

Swine Production on a Small Scale ¹

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This publication is designed for the small producer. It contains general information on care, feeding and marketing of feeder pigs, sows and litters. Answers to specific questions can be obtained from your county agent.

Facilities

First of all, check the zoning regulations for your land. Also, you should make sure that your neighbors will not be bothered by odors. Two or more well-drained acres serve as a buffer and provide space for manure disposal. See Figure 1.

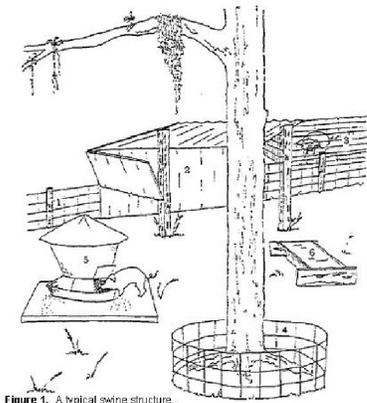


Figure 1. A typical swine structure.

Figure 1.

In planning for your swine keeping equipment and structures, keep the following points in mind.

1. The fence must be hog-proof. 36" woven wire, with a strand of barbed wire below it one inch above the ground and one inch below the woven wire is recommended.
2. For shelter, an open-fronted shed with plywood hinged sides is fine for Florida.
3. Fifteen square feet of shade area is needed for each animal.
 - For preventing the possible spread of contagious diseases, an isolation area for new animals is desirable.
4. Fence off an area with a four-foot radius around trees to keep the animals from damaging them.
5. A covered self-feeder on a wood or concrete platform is desirable and aids sanitation.
6. Provide fresh water at a rate of one to three gallons per animal per day or six gallons per day for a sow and her litter.

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 2. Kenneth L. Durrance, Extension Swine Specialist, and Cynthia A. Maxson, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611. Use of trade names in this publication is intended for illustrative purposes only and does not constitute endorsement of the products.

- Make sure the watering trough will not double as a wallow.

Disease and Parasites

Buy from a reputable producer and inquire about the health status of the pigs before you buy. Healthy feeders are more efficient and healthy stock is vital to a breeding program.

Find out what diseases are prevalent in your area and arrange for vaccination and treatment if necessary. Internal parasites are a constant problem, and animals should be dewormed within two weeks after they arrive on your property and then again about three weeks later. Repeat thereafter as often as necessary. Consider working with your veterinarian on diagnosis and treatment of parasites and work out a health program for the entire herd. Table 1 lists the available deworming products and Table 2 the sprays and dips that work well against lice and mange mites. Foot dip also helps prevent the spread of disease to your farm - provide it for all visitors.

Finishing Feeders

Growing hogs (40 to 120 pounds) should be provided with a self-feeder containing a complete feed, or corn mixed with a supplement. In either case, 16 percent protein with the vitamins and minerals listed in Table 5 is recommended.

Antibiotics are of little value after the pigs reach 120 lbs. At that point, switch to a 14 percent protein ration. Tables 5 through 8 contain information for computing rations and amounts of feed required per year. See Table 7 and Table 8 at the end of the document.

Hogs are ready for market around 220 lbs. (210-230). Some people slaughter hogs on the farm for their own use (see References), but most people now send them to a custom slaughter plant. Check with the Cooperative Extension Service in your county for details on both methods. To sell your animals, check with the local auction market, packing plant or buying station (where available).

Table 6. Use the following figures to estimate the total amount of feed required to feed your animals.

Liveweight (lbs)	Feed (lbs)	Days Required	Gain per day (lbs)
15-40	42.5	32	1.1
40-120	208	53	1.5
120-220	360	55	1.8
Non-lactating sow*	1180	295	
Lactating sow*	840	70	

*Based on two litters per sow per year, a five week weaning, 12 lbs. a day during lactation, four lbs. the rest of the year. If you sell the sow after weaning, take that into account.

Raising a Litter

Two alternatives when raising a litter are:

1. Purchase a bred gilt (she may cost more, but buying and keeping a boar can be more expensive);
2. Purchase a gilt and boar and start your own breeding program.

Spring is the best time for farrowing; the weather is mild and extra shelter is not needed beyond that previously mentioned. However, individual houses such as A-frame huts provide more protection to baby pigs, not only from the elements but their dams as well. Huts also serve to discourage buzzards and other varmints.

Care of the Sow

A sow should be fed about four pounds daily of a 14-16% protein feed during gestation, depending on her condition (Figure 2). Three weeks before farrowing, increase the amount to approximately six pounds but withhold feed the day she farrows. If constipation is a problem, add epsom salts, bran or oats to her feed. Gradually increase the sow's feed after farrowing to about 12 pounds per day. Use common sense: if she is getting fat, cut back; if too thin, feed more of the same feed - do not change the protein content. (Table 3)

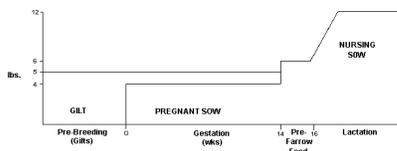


Figure 2. Scale for sow care.

