

Sand & Sage Round-Up
SWINE STUDY GUIDE
Senior Division
Age 14 and over as of December 31

You should be able to identify the following breeds of swine by color and type of ear.

Berkshire - black with white points, ears erect
Chester White - white, drooping ear
Duroc - solid red color, drooping ear
Hampshire - black with white belt
Spotted Poland China - black and white spots
Yorkshire - white, erect ears

You should know the meaning of the following terms:

Boar - Male hog
Gilt - female hog, not yet had pigs
Sow - female hog, has had pigs
Barrow - Castrated male pig
Crossbred - an animal resulting from two or more breeds
Gestation - the time from conception to birth
TDN - total digestible nutrients (energy value of a feed stuff)
Essential nutrients - energy, protein, minerals, and vitamins
Cutability - the amount of muscle meat in the carcass
Balanced ration - a ration which provides the proper amounts and portions of required nutrients
Interest - the charge made for money you have borrowed
Animal Rights - Protection of animals from any type of exploitation or use such as pets or being used in the fair. Extends human rights to animals.
Animal Welfare - Concern for well being of animals for which a person has responsibility.
Animal Liberation - Animals should not be forced to work or produce for our benefit in any way.
Groups believe we should try to eliminate all types of animal use. These groups consider pets a for of enslavement.

You should be familiar with the Colorado ethical care of swine guidelines.

You should be familiar with some of the products that are derived from swine.

You should know the minimum weight for a market hog at the County Fair

You should know the procedures for ear marking a pig. The use of marks is the most popular way of permanent pig identification. This is best done soon after birth so accurate records can be kept about the pig's birth weight, medication, etc. The pig's right ear is used to identify the "litter mark." The left ear is used to show an individual pig number in the litter.

You should be familiar with some of the terms a show judge will use when comparing one pig with another. Here are some examples:

Production - Roominess, Capacity

Bolder fronted
Deeper ribbed
Wider chested
Shows more volume

Structural - Correctness, Soundness

Longer necked
Longer and leveler topped
Looser structured
Higher in the tail setting

Underline

Sounder, more prominent
More correctly spaced

You should know how to manage your animal during the fair:

1. You should respect other people at the fair.
2. You should feed your animal two times per day at the fair. Once before 8:00 a.m. and once between 6:00 and 7:00 p.m.
3. You should clean your pen two times per day, once in the morning and once in the afternoon/evening.
4. You should clean the alley in front of your pens every four hours.
5. You should wash your animal before the show and before the sale as a minimum.
6. You should not leave your feed pans in the pen after feeding.
7. You should not leave your water pans in the pen after feeding.
8. You should keep your pen gate wired at all times.
9. Check your animal every two hours during the day for heat.
10. Make a plan on how to get to the show ring and the market sale ring from the pen.

You should know the following things about your animal before entering the show ring:

1. Breed of your animal
2. Weight of your animal
3. Birth date of your animal
4. Feed costs
5. Beginning weight at tagging
6. Number of pounds gained by the animal
7. Parts of the animal
8. Tag number of your animal
9. Why you are in the animal project

You should dress properly for the show ring.

1. Shirt with collar, No tank tops
2. Pants with a belt
3. No cap or hat
4. Hair combed

Did you know?... when you are healthy, you usually will be happy, feel good and grow faster. The same applies to your pig. Good health management prevents disease rather than waiting to treat it after it shows up. Some normal health signs are: 101 degrees body temperature, 60 to 80 heart rate per minute, and 30 to 40 respiration rate per minute.

You should know the five phases of the Supreme Champion.

1. Live Placing
2. Record Book
3. Written Test
4. Rate of Gain
5. Showmanship

You should be familiar with the following diseases and how to prevent them:

1. Bloody Scours - sanitation, treatment and isolate infected animals.
2. Rhinitis - vaccination
3. Erysipelas - vaccination

You should be familiar with the following parasites and the treatment for them:

EXTERNAL

1. Hog louse - vaccination and spray
2. Hog Mange - vaccination and spray
3. Ticks - vaccination and spray

INTERNAL

1. Roundworms - vaccination, medication in feed or water
2. Lungworms - vaccination, medication in feed or water
3. Nodular worms - vaccination, medication in feed or water

You should know how to figure the selling price of you animal.

