Texas 4-H Swine Skill-A-Thon
2012-2013 Study Guide

RULES: The Swine Skill-a-Thon will consist of a preliminary round with a written exam and four “skills” stations. The top five individuals in each division will then compete in the finals. Seniors and Intermediates will give a five minute impromptu presentation on a topic assigned at the event.

1) AGE DIVISIONS
Contestants must be currently enrolled 4-H member, and academically eligible. Ages will be determined as of August 31, 2012 age divisions are:
   Intermediate – 11 to 13 as of August 31, 2012
   Seniors – 14 to 18 as of August 31, 2012

2) No late entries will be accepted. Substitutions must be verified by the County Extension Agent using a substitution form.

3) Substitutions
Substitutions should be used only as a means of keeping an entry active when members have been forced to drop out for unexpected reasons (i.e. major illness, death or other conflicts). All substitutions must be approved by the county Extension agent in charge of the project area. The form may be signed, completed and brought to the contest site. Once the contest check in closes no substitutions may be made.

4) State Representative
This is a non-qualifying state contest. All individuals may participate at state regardless of their placing at the District Contest.

6) Contest

Preliminary Rounds

A) Written Exam - 100 points per person
Questions are derived from the vast amount of information available in the study guides as well as from knowledge and skills that can be obtained actually raising the project pig. The Exam will be made up of multiple choice or True/False questions. The test may have 100, 1 point questions or 50, 2 point questions. The exam will be administered using questions from the following sources.
   1) Swine Quiz Bowl Question Bank – http://texas4-h.tamu.edu/project_swine
   2) Texas FFA Livestock CDE Test Bank - (Questions pertaining to Swine)
      http://www.texasffa.org/5Cdocs/Livestock+Exam+Key.pdf
B) **Skills Stations - 100 points per person**
Four skill stations will be done individually by contestants. A score sheet will be provided with a total of 25 points for each station. The evaluator/station moderator can allow for partial credit at each station.

1) Identifying External or Internal parts of a Swine:
2) Ear Notching
3) Projecting and Calculating Weigh Gain
4) Feedstuff Identification and Nutritional Purpose
5) Pork Retail Meat Cut Identification
6) Reading and Interpreting Registration Papers
7) Reading & Following Feed & Medication Labels
8) Identifying Tools and Equipment used in the swine Industry

**Finals**

C) **Interview/Presentation - 100 points per individual**
The top five individuals in each division will be called back for the finals. Intermediates and Seniors will be assigned a topic related to the swine industry and asked to prepare a five minute presentation related to that topic. They will have fifteen minutes to prepare. The Speech or Interview will be conducted over one of the following three topics and will be assigned upon qualification to the finals:

1) How has the commercial swine industry changed in the past 20 years?
2) What knowledge & skills have you learned from participating in the swine project and how will these skills help you throughout your life?
3) What would you tell individuals who oppose animal agriculture, specifically the commercial swine production industry?

**Additional Resources for Study and Preparation Include:**

2) National Pork Producers Council: [http://www.nppc.org](http://www.nppc.org)
3) Texas Pork Producers Council: [http://www.texaspork.org](http://www.texaspork.org)
4) Texas A&M University Animal Science Youth Swine Publications: [http://animalscience.tamu.edu/youth-projects/#swine](http://animalscience.tamu.edu/youth-projects/#swine)
5) USDA Fact Sheets: [http://www.fsis.usda.gov/factsheets/Pork_From_Farm_to_Table/index.asp](http://www.fsis.usda.gov/factsheets/Pork_From_Farm_to_Table/index.asp)
6) Texas 4-H Swine Project Guide:
7) Quality Counts Manual:
Skills Stations Guidelines:

Identifying the Internal & External Parts of a Swine

The ability to properly identify the parts of a swine is essential knowledge to swine management. This ability will allow you to quickly and efficiently detect health issues including external injuries, or internal problems. The skills station this year will focus on external body part identification, and the digestive system.
**Ear Notching**

During the ear notching skills station, youth will be asked to utilize a set of ear notchers to properly notch a model of a pigs ear. They may also be asked to read the notches of a pig that has already been notched.

Ear notching is a system that has been utilized for many years for the purpose of properly identifying swine. The pig’s right ear is utilized to record the litter number. The litter mark ear is divided into five sections, and each section has a numerical value, either 1, 3, 9, 27, or 81 (see image below). Each section, except for 81, can have 1 or 2 notches only. All offspring of the same litter will have identical litter numbers in their right ear. The left ear is used to record the pig’s individual number. Each pig will have different notches in the left ear. The left ear is divided into three sections, with values of 1, 3, and 9 (see image below). Ear notches should always be read with the litter number first, followed by the individual number.

