The Hog & Ham program was developed to teach youth and their families about pork production, processing, and utilization. By design it also teaches cooperation, responsibility, record keeping, and communication skills. As an added bonus, the pork carcass is used by the 4-H member's family as part of the family meat supply. The pigs for this project are harvested under the custom exempt rule of USDA and are not permitted for resale. The 4-H Hog & Ham Project is truly “learning by doing.”

- **Goals of the Hog & Ham Project**
  - Understand the process of producing pork for the consumer and the value changes that happen throughout the process.
  - Understand the profitability of this process.
  - Understand the proper and safe use of pork in a human’s diet.
  - Discover and develop the ability to select a topic and orally present the topic to a diverse audience.
  - Develop skills necessary to sustain focus on a project with changing tasks for a long period of time.

- **Parts of the Hog & Ham Project**
  - Market hog production – Select feeder pig and manage pig to slaughter weight
  - Processing – Converting live hog to product
    - Day 1: harvesting
    - Day 2: fabrication
  - Completion of a record book
  - Retail and Food Service Audit – Retail Store and Food Service evaluation of product marketing
  - Demonstration/Illustrated Talk – Swine production, marketing or utilization topic
Introduction/Program Summary

- **Harvesting**
  Individuals will work with their county Extension Agents to arrange transportation to the meat laboratory on the designated harvest date. Each 4-H member harvests his/her hog under close supervision of the meat laboratory staff. Final live weight is then calculated by dividing carcass weight by 0.75 (i.e. 180 lbs carcass weight ÷ 0.75 = 240 lbs live weight). The pork carcasses are evaluated by University meat scientists. All carcass information is provided for the 4-H member's record. 4-H members are instructed in the significance and meaning of the carcass information.

- **Processing and Curing**
  4-H members will fabricate their own pork carcasses into wholesale cuts. After weighing the cuts, they will cure the hams, bellies and smoked sausage links which will be cooked and smoked by the UF staff at a later date. Retail cuts will be fabricated by UF staff and then wrapped for transport and freezing by parents and participants. Processing of sausage (patty and smoked links) will be performed by participants and UF staff.

- **Completion of Records**
  Production records will be kept in the Project Record book. All receipts should be kept and information entered as outlined in the record book. Completed production records and copies of hand written thank you notes to the sponsors should be given to the County Extension Agent before the due date. Original thank you notes should be mailed after copies are made. Do not put individual record book pages in sleeves.

- **Retail Audits**
  Participants will explore the pork usage/availability at two retail locations – a grocery store and a restaurant. At each location, youth will have a series of questions to learn about what types and how much pork products are available. They will also have questions to interview the managers regarding purchasing patterns and food handling practices.

- **Demonstration/Illustrated Talk**
  A demonstration or illustrated talk will be required of each 4-H member and will be given at the termination of this project in Gainesville. It should involve some topic related to the Hog & Ham project and will be scored by a panel of judges. These topics include issues related to swine production, pork processing, pork marketing, and pork utilization for consumption or medicine.

- **Awards**
  After the 4-H demonstrations, ribbons and cash prizes are awarded. The final award is based on the complete record and accomplishment of the 4-H member beginning with pig selection and terminating with the 4-H demonstration. Scoring categories include carcass, retail audit report, project book, and demonstration/Illustrated talk.

**Scoring of the Hog & Ham Project**

- 50% adjusted carcass score, 30% record book, 15% retail audit, 15% demonstration
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Selection

➢ SELECTING A PIG

▪ ASK QUESTIONS!
  – How old is the pig?
  – How much does the pig weigh?
  – Has the pig received any vaccinations?
    • If so, what vaccinations and when?
  – Has the pig been de-wormed?

▪ Selection Criteria
  – Muscle
  – Growth
  – Leanness/Maturity
  – Design/Feet and Leg Soundness
  – Rib Capacity/Volume
➤ Muscle

- Most important trait in a market animal and the easiest to evaluate
- This is what you are selling to the consumer
- Select a pig that is moderate to heavy muscled
- Know the indicators of muscle

Heavy Muscled  Well Muscled  Insufficient Muscling

➤ Determining Muscling

Best observed by examining the hog from the ground up and rear forward.

- Heavy and well muscled pigs will have a square, expressive shape when viewed from behind, wide with deep groove down center & rounded on edges (butterfly shape).
- Light muscled pig will have inverted “V” shape when viewed from the rear.

Well Muscled  Insufficient Muscling
Growth

- Challenging to assess a young pig’s genetic predisposition for growth
- Ask breeder about performance of sire and dam
- Pigs with obvious defects (ruptures, knots, etc.) or structural problems will not perform normally

Secondary Indicators of Growth – all have a loose association with growth

- Length and height (frame)
- Bone circumference/Foot Size
- Structural Width/Body Capacity

Leanness/Maturity

- Any pig with any significant fat deposition at a light weight is genetically inferior
- However, length and height is a good indicator of finishing weight.
- A longer, taller pig will be able to remain lean to a heavier weight than a short, low set pig
Design/feet & leg soundness

- The more ill-structured the pig, the less likely they will be to make a heavy weight market hog
- Soundness problems will only become worse as pigs become older and heavier
- Soundness problems, when extreme, can affect performance
- Pigs with “too much muscle” can have affected mobility

A well designed hog with all joints at the proper angles will:

- Walk effortlessly and athletically, like all the pieces fit together
- Hold its head up when walking
- Have clean joints with no evidence of swelling
- Have a level top line when walking
- Place its feet on all four corners