- A. Multiply the weight of your animal by the price received per pound.
 $218 \times \$0.54 = \117.72

You should know how to figure the gain on your animal.

- A. Number of pounds gained, subtract the beginning weight from the ending weight to get the number of pounds gained.
 $216 \text{ (end wt.)} - 72 \text{ (beg. wt.)} = 145 \text{ (pounds gained)}$

- B. How to project your budget sheet. Multiply the number of days in the feeding period by the number of pounds you think your animal will gain each day and add the beginning weight to this figure.

Example:

Number of days in the feeding period x projected daily gain
 $75 \times 2.0 = 150$ pounds

Pounds to be gained + beginning weight = projected ending weight of animal
 $150 + 90 = 240$ pounds

You should know the feed ratio for swine and how to figure feed requirements.

- A. An average feed ratio is 4 pounds of feed for 1 pound of gain.
- B. How to project your gain on your budget sheet. Multiply the number of days in the feeding period by the number of pounds you think your market animals will gain each day and add the beginning weight to this figure.

Example:

Number of days in the feeding period x projected daily gain
 $90 \times 1.5 = 235$

Pounds to be gained + beginning weight = ending weight of animal
 $135 + 100 = 235$

You should be able to figure the cost of feed per pound.

- A. You have purchased 600 lbs. of feed at \$.06 per lb. How much did you pay for feed?
 $600 \text{ pounds} \times \$.06 = \$36.00$
- B. You have purchased $\frac{3}{4}$ ton of feed at \$160 per ton. How much did you pay for feed?
 $\$160 \times .75 = \120.00

How much per pound?

$\$120$ divided by 1500 lbs = \$.08 per lb.

You should be able to identify grains, supplements, essential amino acids, additives, vitamins, and minerals.

<u>GRAINS</u>	<u>ESSENTIAL AMINO ACIDS</u>	<u>FOOD SUPPLEMENTS</u>	<u>ADDITIVES</u>	<u>VITAMINS</u>	<u>MINERALS</u>
Corn	Arginine	Soybean	Molasses	A	Calcium
Milo	Histidine	Fish Meal	Fat	D	Phosphorous
Wheat	Isoleucine	Meat Scraps	Whey	E	Salt (Sodium Chloride)
Barley	Leucine	Cottonseed		B-complex	
Oats	Lysine	Meal			Iron, Iodine
	Methionine				Zinc, Copper
	Phenylalanine				Manganese
	Threonine				
	Tryptophan				
	Valine				

You should know the water requirements for swine are $\frac{1}{2}$ to $1 \frac{1}{2}$ gallons per day per 100 lbs. of body weight.

You should know the body parts of a swine: (see attached page)

You should be able to figure profit or loss from a given group of items and figures on a set of pigs.

Enter the following items and information on the expenses and income page provided.
Figure your profit of loss.

- May 13 - You purchase 5 weaner pigs (gilts) @ \$48.50/pig
- May 14 - You purchase a used 2 hole self feeder for \$70.00
- May 17 - You make a barrel waterer, parts purchased for \$32.78
- May 21 - You pay for 500# starter ration, cost \$9.50/100# = \$47.50
- May 27 - You purchases vet supplies \$18.50
- May 30 - You purchase 1300# grower ration at \$7.00/100 = \$91.00
- June 3 - You pay for 2200# finish ration @ \$6.00/100 = \$132.00
- June 17 - You sell 5 hogs weighing a total of 1105# for \$52.50/100 or \$.5250/lb. = \$580.12,
Commission = \$3.00

You should know the body parts of the swine:

The parts of the pig (barrow) are shown in Figure 32.

