



# The 4-H Swine Project:

## AN INTRODUCTION

UNIVERSITY  
OF WYOMING  
Cooperative Extension Service

13005C  
July 2002

Prepared by:

**Stephen R. Schafer**

4-H and Youth Specialist  
Livestock, Equine, Poultry, and Rabbit Programs  
University of Wyoming Cooperative Extension Service

**Reviewers**

<b>Milt Green</b>	County Coordinator, Wind River Reservation University of Wyoming Cooperative Extension Service
<b>Johnathan Despain</b>	4-H Program Associate, Washakie County University of Wyoming Cooperative Extension Service
<b>Tom Heald</b>	Ag/4-H Extension Educator, Natrona County University of Wyoming Cooperative Extension Service
<b>Tammie Jensen</b>	Ag/4-H Extension Educator, Niobrara County University of Wyoming Cooperative Extension Service
<b>Ron Kaufman</b>	4-H Program Associate, Goshen County University of Wyoming Cooperative Extension Service
<b>Alex Malcolm</b>	Ag/4-H Extension Educator, Fremont County University of Wyoming Cooperative Extension Service
<b>Jeri Vines</b>	4-H Extension Educator, Natrona County University of Wyoming Cooperative Extension Service

**Editor**

<b>Karol Griffin</b>	College of Agriculture Office of Communications and Technology
----------------------	---

**Graphic Designer**

<b>Tana Stith</b>	College of Agriculture Office of Communications and Technology
-------------------	---

**Acknowledgments**

Some of the material (both information and illustrations) for this publication came from 4-H swine project manuals published by Illinois, Kansas, Louisiana, Oklahoma, Nebraska, and other state Cooperative Extension Service presses. Information also came from the *Pork Industry Handbook* produced by Purdue University Cooperative Extension Service. These contributions are appreciated.

*Mention of products, companies, or individuals, is made with the understanding that no discrimination is intended, and no endorsement implied by the University of Wyoming Cooperative Extension Service.*

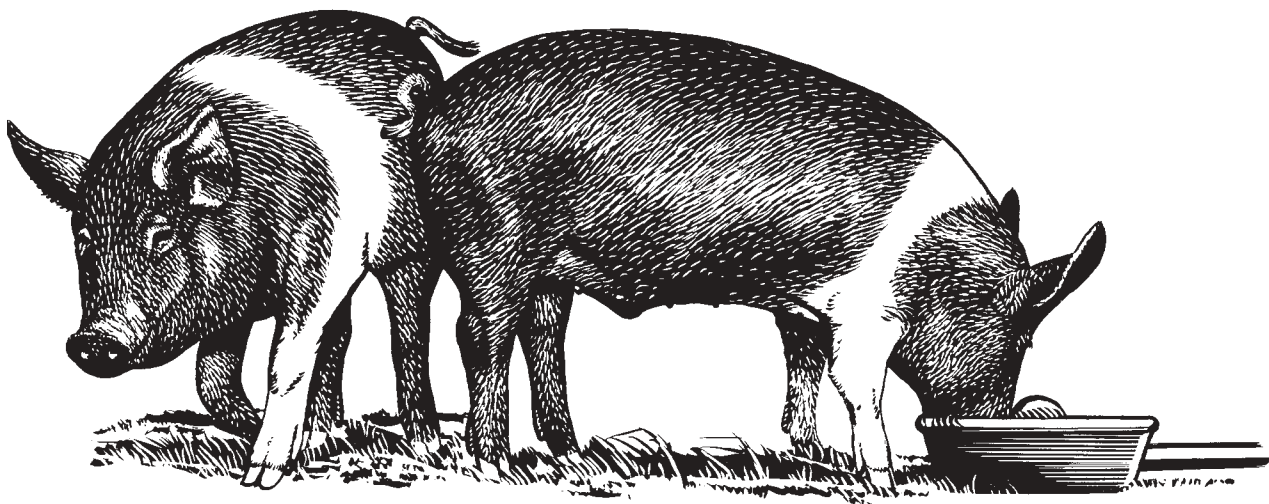
*Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Glen Whipple, Director, Cooperative Extension Service, University of Wyoming, Laramie, Wyoming 82071.*

