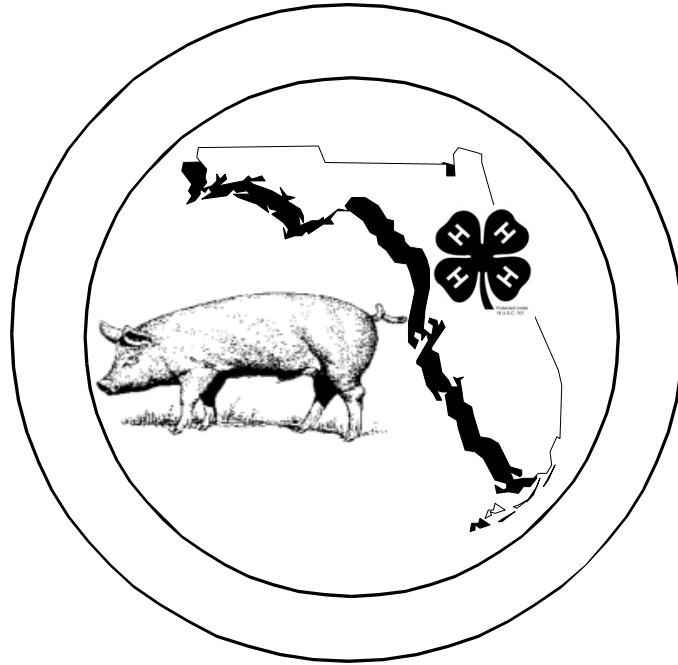


4-H HOG AND HAM PROJECT BOOK



Name _____ Date of Birth _____

Address _____

Grade in School _____ Name of School _____

Years in 4-H _____ This is my _____ year in the Hog & Ham Project

Name of Local Club _____

Parent or Guardian _____

Local 4-H Leader _____

Signature of County Extension Agent _____

County _____

About the Program . . .

The Florida 4-H Hog and Ham Program is a statewide 4-H program. A maximum of 30 4-H members with one hog each can be enrolled each year. Enrollment per county will be determined by the number of counties participating. The county Extension 4-H and Livestock Agents select the 4-H members who will participate. With assistance from the county Extension Agents, the participants will select and acquire pigs for this project. Records are maintained by the 4-H members from the time of pig selection until the program is completed. The 4-H demonstration/illustrated talk and awards presentation complete the program.

The 4-H member keeps the following information on the project: live weight, age of pig, feed records, carcass weight, carcass information, processing information, meat curing, and an audit of retail and food service pork products. A registration fee is required to offset the costs associated with the program.

Adapted from 4-H Swine Record Book I (4H344) and Florida 4-H Hog & Ham Program (4H384) with contributions from University of Florida faculty and staff:

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SELECTION

Either a gilt or barrow may be selected as a potential feeder pig for the Hog & Ham project. Try to select pigs that have the ability to grow rapidly, convert feed efficiently, and produce a desirable carcass at the end of the feeding period. To accomplish this goal, look for a healthy, large framed, thick, meaty pig with good length and depth of body. The pig should be trim in the jowl and underline areas, have good spring of rib, and have thick muscling in the ham and loin. Bulging hams that are deep from rump to hock with wide, muscular tops are desirable. Purchase pigs from a reputable breeder with production records indicating the desired level of performance and good herd health.

Weight

The approximate weight of a pig to be selected or purchased for this project is determined by when the animal will be harvested. The first requirement is to count the number of days until the harvest date. Use the following table as a guide when purchasing an animal or selecting one from your herd (chart uses an average daily gain of 1.8 lbs/day). For the most efficient gains, pigs should be harvested between 240 and 280 pounds, with a target weight of 260.

Pig's Weight, Lb.	50	60	70	80	90	100	110	120	130
Approx. Days Required To 260 lbs.	117	111	106	100	94	89	83	78	72

Age

The approximate age of animals reaching their desired weight is usually between 5 and 6 months of age. Pigs that have the ability to make the desired weight at 5½ months or less are preferred.

FEED and MANAGEMENT

If you buy a pig or select one from your herd, have a concrete or slatted floor pen at least 15 square feet per pig available. Fifty square feet per pig works best when a pig is housed on dirt. Allow at least 8 square feet of shade and locate the pen downwind from your home on well drained soil or have a confined concrete area available. You may want to grow out two pigs as they usually perform better with a pen-mate. Answers to some general questions often asked by 4-H club members are as follows:

Q: How much does a project pig cost?

A: Price depends on supply and demand of feeder pigs. The following is a guide for the purchase of feeder pigs. Purchasing pigs from a breeder or show pigs will be more expensive.

