed below and circle them in the puzzle. The words may be across, backwards, up, down or diagonal.

1. Work with a swine producer and help him or her actually do each of the baby pig management practices on a new litter of pigs.

## More challenges




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What did you learn about yourself through this activity?

### Apply What You Learned

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What did you learn about teaching through demonstrations?

### Generalize to Your Life

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Why is demonstrating to others a good way to learn baby pig practices?

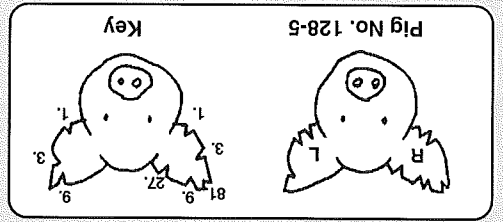
### Process What's Important

- What did you do to cause the least discomfort to the pig and be safest for you?
- What equipment and supplies did you need?
- What did you do to complete this activity?

### Share What You Did



**WHAT AM I?** My breed is noted for its large litters and fast growth. We originated in and around Yorkshire County, England, where we were known as the Large Whites. Our name changed when we were imported to the United States in the late 1800s.

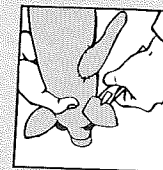


1. Place ink on the tongs of the tattoo hammer and load the hammer with numbers or letter.
2. Strike the animal, causing the prongs to penetrate the hide to leave a permanent identification.
3. Leave excess ink to wear off. Trying to clean excess ink may result in lightening the tattoo.

### Proper Procedures for Tattooing

- a) Litter Mark—The pig's right ear ("R") is used for litter mark 128. All pigs from the same litter must have the same markings in this ear.
- b) Individual Pig Marks—The pig's left ears is used to show an individual pig number in the litter, such as #5. Each pig in the litter will have a different set of notches in this ear. The exact location of the notches determines the pig number as shown.

numbers you desire. correspond with the pig and litter small marks on the edge of the ears to



1. Disinfect nippers for newborn pigs.
2. Hold the pig's head with one hand.
3. Use the nippers to place

### Proper Procedures for Ear Notching

The use of marks is one of the most popular ways of permanent pig identification. This is best done soon after birth so accurate records can be kept about the pig's parentage, birth weights, medications, etc. You can use one to two methods for this identification: ear notching or tattooing.

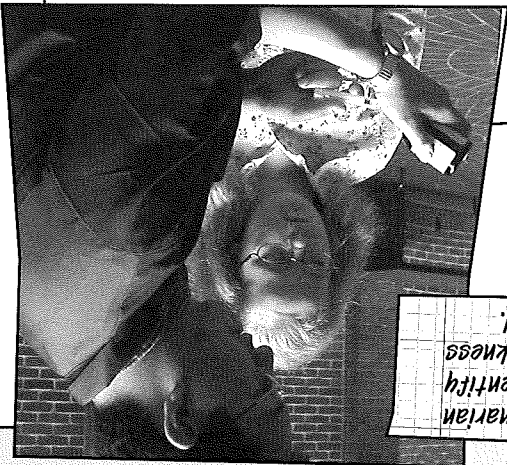
## Identifying Your Pig

Facts

**WHAT AM I?** I originated in 1934 from Denmark. I am considered one of the youngest or newest breeds to be introduced to the U.S. I am white with large, drooping ears.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

### My Top Five to Help Prevent Swine Diseases



The local veterinarian can help you identify and prevent sickness in the herd.

**R**ank the 25 procedures and practices in the order of their importance for establishing and maintaining an effective herd health program for your swine operation. Describe how your top five selections would help prevent swine diseases.

### Your Challenge

**S**ickness and disease can be very costly for a swine operation. The effects range from reduced performance to death of an individual pig or even an entire group of hogs. Preventing swine diseases is also costly, but it is far less expensive than suffering through an outbreak.

## Maintaining Herd Health

- Swine Skill:** Learning to prevent swine diseases
- Life Skill:** Planning and organizing
- Success Indicator:** Ranks herd health procedures.

A big part of the disease prevention program is simply understanding the diseases and knowing how they are transmitted. A common sense approach to managing a swine operation can go a long way towards developing your herd health program.



**More challenges**

1. Develop a one-page brochure entitled "Tips for Preventing Diseases in Your 4-H Pigs" and pass this out to the other members in your club or community.



**Apply What You Learned**  
How does changing the oil in your car relate to vaccinating your swine herd?

**Generalize to Your Life**  
Why is it important to learn about swine diseases before you design a herd health program?

**Process What's Important**  
How are most swine diseases transmitted?

- How did you decide which practices were more important than others?
- What did your "top five" selections have in common?

**Share What You Did**



**WHAT AM I?** We are one of the oldest breeds in the United States having been imported in the early 1800's. We originated in Berkshire, England.

Ranking	Procedure
	Rank the following procedures in order of their importance for establishing and maintaining an effective herd health program.
	<ul style="list-style-type: none"> <li>● Use artificial insemination to breed sows and gilts instead of using boars for natural mating.</li> <li>● Vaccinate the herd to develop antibodies against the major diseases.</li> <li>● Isolate all newly purchased breeding stock at a separate location until they can be tested free of disease.</li> <li>● Bleed and test 1/4 of the herd each month to insure they are disease free.</li> <li>● Consult with the local veterinarian on a regular basis about the proper timing to inject vaccines and to determine which vaccines to use.</li> <li>● Limit the amount of "foot traffic" on your farm to family and employees only.</li> <li>● Disinfect the pick-up truck and trailer after all trips off the farm.</li> <li>● Insist all employees shower and change clothes before coming to work each morning.</li> <li>● Establish a "foot bath" for visitors to dip their boots in before viewing your sale hogs.</li> <li>● Locate your swine operation so it is isolated from any other swine herd.</li> <li>● Haul market hogs to the local fairgrounds for judging teams to practice on, and then take the hogs on to the local market.</li> <li>● Develop a Specific Pathogen Free (SPF) herd.</li> <li>● Practice a Segregated Early Wean (SEW) program to help maintain healthier baby pigs.</li> <li>● Feed medicated rations to all of your hogs.</li> <li>● Only buy breeding stock from producers with herds of known health status.</li> <li>● Properly dispose of all dead hogs.</li> <li>● Maintain proper temperature and air quality in confinement buildings.</li> <li>● Provide clean drinking water for all hogs.</li> <li>● In all-in, all-out system for each phase of your confinement operation.</li> <li>● Make sure newborn pigs get their colostrum.</li> <li>● Clean and disinfect the nursery after each farrowing.</li> <li>● Read and stay current on the latest developments regarding herd health.</li> <li>● Segregate sick hogs to a "hospital area."</li> <li>● Provide disposable plastic coveralls for all visitors.</li> </ul>