*Persons seeking admission, employment, or access to programs of the University of Wyoming shall be considered without regard to race, color, religion, sex, national origin, disability, age, political belief, veteran status, sexual orientation, and marital or familial status. Persons with disabilities who require alternative means for communication or program information (Braille, large print, audiotape, etc.) should contact their local UW CES Office. To file a complaint, write the UW Employment Practices/Affirmative Action Office, University of Wyoming, P.O. Box 3434, Laramie, Wyoming 82071-3434.*

## Table of contents

Introduction .....	1
Selecting a swine project .....	1
Parts of the pig .....	2
Swine terms .....	3
Swine breeds .....	4
Housing, care, and feeding .....	4
Health care .....	8
Fitting and grooming .....	9
Showing the pig .....	10
Identifying the pig parts .....	13





## **Introduction**

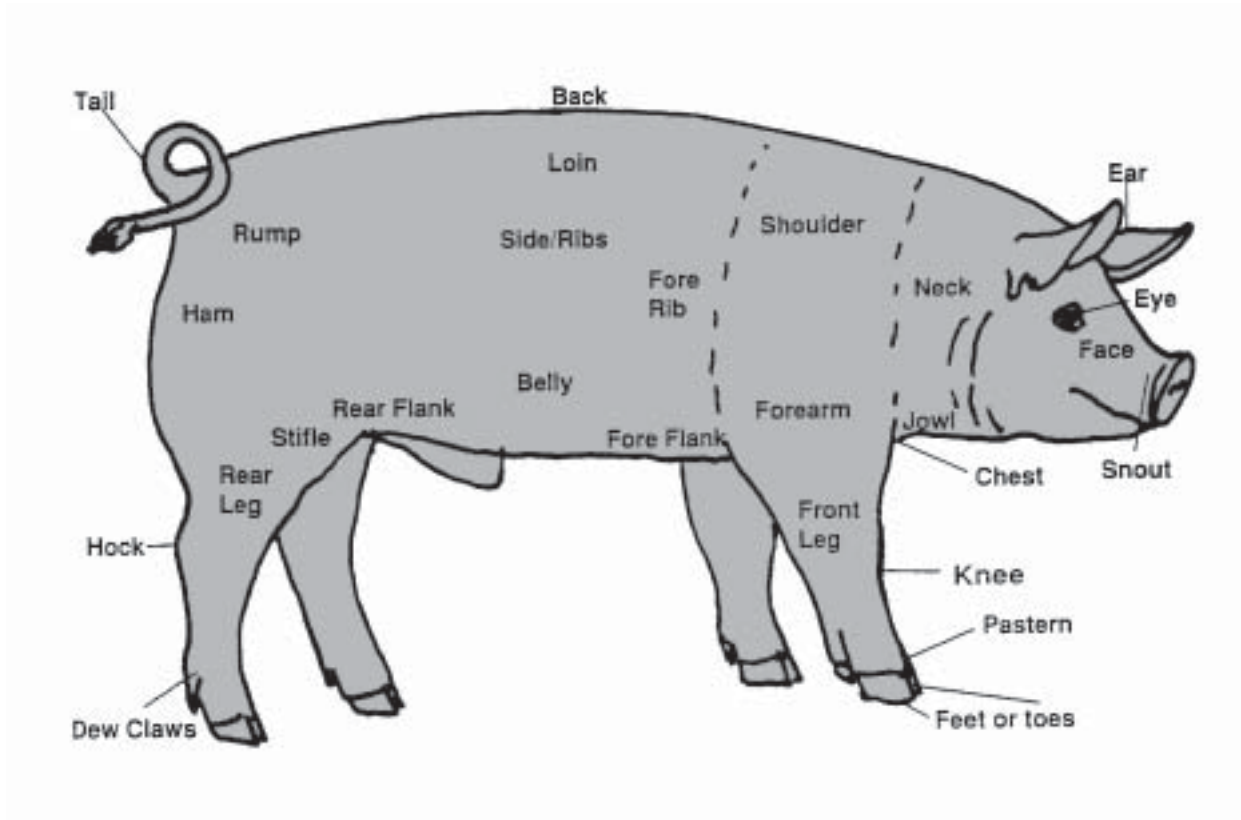
The 4-H swine project is an exciting and educational opportunity for 4-H members. It requires very little room, expense, or daily chore time. It is also a short-term project, especially when compared to the horse, beef cattle, or dairy cattle projects. Pigs are also much smaller and easier to control and handle.