Too straight in shoulder and hock, hopefully not affecting production
Ill designed with too much muscle, too straight in hock, probably affecting production

Well designed, should make a nice project
A group of pigs which should all make nice projects

Correct design and alignment of joints

Overt Structural Problems with the Potential to Affect Production

Very ill designed – could affect production

Very sickle hocked – could affect production

Very straight hocked – probably will affect production

Very buck-kneed – probably will affect production
Determining Correct Feeder Pig Weight (what the beginning weight should be)
- Length of feeding period
- Expected rate of gain
- Optimum slaughter weight
- Either gilts or barrows may be used

Example
- 100 day feeding period
- 270 pound optimum slaughter weight
- 1.7 pounds/day Average Daily Gain
  - Purchase weight = 270 – (100 X 1.7) = 100 #. This pig should weigh at least 100 pounds at purchase assuming that predictions are correct and it does not get sick.
- Or, if 1.5 pounds/day Average Daily Gain
  - Purchase weight = 270 – (100 X 1.5) = 120 #

Recommended Feeder Pig Weight
- Guidelines suggest 100 to 125 pound feeder pig on weigh-in date (see Table 1).
- To achieve desired starting weight, fast growing healthy pig should be 14-16 weeks old (see Table 2).
- If you purchase much earlier than weigh-in date, then you can buy a lighter pig.

<table>
<thead>
<tr>
<th>Pig’s Weight, Lb.</th>
<th>Approx. Days Required To 260 lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>127</td>
</tr>
<tr>
<td>80</td>
<td>120</td>
</tr>
<tr>
<td>90</td>
<td>113</td>
</tr>
<tr>
<td>100</td>
<td>107</td>
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<tr>
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<td>100</td>
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<tr>
<td>120</td>
<td>93</td>
</tr>
<tr>
<td>130</td>
<td>87</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Weight (pounds)</th>
<th>Age (weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>8</td>
</tr>
<tr>
<td>65</td>
<td>10</td>
</tr>
<tr>
<td>85</td>
<td>12</td>
</tr>
<tr>
<td>105</td>
<td>14</td>
</tr>
<tr>
<td>130</td>
<td>16</td>
</tr>
<tr>
<td>155</td>
<td>18</td>
</tr>
<tr>
<td>185</td>
<td>20</td>
</tr>
<tr>
<td>215</td>
<td>22</td>
</tr>
<tr>
<td>250</td>
<td>24</td>
</tr>
<tr>
<td>265</td>
<td>25</td>
</tr>
</tbody>
</table>
Getting Them Started Right

➢ Caring for Your New Pig

  ▪ Transportation
    – Provide a clean, dry truck or trailer
    – Avoid heat or cold stressing the pig
      • Bedding if cold; wet sand if hot
    – Avoid Crowding

  ▪ Arrival at the farm
    – Isolate from other pigs if possible
    – Provide a clean, dry, draft-free sleeping area
    – Provide supplemental cooling or heating if required
    – Provide adequate space – 32 square feet per pig in pen (4’x8’ pen); at least half of it covered
    – Provide cool, clean water

  ▪ Signs of a healthy pig
    – strong appetites
    – body temperatures of 102.5° F
    – sleek hair coats
    – tightly curled tails
    – pigs are active
    – alert with bright looks in their eyes

➢ Ongoing Care for Your Pigs

  ▪ The first 2-3 weeks are critical, check pigs several times each day during this period.
    – Watch for Respiratory Distress and/or Diarrhea

  ▪ Vaccinations?
    – Erysipelas
    – Pneumonia (mycoplasma)

  ▪ De-worming? (See Table 3)
    – Within one week after arrival, then every 30 days

  ▪ Supplies to have on hand
    – Proper sizes of needles and syringes
      • 50-150 lbs (18 gauge – 5/8 inch)
      • 150-265 lbs (18 gauge – 1.0 inch)
    – Medications
      • De-wormer
      • Lincocin, LA-200 (antibiotics)
      • Kapectate

Withdraw feed by 6pm the night before transporting to harvest. Keep access to water at all times.
Health of Your Pig

➢ Clues to a sick pig
  ▪ poor appetite,
  ▪ gauntness,
  ▪ rough hair coat,
  ▪ a dull look in the eyes,
  ▪ excessive coughing,
  ▪ diarrhea,
  ▪ inactivity and lameness.

➢ If you think a pig is sick, take its rectal temperature. If it is 2 degrees or more above 102.5° F, call a veterinarian immediately.
  ▪ A common problem with pigs is stress factors.
    – Hauling, vaccinating, introducing it to strange surroundings and strange pigs can scare or stress a pig.

  ▪ Results of Stress
    – susceptible to sickness and loss of appetite, result grow slower

  ▪ Stress induced diseases are:
    – pneumonia, pseudo rabies (mad itch), and swine dysentery.