### My Ration for a Growing Pig (100 pounds)

Feed Ingredient	Nutrient Class	% of Total

Pounds of feed a 100 pig will need to eat each day \_\_\_\_\_

Cost per pound of feed \$ \_\_\_\_\_



*Analyzing the feed tag is key to determining a balance ration.*

### Your Challenge

**S**

See how much you know about the feed you are feeding your pigs. In the table list the ingredients in a good ration for a growing pig. Then name the nutrient class (energy, protein, minerals, vitamins or water) for each ingredient you list. Write the % of each ingredient you will include to meet the pig's requirements. Finally figure how many pounds of feed a 100 pound pig will need each day.

### Balancing a Ration

**Y**

You are responsible for the type and amount of feed your pigs receive. You will want to know what feed to give at each stage of life to make sure the pigs have everything they need for proper growth. Feed is the biggest cost when raising pigs. Many different feed ingredients can be fed to pigs. The question is not whether the pigs will eat the feed, but how efficiently they will grow. To

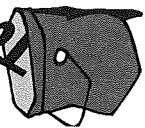
grow efficiently, pigs require a diet that will meet all their nutritional needs. The pig must consume the proper amount of energy, protein, minerals, vitamins and water each day. In this activity you will analyze the ration your pigs are fed.

**Swine Skill:** Meeting daily swine nutrition requirements

**Life Skill:** Making decisions

**Success Indicator:** Gathers information and analyzes a ration.

# Talking it over



## Share What You Did

- What do you feed your pigs?
- What did you discover about this ration?

## Process What's Important

Why is a balanced diet important?  
Why is the amount of feed fed important?

## Generalize to Your Life

How is a swine ration similar to what you eat?  
What information did you need to make decisions about your ration?

## Apply What You Learned

How can you use the information you gathered?

## Test Your Nutrition Knowledge

- Complete these sentences. Check the words in the Pig Talk Words if you need help.
1. Amino acids are called the \_\_\_\_\_ of protein.
  2. Carbohydrates and fats are the principle providers of dietary \_\_\_\_\_.
  3. An animal can live much longer without feed that it can without \_\_\_\_\_.
  4. Soybean meal is the most common \_\_\_\_\_ feedstuff.
  5. \_\_\_\_\_ are nutrients needed in small amounts to help the body use other nutrients.
  6. \_\_\_\_\_ help build strong bones.
  7. The first limiting amino acid in a swine diet is \_\_\_\_\_.
  8. Calcium and phosphorus are \_\_\_\_\_.
  9. The carbohydrate in sow's milk is \_\_\_\_\_.
  10. Too much of \_\_\_\_\_ is bad for human health, but the pig requires it in its diet to grow well.

## More challenges



1. Get a nursery pig feed tag and classify all the ingredients into their main nutrient category.
2. Complete the Nutrition Knowledge Test and explain each statement to your helper.

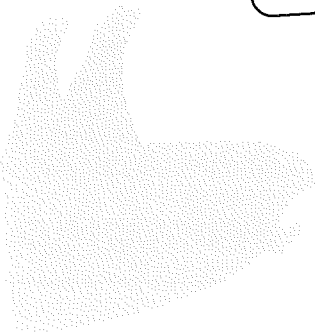
## Swine Rations



**Typical Ration**  
The kind of feed used for energy and protein will vary with what is available at the best price. Here is a typical ration for finishing market hogs to 240 pounds in the part of the country where corn and soybeans are grown.

A 150-pound pig will eat approximately six pounds of feed if fed free choice. If the requirement for protein is 0.9 pounds per day, will a pig eating your ration meet its daily requirements?

Analysis of Ration	
Corn	83.1 %
Soybean meal	14.5
Ground Limestone	0.8
Dicalcium Phosphate	1.1
Salt	0.35
Vitamin/trace mineral mix	0.15
100%	
Protein	13.40 %
Calcium	0.60
Phosphorus	0.50



**How I Help Ensure a Quality Product:**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>a. Consumer</li> <li>b. Processing</li> <li>c. Producer</li> <li>d. Marketing</li> <li>e. Transportation</li> <li>f. Harvesting</li> <li>g. Retail/food Service</li> </ul> | <ul style="list-style-type: none"> <li>1. Safe handling of the animal product in their homes</li> <li>2. Distributing the product to grocery stores and restaurants</li> <li>3. Carries the animal from the farm to the market</li> <li>4. Sells the animal to the packer</li> <li>5. Harvests the animal</li> <li>6. Processes the carcass into retail cuts</li> <li>7. Relies on the components of the continuum</li> </ul> |
|---|---|

**Food Supply Continuum Task**

**Segment**

**M**atch the food supply continuum task with the appropriate industry segment and describe what you do to ensure that the product you produce is of the highest quality.

**Your Challenge**

**E**ach year a large number of livestock raised by young people enter the food supply. Meat and carcass quality are influenced by genetics, management and feeding, health, transportation and handling, packing and processing. The quality of the pig carcass will determine its usefulness as a consumable

**Carcass Quality**

**Swine Skill:** Factors affecting carcass quality  
**Life Skill:** Decision making  
**Success Indicator:** Outlines how the swine project is managed to ensure a quality product.

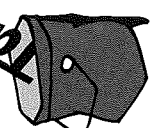
product. Good decision making must occur from the producer, through the production process and ultimately with the consumer.



Checking for quality is important from producer to consumer.



# Talking it over



## Share What You Did

- As a swine producer how do the decisions you make and actions you take affect the quality of the carcass?
- What steps can you influence?

## Process What's Important

What happens when one part of the industry or segment is irresponsible or makes a mistake? If a news reporter composed a story about your swine project, what would it say about your ability to produce a quality carcass?