![Ear Notching Diagram](image)

**Projecting & Calculating Weight Gain**

Understanding and projecting weight gain is an important part of both 4-H swine projects and commercial swine operations. Individuals participating in the swine project need to be able to evaluate how much their project animal will need to gain from the time of purchase until the show date. This should be determined using the following formula:

\[
(\text{Desired Show Weight}) - (\text{Current Weight}) = (\text{Pounds needed to Reach Desired Weight})
\]

\[
\frac{(\text{Pounds Needed to Reach Desired Weight})}{(\text{Number of Days Until Show})} = (\text{Pounds of Gain per Day})
\]

Hogs usually need to eat 4 to 5 pounds of feed for every 1 pound of gain. The average daily gain of market hogs is 1.5 to 1.8 pounds per day. It is important to understand that expecting a hog to less than 1 pound each day is not a realistic expectation if that hog is to look its best on show day, nor is expecting a hog to sustain weight gains over 2.5 pounds per day in order to reach a minimum weight at the show.
**Feedstuff Identification and Nutritional Purposes**

The skill of properly identifying feedstuffs and additives, as well as understanding their purpose in the feed ration will enable you to ensure that your swine project is receiving the proper nutrients. It will also allow you to make critical feeding adjustments to alter the way your project puts on condition, or the speed at which your project grows. Below are the various feedstuffs that will be selected from for 2012-2013 swine skillathonb contest. Participants will be asked to identify between 5 and 10 samples and categorize the group of nutrients to which they belong (energy, mineral, or proteins).

<table>
<thead>
<tr>
<th>Energy</th>
<th>Protein</th>
<th>Mineral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Corn</td>
<td>Soybean Meal</td>
<td>Dicalcium Phosphate</td>
</tr>
<tr>
<td>Cracked Corn</td>
<td>Blood Meal</td>
<td>White Salt</td>
</tr>
<tr>
<td>Wheat</td>
<td>Fish Meal</td>
<td>Trace Mineral Salt</td>
</tr>
<tr>
<td>Grain Sorghum (Milo)</td>
<td>Dried Whey</td>
<td>Ground Limestone (Calcium Carbonate)</td>
</tr>
<tr>
<td>Barley</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oats</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rye</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheat Middlings</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A helpful website for studying these feeds and their uses is:  
http://www.ca.uky.edu/agripedia/agmania/feedid/

**Pork Retail Meat Cut Identification**

Profitability in the pork industry is linked to the amount and quality of the retail meat cuts that can be produced. As a result it is important for 4-H swine project members to be able to identify high value cuts of meat.

Senior contestants in the Swine Quiz Bowl should refer to the following website for a list of cuts that could appear at this skills station:  http://aggiemeat.tamu.edu/judging/id4H.html (Pork Cuts Only)  
Participants will only be required to list the common name of the meat cut. (For Example: Butterfly Chops)

Junior and Intermediate contestants in the Swine Quiz Bowl should refer to the following website for a list of cuts that could appear at this skills station:  http://aggiemeat.tamu.edu/judging/id4Hinter.html (Pork Cuts Only)  
Participants will only be required to list the common name of the meat cut. (For Example: Butterfly Chops)
Reading & Interpreting Registration Papers:

To implement a successful genetics program, one must be able to read and understand registration papers. It is important to properly identify an offspring’s dam, sire, grand dam, grand sire, etc... There is also a great deal of information related to identifying the pig, and identifying its EPD numbers that can be derived from the registration papers. Below is a sample set of registration papers and a list of items you should be able to answer questions about during this skills station.

![Certificate of Registry](image_url)

What is the registration number of this animal?
What is the sex of this animal? (Gilt, Barrow, Boar)
Who is the Sire of this animal?
Who is the Dam of this animal?
Who is the maternal grand sire and who is the paternal grand sire of this animal?
Who is the maternal grand dam and who is the paternal grand dam of this animal?
What is this animal’s birth date?
What is this animal’s ear notch?
Who is the owner of this animal?
Who is the breeder of this animal?
How many littermates did this animal have?
Where all of the littermates born alive?
What breed of pig is this animal?
Reading and Following Feed and Medication Labels

Any medicine or feed you give your animals will affect their health in some way, either positively or negatively. Ultimately, the health of your animals may affect consumers. When deciding how to care for your animals, you must make decisions responsibly so that you do no harm to the animals or to consumers. One of the most important things you must learn is how to read feed tags and medication labels. Below is an example of a medication label and information you should be able to derive from examining it. (Examples borrowed from the Quality Counts Book)
Pig & Cattle Grower
Medicated
for horses, rabbits, cattle, goats, poultry and swine

Administer Manna Pro® as a nutritional supplement for better growth and performance. Cal-Mannés four main ingredients—high-quality proteins, digestible carbohydrates, anise and brewers' yeast—meet the needs of many animals by providing for more growth, energy, palatability and better digestion.