  ▪ Swine external parasites
    – Ivomec injection recommended or a solution of Lindane which can be used up to 30 days prior to show or marketing, and/or Malathion which has no withdrawal
    – lice and mange mites

  ▪ Swine internal parasites
    – Deworm within one week after arrival, then every 30 days
      – [http://edis.ifas.ufl.edu/topic_swine_internal_parasites](http://edis.ifas.ufl.edu/topic_swine_internal_parasites)

Table 3: Effectiveness of Deworming Agents in Removing Common Swine Internal Parasites

<table>
<thead>
<tr>
<th>Deworming Agents</th>
<th>Roundworms</th>
<th>Nodular Worms</th>
<th>Whipworms</th>
<th>Lungworms</th>
<th>Threadworms</th>
<th>Kidney Worms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piperazine</td>
<td>75 – 100%</td>
<td>50%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hygromix</td>
<td>95 – 100%</td>
<td>95 – 100%</td>
<td>85 – 100%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Atgard</td>
<td>99 – 100%</td>
<td>95 – 100%</td>
<td>90 – 100%</td>
<td>0</td>
<td>60 -80 %</td>
<td>0</td>
</tr>
<tr>
<td>Tramisol</td>
<td>99 – 100%</td>
<td>80 – 100%</td>
<td>60 – 80%</td>
<td>90 – 100%</td>
<td>80 – 95 %</td>
<td>80 – 100%</td>
</tr>
<tr>
<td>Banmith</td>
<td>96 – 100%</td>
<td>88 – 100%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TBZ</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Safe Guard</td>
<td>92-100%</td>
<td>99 -100%</td>
<td>94 – 100%</td>
<td>97-99%</td>
<td>Variable</td>
<td>100%</td>
</tr>
<tr>
<td>Ivomec</td>
<td>90-100%</td>
<td>86 – 100%</td>
<td>Variable</td>
<td>99 – 100%</td>
<td>99-100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

R.O. Myers & Randy Walker, University of Florida IFAS EDIS Publication
Complex Swine Respiratory Disease
Common infectious agents are PRRS virus, Swine Influenza Virus (SIV), Mycoplasma hyopneumoniae (M. hyo), Pasteurella multocida and Actinobacillus pleuropneumoniae (APP). The clinical signs may include: coughing, nasal discharge, tear stains under the eyes, lethargic pigs that are often off-feed, elevated rectal temperatures and labored breathing. Vaccinate for SIV, M. hyo and erysipelas with FluSure®/RespiSure-ONE®/ER Bac Plus.® Treat P. multocida, APP, B. bronchiseptica and H. parasuis with DRAXXIN® (tulathromycin) Injectable Solution.

Lameness
A pig showing a limp or soreness in one or more limbs. Pig may show an unwillingness to move or will stand in a hunched position to take body weight off one or more legs. Can be due to arthritis. Treat with LINCOMIX® (lincomycin hydrochloride) Injectable or vaccinate with ER Bac Plus if erysipelas is suspected.

Erysipelas
A contagious disease caused by the bacteria Erysipelothrix rhusiopathiae. Signs include diamond-shaped lesions and arthritis. Can lead to lameness and death. Vaccinate with ER Bac Plus.

Round Worms
Internal parasites are common in pigs. Signs can include diarrhea, poor growth, coughing, blood in feces, heavy breathing and a pale appearance. Use DECTOMAX® (doramectin) Injectable Solution for the treatment and control of internal and external parasites.
**Streptococcus suis**

Often associated with outbreaks of respiratory disease, meningitis, septicemia and arthritis. Signs include depression, tremors, incoordination, blindness, paralysis and convulsions or paddling of the legs. Treat S. suis infections associated with Swine Respiratory Disease (SRD) with EXCEDE® for Swine (ceftiofur crystalline free acid) Sterile Suspension.

**Ileitis**

The disease affects the small intestine and, overall, greatly affects the health and progress of the pig. Symptoms include chronic watery diarrhea, gradual wasting and loss of condition. Severe cases can show bloody scours, anemia and even death. Use LINCOMIX Feed Medication to combat this disease.

**Mange**

Caused by a mite under the skin. The common signs are ear shaking, rubbing and skin lesions. Very tiny red pimples can develop and cover the whole body. Use DECTOMAX for the treatment and control of this disease.

**Haemophilus parasuis**

HPS is a respiratory disease where pigs can die suddenly. Symptoms include a fever, arthritis, refusal to eat and depression. Treat with EXCEDE for Swine Sterile Suspension or DRAXXIN Injectable Solution.
PFIZER SWINE PRODUCTS*

DRAXXIN® (tulathromycin) Injectable Solution
DRAXXIN is indicated for the treatment of complex swine respiratory disease associated with *Actinobacillus pleuropneumoniae*, *Pasteurella multocida*, *Bordetella bronchiseptica* and *Haemophilus parasuis*. It’s the one-dose cure for complex swine respiratory disease. Intramuscular injection in swine may produce transient local tissue reactions which persist beyond the five-day withdrawal period.

EXCEDE® for Swine (ceftiofur crystalline free acid) Sterile Suspension
EXCEDE for Swine is indicated for the treatment of swine respiratory disease (SRD) associated with *Actinobacillus pleuropneumoniae*, *Pasteurella multocida*, *Haemophilus parasuis* and *Streptococcus suis*. It provides at least seven days of therapeutic plasma levels and offers the convenience and confidence of a single-dose treatment. EXCEDE for Swine should not be administered to pigs known to be hypersensitive to cephalosporins. The preslaughter withdrawal time is 14 days.

LINCOMIX® (lincomycin hydrochloride) Feed Medication
Use LINCOMIX to reduce the severity of swine mycoplasmal pneumonia caused by *Mycoplasma hyopneumoniae*, to control ileitis, and treat and control swine dysentery. LINCOMIX requires no withdrawal when fed according to label directions.