## Generalize to Your Life

How do the decisions that you make daily affect others around you?

## Apply What You Learned

In what other ways can you be a responsible citizen?

# Tracing the Food Supply



The food supply continuum is the series of processes food products move through on their way from the producer to the consumer.

**Producer** – Raises the animal by caring for it, feeding it and providing for its needs.

**Transportation** – Livestock haulers play an important role in food safety and meat quality by the way they treat and handle animals.

**Marketing** – Animals are often marketed through an intermediary before arriving at the packer.

**Packers** – Harvesting is done at the packing plant. Most often animals are misted with water and allowed to rest after being unloaded.

**Processing** – Animals are inspected before processing for signs of disease. Carcasses are usually broken into pieces.

**Retail Outlets** – Grocery stores and restaurants are the retail outlets that buy pork products. Prior proper sanitation and handling are vital in preventing contamination.

**Consumer** – Once the product is purchased, sanitation, proper handling, storage and cooking are important for healthy consumption.

## More challenges



1. Illustrate the damage that may be done to a carcass by a broken needle.

Materials needed:

- Toothpicks
- Gummy, Flexible candy (orange circus peanuts chew work well)

"Inject" the candy with the toothpick, then bend it strongly without breaking it into. Pull out the toothpick and inject the candy again with the same toothpick. The toothpick should break, illustrating the damage to the animal.

# Preparing for Action

**Swine Skill:** Exploring the swine industry  
**Life Skill:** Relating to others  
**Success Indicator:** Contacts and visits at least two swine organizations.

**T** here will be a time in your life when you have to get a job to support yourself. In order to obtain a job, you will have to do research on companies and make contacts through your research. In each important industry, there are key groups and organizations. Their responsibility is to promote the industry and its products to consumers and decision makers at all levels.

## Your Challenge

Use the internet to find information about jobs within certain companies or organizations. Once you have obtained information about several companies or organizations, choose two of those companies or organizations to contact and visit. Prepare a list of questions you would like to ask about applying and working for that company someday. Complete the outline for each and report to your project helper about the information you obtained from the company you visited.



## Organization # 1:

What are the responsibilities of that job?

Talk to someone in that position now. What do they enjoy about their job?

What do they dislike about their job?

What advice do they have for you?

Company Name \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone Number: \_\_\_\_\_  
 Contact person: \_\_\_\_\_

How long have they been in business? \_\_\_\_\_

What types of jobs to they have? \_\_\_\_\_

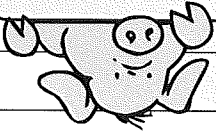
What type of education is needed for those jobs? \_\_\_\_\_

What type of job at this organization interests you the most? \_\_\_\_\_

**1.** Contact another professional in a career in which you are interested. Ask about spending a day with them at work. As you "shadow" them in their career, take notes. What parts of the job would you like? What parts would be hardest? What steps do you need to take to be in that same position some day?

**2.** Most jobs require some sort of special training or education after high school. Think about a career in which you are interested. What type of training do you need? Contact at least three colleges or professional schools that offer degrees in your field of interest. Research the costs of these programs as well as what you would learn.

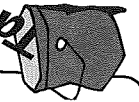
### More challenges



**Apply What You Learned**

How can you get the experience and training necessary for a career in this area? How will this help you later in finding a job?

### Talking it over



Company Name \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone Number: \_\_\_\_\_  
 Contact person: \_\_\_\_\_  
 What does the organization do? \_\_\_\_\_  
 How long have they been in business? \_\_\_\_\_  
 What types of jobs to they have? \_\_\_\_\_  
 What type of education is needed for those jobs? \_\_\_\_\_  
 What type of job at this organization interests you the most? \_\_\_\_\_

### Organization #2:

What are the responsibilities of that job?

Talk to someone in that position now. What do they enjoy about their job?

What do they dislike about their job?

What advice do they have for you?

**Generalize to Your Life**

What do you need to do to prepare for a similar career? How did this experience enhance your information gathering skills?

**Process What's Important**

How did you select the company off of the internet? What did you learn about these organizations?

**Share What You Did**

- What was it like obtaining information off the internet?
- What did you enjoy about contacting and visiting the organization?

Blank lined writing area for Case 1 response.

Blank lined writing area for Case 2 response.

**Case 1**

Your family owns a 200-sow herd and farms 750 acres of crop land about 1.5 miles from town. Several of your neighbors who used to be farmers have recently sold off 5 acre lots to employees of a new computer company in town. These new employees want "the country experience." When the wind blows from the east, you can usually count on getting complaints about odor from these people.

One of your new neighbors is a lawyer and an environmental activist. He has just stopped by your house to complain about the odor. What should you say? Be sure to reply in a way that acknowledges the legitimacy of his concern on some level.

My Response \_\_\_\_\_

Your neighbors do not farm. They have just received a packet of information from an animal rights organization on the "cruelty" of confinement livestock operations. They are very upset at the possible abuse and mistreatment of your hogs. They come to your house to confront you about the problem. What should you do? How will you acknowledge their concerns?

My Response \_\_\_\_\_

**Case 2**

**W** hat does all of this mean? Find out by putting these guidelines to practice. Below are case study situations. You can work through them alone or with friends in the swine program. Imagine you are the producer involved in the scenario. As you work through each scenario, decide what you think is the main source of tension. How would you handle the situation? What would you say to your neighbor? What would you do to reduce the tension? Follow through on the remaining steps, from confidence to enactment, in developing your response.

**Your Challenge**

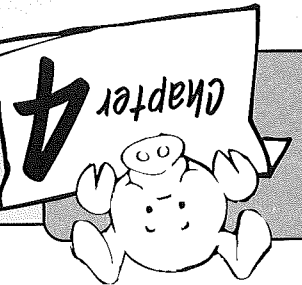
**S** wine production has changed dramatically over the last century. From a time when almost everyone lived on a farm and owned a few animals—including pigs—until today, when less than 2 percent of the population farms, neighbors of hog operations have changed a lot. Today, large hog farms are the rule, not the exception.