Pig Weight x Factor x No.1 Market Price

40 lb.	2.05
50 lb.	1.85
60 lb.	1.70
70 lb.	1.55
80 lb.	1.45
≥90 lb.	1.30

Example: 50 lb. x 1.85 x \$0.50/lb. for No.1 market hog = \$46.25 (Approximate feeder pig cost.)

Q: How much should I feed my pig? How much should it gain?

A:	<u>Pig Weight</u>	<u>Lb./Day*</u>	<u>Rate of gain</u>
	40-100 lb.	2.5-4.0	1.5 lb./day
	100-160 lb.	4.0-6.0	1.75 lb./day
	160-260 lb.	6.0-8.0	2.0 lb./day

*Start with smaller amount and increase as animal gets larger.

Q: What level of protein should I feed my pig?

A:	<u>Pig Weight</u>	<u>Protein</u>	<u>Lysine (%)</u>
	40-100 lb.	18%	1.10
	100-160 lb.	16%	.85
	160-260 lb.	14%	.70

Q: When should pigs be de-wormed?

A: Within one week after arrival at your place and every 5 weeks thereafter.

Q: What should I use to deworm pigs?

A: Ivomec upon arrival followed by any available feed grade dewormer. (ie Atgard Tramisol)

Q: What should I use for external parasite control (lice and mange mites)?

A: 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 requirement.

COMPONENTS OF THE PROJECT

Harvesting

Individuals will work with their county Extension Agents to arrange transportation to the meat laboratory on the designated slaughter date. Each 4-H member harvests his/her hog under close supervision of the meat laboratory staff.

The following information is recorded by UF staff: carcass weight, last rib backfat, muscle score, tenth rib backfat, and loin eye area. Live weight is then calculated by dividing carcass weight by 0.72 (i.e. 180 lbs carcass weight \div 0.72 = 250 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

You should keep records in this project book. Keep all receipts and enter information as outlined in this book. Ask your leader or parents for help if needed. Completed production records and copies of hand written thank you notes to the sponsors should be given to your County Extension Agent before the due date. You should mail the original thank you notes after copies are made. Do not put individual record book pages in sleeves.

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 cash 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.

Economics

This 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.*"

4-H Hog and Ham Project Processing Procedures

Products

- A. 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 with your County Extension Agent for this date.)
 - 2 Picnics: Deboned and ground for sausage. Remember to record the weight prior to deboning. You need this number 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 with your County Extension Agent for this date.)
- B. Bulk fresh sausage and smoked link sausage will be picked up with the hams and bellies.

Rapid Curing Procedures - Hams

DESIRED IN FINAL PRODUCT, BASED ON 15% PUMP

Salt	-	1.5%
Sugar	-	0.75%
Nitrite	-	156 ppm
Erythorbate	-	550 ppm
Phosphate	-	0.25%

BRINE FORMULATION: Per 10 lb. of Brine (Need approximately 2.7 lb. per ham)

Salt	-	1.33 lb. (605.3g)
Sugar	-	0.50 lb. (227g)
Prague Powder	-	0.1664 lb. (75.5g)
Erythorbate	-	0.037 lb. (16.6g)
Phosphate	-	0.167 lb. (75.7g)
Liquid Smoke		
Aro Smoke P-50	-	0.08 lb. (36g)
Water/Ice	-	7.72 lb.

BRINE PREPARATION: This will be done by Meat Lab personnel.

- First - add 30-40% of the total weight of required water.
- Second - add phosphates where required and dissolve by mixing with stainless paddles or 3 blade propeller electric motor.
- Third - add remaining water or ice to bring pickle to a temperature below 50° F and add salt or brine.
- Fourth - add sweeteners (cane sugar or dextrose) and completely dissolve.
- Fifth - add premixed cure or individual amount of nitrite and erythorbate. Continue agitating pickle until all ingredients are completely dissolved.

PROCEDURE:

1. Pump hams and bellies to 20% level (Green weight x 1.2)
2. Hold overnight.
3. Smoke and cook

Hams: 155° F

Bellies: 144° F

RECORDS

A very important part of the project is keeping track of what you are doing: how much your pig is gaining, money you are spending, and how much you are earning. This booklet contains tables for you to keep the necessary records for the project. You will keep records on your feed & equipment inventory, money spent and earned, ration changes, weight gained, health care, and carcass evaluation data.

Inventory (Record 1)

This record tells what you start with and what you have at the end of the project. Record the prices paid (or the estimated value) for equipment and feed on hand at the beginning of the project. For the closing inventory, be sure to account for depreciation of your equipment (use a standard 10%). Last year's closing inventory is this year's opening inventory. This year's closing inventory will be the opening inventory for next year's project.