LINCOMIX (lincomycin hydrochloride) Injectable Solution
LINCOMIX Injectable is indicated for the treatment of infectious forms of arthritis caused by organisms sensitive to its activity. This includes most of the organisms responsible for the various infectious arthritides in swine, such as the *staphylococci*, *streptococci*, *Erysipelothrix* and *Mycoplasma* *spp*. It is also indicated for the treatment of mycoplasmal pneumonia. *Swine intended for human consumption should not be slaughtered within 48 hours of last treatment.*

DECTOMAX® (doramectin) Injectable Solution
Use for the treatment and control of internal and external parasites of swine. Also use for the treatment and control of several species of gastrointestinal roundworms, lungworms, kidney worms, lice and mange mites. Consult your veterinarian for assistance in the diagnosis, treatment and control of parasitism. *Do not slaughter for human consumption within 24 days of treatment.*

FluSure®/RespiSure-ONE®/ER Bac Plus®
Used for the vaccination of healthy swine 3 weeks of age or older as an aid in preventing respiratory disease caused by swine influenza virus (SIV) subtypes H1N1 and H3N2, erysipelas caused by *Erysipelothrix rhusiopathiae* and respiratory disease caused by *Mycoplasma hyopneumoniae*. Administer two 2-mL doses approximately 3 weeks apart.

*As with all products, please consult your veterinarian for dosage and administration information. Always follow label instructions and adhere to label withdrawal periods.*

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Feeding Pigs

Table 4: Readily available supply of clean, fresh water

<table>
<thead>
<tr>
<th>Weight (lbs)</th>
<th>Gallons/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>1.0</td>
</tr>
<tr>
<td>100</td>
<td>1.5</td>
</tr>
<tr>
<td>200</td>
<td>2.0</td>
</tr>
<tr>
<td>250</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Table 5: How much should my pig eat?

<table>
<thead>
<tr>
<th>Weight (lb)</th>
<th>ADFI* (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>2.5</td>
</tr>
<tr>
<td>75</td>
<td>3.25</td>
</tr>
<tr>
<td>100</td>
<td>4.5</td>
</tr>
<tr>
<td>150</td>
<td>6.0</td>
</tr>
<tr>
<td>200</td>
<td>7.5</td>
</tr>
<tr>
<td>250</td>
<td>8.0</td>
</tr>
</tbody>
</table>

*Avg. Daily Feed Intake

- Pigs are non-ruminant animals. They have a single stomach in contrast to such animals as cattle and goats; therefore they require a different feed.

- To grow rapidly and efficiently, swine need:
  - a high energy, concentrated grain diet that is:
    - low in fiber (cellulose)
    - supplemented with adequate protein
    - Soy bean meal is a excellent source of protein
    - supplemented with vitamins.

- Purchase a quality pig feed.
  - Purchase from a reputable company
  - Read the label – see the following labels for what to look for
  - A Complete Feed
    - Nothing “Extra” needed
    - Can be either pelleted or meal
    - Watch for stale and/or moldy feed in the feeder
  - DO NOT LIMIT FEED!!

- Definitions
  - Growing Pigs – 40 to 125 pounds
  - Finishing pigs – 125 pounds to market weight (about 260 pounds)

- As a pig grows, the total amount of dietary protein it needs each day also increases;
  - pigs should be switched from the grower (nutrient dense/more protein) to the finisher (less dense) diet when they weigh about 125 pounds.

- Pigs should be self-fed (given all the feed they will eat) throughout the feeding period.
  - except the first few days after purchase
  - Self-feeding allows a pig to grow as fast as possible. (see plans on self feeders)
  - The daily intake of pigs is different.
  - Withdraw feed by 6pm the night before transporting to harvest. Keep access to water.

- Water is the most important part of a pig’s diet.
  - One-half to two-thirds of a pig’s body is made up of water.
  - Pigs should be supplied with as much clean, fresh water as they will drink.
  - Pigs can live longer without feed than without water.
Net Weight 50 lbs

Sweet Choice
This feed is formulated to be fed to beef cattle on pasture and adult maintenance horses

Guaranteed Analysis
Crude Protein Not less Than 12%
Crude fat not less than 2.5%
Crude Fiber Not More Than 20%
Calcium not less than .50%
Phosphorus not less than .35%
Copper not less than .35%
Zinc not less than 60 ppm
Selenium Not less than 0.1 ppm
Vitamin A not less than 2000IU/ lb

Ingredients
Cracked Corn, whole oats, soybean meal, wheat middlings, peanut hulls, rice mill by products, cane molasses, calcium carbonate, dicalcium phosphate, calcium iodate, calcium pantothenate, propionic acid (a mold inhibitor) animal fat stabilized with BHA (a preservative), deflourinated phosphate, ground limestone salt, sodium propionate, vitamin A supplement, vitamin D3 supplement, niacin choline chloride, vitamin E supplement, D-pantothenic acid, manganous oxide, magnesium oxide, copper oxide, cobalt carbonate, ferrous sulfate, zinc oxide and calcium iodate.

Manufactured By:
Net Weight

50 lbs

PIG GROWER

Guaranteed analysis

Crude protein not less than  16%
Crude fat not less than  2.5 %
Crude fiber not more than  4.5 %

Designed FOR SMALL PIGS

Ingredients

Soybean meal, poultry by product meal, wheat middlings, ground yellow corn, cane molasses, vitamin A supplement, D activated animal sterol. Vitamin B-12 supplement, riboflavin supplement, DL methionate, niacin supplement, biotin, L-lysine, chorine chloride, calcium pantothenate, dicalcium phosphate, calcium carbonate, salt, sodium selenite, ferrous carbonate, ferrous sulfate, manganous oxide, calcium iodate, copper sulfate, zinc oxide.