With these changes come a whole new set of problems. Environmental concerns continue to be in the forefront of people's minds. As food production demands continue to increase, changing views

of agriculture often lead to controversy. Tensions among livestock production and the application of land use controls, environmental regulations, animal welfare concerns and nuisance law have grown in recent years. And as more non-farm people move into rural areas, the potential for these tensions to erupt will increase.

In this activity, you will examine some potential sources of controversy as well as effective solutions.

**Thinking of the Neighbors**



**Beyond the Pen**

**Swine Skill:** Establishing positive neighbor relations

**Life Skill:** Resolving conflict

**Success Indicator:** Develops an effective response to a neighbor's complaint.

# Responding to Someone's Anger



Think about some time in your life when you were really angry—at a friend, a family member or someone else. Remember how upset you were? How do you think you might have responded if someone told you—in the midst of your anger—that there was no real reason for you to be upset?

When someone is angry or upset, they are not ready to listen to well-thought out, logical explanations of why they shouldn't be upset. They want someone to validate or legitimize their concerns—to agree with them there is a reason for their feelings. This doesn't mean you have to agree with their specific concerns, but at some level you share the same concern. For example, a neighbor may believe your swine operation causes ground water contamination and he/she may be very worried about that. Although you don't agree that your operation causes contamination, you do agree that having a safe groundwater supply in. On that level, the two of you have a common source of agreement. You can play this role by simply saying:

"I understand how this can be upsetting to you. If I were in your situation, I would probably feel the same way. I'm concerned about \_\_\_\_\_, too. That's why I'm doing \_\_\_\_\_ to make sure \_\_\_\_\_ doesn't happen."

As you can see, to communicate effectively in these controversial situations, you need to carefully analyze the source of the problem, not just formulate a hasty response. To help in this analysis, you need to figure out the CAUSE of the tension. In most situations, tension can be traced to a lack of:

- Confidence
- Awareness
- Understanding
- Satisfaction with the solution, or
- Enactment

Each of these areas is like a link in a chain. The first link must be strong before adding the second link and have it withstand pressure. Confidence must be achieved before awareness, awareness must be achieved before understanding, etc. Take a look at each of these areas and what they mean.

**● Confidence:** Lack of confidence means your neighbor does not trust or have faith in you or your knowledge and ability. He/she may think that as a swine producer, you are trying to protect yourself and are not really interested in his/her concerns. Your neighbors must trust you before you can work together to reach an agreement or understanding. You need to demonstrate your credibility and concern to your neighbors before they will be willing to listen to you. Achieving this confidence is sometimes the hardest part of conflict resolution. This is where you want to acknowledge their concerns.

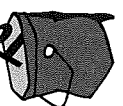
**● Awareness:** Controversy can also arise when someone is simply unaware of what is going on. For example, a neighbor may be concerned about environmental problems—such as ground water pollution—because he/she is unaware of the steps you take to make sure your swine operation is environmentally sound. This step is where you begin to educate the other parties.

**● Understanding:** Sometimes someone is aware of an activity or practice, but just doesn't understand how it works. This lack of understanding can lead to frustration and tension. A good example might be that your neighbor is aware that your hog waste is stored in a lagoon or

**● Enactment:** This is the source of tension when the involved parties have agreed upon a solution, but one or more does not follow through. The solution to this source of tension is simple: make sure you do everything you can to follow through on agreed upon solutions. And keep your neighbors updated to any changes in plans.

**● Satisfaction with Solution:** If this is the source of tension, your neighbor trusts you, is aware of and understands your production practices, but is just not satisfied with the solution. For example, he/she may be aware that spreading your hog waste is probably not an environmental like it when you spread it on a warm, Friday afternoon in the spring—especially if they were planning on having company for the weekend. In this situation, you need to work with your neighbors to develop a solution that works for everyone involved. You may ask them to give you a list of dates they would prefer you not spread manure.

# Talking it over



## Share What You Did

- How difficult was it to think through and analyze the source of tension before formulating a response?
- What was your first response? Did analyzing the situation help you develop a better response?
- Do you think your response was effective? Why?

## Process What's Important

What makes acknowledging someone else's concerns one of the hardest—but one of the most important—parts of your response? Why is it important to analyze the source of a problem before developing a solution?

## Generalize to Your Life

Think of another time when you might use these conflict resolution skills. Will using this framework help? Why?

## Apply What You Learned

Develop a response to a controversial situation in your life using this framework. What is the situation? The source of the problem? Your response?



# Finding a Career

**W**

hen you were a small child, you and your friends probably talked about what you wanted to be when you "grew up." Perhaps one wanted to be a firefighter and one a television star. Someone else wanted to be a teacher. You knew it was a long time before you had to make a real decision. "A long time away" is now not so far off.

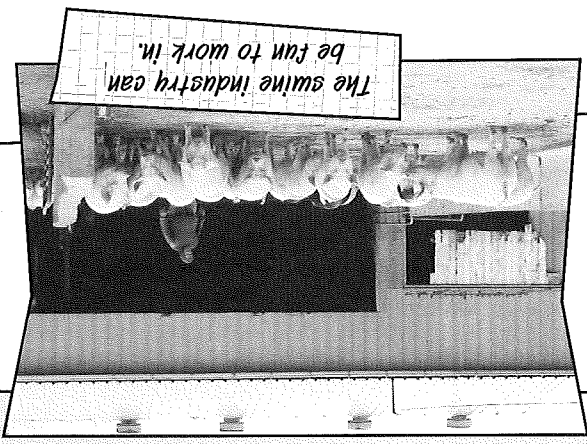
## Your Challenge

**D**

Discuss each of the following points with your helper or a family member. Then select one career that interests you. With the help of others, complete a profile for that career. You may also use a computer program available in most school guidance counselor offices to analyze your interests.

**Swine Skill:** Examining career choices  
**Life Skill:** Practicing self-motivation and analysis  
**Success Indicator:** Analyzes personal career preferences.

There are many types of careers available, but which types of careers would be best for you? The answer depends on a lot of things, but mostly on what you enjoy doing and what you want to make of your life. This activity will help you think about who you are and how you relate to others in the world of work.