## **Selecting a swine project**

There are two main types of swine projects: (1) breeding pigs and (2) market hogs. The breeding pig project is designed for 4-H members with an avid interest in pigs, pig production, and the swine industry as a whole. The market hog project is designed for club members interested in pigs, but to a lesser degree. In keeping with the name of the project, the market hog project participant purchases a young pig, feeds and cares for it, fits and grooms it, shows it, and finally sells the pig.

The club member who chooses the breeding pig project also feeds, cares for, fits, grooms, and shows the pig. However, in contrast to market hog project participants, breeding pig project participants exhibit breeding pigs (boars and gilts), which are not sold at the county fair youth sale. The club member is able to return home with these pigs and continues to care for them to produce piglets. These piglets are then kept to show, sell to market, and/or sell to other club members for their projects.

The swine project is one of the most popular 4-H projects in the United States. Pigs grow fast and cost less to raise than most other types of livestock and a swine project can be quite profitable. A swine project requires less room, less daily chore time, less expense (for both feeding and housing), and is a short term project (for market hogs).



## Parts of the pig

Selecting a pig to show is as important as the feed and care that you give the pig once you bring it home. The swine project should begin with a healthy and high quality pig.

Before you can identify and select a high quality pig, you must know what one looks like. The first step in this process is to learn the important parts of a pig. The drawing illustrates the most important parts of a pig.

## Swine terms

Understanding the vocabulary used by swine producers, exhibitors, and judges is also a necessary step in learning about swine selection and production. Knowing the terms listed below will greatly assist you when communicating with people in the swine business.

**barrow:** a pig that has been castrated

**boar:** an uncastrated pig

**breed:** a group of animals with common ancestry and with similar characteristics that are passed on from generation to generation

**breeder:** owner of the parents of the pigs when they were mated

**castrate:** to remove the testicles

**crossbred:** an animal with parents of different breeds

**dam:** the mother of a particular animal

**farrowing:** the process of giving birth to piglets

**gilt:** a female pig that has not produced a litter of piglets

**litter:** a group of piglets from the same birthing

**piglet:** a newborn, infant, or young pig

**purebred:** an animal with same-breed parents and that could be recorded in an association registry

**registered:** an animal whose name and assigned number have been recorded in the record books of its respective breed association; this record also includes the name and assigned numbers of the pig's sire and dam

**sire:** the father of a particular animal

**sow:** a female pig that has given birth to at least one litter

### Swine breeds

There are many breeds of hogs, but only eight of these are commonly produced in the United States. These breeds are Berkshire, Chester White, Duroc, Hampshire, Landrace, Poland China, Spot, and Yorkshire. Each of these breeds has definite characteristics that distinguish it from other breeds. The most popular breeds are Duroc, Hampshire, and Yorkshire.

**Duroc.** This breed originated in the eastern United States. The Duroc's color is solid with no pattern and ranges from a light golden yellow to a very dark rust red. Durocs have drooping ears that are medium to large in size and set wide apart. The Duroc is one of the larger framed breeds and has high quality muscling. The sows are good mothers, and they often have large litters. Litters of twelve or more piglets are not uncommon.



**Hampshire.** The Hampshire, like all swine breeds with names that end in "shire", originated in England. It has a color pattern that consists of black coloring all over the animal's body, except for a white "belt" that completely encircles the pig from one front foot, up the



shoulder, over the back, and down the other shoulder to the other front foot. Their ears are erect, which is true of all swine breeds with names that end in "shire." Their ears should not be broken over, bent over, or drooping. Hampshire sows are not good mothers and usually have small litters. Although Hampshires are more difficult to handle and grow more slowly than most other breeds, they produce carcasses that are lean, heavily muscled, and of very high quality.