Inventory Description	Beginning			Closing			
	Number	Value Each	Total Value	Number	Value Each	Total Value	
<i>(Ex.) Pig Self Feeder</i>	<i>1</i>	<i>\$100.00</i>	<i>\$100.00</i>	<i>1</i>	<i>\$90.00</i>	<i>\$90.00</i>	
Total Beginning Inventory				Total Closing Inventory			

Include equipment, feed, etc. on hand at the beginning and end (minus depreciation) of the project.

Ration (Record 2)

Make a new entry each time you feed and/or change feeds. (If using a self-feeder, estimate the amount of feed per day.) Ex. 50 lb. bag/5 days/2 pigs = 5 lb./day/pig

Dates	Feed Type *Attach feed tag in records	Lbs./ day	Total Days	Total Feed
Was your pig fed individually? _____			Totals	

If no, how many pigs were with him? _____

Feed Expenses (Record 3)

Purchase Date	Description	\$\$/pound	Total pounds	Total \$\$
			Totals	

Health (Record 4) Preventative (vaccinations, parasite control, etc.) and Treatments.

Date	Product	Description and Treatment	By Whom

Health Expenses (Record 5) Vet bills, medication, parasite control products, etc.

Description	\$\$ Paid
Total	

Other Production Expenses (Record 6) Pig, equipment, etc.

Description	\$\$ Paid
Harvesting & Processing	\$65.00
Total	

TOTAL PRODUCTION EXPENSES _____ (Feed + health + other)

Weight (Record 7)

Beginning		End of Project				
Date	Weight	Date	Weight	Total Gain	Days on Feed	ADG*

*ADG (Average Daily Gain) = total gain divided by days on feed.

PRODUCTION SUMMARY

Total weight gain _____
(From weight record)

Total pounds of feed consumed _____
(From ration record)

Feed conversion (gain per pound feed) _____
(total gain ÷ feed consumed)

Total feed costs _____
(From feed expenses)

Feed cost per pound gain _____
(Total feed cost ÷ gain)

Pig's gain per day of age _____
(total gain ÷ days of age)
Days of age can be obtained from
the birth date and calculating
back from the day of harvest

Carcass Information (Record 8)

Trait		Trait	
Live Weight, lbs		Last Rib Fat, in.	
Hot Carcass Wt., lbs		USDA Muscle Score	
Dressing Percent, %		USDA Grade	
Loin Eye Area, in ²		Percent Lean, % (fat free index)	
Tenth Rib Fat, in.			

Meat Value (Record 9)

*See pricing sheet provided by UF

Hog # _____

CUT OUT	Weight	Retail Value*	Total Value
Hams			
Loins			
Boston Butts			
Picnics			
Bellies (bacon)			
Spareribs			
Neckbones			
Feet			
Trim			
Fat			

Carcass Questions: Utilize the Hog & Ham Manual

1. How does your carcass vary from the ideal pork carcass?
2. What might you have done different to improve your pork carcass?
3. How does your carcass quality compare to desired pork carcass quality?

PROJECT SUMMARY (Show Work)

Change in Inventory value _____
(Closing inventory - beginning inventory)

Production profit/loss _____
(Meat value – Total production expenses + change in Inventory value)

Project Profit/Loss _____
[Production profit/loss + (Non-production receipts - Non-production expenses)]

If you incurred a production loss, explain why? What could you do different to show a production profit with future projects?

SHOW YOUR WORK for the following questions.

1. What was the live animal value at the end of the project? (Live wt. x Live \$/lb)
2. What is the total wholesale value of the carcass?
(Carcass wt. x Carcass \$/lb, refer to the pricing grid to find your \$/lb)
3. What is the retail value of the cut-up carcass? (Sum of cut-out sheet)
4. What is the percent yield of the 4 lean cuts?
[(Ham + Loin + Boston Butt + Picnic) / Hot carcass wt.] x 100 = % yield

PICTURES

*(Include explanations. Please limit to this page.
Prints, print-outs, attaching digital collage, etc. are all acceptable.)*

Participant

Hog Number

Hog & Ham Project Book

SCORE SHEET

Cost Analysis Sheet.....	5	_____
Project Progress Report.....	5	_____
Inventory	10	_____
Expenses (Feed, health, other)	10	_____
Production Records (Ration, Weight).....	10	_____
Health Record.....	10	_____
Receipts (Meat value, other)	5	_____
Carcass Information/Questions	10	_____
Project Summary	10	_____
Pictures	5	_____
Story	10	_____
Organization, neatness, overall appearance	10	_____
TOTAL.....	100	_____



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