## A Self-Analysis

1. Subjects and things I like and why:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
2. Subjects I don't like and why:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
3. Things I do when I want to do nothing:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
4. Things about which I have vision, special feelings or a wealth of information:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
5. My special skills:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
6. My health:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
7. My relationships are strongest with:  
 friends  
 teachers  
 the opposite sex  
 parents  
 adults
8. My style:  
 action-oriented  
 people-oriented  
 things-oriented  
 data-oriented
9. My employment experience:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
10. My volunteer and extracurricular activities:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
11. I am:  
 project-oriented (like projects that have beginnings, middles and ends)  
 maintenance-oriented (like work that is ongoing)

**More challenges**



1. Make a plan to prepare for the career you have selected. What skills and knowledge will you need? How will you get them?
2. Make a resume for yourself ten years from now. What skills, knowledge and experience do you want to have in ten years?
3. Examine other activities in this book, such as *Working Your Way to the Top and Applying for a Job*.

**Good Reading**



The Truth About You: Discover What Motivated You and What You Do Best—Finding a Career You Love by Arthur F. Miller and Ralph T. Mattson is one of the classic books on finding a career.

**Apply What You Learned**

Where else might you use a self-analysis profile?

**Generalize to Your Life**

What do you think you need to do to make good career decisions? What did you learn about yourself through this activity?

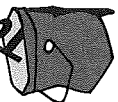
**Process What's Important**

Why is it important to explore all aspects of a career choice before committing your time and finances to qualifying for it?

- Why is relating to others important in any career?
- Discuss how well you think the two profiles match.

**Share what you did**

**Talking it over**



**My Career Profile**

A possible career for me is: \_\_\_\_\_

Education required and the cost of getting it is: \_\_\_\_\_

What I see myself doing each day is: \_\_\_\_\_

Where I would work is: \_\_\_\_\_

Physical and mental requirements are: \_\_\_\_\_

Expected income after five years is: \_\_\_\_\_

good  fair  poor

Future demand for this career is:

good  fair  poor

Chances for advancement are:

good  fair  poor

Health and safety hazards are:

good  fair  poor

Benefits, vacation days and retirement plan are: \_\_\_\_\_

The advantages of this career for me are: \_\_\_\_\_

The disadvantages for me are: \_\_\_\_\_

My work conditions include: \_\_\_\_\_

I will work with:

ideas

things

children

I will work:

by myself  on large teams

on small committees  other

I feel rewarded when: \_\_\_\_\_

My hobbies (to balance my career/work) are: \_\_\_\_\_

WHAT AM I? Imported from Denmark, we are noted for our large litters and milking ability.

What do I hope to get out of this learning experience?

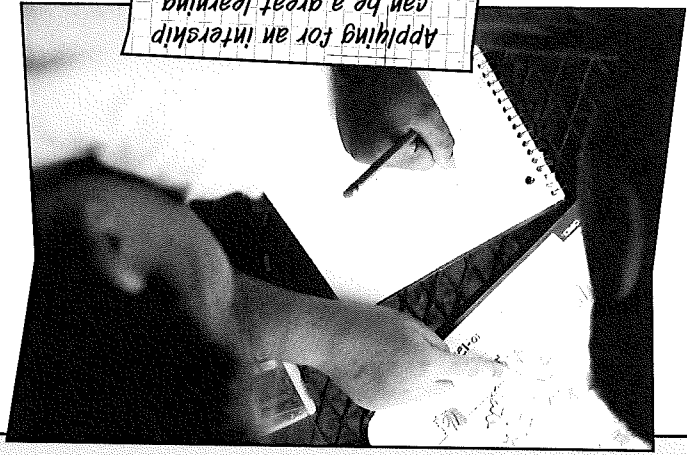
What background or experience do I have to offer the employer? Be sure to include 4-H experience, workshops, courses, paid jobs and work at home.

What are the specific objectives of the internship?

For which activities will I be responsible?

### My Internship Contract

Applying for an internship can be a great learning experience about yourself.



In a previous activity, you began to plan your future and listed three possible career choices. Pick one of those choices and work with your helper to find an employer to supervise your internship. Then, set up an appointment to visit the employer. Before you go, complete the first two questions of the learning contract below. If the employer is willing to supervise your internship, the two of you can answer the last two questions together when you meet. If you need ideas, look at the sample contract. If the employer is unable to help you with your internship, try again with a different employer.

### Your Challenge

Internships can teach you valuable, marketable skills by working in real-life situations. An internship is full-time work at a real job. Sometimes you get paid a small wage.

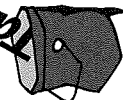
But the key to a successful internship is learning. Internships can help you make career choices, and the experience can give you an edge later getting the job you want.

## Gaining Experience

**Swine Skill:** Working at a summer internship  
**Life Skill:** Gaining marketable skills  
**Success Indicator:** Applies for internship.



## Talking it over



### Share what you did

- How did you plan the internship?
- Who helped you? How?

### Process What's Important

What did you learn during the internship? What changes were needed in your contract?

### Generalize to Your Life

What specific skills, knowledge and experience did you gain? How has this internship helped you choose or eliminate certain careers?

### Apply What You Learned

How will this internship help you find a job?

## More challenges



1. Help a friend find an internship site and negotiate a learning contract.
2. "Shadow" a paid employee in another job for one day. Compare this second job with your internship.
3. Discuss with your helper 10 traits you think a good employee should have.

Acknowledgments: Arlen Elling, University of Nebraska - Lincoln, Associate Professor/Curriculum Specialist.

## Sample Internship Contract



What do I hope to get out of this learning experience?

- Learn how to sell commercial swine feed
- Learn how a retail business advertises
- Learn how to communicate with the public

What background or experience do I have to offer the employer? Be sure to include 4-H experience, workshops, courses, paid jobs and work at home.

- 4-H market hog project - 5 years
- Swine showmanship - 5 years
- 4-H breeding swine project - 2 years
- 2 swine breeding demonstrations
- 7 years helping with family's farm chores
- Summer lawn care business last year

What are the specific objectives of the internship?

- Work in retail store for 180 hours over 6 weeks
- Help plan newspaper ad and sale flyer
- Run cash register for 1 hour each day
- Describe advantages of the 4 most popular commercial swine feeds

What activities will I be responsible for?