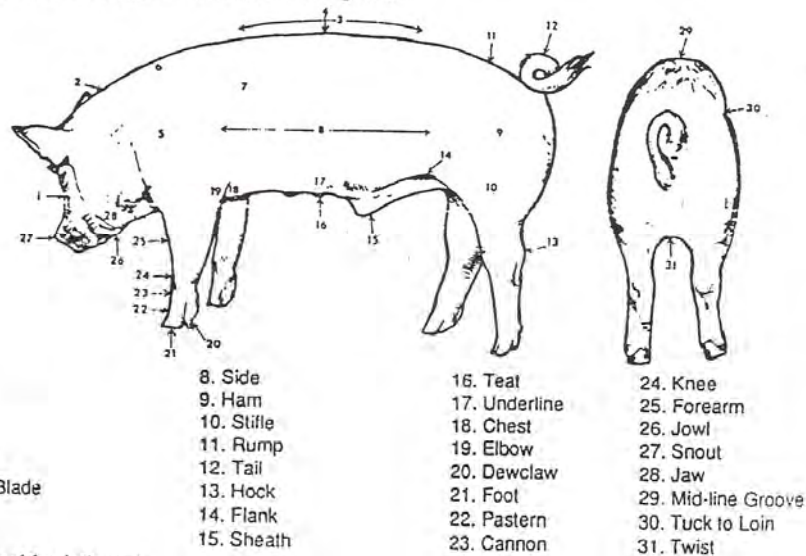


Figure 32. Parts of the pig (barrow).

OPERATING EXPENSES
Instructions for Operating Expenses

Description of Expenses:

1. Feed and Bedding - All feed and bedding used in the project must be accounted for, even if it is home-grown. Monthly pasture charge for animals on pasture should be listed in this column. Also list salt, mineral, protein supplement, milk replacer, etc.
2. Veterinary supplies - Any medicines or vaccines used for control or prevention of disease should be included as well as veterinarian services.
3. Marketing expense - Should include such costs as commission, brand inspection, sale expense and transportation.
4. Livestock purchased - Cost of animals purchased during the project year should be included here.
5. Miscellaneous expense - Should include such costs as registration fees, electricity, water, fence repairs, building repairs, equipment, show expenses, etc.
6. Labor - Estimate the value of your own labor as well as that of others even if they are not paid directly.
7. Interest - Include the cost of borrowing money as an expense under miscellaneous.

Date	Item Purchased	Quantity	Feed & Bedding	Vet. Sup/Serv	Market Expense	Livestock Purchased	Misc.	Labor
5/13	feeder gilts	5 @\$48.50				\$242.50		
5/14	feeder	1					\$70.00	
5/17	waterer	1					\$32.78	
5/21	feed starter	500#	\$47.50					
5/27	vet supplies			\$18.50				
5/30	feed grower	1300#	\$91.00					
6/3	feed finisher	2200#	\$132.00					
7/17	commis- sion				\$15.00			
TOTALS			\$270.00	\$18.50	\$15.00	\$242.50	\$102.78	-0-
TOTAL EXPENSE							\$649.28	

INCOME

Record the value of all products sold or used at home and all show premiums.

Date	Kind of Product (used or sold)	Number or pounds	Price per Unit	Total Value	Show Premiums
7/17	market hogs	1105#	\$.525	\$580.12	
TOTALS				\$580.00	-0-
TOTAL RECEIPTS (add Total Value + Show Premiums)					\$580.00

* Products used at home should be listed at market value.

Profit or Loss = \$ [69.16]
(circle one)



COLORADO 4-H ETHICAL CARE OF SWINE

The following general guidelines offer suggestions for care of swine as part of small-scale 4-H and other projects. These recommendations do not fit commercial production situations.

Feed and Water

Provide feed so growing pigs will consume all they can eat of nutritionally balanced, palatable rations. Daily consumption levels vary depending on factors such as animal weight, temperature, feed palatability and individual growth characteristics. Pigs between 44 and 125 pounds will consume about 4 to 5 pounds daily. Pigs between 125 and 240 pounds will consume about 7 to 8 pounds daily. Pigs will eat more as they gain weight, so remember this when feeding. Caretakers should provide free-choice feed in self-feeders or give the animal unlimited feed access several times a day.

Since many animal exhibits have maximum weight limits, it may be necessary to restrict weight gain toward the end of the feeding period. **In no case should you starve the animal to achieve this objective.** By providing frequent exercise for the animal and by feeding lower energy feeds, such as alfalfa hay in place of nutritionally balanced rations, you can control the pig's weight without starvation. Take care to ensure animals are not exercised in the heat of the day or to the point of exhaustion.

Provide clean, fresh, cool water at all times. Do not remove water from pens to correct a messy pen. Instead, correct waterer design. Water is the most essential nutrient, and caretakers should make every effort to ensure animals have water whenever they choose to drink. Water consumption varies depending on factors such as temperature and feed consumption. On average, a 100-pound pig will drink 1 gallon of water a day. A 250-pound hog needs about 2 gallons daily.