**Yorkshire.** This breed originated in England and was imported to the United States in 1893.



It is solid white with erect ears and a broad, dished face. The Yorkshire is one of the largest framed breeds, but is easy to handle—even the sows and boars. Yorkshires are best known for their outstanding mothering ability. The sows are ranked as some of the best mothers and milkers of all the swine breeds, and they consistently have large litters of 12 to 15 piglets.



### Housing, care, and feeding

Successful hog producers have to take care of many details in order to ensure that their animals are comfortable. After all, a comfortable pig is more likely to be healthy and grow efficiently. There are five main items that influence or affect the comfort level of pigs: (1) high quality housing, (2) environmental control, (3) clean feed, (4) fresh water, and (5) the company of its owner because of the tender loving care (TLC) provided.

The housing for pigs may be simple and inexpensive, or it may be as elaborate and as expensive as you want to make it. Either way, it must be functional – both for you and for the pig. The housing must provide protection from the heat and sun, as well as protection from the wind, rain, and cold. It should also be large enough to accommodate both the pig and the people who need to enter the pen to care for it. Some key items to remember when building the shed and pen are:

- A 200 pound hog requires 10 to 12 square feet of floor space.

- The shed should provide both ventilation in the summer and protection from the cold winds and drafts of winter. It should also be well drained. If these conditions are not met, the pig will not be as comfortable, not eat properly, and not grow as quickly or efficiently.
- At various times, you and your parents will also enter the pen, so build it tall enough for everyone.
- Put latches and locks where you can reach them, but not where the pigs can get to them. Pigs are smart and can quickly learn how to open gates that don't shut properly.
- Do not build the pen close to homes, because of the odor caused by the pigs.

No matter how old or healthy the pig is, it will not do very well without a proper place to live. A pig needs a proper home as well as proper care, feeding, and watering.

As previously discussed, environmental control tends to go along with housing. Since pigs prefer temperatures of 50 to 60 degrees, there are two areas of concern when discussing environmental comfort: (1) cold and/or wet weather and (2) hot and/or dry weather. In cold and/or wet weather, a place to get out of the weather (the shed) must be supplied. In extremely cold weather, a source of heat may also be required. Perhaps the easiest and most effective way to provide heat is with additional bedding and the use of heat lamps.

*Safety note: To avoid a possible fire hazard, an adult should set up the heat lamps.*

Since pigs do not sweat, a source of shade (the shed) must be provided in hot and/or dry weather. Also, double-check to make



sure that the drinking water is cool, clean, and fresh. If the shade and drinking water are not providing enough relief, additional cooling must be provided. Usually an electric fan is all that is needed. However, if this is insufficient, a sprinkler or mister system used in conjunction with the fan should provide enough cooling.

*Safety note: Water and electricity are not a good mix. Therefore, an adult should set up the fan and sprinkler or mister system.*

Cool, clean, and fresh drinking water must be available at all times. If you use an automatic watering system, check the system daily. After all, if it isn't working, it isn't automatic. As a result, the pigs would not be getting the water they need. If you use a bucket, pan, or tank; make sure to change the water several times each day. The drinking water should never be allowed to get hot. In the winter, make sure that the water does not freeze. This is important because pigs, like other animals, will not grow properly without sufficient water. Regardless of the season, all watering equipment should be checked and cleaned on a regular basis to ensure that it

is providing plenty of cool, clean, and fresh water.

Proper nutrition and feeding of the pig are the primary areas of concern for most 4-H members. However, with the commercial feeds that are available today, nutrition is not as much of a concern as it used to be. The biggest issues with feeding are making sure that the feed is clean and fresh, as well as making sure that the feed pans and feeders are clean.