Guaranteed Analysis

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Min. Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Protein</td>
<td>min. 25.0%</td>
</tr>
<tr>
<td>Lysine</td>
<td>min. 1.4%</td>
</tr>
<tr>
<td>Methionine</td>
<td>min. 0.3%</td>
</tr>
<tr>
<td>Crude Fat</td>
<td>min. 3.0%</td>
</tr>
<tr>
<td>Crude Fiber</td>
<td>min. 3.0%</td>
</tr>
<tr>
<td>Crude Fiber</td>
<td>max. 6.0%</td>
</tr>
<tr>
<td>Acid Detergent Fiber</td>
<td>max. 10.0%</td>
</tr>
<tr>
<td>Calcium</td>
<td>min. 0.7%</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>min. 0.6%</td>
</tr>
<tr>
<td>Salt</td>
<td>max. 1.0%</td>
</tr>
<tr>
<td>Sodium</td>
<td>min. 0.1%</td>
</tr>
<tr>
<td>Copper</td>
<td>min. 15 ppm</td>
</tr>
<tr>
<td>Copper</td>
<td>max. 35 ppm</td>
</tr>
<tr>
<td>Selenium</td>
<td>max. 0.1 ppm</td>
</tr>
<tr>
<td>Zinc</td>
<td>min. 120 ppm</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>min. 20,000 IU/lb</td>
</tr>
</tbody>
</table>

Ingredients
Soybean Meal, Corn, Hominy Feed, Feeding Oatmeal, Dried Whey, Dehydrated Alfalfa Meal, Linseed Meal, Brewer's Dried Yeast, Vegetable Oil, Fenugreek Seed, Anise Oil, Calcium Carbonate, Monosodium Phosphate, Dicalcium Phosphate, Salt, Sulfur, Iron Oxide, Ferric Carbonate, Ferric Sulfate, Copper Oxide, Copper Sulfate, Manganese Oxide, Zinc Oxide, Sodium Selenite, Cobalt Carbonate, Calcium Isolate, Vitamin A Supplement, Vitamin D3 Supplement, Vitamin E Supplement, Choline Chloride, Thiamine Mononitrate, Niacin Mononitrate, Riboflavin Supplement, Calcium Pantothenate, Pyridoxine Hydrochloride, Vitamin B12 Supplement, Folic Acid, Biotin, Calcium Propionate (as preservative).

Feeding Instructions

<table>
<thead>
<tr>
<th>Bruin Calves</th>
<th>10% of creep ration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef Cattle</td>
<td>1-2 lbs/day</td>
</tr>
<tr>
<td>Brood Cows &amp; Bulls</td>
<td>2 lbs/day</td>
</tr>
<tr>
<td>Baby Pigs</td>
<td>1-3 lbs/day</td>
</tr>
<tr>
<td>Show Hogs</td>
<td>3-4 lbs/day</td>
</tr>
<tr>
<td>Gestating Sows</td>
<td>4-6 lbs/day</td>
</tr>
<tr>
<td>Lactating Sows</td>
<td>4-8 lbs/day</td>
</tr>
<tr>
<td>Bucks</td>
<td>4-6 lbs/day</td>
</tr>
</tbody>
</table>

Manufactured by:
Manna Pro Corporation
Net Weight 50 pounds (22.7 kilograms)

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Reading a Feed Tag

1. What is the main ingredient in this feed?

2. What is the crude protein level?

3. What is the minimum crude fat level of this diet?

4. Is ground milo included in the ingredients of this diet?

5. How much supplement should be fed to show cattle? Show hogs?

6. What is one of the four main ingredients found in this supplement?

7. What are the minimum and maximum calcium levels of this diet?
Identifying Tools & Equipment Used in the Swine Industry

Participants must also be able to identify both actual samples and pictures of equipment used in the swine industry. 5 to 10 samples will be provided at this skills station of tools and equipment used in the show industry and the commercial swine industry. Below is a list of possible products that will appear at this skills station.

- Show Whip
- Rice Root Brush
- Soft Bristle Brush
- Foam Tipped Insemination Rod
- Spirette Insemination Rod
- Farrowing Crate
- Heat Lamp
- Ear Notchers
- Scales
- Sorting Panels
- Clip in Feeder
- Grill Brick
- Pump Up Sprayer
- Clippers
- Wood Shavings
- Syringes
- Needles
- Feed Pans
- Nipple Waterers
- Cup Waterers