Directions: Feed as a sole ration from 40 to 100 pounds of body weight

Manufactured By
LEAN-VANTAGE I
MEDICATED HOG PELLETS
ACTIVE DRUG INGREDIENT:
CHLOROTETRACYCLINE
Increased rate of weight gain and improved feed efficiency

GUARANTEED ANALYSIS
CRUDE PROTEIN, (min) 20.00%
LYSINE, (min) 1.20%
CRUDE FAT, (min) 4.00%
CRUDE FIBER, (max) 6.00%
CALCIUM (Ca), (max) 0.90%
CALCIUM (Ca), (min) 0.70%
PHOSPHORUS (P), (min) 0.60%
SALT (NaCl), (max) 0.40%
SALT (NaCl), (min) 0.20%
SELENIUM (Se), (min) 0.30 ppm
ZINC (Zn), (min) 63 ppm

INGREDIENTS
Comm meal, Soybean Meal, Wheat Middlings, Salt, Calcium Carbonate, Monocalcium Phosphate, Dicalcium Phosphate, Magnesium Oxide, Sodium Selenite, Cobalt Sulfate, Copper Sulfate, Zinc Sulfate, Iron Sulfate, Iron Oxide (Coloring Agent), Manganese Oxide, Manganese Sulfate, Ethylene diamine Dihydrolcide, Calcium Iodate, Vitamin A Supplement, Vitamin D3 Supplement, Vitamin E Supplement, Riboflavin, D-Pantothenic Acid, Niacin, Choline Chloride, Vitamin B 12 Supplement, Thiamine Mononitrate, Folic Acid, D-Biotin, Pyridoxine Hydrochloride, Menadione Sodium Bisulfate Complex (Source of Vitamin K), Zinc Proteinate, Copper Proteinate, Manganese Proteinate, Cobalt Proteinate, L-Lysine Monohydrochloride, Yeast Culture, Stabilized Feed Fat, Cane Molasses, Natural & Artificial Flavors.

FEEDING DIRECTIONS:
Lean-Vantage I Hog Pellets can be fed free choice in a self feeder or by hand.
For additional feeding instructions, please see Feeding Table below.
Lean-Vantage I Feeding Rates

<table>
<thead>
<tr>
<th>CLASS OF PIG</th>
<th>lb/nd/da</th>
<th>% Body Wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-11 lb</td>
<td>Free Choice</td>
<td>Creep Feed</td>
</tr>
<tr>
<td>12-22 lb</td>
<td>1-2</td>
<td>8-10</td>
</tr>
<tr>
<td>23-45 lb</td>
<td>2-4</td>
<td>8-9</td>
</tr>
<tr>
<td>45-110 lb</td>
<td>4-7</td>
<td>5</td>
</tr>
<tr>
<td>110-240 lb</td>
<td>7-10</td>
<td>4-5</td>
</tr>
</tbody>
</table>

These feeding levels are approximations. For more detailed information, consult your local Lakeland Animal Nutrition Representative.

CAUTION: Store in a dry area away from insects and rodents. Do not feed moldy or insect-infested feed to animals.

Manufactured by LAKELAND ANIMAL NUTRITION, Lakeland, Florida
D. C. SWINE
GROWER + FINISHER PELLET

GUARANTEED ANALYSIS
CRUDE PROTEIN, (min) 15.00%
CRUDE FAT, (min) 3.00%
CRUDE FIBER, (min) 6.00%

INGREDIENTS:
Corn Meal, Soybean Meal, Wheat Middlings, Salt, Calcium Carbonate, Monocalcium Phosphate,
Dicalcium Phosphate, Magnesium Oxide, Sodium Selenite, Cobalt Sulfate, Copper Sulfate, Zinc
Sulfate, Iron Sulfate, Iron Oxide (Coloring Agent), Manganese Oxide, Manganese Sulfate, Ethylene
diamine Dihydriodide, Calcium Iodate, Vitamin A Supplement, Vitamin D3 Supplement, Vitamin E
Supplement, Riboflavin, D-Pantothenic Acid, Niacin, Choline Chloride, Vitamin B 12 Supplement,
Thiamine Mononitrate, Folic Acid, D-Biotin, Pyridoxine Hydrochloride, Menadione Sodium
BiSulfate Complex (Source of Vitamin K), Zinc Proteinate, Copper Proteinate, Manganese
Proteinate, Cobalt Proteinate, Cane Molasses.

FEEDING DIRECTIONS
• D.C Swine Grower Finisher Pellet can be fed free choice in a self feeder or by hand.
• Feed to condition desired.
CAUTION: Store in a dry area away from insects and rodents. Do not feed moldy or insect-infested
feed to animals.