Protein content (percentage) of pig feed is the most practical and common measurement of pig feed quality. Table 1 shows the relationship between pig size, feed protein content, and feed consumption. To simplify this table, consider the following example: if (for the last two months of the project) the pig is on full feed (about 6 to 7 pounds per day), is gaining about two pounds a day, is eating about three pounds of feed per one pound of weight gain, and appears healthy; the pig is probably in good health. However, if the pig is eating 6 to 7 pounds of feed per day, but is not gaining much weight; you may have a health problem to identify and correct.

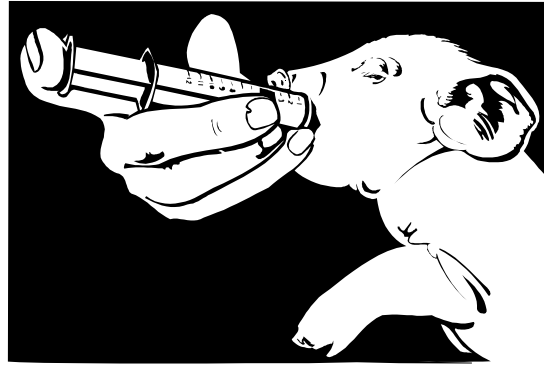
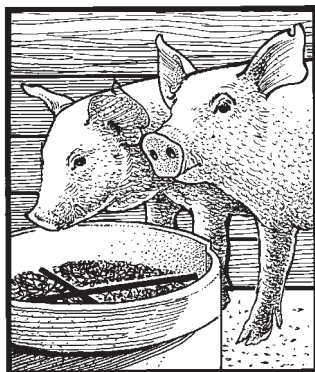
**Table 1. Show pig feeding table**

<b>Weight of pig*</b>	<b>Feed protein content</b>	<b>Daily feed consumption</b>
Birth to 40 pounds	at least 20%; and some feeds contain as much as 30%	Less than 1.5 pounds
40 to 80 pounds	18 to 20%; feed the higher percentage unless scours develop	1.5 to 3.0 pounds
80 to 150 pounds	16 to 18%; feed the higher percentage unless scours develop	3.0 to 5.5 pounds
150 pounds and up	14 to 16%; feed the higher percentage unless scours develop	5.5 to 7.5 pounds

*\*For sows, boars, and other non-show pigs that weigh over 200 pounds, provide a 14% feed. Pregnant sows and gilts need approximately 3 to 5 pounds of an 18% feed each day. Nursing sows should be fed 8 to 12 pounds of a 16% feed each day. Boars require approximately 4 to 6 pounds of a 16% feed each day, depending upon how often they are used for breeding.*

If you feed according to the guidelines and recommendations shown in Table 1 and follow the items listed below, you should have very little feeding problems and a more successful and enjoyable swine project. If you have questions or concerns regarding the care or feeding of the pig, contact your County Extension Office for assistance and advice.

- Begin by feeding small amounts of the ration.
- Feed only what is required.
- Feed a balanced ration.
- Feed at the same time each day and try to feed about twelve hours apart.
- Do not skip any feedings or vary feeding times.
- Gradually increase the amount fed. Do not increase feed by more than half a pound per day.
- Gradually change from one ration to another. Mix them together (first more of the original and then more of the new one) and make the change over a 5 to 7 day time period.
- If the pig goes off feed, start over by reducing the amount fed and then slowly bring the pig back to full feed by gradually increasing the amount of feed given at each feeding.



## Health care

In order to have a successful swine project, it is extremely important to start with a healthy pig and to maintain the health of the pig throughout the project. Therefore, you must be able to identify the difference between a healthy pig and an unhealthy pig.

A healthy pig will be alert, frisky, playful, and bright-eyed. It will have a curled tail and appear happy to see you. A healthy pig will drink plenty of water and eat with eagerness. The stool (manure) will be firm and moist. The breathing will be fairly slow to moderate, which is about the same as a person's breathing rate. The normal body temperature of a pig is about 102 degrees.

An unhealthy pig will have a decreased appetite. It will not drink as much and will not be frisky or happy to see you. The pig will also appear listless, depressed, shrunken, and dull-eyed. The stool may be very dry and hard (constipation) or just the opposite – very watery and loose (scours). The tail will not curl as it normally does. The breathing may be hard, fast, and labored. The body temperature may be higher than normal (a temperature higher than 103 degrees is considered a fever).