- Work 6 weeks for Valley Feed and Seed Company
- Assist sales clerks in the store
- Meet with my employer and the local news editor to discuss our advertising strategy

### Hints for a Successful Internship

- Be patient. You may need to talk to several employers before you find one who is willing to supervise you internship.
- Be flexible. If one of your planned activities becomes impossible to complete, talk to your employer to see if you could substitute another activity.
- Make certain the employer is committed to helping you learn on the job. An internship should not just be limited to mental labor.
- Be alert to unplanned learning opportunities on the job. Add them to the contract with your employer's approval.
- At the completion of the internship, schedule a meeting with your helper and employer to evaluate the experience. Did you complete each objective?

# Exploring International Markets

**T**

he international market for swine genetics continues to expand. United States swine breeders are exporting hogs, semen, embryos and pork carcasses to a variety of foreign

countries. Expanding these markets will increase income for U.S. swine producers and help cultivate better international relations.

**Swine Skill:** Marketing swine internationally  
**Life Skill:** Developing marketing skills  
**Success Indicator:** Identifies and contacts swine breeders or meat buyers in at least three other countries.

## International Trade Notes

### Your Challenge

**C**

contact the National Pork Producers Council in Des Moines, Iowa. Ask the marketing department if they will help you obtain the names and addresses of foreign hog buyers from several countries. You might also ask some of the primary boar studs or purebred breeders in your area for the names of foreign investors. Write letters asking these swine breeders or meat buyers in other countries why they buy from the United States. You might also ask them about the challenges of international trade. Investigate the procedures for shipping hogs to other countries and learn about the health requirements that must be met before hogs can leave the U.S. Several swine breeders in this country have advertised the use of Swedish, Danish and Canadian hogs. Look through hog magazines and identify one of these breeders. Call or write the breeder and find the name of an American producer who has gone to another country and purchased hogs. Make contact with this person and interview them about the procedures for importing them about the procedures for importing and ask which countries have swine genetics needed to improve U.S. hogs. Write your findings in a report and submit it to the "Seedstock Edge," PO Box 2417, West Lafayette, IN 47996-2417 or send it to the National Pork Producers Council. Also record here what you discover about international trade.

### More challenges



1. Make a poster using a map of the world and place colored pins in the countries that are "noted" for their swine production.
2. Establish an internet connection with a foreign swine producer and help them explore the U.S. swine market.

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### Apply What You Learned

What would you do to promote the exporting of U.S. hogs in other countries?

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### Generalize to Your Life

What did you learn about other cultures by doing this activity?

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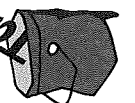
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### Talking it over



#### Share What You Did

- Where did you find the information to make contact with a foreign breeder?
- What did you learn about communicating with people in other countries?

#### Process What's Important

Why do swine producers in other countries come to the U.S. to buy hogs? What are some of the challenges associated with foreign swine trade?

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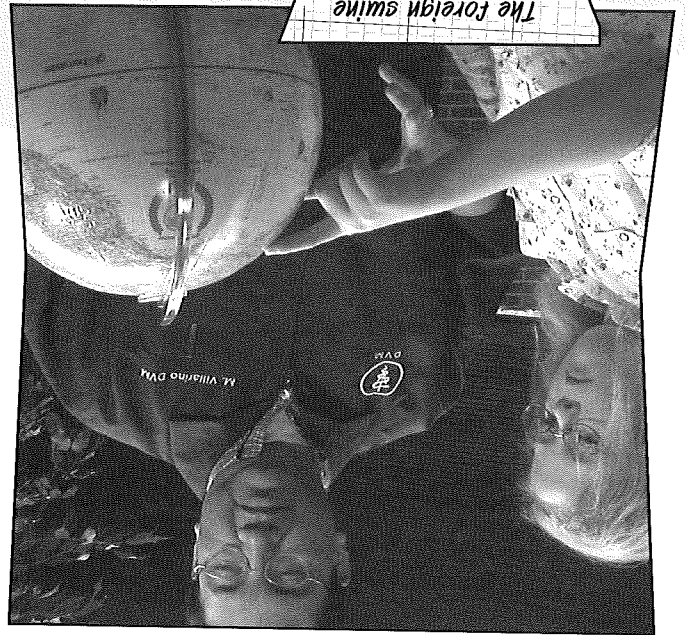
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The foreign swine market is huge!

# Pig Talk 3

**T**his is the third of three Pig Talk glossaries for you to use to increase your "swine" vocabulary. See how many of these words your family knows

## A

**Acute illness** - An illness characterized by a sudden onset and short duration.

**All in, all out system** - Management system in which a facility is filled and emptied of hogs all at once.

**Animal rights** - Belief that all sentient beings (those that have the ability to suffer) are born with inherent rights that are the same as human rights.

**Animal welfare** - Responsible stewardship of animals involving human care, prevention of cruelty and minimization of animal suffering.

**Brucellosis** - Bacterial disease of domestic animals caused by a bacillus that results in abortions; also called "Bang's disease".

**Carrier** - Animal or person who carries disease organisms without showing symptoms of the disease.

**Cellular immunity** - Acquired immunity in which immune cells, rather than antibodies, predominate; protection is stimulated by contact or close proximity with an antigen and is not the same as an antibody.

**Colostrum** - Rich milk produced by the sow during the first few hours after farrowing. Colostrum has disease-fighting antibodies and extra nutrition for the newborn pigs.

**Conception** - Union of ovum and sperm into a zygote and its implantation into the wall of the womb to begin pregnancy.

**Contagious** - Characteristic of a disease that permits it to be readily transmitted from one animal to another.

**Corpus luteum** - Structure that forms on the ovary following ovulation and secretes progesterone.

**Cryptorchid** - Male animal with one or both testis remaining in the body cavity because it/they did not descend into the scrotum during embryonic development.

**Cyst** - Pouch or sac filled with fluid or semisolid material.

## B

**Ejaculation** - Discharge of semen from the reproductive tract of the male.

**Endocrine** - Glands without ducts that release their secretions, called hormones, directly into the blood.

**Enzyme** - Protein formed in plant or animal cells that acts as an organic carrier in starting or speeding up specific chemical reactions.

**Estrogen** - Hormone or group of hormones produced by the developing ovarian follicle; stimulates female sex drive and controls development of female sex characteristics.

**Estrous cycle** - Reproductive cycle in non-primates; measured from the beginning of one estrus (or heat period) to the beginning of the next.