Manufactured by LAKELAND ANIMAL NUTRITION, Lakeland, Florida
Your Target

- Market Hog
  - Live Weight = 240 to 280 pounds
  - Average Daily Gain = 1.7 to 2 pounds/day
  - Feed Conversion = 3 pounds feed: 1 pound gain
  - Days (age) to 250 pounds = 150 days
  - Display the phenotype (soundness, width, depth, length) to allow it to meet carcass and production goals

- A live hog yielding 50% fat free lean will have a:
  - Live weight 250 lbs
  - Back Fat 0.8”
  - Loin Eye area 5.5”

- Ideal Pork Carcass:
  - Weight = 175 – 205 pounds
  - Last Rib Fat = less than 1.0 inch
  - Tenth Rib Fat = .6 to .8 inch
  - Loin eye area = 6-8 inches
  - USDA Muscle Score = 2 or 3
  - USDA Grade = 1, Percent Fat-Free Lean > 50%

- Acceptable Quality
  - Ideal Pork Quality:
    - Color: Reddish-pink
    - Drip Loss: < 2.5%
    - Ultimate pH: 5.6 -6.2
    - Marbling: equivalent to 2.5 -4% intramuscular fat
### Four Lean Cuts, USDA Grade, Processed Products

**USDA Grade** predicts the level of trimmed yield of the four lean cuts (Ham, Loin, Boston Butt, and Picnic).

USDA Grade = (4 x LRF) – muscle score

**Example:**

Last Rib Fat (LRF) = 0.9  
Muscle score = 2  

\[ \text{USDA Grade} = (4 \times 0.9) - 2 \]
\[ = (3.6) - 2 = 1.6 \]

Note: anything less than a 2.0 (≤ 1.99, including negative numbers) is a “1”. Then 2.0-2.99 is “2” and 3.0-3.99 is “3”. The muscle scores in this equation are: thin = 1, average = 2, and thick = 3. Exceptions to this equation are that carcasses with thin muscling cannot grade U.S. No. 1 regardless of last rib fat (LRF) and carcasses with 1.75 inches or more of LRF cannot be graded as U.S. No. 3 regardless of muscling.

#### Processed Products

After the carcass is cut and parts weighed, both hams and bellies and all of the trimmings will be processed as outlined below:

- **2 Hams:** Either one or both hams will be partially deboned (with aitch bone and shank removed) and pumped with a pickling brine. Afterwards, they will be held at the Meats Lab and smoked, fully cooked and available for pickup within 3 weeks. (Check the program calendar for this date.)

- **2 Picnics:** Deboned and ground for sausage. Weight should be recorded prior to deboning as it is needed for calculating retail value later.

- **2 Bellies:** Both bellies will be pumped with brine and processed at the Meats Lab and will be available for pick up along with the hams. (Check the program calendar for this date.)

Bulk fresh sausage and smoked link sausage will be picked up with the hams and bellies.
Good Production Practices

- #1 – Identify and track all animals to which drugs were administered.
  - Identify medicated animals by:
    - Individual – Pen – Lot

- #2 – Maintain medication and treatment records
  - Date of treatment
  - Animal treated
  - Product used
  - Amount administered
  - Route of administration
  - Who gave the drug
  - Withdrawal time
  - Completed withdrawal date

- #3 – Properly store, label, and account for all drug products and medicated feeds.
  - Look at the Labels
    - All drug labels should contain this information
    - Warnings
    - Expirations Date
    - Precautions
    - Lot Number
    - Active Ingredients
    - Cautions
    - Dosage
    - Trade name
    - Application Method
  - Tips when using needles....
    - Disposable needles and syringes are sanitized and easy to use.
    - Clean reusable syringes and needles properly.
    - Always check for burrs on needles

- #4 – Extra Label, Off Label ... or Okay?
  - The label says to give 10cc of the drug; your veterinarian says give 20cc.
  - You decide on your own to use a drug for pneumonia to treat your pigs ringworm.
  - Your veterinarian suggests using a drug approved for chickens on your pig.
  - The label says treat your pig twice a day and you treat it at 8 am and 8 pm.
  - **Labeled Use:** Using the drug EXACTLY as it is specified on this label. Medicated feed may only be used as directed by the label. Labeled use is legal and the type of use most producers use!
  - **Extra Label:** The VETERINARIAN prescribes a drug to be used in a manner other than what’s on the label. This is legal and is used when a good veterinarian-client-patient relationship exists.
Off Label: The producer uses drugs on their own in a manner other than what is stated on the Label without veterinarian guidance. This is unlawful.

- Obtain and use veterinary prescription drugs:
  - through a licensed veterinarian
  - based on a valid veterinarian, client, patient relationship.

#5 – Educate the family about treating animals:
- Proper drug administration
  - In the muscle (Intramuscular - IM)
  - Apply just behind and below the ear but in front of the shoulder. NEVER inject in the ham or loin
  - Under the skin (subcutaneous – SUB Q)
    Inject only into clean, dry areas. Use the loose flaps of skin in the flank or behind the elbow
- Withdrawal times
  - hauling animals
  - selling animals

#6 – Residue Testing
- When selling sows directly from farrowing house
- When animals receive extra label drug treatment
- When feeder pigs are sold as roaster pigs
- When exhibiting at stock shows and fairs

#7 – Establish an efficient and effective herd health management plan.