Figure 2.

After weaning there are several advantages to selling the sow immediately (within three weeks):

1. You avoid the trouble and expense of acquiring a boar for rebreeding;
2. The price of a cull sow is usually enough to buy a bred gilt;
3. If you raised the gilt, and she is a year old, only 40% of the proceeds are taxed under the capital gains provision;
4. There is a three month break between selling the litter as finished hogs and buying another bred gilt to farrow the following spring. Keeping hogs off the land during this time cuts down the likelihood of disease and parasites. It also gives you a break.

Table 3. Breeding Facts and Figures.

Estrus	1-5 days
Heat Period	18-22 days
Gestation	114 days
Breeding age-gilts	7-8 mos.
-boars	7-8 mos.
Breeding weight-gilts	220 lbs.

There are some disadvantages:

1. Gilts tend to have smaller litters, and lack the immunity sows have had time to build;
2. Your feed bill is usually higher since the gilt is still growing and requires more feed;
3. The capital gains provision does not apply if you did not raise the gilt and you can depreciate a sow:

4. You may be able to lower fixed costs by farrowing more than once a year.

If you plan to sell the sow, keep her at least one week, because a wet sow is usually docked. In addition, for the first couple of weeks after weaning, a sow has very good feed conversion rate. After that, however, you will start losing money by keeping her.

If the sow is kept, withhold feed one day prior to weaning to stop milk production. After weaning, breed back on the first heat cycle (3-8 days after weaning), preferably mating her twice, 12 to 24 hours apart. If she is too thin, delay breeding until the second estrus. Cut feed to four pounds a day right after breeding, in the first case; if you wait until the second heat, cut to four pounds at weaning. You may also want to investigate the possibility of using AI (artificial insemination) instead of buying or leasing a boar. Check the Reference section.

Care of Baby Pigs

It is vital that pigs nurse soon after birth since colostrum gives them some protection against infection the first few weeks. (Table 4) Fact sheet AS-17, "Baby Pig Management Practices" contains drawings showing how to do each procedure. Iron shots are not necessary if the litter is farrowed outside (on pasture or dirt), but are recommended as insurance. Give the shots intramuscularly in the neck - AS-17 tells how.

Table 4. Post Farrowing Checklist

Soon after birth:	Tie off and clip the navel cord. Clip the eight needle teeth. Treat with TBZ if threadworms are a problem.
Day 1:	Dock the tails. Identify the litters.
Day 3:	Castrate the males. Give iron shots.

Prestarter feed with added edible iron and TBZ powder may be offered in a shallow pan when pigs are seven to ten days old. Place it where the sow cannot get to it; plans for building a creep feeder are available from Florida Plan Service. The address is listed under References at the end of this publication.

At weaning, (three to six weeks old, weighing at least 12 pounds), pigs can be fed an 18% CP starter. One hundred to 250 grams (3.5-7.5 oz.) of antibiotics per ton of feed can be added to give pigs a good start, but do not abuse the use. Consult the Drug Withdrawal Guide, available through the Extension service, because the FDA is getting stricter about residues. At 60 pounds pigs can be treated as described under Finishing Feeders.

To improve profits, concentrate on saving as many pigs as possible from birth to market. If you want to sell the litter as feeders (40-60 pounds) ask your county agent for the schedule of feeder pig sales in your area. Make sure pigs are weaned, vaccinated and dewormed, and the males castrated. Pigs with docked tails also may have an advantage. Buyers are looking for the same thing you are: thrifty, growthy, alert pigs they can feed for a profit. If you build a reputation for having good pigs, when you decide to expand, your market will already be developed.

Care of the Boar

Provide separate 1/4-acre pens for each boar. Shade requirements are the same as those for finishing hogs. Except during the breeding season, feed about five pounds a day of the sow ration. During the breeding season, increase the amount to six to eight pounds. Follow a vaccination and deworming program, and provide fence line contact between the sows and boar a few weeks before breeding. As your herd expands, consider keeping at least one extra boar in case something happens to the herd sire.

Pearson's Square

Depending on the amount of protein your pig needs, the ratio of corn to high-protein supplement or soybean meal will vary. One way to decide just how much corn and supplement must be mixed to make the resulting feed have the right percentage of protein is to use Pearson's Square, which is explained in the steps in Table 6.

In this example 70% corn and 30% supplement is needed to make an 18% protein feed. On a per ton basis, 1400 pounds of corn is mixed with 600 pounds

of the supplement to make a ton of complete feed. The corn and supplement can also be fed separately.

Glossary

AI - artificial insemination.

Barrow- male pig castrated before reaching sexual maturity.

Boar- male hog or pig with intact testicles.

Castrate- remove testicles by surgery.

Colostrum- first milk produced by the sow; it provides immunity to the baby pigs for the first few weeks.

Creep feeder- area accessible to small pigs but not their dams, in which a high protein supplement is provided.

Cull sow- full-grown female sold for slaughter.

