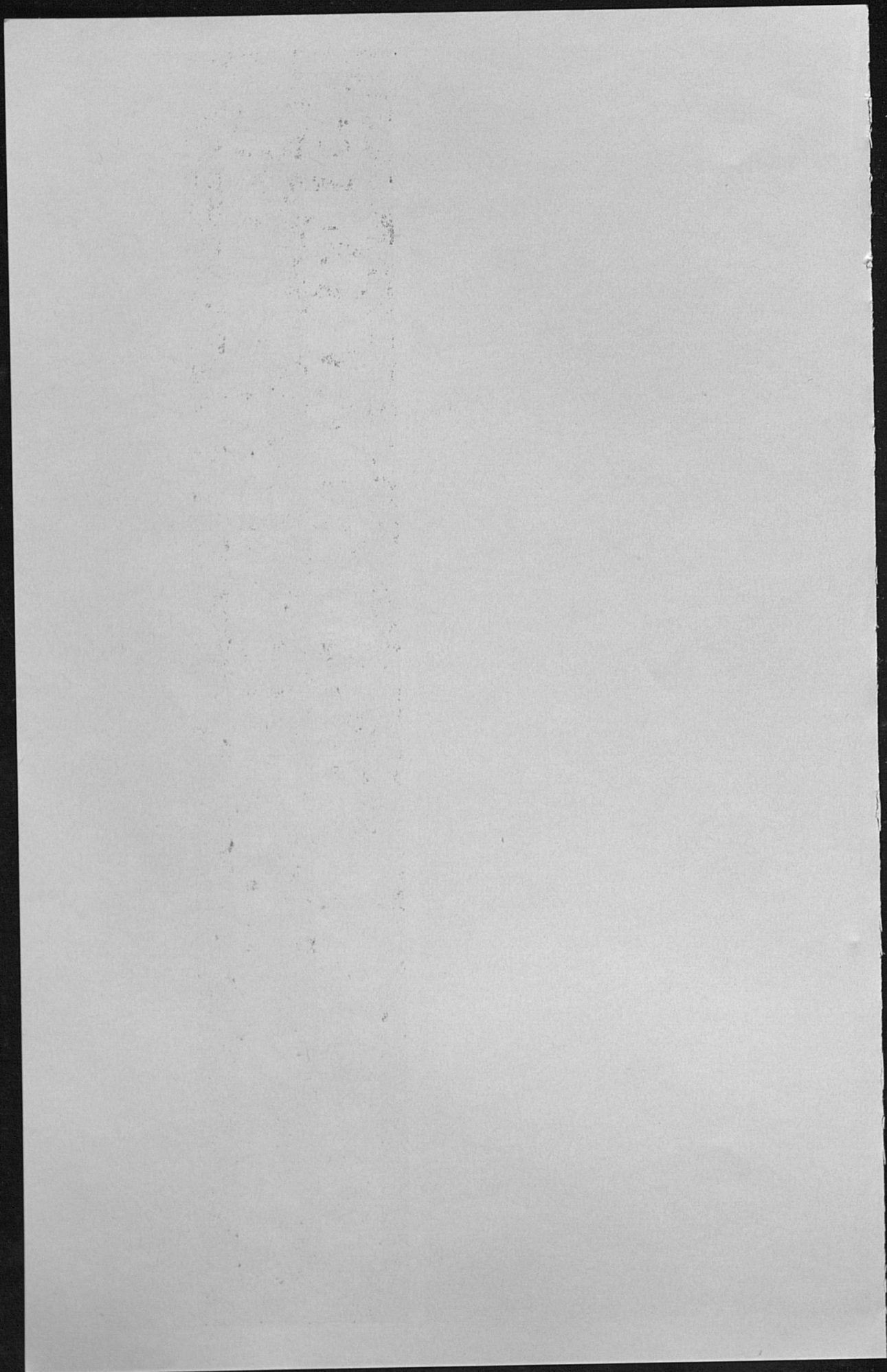


# **FEEDING and MANAGING the Swine Breeding Herd**

Circular — 598  
by John C. Robertson

**UNIVERSITY OF KENTUCKY**

COOPERATIVE EXTENSION SERVICE  
AGRICULTURE AND HOME ECONOMICS





# Feeding and Managing the Swine Breeding Herd

By JOHN C. ROBERTSON

How you select and care for your swine breeding herd affects your profit. Litter size is only 10-12 percent heritable and is mainly determined by your management ability. Management of the breeding herd to improve efficiency includes proper flushing of the sows, breeding, herd health, nutrition, and environment.

## FLUSHING THE SOW HERD

"Flushing" is feeding sows and gilts more about 10 days before breeding. Flushing will help to increase the sow's potential litter size.

About 1 week after breeding, put flushed animals back on a limited feeding program. This will prevent rapid weight gains which cause embryonic death losses. See the nutrition section for suggested rations and levels of feeding.