**Estrus** - Period during the estrous cycle when a female is sexually receptive to the male and her ovum (egg) is ready to be fertilized.

**Experimentation** - Use of animals for physiological or pathological investigations.

**Fetus** - An unborn pig growing in the uterus, also called the womb, before birth.

**Gene** - Smallest unit of inheritance found as part of a chromosome.

**Genetics** - Science that studies heredity, variation in organisms and the function and transmission of genes.

**Genital** - Refers to reproductive organs.

## D

**Date of service** - First mating date (or for group breeding, the first potential mating date) within a service period; for group breeding programs, it is the first day the boar was placed with the group.

**Digestibility** - Percentage of a nutrient digested and absorbed from the intestines before being excreted.

**Dystocia** - Abnormal or difficult labor and/or birth.

**Gonad** - Organ in male or female animals that produces sperm or ovum.

**Gonorrhea** - Inflammation of the urethra, often caused by a sexually transmitted bacterium.

**Goster** - Enlargement of the thyroid gland usually brought on by an iodine deficiency.

**Gestation** - Period in which the sow is pregnant; this period lasts 114 days in swine.

**Genotype** - Genetic make-up of an animal.

**Heritability** - Ability of an animal's physical characteristics (growth rate, backfat, hairs, etc.) to transmit to its offspring.

**Heterosis** - Amount of superiority observed or measured in crossbred animals compared to the average of their purebred parents; hybrid vigor.

**Import quotas** - Maximum legal imports permitted for various pork products.

**Infertile** - Not able to reproduce offspring.

**Insemination** - Depositing semen into the female reproductive tract.

**Inter-herd effects** - Environmental effects that are different from herd to herd.

**Intra-herd effects** - Environmental effects that affect all animals in a herd in much the same manner in the same time period.

**Lactation** - In sows, the process of producing milk. Lactation period begins when the sow gives birth and ends when the pigs are weaned, usually at 3-5 weeks of age.

**Least cost diet** - Diet formulated to meet a pig's nutritional requirements using ingredients purchased at the lowest cost.

**Loin eye area** - Cross-sectional area of loin muscle cut between the 10th and 11th ribs.

**Loin eye area** - Cross-sectional area of loin muscle cut between the 10th and 11th ribs.

**Stress** - Abnormal or adverse conditions and factors to which an animal can adapt, resulting in physiological tension and possible disease; factors may be physical, chemical or psychological.

**Syndicate** - A group of breeders who have a common (usually financial) interest in an animal; frequently formed for purposes of getting the animal's offspring tested.

**Tenth rib backfat** - Backfat taken over the loin muscle at the tenth rib.

**Testis** - Primary sex organ of the boar that produces sperm and male sex hormones.

**Testosterone** - A hormone produced by cells in the testis that stimulates male sex drive, masculinizes characteristics and development of the male reproductive tract as well as sperm cells.

**Toxemia** - Illness caused by poison secreted in plants or animals.

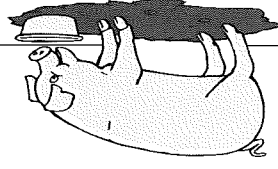
**Ultrasonic** - Technique for estimating certain aspects of body composition and for pregnancy detection.

**Umbilical cord** - Membranes connecting the naval of the fetus to the sow's uterus before birth. It carries nourishment to the fetus and transports waste away from the fetus.

**Zygote** - Diploid cell formed from the union of the sperm cell with an ovum.

**Word Bank**

**Word Find**



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

**Strain** - Abnormal or adverse conditions and factors to which an animal can adapt, resulting in physiological tension and possible disease; factors may be physical, chemical or psychological.

**Syndicate** - A group of breeders who have a common (usually financial) interest in an animal; frequently formed for purposes of getting the animal's offspring tested.

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**R**  
**Recessive** - Refers to a gene whose expression can be modified or covered up by another gene.

**Retained placenta** - Fetal membranes not expelled following parturition.

**S**  
**Secondary sex characteristics** - Distinct body traits that characterize maleness or femaleness, such as beards on men and breasts on women.

**Semen** - Fluid substance produced by the male reproductive system containing spermatozoa suspended in secretions of accessory sex gland fluids.

**Service period** - Time period during which one or more matings or breedings can take place.

**Sex cells** - Reproductive cells, ova in females and spermatozoa in males.

**Sex chromosomes** - Pair of chromosomes in animals that determines the sex of the offspring depending on which one is distributed; females have two of the same sex chromosomes (XX), while males have two different sex chromosomes (XY).

**Social order** - Tendency of animals to behave in a social dominance order.

**Sperm** - Male sex cell; spermatozoa.

**M**  
**Mating** - Depositing sperm from the boar into the uterus of the female in order to produce a litter of pigs.

**Natural mating** - Boar and sow or gilt are brought together for breeding.

**Artificial insemination** - Semen is collected from a boar and stored for later use. When the sow is in heat, a plastic tube is used to deposit the semen into the sow's uterus. The boar is not present at the time of mating.

**Metabolism** - Utilization of nutrients inside body cells; usually involves many chemical changes.

**O**  
**Ovary** - Primary sex organ of the female that produces ova and female sex hormones.

**Ovulation** - Process of releasing eggs or ova from the ovarian follicle in the female.

**Ovum** - Female sex cell; egg.

**Oxytocin** - Hormone of the posterior pituitary gland that causes the release of milk from the mammary gland and aids in parturition.

**P**  
**Palatability** - Degree to which a feed is liked or accepted by an animal.

**Parturition** - Giving birth, farrowing.

**Phenotype** - Appearance of an animal or one of its traits; the way an animal looks or behaves as determined in part by the genotype.

**Physiology** - Study of the body and its organs, systems, tissues and cells.

**Population** - Group of animals considered genetically as a unit for purposes such as estimating gene frequencies, determining selection effects and systems of mating, and measuring genetic progress.

**Post-weaning death losses** - Pigs that die between weaning and market; may be further subdivided into nursery, growing/finishing, etc., using the appropriate method to calculate the percent death loss.