If you think the pig is sick, there are two very important steps to follow: (1) tell your parents, and (2) separate the sick animal from the other pigs. After getting advice from a veterinarian or other professional, follow that advice very carefully.

Many diseases and health problems may affect the pig. Most of these are fairly easy to control, once you know what the problem is and provide the proper treatment. Also, most health problems can be avoided or kept to a minimum by following these three simple steps:

- Buy only healthy pigs from healthy herds.
- Clean the pen at least once a week. Also, clean the waterers and feeders at least once a week – twice a week is much better.
- Watch the pig closely and on a daily basis for signs of sickness. Inform your parents if you think that the pig is sick.

### **Fitting and grooming**

Fitting and grooming does not start at the show or even during the week of the show; it starts the day you bring the pig home. Fitting the pig means feeding, watering, and otherwise caring for the pig so that it achieves and maintains proper condition. Proper condition means that the pig is neither too fat nor too thin. Proper condition has the same meaning for all pigs, not all pigs achieve proper condition at the same time or in the same manner. Some pigs will start to get fat at a young age and others will remain lean all the way to market weight.

Pigs that start to get fat at a young age must be removed from full feed and put on a restricted diet (less feed per day).

These pigs should also be exercised at least 10 to 15 minutes each day in addition to the 15 to 20 minutes per day that they were receiving to achieve and maintain show condition. Pigs that stay lean can be left on full feed throughout the whole project, but they should also receive the normal 15 to 20 minutes of exercise needed per day to achieve and maintain show condition.

Grooming a pig for exhibition is a simple and easy process. However grooming, like fitting, does not start at the show or even during the week of the show; it starts the day that you bring the pig home.

Pig grooming consists mostly of washing and then brushing the hair, both of which should be done on a regular basis from the day you bring the pig home.



Wash and bathe the pig at least once a week. In spite of what most people think, pigs like being clean, the only reason they get muddy and dirty is to keep cool. Pigs use this method to cool themselves because they do not sweat. However, if other cooling methods (like fans and a sprinkler system) are available, the pig will be able to keep cool without getting as dirty. This leads to a more comfortable pig, which (as stated in a previous section) leads to a healthier and faster growing pig.

Items needed to wash the pig included a garden hose, a soft-bristle scrub brush, and a mild soap or detergent. The first step is to completely wet the pig. Next, apply the

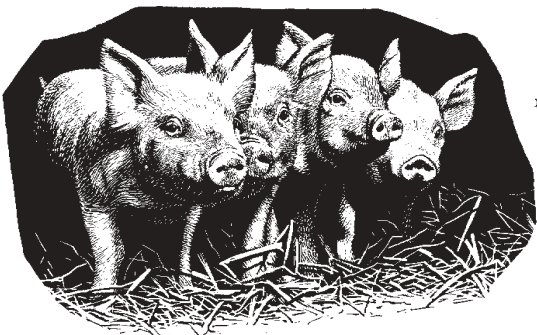
soap and gently (but firmly) scrub. You will find that the pig greatly enjoys this process. Make sure that you do not get soap in the eyes or water in the ears. Soap will irritate the eyes, and water in the ears can lead to an ear infection. After a good scrubbing, completely rinse off the soap, and towel and/or brush the pig dry.

Brushing the pig should be a daily task because it results in a clean and shiny hair coat. It also removes dead and dull skin particles and creates a bond between you and the pig. When you first get the pig, the brushing period should last 5 to 10 minutes. Increase this time to 10 to 15 minutes approximately one month before the show.

Add a grill brick (also known as a glass brick) to the grooming routine the week prior to the show. To use the brick, brush in the direction the hair lies. This process will remove long, wild, and unruly hair. This results in a smooth and neat appearance.