Handling

Pigs have a strong tendency to take charge of their own situation in the show ring. Because they are unrestrained during shows, it is essential for them to be accustomed to people prior to entering the ring. The key to well-behaved swine is plenty of human contact prior to show time. Pigs will react positively to repeated human touch, scratching or talking. Do not beat pigs for any reason, even if they are not doing what we think they should do. Training a pig requires a trust relationship between you and the animal. This takes time, but it is an investment that will pay off. A brush and cane are appropriate training tools provided you do not use the cane to hit or poke the animal.



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Housing

Provide pigs approximately 10 square feet per animal. Provide a sow about 18 square feet. Approximately one-half of this space requirement should be in shade. Provide adequate shade, and clean straw or wood shaving bedding.

Mud holes are unsightly. They can be a link to fly infestations or disease transmission. Take care to adequately cool pigs without mud holes. Accomplish this by having well-insulated ceilings and walls, drip lines over concrete flooring, fans, bedding, and free-choice water. Panels, feeders, waterers and other facilities should be free of sharp objects that can cut, scratch or injure the animal.

Group animals by weight so larger pigs do not harm smaller pigs. Do not mix animals unfamiliar with each other, although at show time this can not be avoided. Pig-boards should be readily available to place between fighting animals to prevent injury to both animals and people.

Veterinary Care

Vaccinate pigs for local diseases which may include Atrophic rhinitis and Erysipelas. This is not meant to be the final word on vaccinations. Local veterinarians may suggest other diseases depending on local circumstances.

It is appropriate to clip needle-teeth, castrate, notch ears, dock tails and follow practices appropriate to prevent injury to other animals, aid identification and meet market requirements. In no case, should these practices be done by someone unfamiliar with the practice. With the exception of castration, these practices should be done within 24 hours of birth. Castrate between one and two weeks of age. Tools for accomplishing these husbandry practices should be designed for the task, maintained in proper repair and kept in sanitary condition. Disinfect instruments between animals to decrease opportunities for infections.

Farrowing crates are appropriate, because they can prevent injury or death to young.

Antibiotics to control disease are appropriate for pigs. Under no circumstances should mood-altering drugs be given to animals. Withdraw antibiotics from animals in time to comply with regulations to provide safe food assurances to the public.

Showing

Preparing the animal for show purposes is a common practice. Fortunately, pigs need little more than a good washing prior to entering the ring. Some people choose to use a light coat of non-caustic oil (cooking oil or baby oil) on the hair of dark-colored pigs prior to showing. This is an appropriate practice. On white-colored pigs, some exhibitors use baby powder to provide a cleaner appearance. Take care in all cases to avoid eye, nose or mouth contact with the oil or powder. Trimming hair on ears or tails is a practice in some show situations. This is appropriate provided you take care to not injure the animal during the process.



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Everything But The Oink!

Most people know that many different foods come from hogs, such as pork chops, pork roast, ribs, ham, bacon, sausage and pepperoni. But hogs are also used for many non-food products, which are commonly called by-products.

In history class, you may have learned how settlers from other countries and Native Americans used as many parts of animals and plants as they could to make clothes, tools, dishes and other utensils. Making the most of their resources was something these people had to do, since resources were very limited. Not using as many parts as possible of an animal or plant was considered wasteful.

Today, we follow the same practices. We make the most of our resources with a wide variety of pork by-products. In fact, no other animal provides a wider range of products than the hog. From life-saving pharmaceuticals to everyday items, pork by-products are an important part of our daily lives.

Here are some of the life-saving pork by-products provided by the hog:

Health Care Products

- Heart valves (used to treat people with malfunctioning heart valves)
- Insulin (used to treat people with diabetes)
- Skin (used to treat people with severe burns or skin rashes)

Here are just a few of the different pork by-products we use today. Take a scavenger hunt in your house to see how many items you have from the list below.

Products for Your Home

Bone china
Cellophane
Cement
Floor waxes
Glass
Glue
Insulation
Matches
Ornaments
Plastics
Porcelain enamel
Upholstery
Water filters

Products for Your Car

Antifreeze
Rubber