**Pregnancy** - Time during which the embryo (fetus) is developing inside the uterus of the female; gestation.

**Pre-weaning death loss** - Pigs that are born live but die before weaning.

**Protein supplement** - Animal feed containing approximately 20 percent or more of protein.

**Puberty** - Age at which the gilt or boar becomes sexually active and capable of reproducing.

# Swine Resources

The following are examples of resources to help you complete the activities and learn more about this exciting project. The Extension Service does not endorse any non-extension resources.

## Magazines

**Hogs Today**  
**Pork '94**  
*(Includes "Swine Practitioner" with subscription)*

**National Hog Farmer**  
 Intertec Publishing Corp.  
 Webb Division  
 7900 International Drive  
 Minneapolis, MN 55425

## Organizations

**National Pork Producers**  
 P. O. Box 10383  
 Des Moines, IA 50306

**National Research Council**  
 2101 Constitution Ave.  
 Washington, DC 20418

## Other Resources

**Judging and Evaluation Handbook**  
 National Swine Registry  
 P. O. Box 2417  
 West Lafayette, IN 47996-2417

**Swine Judging Video**  
 National Swine Registry  
 P. O. Box 2417  
 West Lafayette, IN 47996-2417

**Swine Housing and Equipment Handbook**  
 Midwest Plant Service - Contact the Extension Agricultural Engineer at your state land-grant university.

**Swine Learning Laboratory Kit**  
 The Ohio State University  
 Curriculum Materials Services  
 1114 Chambers Road  
 Columbus, OH 43212

## Cooperative Extension Service Resources

Contact your Cooperative Extension Services

### Swine Resource Handbook

The Ohio State University  
 Communication and Technology  
 Media Distribution  
 2021 Coffee Road  
 Room 385 Kottman Hall  
 Columbus, OH 43210-1044

### Pork Industry Handbook (PIH)

A resource book available in most county Cooperative Extension offices.  
 Agricultural Communication Service  
 Media Distribution Center  
 Purdue University  
 301 South Second Street  
 Lafayette, IN 47901-1232

### National 4-H Curriculum Swine Series

**Swine 1 - The Incredible Pig**  
 BU-08065  
**Swine 2 - Putting the Oink in Pig**  
 BU-08066  
**Swine 3 - Going Whole Hog**  
 BU-08067  
*Swine Helper's Guide*  
 BU-08068  
*(See back cover for ordering information)*

### Swine Housing and Equipment

**Handbook**  
 Midwest Plant Service - Contact the Extension Agricultural Engineer at your state land-grant university.

### Swine Learning Laboratory Kit

The Ohio State University  
 Curriculum Materials Services  
 1114 Chambers Road  
 Columbus, OH 43212

## Bred Associations

**American Berkshire Assoc.**  
 P.O. Box 2346  
 West Lafayette, IN 47906

### American Landrace Association

P.O. Box 2340  
 West Lafayette, IN 47906-2340

### Chester White Swine Records

Peoria, IL 61612-9758  
 P.O. Box 9758

### Hampshire Swine Registry

P.O. Box 2807  
 West Lafayette, IN 47906-2807

### American Yorkshire Club

West Lafayette, IN 47906-2417  
 P.O. Box 2417

### Poland China Record Assn.

Peoria, IL 61612-9758  
 P.O. Box 9758

## Business Resources

Contact local and national feed manufacturers for brochures on feeding and managing swine.

## Computer Software

**Swine Pro**  
 (USDA swine management support system)

Find more about Swine and other projects online at:

**Science, Engineering and Technology**

- Agricultural Science
- Afterschool Agriculture
- Animal Science**
- Beet
- Cat
- Dairy Cattle
- Dairy Goat
- Dog
- Embryology
- Entomology
- Exploring Farm Animals
- Exploring 4-H Robotics
- Geospatial
- Sewing Expressions
- Small Engines
- Woodworking Wonders
- Environmental Science**
- Exploring Your Environment
- Forestry—Forests of Fun
- Fishing for Adventure
- Outdoor Adventures
- Plant Science**
- Down-to-Earth—Gardening in the Classroom
- Gardening
- Science Discovery Series
- Engineering and Technology**
- Aerospace Adventures
- Electric Excitement
- Computer
- Exploring 4-H Robotics
- Geospatial
- Sewing Expressions
- Small Engines
- Woodworking Wonders
- Leadership**
- Exploring 4-H
- Step Up To Leadership
- Personal Development**
- Consumer Savvy
- Financial Champions
- Workforce Preparation**
- Be the E—Entrepreneurship
- Get in the Act!
- Resources**
- Experiential Learning Video

**Healthy Living**

- Health and Fitness**
- Bicycle Adventures
- Child Development—Kids on the Grow
- Keeping Fit and Healthy
- Nutrition**
- Foods
- Microwave Magic
- Citizenship**
- A Palette of Fun
- Communications—Express Yourself!
- Photography
- Qué Rico! Latino Cultural Arts
- Theatre Arts
- Visual Arts
- Community Action**
- Citizenship—Public Adventures
- Service Learning

**Communication and Expressive Arts**

- A Palette of Fun
- Communications—Express Yourself!
- Photography
- Qué Rico! Latino Cultural Arts
- Theatre Arts
- Visual Arts

**Citizenship**

- A Palette of Fun
- Communications—Express Yourself!
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- Theatre Arts
- Visual Arts
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- Citizenship—Public Adventures
- Service Learning

**Resources**

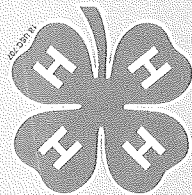
- Experiential Learning Video

Discover over 180 National 4-H Curriculum titles in mission areas of Science, Engineering and Technology; Healthy Living; and Citizenship. Youth activity guides are filled with fun, engaging experiences that cultivate abilities youth need for everyday living as they progressively gain knowledge about subjects that interest them. All titles have been reviewed and recommended by the National 4-H Curriculum Jury Review process, signifying their excellence in providing hands-on learning experiences for youth.



www.4-hcurriculum.org

Explore more curriculum projects online at:



I pledge  
my Head to clearer thinking,  
my Heart to greater loyalty,  
my Hands to larger service, and  
my Health to better living,  
for my club, my community,  
my country, and my world.

## The 4-H Pledge

has completed all requirements in the  
Going Whole Hog Achievement Program.

\_\_\_\_\_ Date

\_\_\_\_\_ Helpers Signature

I certify that

# Completion Certificate