## BREEDING

The sow's litter size can be increased by flushing and breeding at the second heat period following weaning. However, your farrowing schedule should determine at which heat period to rebreed the sow. If you full feed lactating sows and do not wean pigs until they are 6 weeks old, litter size is not increased by delaying breeding to the second heat period. If you practice early weaning do not breed sows until the second or third heat period.

Keep weight gain down by feeding less after breeding.

Table 1 lists breeding information which can help you manage better.

Gilts will come in heat when about 6 months old. They will ovulate one to two more ova in the second heat period than the first and one to two more in the third heat period than the second. To insure maximum litter size breed at the third heat period. This will mean at an age of 7½-8 months of age for most breeds.

There is no successful method at the present time to bring gilts into heat at the same time. Weaning of nursing pigs will usually bring sows into heat in 3-8 days. Sows will then cycle every 18-21 days

**Table 1—Breeding Information**

Age to breed gilts	7½-8 months
Length of heat period	2-3 days
Best time to breed in heat period	2nd day
Number of services per sow	2 services at 12- to 24-hour intervals
Interval between heat periods	18-21 days
Heat occurs after weaning	3-8 days
Gestation period	114 days

until bred. By weaning nursing pigs of a given group of sows at different ages, you can be fairly successful in getting a group of sows bred together. The longer the nursing period, the shorter the time from weaning to a heat period.

Hand mating is recommended to make the best use of the boar and to get a record of breeding and farrowing dates. Breed near the middle of the heat period and breed a second time 12 to 24 hours later. Breeding twice improves the conception rate up to 18 percent and increases litter size about one pig.

When pasture breeding is followed, separate large groups of sows into 10- to 12-sow units. Rotate boars from one pen to another daily. In very hot weather run boars with sows only during the night.

### **Multiple Farrowing Breeding Schedules**

In multiple farrowing you divide sows into two or three groups. Breeding and farrowing are spread over four to six periods. This practice makes more efficient use of boars and farrowing facilities. Table 2 tells when to breed for four farrowings yearly, Table 3 for six farrowings yearly.

## **HEALTH**

Diseases are the biggest problems to overcome in producing large litters of healthy pigs. Gilts selected from large litters of thrifty pigs are less likely to be carrying disease organisms than gilts from poor litters. Blood-test all sows and gilts for brucellosis 3 weeks or more before the breeding season. Market all positive reactors immediately and retest for brucellosis every 21 days until the herd is clean. Leptosporosis is widespread in Kentucky, and a routine vaccination is advisable 2-3 weeks before breeding time.

Hog cholera is a very costly disease, and you should make routine vaccinations for it. Revaccinate the breeding herd every year but do not vaccinate for cholera during gestation. Young pigs are usually vaccinated 2 weeks before or 2 weeks after weaning. Erysipelas vac-



**Table 2—Multiple Farrowing Schedule For Two-Sow Herds Farrowing Twice a Year on an Every-third-month Basis.**

Sow Herd	Dates to Breed	Dates Due to Farrow	Weaning Dates	Dates Sows Are Rebred	Dates to Top Out for Market	Marketing Completed
1	Sept. 9-29	Jan. 1-21	Feb. 12-Mar. 4	Mar. 9-29	May 19-June 8	June 10
2	Dec. 8-28	Apr. 1-21	May 13-June 2	June 9-29	Aug. 17-Sept. 6	Sept. 9
1A	Mar. 9-29	July 1-21	Aug. 12-Sept. 1	Sept. 9-29	Nov. 16-Dec. 6	Dec. 10
2A	June 9-29	Oct. 1-21	Nov. 12-Dec. 2	Dec. 8-28	Feb. 16-Mar. 8	Mar. 12

**Table 3—Multiple Farrowing Schedule For Three-sow Herds Farrowing Twice a Year on an Every-other-month Basis.**

Sow Herd	Dates to Breed	Dates Due to Farrow	Weaning Dates	Dates Sows Are Rebred	Dates to Top Out for Market	Marketing Completed
1	Oct. 10-30	Feb. 1-21	Mar. 15-Apr. 4	Apr. 9-29	June 19-July 9	July 13
2	Dec. 8-28	Apr. 1-21	May 13-June 2	June 9-29	Aug. 17-Sept. 6	Sept. 12
3	Feb. 7-27	June 1-21	July 13-Aug. 2	Aug. 9-29	Oct. 17-Nov. 6	Nov. 12
1A	Apr. 9-29	Aug. 1-21	Sept. 12-Oct. 2	Oct. 10-30	Dec. 17-Jan. 6	Jan. 13
2A	June 9-29	Oct. 1-21	Nov. 12-Dec. 2	Dec. 8-28	Feb. 16-Mar. 8	Mar. 15
3A	Aug. 9-29	Dec. 1-21	Jan. 13-Feb. 2	Feb. 7-27	Apr. 19-May 9	May 13

ination may be done 2-3 weeks before either breeding or farrowing. Young pigs are usually vaccinated at 8 to 12 weeks of age.