#8 – Provide proper swine care
- Quality water and feed to swine
- Good shelter
- Observe pigs for signs of illness
- Handle pigs calmly
- Load and transport pigs carefully to minimize stress

#9 – Follow appropriate on-farm procedures.
- Good housekeeping
  - Clean and safe equipment
  - Organized work areas
  - Labeling
- Record keeping

#10 – Complete Youth Pork Quality Assurance Every Two Years
- keep up to date with new industry practices
- make sure GPP’s are being followed
- be confident you are producing quality hogs and pork.
Backyard Pig Pen

Self Feeder
$100.00

Water Nipple
$5.00
Drum Type Hog Feeder
Materials:

- 1 sheet of 1/2" CDX plywood
- 1 8ft 2x6 pressure treated

Dane Hamilton
Meat Merchandising Audit

- The goal of the audit is to gain knowledge of the types and quantities of meat products found in a retail store, grocery or meat market, and the types of meat items found on a restaurant’s menu.
- Complete your audits at a local grocery store or meat market, and a restaurant in your community.
- Before you visit ask the managers for permission to complete the audit.
  - Explain the purpose and objective of your visit.
  - In advance make an appointment to visit with the manager.
- While at the store or restaurant, be mindful to stay out of the way of customers by yielding to them.
  - Remember they are spending money and you are not.
- If you plan on taking pictures, ask for permission in advance.

RETAIL GROCERY OR MEAT MARKET

- **MEAT CASE AUDIT.** (Do not ask store employees these questions.)

1) What percent of the *fresh* meat case is beef, pork, poultry and lamb? (This does not include hams, bacon or smoked sausages)

   - Cases are in 2 ft increments and are either 8, 10, 12, or 16 ft long. Estimate the % of the case by species.
   - Example: If a 16 foot case has 4 feet taken up by pork then pork will be 25% of the case. In a multi-shelf case system the upper shelves have 1/4 the product display area as the lower shelf.

2) Of the fresh pork that is in the case determine what percentage is:
   - a) Boneless and bone-in cuts?
   - b) How much fat is left on the outside of the cut?
   - c) Enhanced (the addition of flavorings or other ingredients to improve eating quality)? Look at the label for the ingredients.

3) Further processed pork?
   - a) Give examples of types of hams that can be purchased?
   - b) What kind of ready to eat products (RTE) can be purchased? Ready to eat needs no preparation except heating. Give an example.
   - c) Select a package of bologna that contain pork. List the ingredients. The ingredients are listed in the order of predominance.
   - d) Find a brand of hot dog where pork is the predominant ingredient and one beef is the predominant ingredient. What are the brands and the price difference between the two?
e) What are the different styles of bacon that can be purchased? Not brands.
f) What varieties of smoked and cooked sausage can be purchased? Do they all contain pork? Why are other meats used?
g) Is pork sold in areas of the store other than the meat department? Where?

- INTERVIEW THE MEAT MARKET MANAGER.

4) Ask the following questions:
   a) What are the demographics of the customers? (Economic level, culture, ethnic etc.) Has it changed in recent year or within a year?
   b) How does the season of the year impact pork sales? What items are affected?
   c) In recent years has there been changes in the quality of pork you purchase?
   d) Are you selling more boneless cuts than 5 years ago?
   e) Are you selling more ready to eat pork products now than 5 years ago?
   f) Describe all food safety measures and cleaning procedures.

- FOOD SERVICE AUDIT (RESTAURANT).

1) From the Menu
   a) What percent of menu is devoted to pork items? Count the meat entrées and divided the total into the pork entrées.
   b) List types of pork cuts on menu?
   c) What is the most expensive pork entrée and its cost?
   d) What is the most expensive non pork meat entrée and its cost?
   e) What is the least expensive meat entrée and its cost?

2) Ask the manager:
   a) What percentage of sales is pork?
   b) Have new pork menu items been added in the last year?
   c) Do you purchase enhanced pork products?
   d) Do you purchase pre-cooked or “heat and serve” pork items?
   e) What fresh pork cuts do you purchase? Are there specifications the supplier must meet?
   f) What cured and smoked pork items do you purchase?
   g) Do you offer customers a choice of degree of doneness of pork items? Why or why not?
   h) What does the industry need to do to encourage you to add more pork items?
   i) What food safety and sanitation are implemented?
Keeping Records

- **INVENTORY**
  - List all items that you had on hand at the time the project started. If items purchased during the project they should only be listed in the closing inventory.
  - If you have expendable items (such as medication and feed) in the beginning inventory, the ending inventory will not be a result of a standard 10% reduction, but on the quantity used.
    - Example: had 45 cc of Ivomec on hand. You used 10 cc during the project resulting in an ending inventory of 35 cc
  - If more than 1 animal is using the same inventory then the values should be divided by the number of animals.
    - Example: Pen cost $100 and there where 3 pigs in the pen. The beginning inventory will be $33.33 for each pig. The closing inventory will be $(100 – (100 x 10%))/3 = $30 for each pig.

- **RATION RECORD**
  - Make a new entry each time you increase feed per day and/or change feed. If you are using a self feeder, estimate the amount of feed per day. For example if you put 18 pounds of feed in you feeder every third day then the pig’s daily consumption would be 6 pounds each day. If you had 2 pigs eating out of the same feeder then the daily consumption would be 3 pounds per day. With a self feeder you should estimate daily consumption on a weekly basis. This ensures you are maintaining enough feed and that the feed is fresh.

- **FEED EXPENSE**
  - Denote the date the feed was purchased, the brand, and type of feed purchased. Also enter the amount you paid per pound, quantity, and the total dollars spent. The pounds purchased should be close to the pounds fed in the Ration Record chart. Any feed left over can be accounted for in closing inventory and will not be subject to a 10% deduction. This chart is for only one animal. If more than 1 animal was fed together then divide by the total number of animals.

- **HEALTH RECORD**
  - All treatments given will be recorded in the chart. If the animal was vaccinated prior to purchase this too must be recorded. If you pig does not perform well, you can have a record that might help you to prevent the same thing from happening in future projects.