*Special note: Some people prefer to clip the hair, but this is not necessary if you follow these grooming steps. Also, some processing plants pay less for clipped pigs and some shows prohibit clipped pigs.*

*Grooming note: No amount of grooming can correct or make up for a poor job of feeding, care, and management of the pig.*



## Showing the pig

Showing the pig, like fitting and grooming, does not start at the show; it also starts at home. It begins with the feeding, exercising, washing, brushing, and other tasks that you should be doing from the very first day that the pig arrives at its new home. Proper feeding gets the pig to the desired show weight. Exercising the pig gets it in show condition (lean, not fat) and in show ring shape (able to walk for a long period of time without tiring). Washing, brushing, and other grooming techniques make the pig neat, clean, and otherwise presentable to the judge.

Training the pig to work with you begins by earning its trust and confidence, and by making friends with it. This is accomplished by playing with it, brushing it, and otherwise spending time with it. When the pig stops running from you when you enter the pen, it is ready to start the exercise and training routine.

The first step is to get the pig accustomed to the show stick. Start by letting the pig smell and chew on the stick. Next, rub the stick on the pig's belly, back, and side. Then, rub it all over the pig. Finally start tapping the show stick on the pig (do not hit the pig; this will make it lose trust in you). After the pig gets used to the show stick, the next step is for you to learn how to use the stick (gently) and where to walk when showing the pig (2 to 3 feet away from the rump of the pig).

When the pig is responding well to the show stick, ask someone to act as the judge. Practice moving the pig back and forth in front of the person who is acting as the judge. Fifteen to twenty feet is the recommended distance to keep between you



and the judge. Also, practice bringing the pig toward and away from the judge. Another key item to teach the pig is to stay out of corners and away from the fence. This training can be completed during the exercise time, because the two activities are easily combined.

*Showing tip: Attending showmanship clinics and workshops is a good way to learn more about recommendations and techniques. However, do not just attend – go home and practice what you have learned.*

Training and practicing for showmanship involves preparing yourself as well as teaching the pig. You must know what to do and how to do it. You must also mentally prepare yourself. If you lack poise and self-confidence in the show ring, the pig will sense that something isn't right and will become confused and uncomfortable.

Consequently, the pig will not respond to your show stick cues. This will lead to further frustration on your part and the result is a cycle of confusion and frustration between you and the pig.

*Showing hint: Remember, showing involves the appearance and attitude of the exhibitor, the appearance of the pig, and the showing or showmanship of the pig. Also, be on time for your class and be courteous – not only to the judge and ringmaster, but also to your fellow exhibitors.*

**Preparing for the show ring includes:**

- Wear clean, neat, and appropriate clothing.
- Wear boots or hard shoes, not soft shoes.
- Carry a small brush or rag in your pocket.
- Arrive on time for your class.