Dressing percent- percentage of the carcass usable, compared to liveweight.

Farrow- to give birth to pigs.

Flush feed- increase feed to stimulate ovulation in females.

Full-(self)-feed- animals are allowed to eat as much as they will clean up; feed is available at all times.

Gestation period- pregnancy, lasting about 114 days in swine.

Gilt- young female that has not yet produced a litter.

Growing-finishing pig- animal weighing between 40 and 220 lbs. that is being fed for slaughter.

Runt- small or weak pig in a litter.

Shrink- weight loss, usually temporary. **Sow**- female which has farrowed at least once.

Wallow- water-filled depression or container large enough for pigs to lay in to cool off during warm weather.

Weaning- removing young from their mother.

Yield- percentage of the carcass in the four lean cuts: ham, loin, picnic and Boston butt.

References

Books

Swine Production in Temperate and Tropical Environments, Pond and Mayer

Swine Science, Ensminger

Bulletins

Artificial Insemination of Swine, Lewis and Woodward, NC State

Farmer's Tax Guide, Internal Revenue Service

Florida Swine Production Guide II, Florida Extension Service

Internal Parasitism of Swine, VM-5 Vet Med Fact Sheet

Pork Slaughtering, Cutting, Preserving and Cooking on the Farm, USDA Farmers' Bulletin 2265

Summary of Insecticide Registrations for Swine, UF Entomology Department

Swine Production in Florida, UF Animal Science Department

Magazines

National Hog Farmer

1999 Shepard Road

St. Paul, Minn. 55116

Other useful addresses

Extension Swine Specialist

Animal Science Extension

402 Rolfs Hall

University of Florida

Gainesville, Florida 32612

Purdue Extension Service*

CES Mailing Room

AGAD Building

Purdue University

West Lafayette, Ind. 47907

Hog Farm Management

P.O. Box 67

Minneapolis, Minn. 55440

Florida Plan Service

Extension Agricultural Engineer

101 Frazier Rogers Hall

University of Florida

Gainesville, Florida 32612

USDA Agricultural Research Service

Hyattsville, Md. 20782

International Boar Semen

P.O. Box 538

Eldora, Iowa 50627

800-247-7877

Recognition is due to the University of California for some of the terms taken from *Raising Pigs*.

*The basis of the Corn to Supplement Ratios table came from the *Pork Industry Handbook*, available from Purdue for \$15.00. The address is given above.

Table 1. Dewormers for control of Internal Parasites of Swine.

Dewormer	Round Worms	Nodular Worms	Whip Worms	Lung Worms	Thread Worms	Kidney Worms
Dichlorvos (Atgard)	X	X	X		O	
Hygromycin (Hygromix)	X	X	X			
Levamisole (Tramisol)	X	X	O	X	O	X
Piperazine	X	O				
Pyrantel (Banminth)	X	X				
Thiabendazole					X	

X= up to 100% control, O= up to 50% control

Table 2. Insecticides for Control of External Parasites of Swine.

Insecticide	Fleas	Horn Flies	Lice	Mange Mites	Stable Flies	Ticks
Coumaphos (Co-Ral)		S (0)	S (0), D (0)		S (0)	S (0)
Crotoxyphos+Dichlorvos (Ciodrin+Vapona)		S (1)	S (1)			
Dioxathion (Delnav)			S (0)			
Fenthion (Tiguvon)			PO (14)			
Lindane			S (30)	S (30)		
Malathion			D (0), S (0)	S (0)		
Methoxychlor	S (0), DP(O), D (0)		S (0), D (0)			
Stirofos (Rabon)			S (0), D (0)			
Toxaphene*			S (28)	S (28)		

* Toxaphene is a restricted use pesticide. See your county agent for details. Numbers in parentheses indicate withdrawal times. S=Spray, D=Dust, DP=Dip, PO=Pour-on.

Table 5. Corn to Supplement Ratios

Ingredients	Protein Level					
	18 %		16 %		14 %	
	lbs/ton	lbs/cwt	lbs/ton	lbs/cwt	lbs/ton	lbs/cwt
Ground corn*	1455	73	1576	79	1697	87
42 % Supplement	545	27	424	21	303	15
Ground corn	1419	71	1540	77	1678	84
40 % Supplement	581	29	460	23	322	16
Ground corn	1379	69	1517	76	1655	83
38 % Supplement	621	31	483	24	345	17
Ground corn	1333	67	1481	74	1630	81.5
36 % Supplement	667	33	519	26	370	18.5
Ground corn	1276	64	1436	72	1598	80
34 % Supplement	724	36	564	28	402	20
Ground corn	1218	61	1391	70	1565	78
32 % Supplement	782	39	609	30	435	22

* Ground corn, shelled corn and grain sorghum are interchangeable at 8.5% protein.
 Refer to the Florida Swine Production Guide II (p. 18) for free-choice of shelled corn and supplement.
 Note: If .8 pound 40 % supplement is fed, plus free-choice shelled corn, protein requirements of 40 to 220 pound pigs will be met.