- **HEALTH EXPENSE**
  - Any medication or parasite control you purchase should be entered. If you have medication remaining at the end of the project then you can put it in the ending inventory and it will not be subject to a 10% deduction. If some vaccination and parasite control where included in the price of the pig, so denote.
OTHER PRODUCTION EXPENSES
- This chart will record all expenses except for feed and medications. For example if you purchased a garden hose or scrub brush then the quantity and price of these items will be recorded. These should be listed in ending inventory with the usual 10% deduction applied. The cost of the pig and program entry fees are recorded in this chart.

TOTAL PRODUCTION EXPENSES
- Feed Cost + Medication + Other Production Summary

WEIGHT RECORD

PRODUCTION SUMMARY
- Feed conversion is the amount of feed required for the pig to gain one pound of live weight. This can be determined by taking the total pounds gained during the feeding project and dividing it by the total pounds of feed consumed. For example, the pig gained 170 pounds and it consumed 550 pounds of feed.
  \[ \frac{550}{170} = 3.23 \text{ pounds of feed required per each pound of gain} \]
- Feed cost per pound of gain is the amount of money spent on feed divided by the pounds of gain the pig obtained during the project. The cost of feed for the above example was $200 and the pig gained 170 pounds.
  \[ \frac{200}{170} = \$1.18 \text{ is the cost to put on each pound of live weight the pig gained.} \]
- Pig’s gain per day of age can be determined by knowing the pig’s birth date and calculating the number of days until harvest. You would then divide the age into the live weight of the pigs at the time of harvest. For example, the pig was born on January 1 and was slaughtered on June 20. This is 175 days. Live weight is 280 pounds.
  \[ \frac{280}{175} = 1.6 \text{ pounds that the pig gained for every day he was alive.} \]

CARCASS INFORMATION

MEAT VALUE
- From pricing sheet and weight sheet

CARCASS QUESTIONS

PROJECT SUMMARY

PICTURE
- Need to tell the story. Keep it between 4 and 8 pictures, on only the 2 pages.

STORY
- How you got interested.
- What 3 specific things did you learn?
- What could you do to enhance your learning in a future project?
- Should be hand-written by 4-H’er or typed by 4-H’er.
# How Carcass Scores Are Calculated

Starting Carcass Score = 100%

Score Adjustments:  (Value) = points added or subtracted  (Par) = target values, no points added or subtracted.

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<th>Weight &amp; Composition</th>
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<td>(Par)</td>
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<td>(Par)</td>
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<td>10th rib fat depth, in., range for par</td>
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<td>0.50 – 1.20</td>
<td>0.50 – 1.20</td>
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<td>-Every 0.10 more than maximum (-20)</td>
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<td>6.00</td>
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<td>-Maximum 10th rib loin muscle area, in²</td>
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<td>8.50</td>
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<td>used to calculate Pounds of Fat-Free Lean</td>
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<td>2.5 – 2.99</td>
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<td>34 – 36.99</td>
<td>37 – 45.99</td>
<td>46 – 48.99</td>
<td>49 – 55</td>
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<td>2.0 – 3.0</td>
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<td>4.0 – 4.9</td>
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<td>(+4)</td>
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</table>
Calculating Carcass Data

- **Percent Lean**

\[
\begin{align*}
8.588 & - 21.896 \times 10^{\text{th}} \text{ rib fat depth, in.} \\
+ & 3.005 \times 10^{\text{th}} \text{ rib loin muscle area, in}^2 \\
+ & (\text{Remember some may have to use a maximum 10\textsuperscript{th} rib loin muscle area}) \\
+ & 0.465 \times \text{hot carcass wt., lbs.}
\end{align*}
\]

= Percent Lean

Hot carcass wt., lbs

- **Final Carcass Score**

Final Carcass Score = Percent Lean (above) * Adjusted Score (from chart)

This Final Carcass Score is what is used for the carcass portion of the overall Hog & Ham program scoring. The highest Final Carcass Score is the Carcass portion winner.

- **Lean Gain Per Day On Test Winner (LGPDOT)**

\[
\begin{align*}
\text{LGPDOT} = \frac{((\text{Pounds of Fat-Free Lean at Ending Wt}) - (\text{Pounds of Fat-Free Lean in Feeder Pig}))}{(\text{Days on Test})}
\end{align*}
\]

\[
\begin{align*}
8.588 & - 21.896 \times 10^{\text{th}} \text{ rib fat depth, in.} \\
+ & 3.005 \times 10^{\text{th}} \text{ rib loin muscle area, in}^2 \\
+ & 0.465 \times \text{hot carcass wt., lbs.}
\end{align*}
\]

- **Quality Lean Gain Per Day On Test Winner (QLGPDOT)**

\[
\begin{align*}
= \frac{(((\text{Pounds of Fat-Free Lean at Ending Wt}) \cdot (\text{Adj. Score})) - (\text{Pounds of Fat-Free Lean in Feeder Pig}))}{(\text{Days on Test})}
\end{align*}
\]

\[
\begin{align*}
\left(\frac{\text{Pounds of Fat-Free Lean in Feeder Pig}}{(\text{same as above})}\right) \times \left(\frac{\text{Adjusted Carcass Score}}{(\text{from table})}\right) - (0.418 \times \text{live wt., lbs} - 3.650)
\end{align*}
\]

(Days on Test)