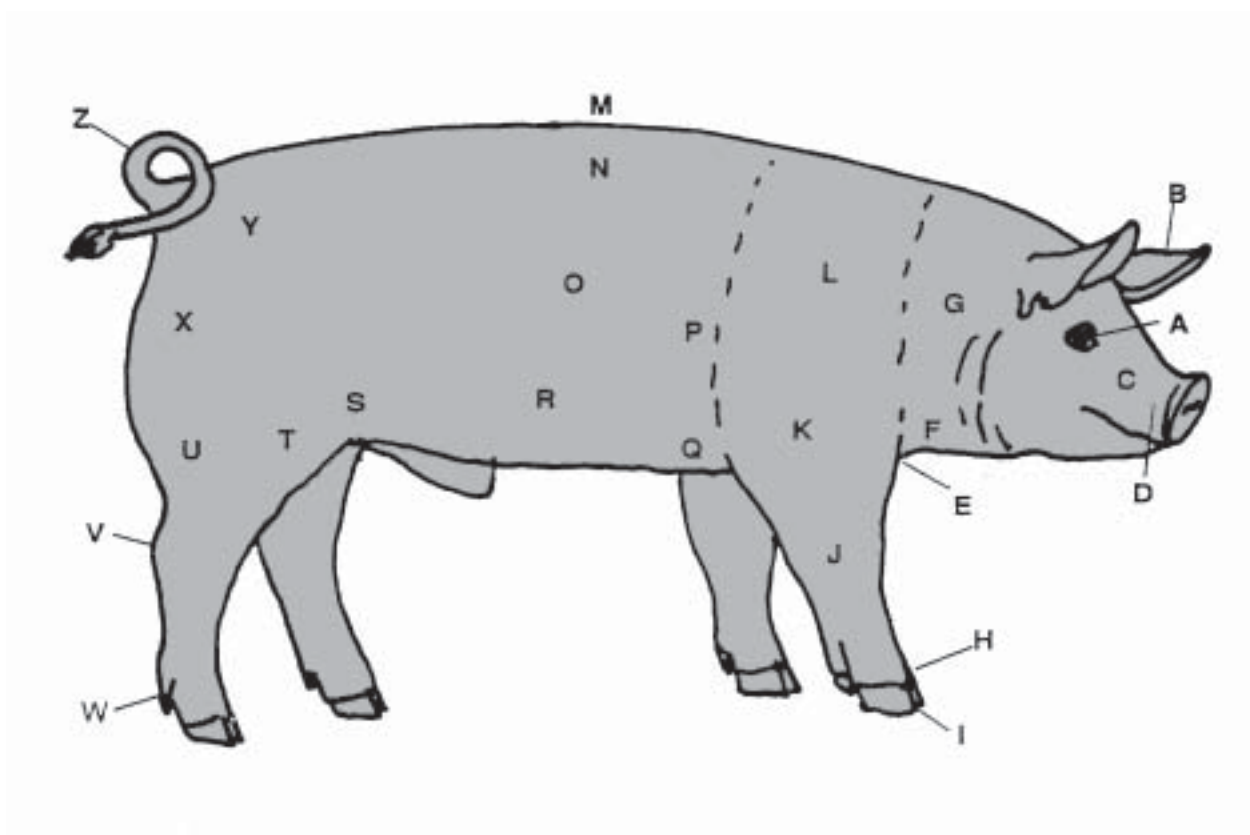
- Know the pig's tag number, weight, breed, and date of birth (farrowing date).
- Know other relevant information such as the average daily gain, ideal body temperature, protein percentage of the feed, etc.
- Know what the judge looks like and/or is wearing.
- Know what the ringmaster looks like and/or is wearing.
- Be courteous to the judge, ringmaster, and other exhibitors. Be sure to say "yes sir" or "no sir", "excuse me", and "thank you."
- Know the pig's location at all times, especially in relation to yourself and to the judge.
- Maintain a distance of 2 to 3 feet between you and the pig.
- Drive the pig by gently tapping it with the show stick; do not hit your pig. Remember, a pig looks its best when it is moving slowly.

**Preparing the pig for the show ring includes:**

- Wash the pig, either the night before the show or the morning of the show.
- On show day, feed the pig at least two hours before show time, but only feed approximately half of the usual amount. This keeps the pig attentive and alert.
- On show day, give about half the amount of water usually provided. This prevents the pig from looking fat and helps keep it active and alert.
- Groom and brush the pig at least twice before show time. This brings out the natural oils as well as removing dust and dirt, resulting in a cleaner hair coat.
- Before leaving the pen for the show ring, give the pig a drink of water and a final brushing.
- Be calm and gentle with the pig while on the way to the show ring and while in the show ring.
- Drive the pig toward and away from the judge, and back and forth in front of the judge. This way the judge gets to see all four sides of the pig. When doing this, keep the pig about 15 to 20 feet from the judge.
- Keep one hand free to open or close gates and to work the latches. Always latch all gates after use.
- Keep a small brush in your pocket; use it to clean the pig if it happens to get dirty.
- Maintain eye contact with the judge.
- Smile, relax, and enjoy what you are doing.
- Keep yourself cool, calm, and collected; this helps to keep the pig under control.
- Be humble when you win and gracious when you lose.
- Remember to thank the judge and congratulate the winners after the final placing.

**Working as a team in the show ring includes:**

- Be aware of the location of both the judge and the ringmaster, as well as any instructions they may give.



**Identifying the pig parts**

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