Breed sows and gilts only when they are in excellent health. Do not breed sows or gilts recovering from a bacterial or virus infection until the next heat period.

Gestating sows can be treated for internal parasites with piperazine either in the feed or water. Do this before the last 3 weeks of gestation. Spray sows and quarters to control external parasites. Always follow manufacturer's directions when using chemicals. Lindane and benzene hexachloride (BHC) are commonly used to control lice and mange.

### Environment

*Pasture*—Provide bred sows with lush legume pasture in summer and a small grain pasture in winter. Balboa rye seeded at the rate of 4 bushels per acre cross-drilled in August or early September will provide pasture for 8-10 sows per acre. Certain factors in green, growing plants are essential for good litter size and liveability of pigs.

*Shelter and Water*—Provide 20 square feet of shelter from the sun for sows on pasture (Fig. 1). Provide about the same amount of bedded shelter for winter. Always have fresh water available.

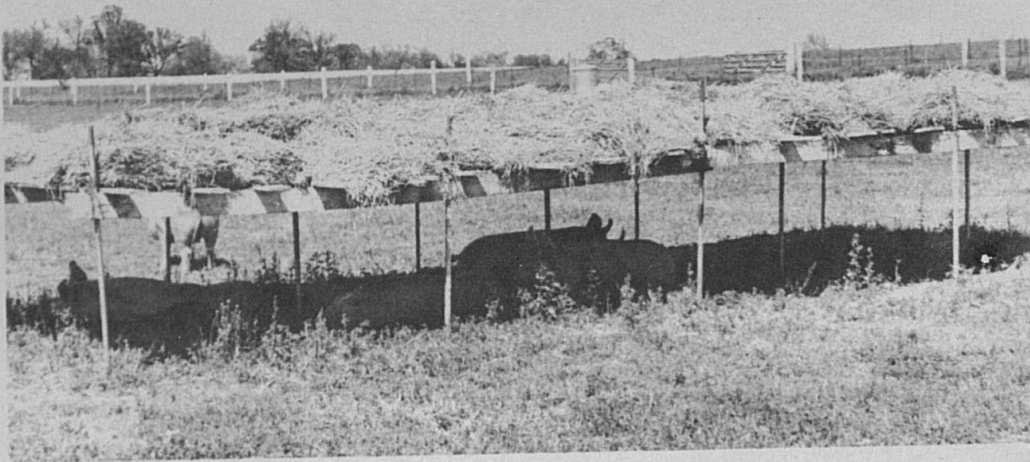


Fig. 1.—Provide about 20 square feet of shade for each sow. This is an inexpensive way to provide shade.

Move sows into a clean farrowing facility at about the 110th to the 112th day of gestation.

*Isolation—Never bring purchased stock into the area where bred sows are kept.* Always isolate purchased stock for at least 1 month before introducing to your herd.

## NUTRITION

### Feeding

During gestation the sow does not need a great deal to eat. However, the feed must supply the right nutrients. Research proves there are more mistakes of overfeeding during gestation than underfeeding, at least of energy foods. Overly fat sows cause high embryonic death losses of pigs. Older sows need to make no more gain than that represented by the newborn litters plus weight loss during lactation. Allow gilts to gain 75-100 pounds since their bodies are still growing.

Feed sows less early in gestation, then increase feeding during the last 6 weeks of pregnancy. This takes care of the faster growth and needs of the fetuses and prepares the sow for good lactation. The availability of good pasture and the sow's condition will determine the proper level of feeding. This may vary from 2-6 pounds per head daily of a complete ration early in gestation to 4-8 pounds during late gestation, depending on the factors given above.

Good pasture can replace 50 percent of the feed normally required by gestating brood sows (Fig. 2).



**Table 4—Feeding Recommendations**

	Percent Protein		Av Daily Feed Drylot	
	Gilts	Sows	Gilts	Sows
Pregestation	15	15	4-5	3-5
Breeding season (flushing)	15	15	7-8	7-8
Gestation, early	15	15	4-6	4-6
Gestation, late	15	15	6-8	6-8

**Table 5—Gestation Rations (Hand Feed)**

Ingredients	Pounds	Pounds	Pounds
Ground yellow corn	970	1,000	1,400
Oats	500	500	.....
50% soybean oil meal	200	.....	.....
Commercial sow supplement	.....	300	300
Alfalfa meal	300	200	300
Steamed bonemeal	20	.....	.....
Trace mineral salt	10	.....	.....
Vitamin premix*	+	.....	.....
TOTAL	2,000	2,000	2,000

\* Vitamin premix should contain:

Vitamin A	4.0 million I.U.
Vitamin D	1.0 million I.U.
Riboflavin	2 gram
Pantothenic acid	4 gram
Niacin	8 gram
Vitamin B <sub>12</sub>	10 milligrams

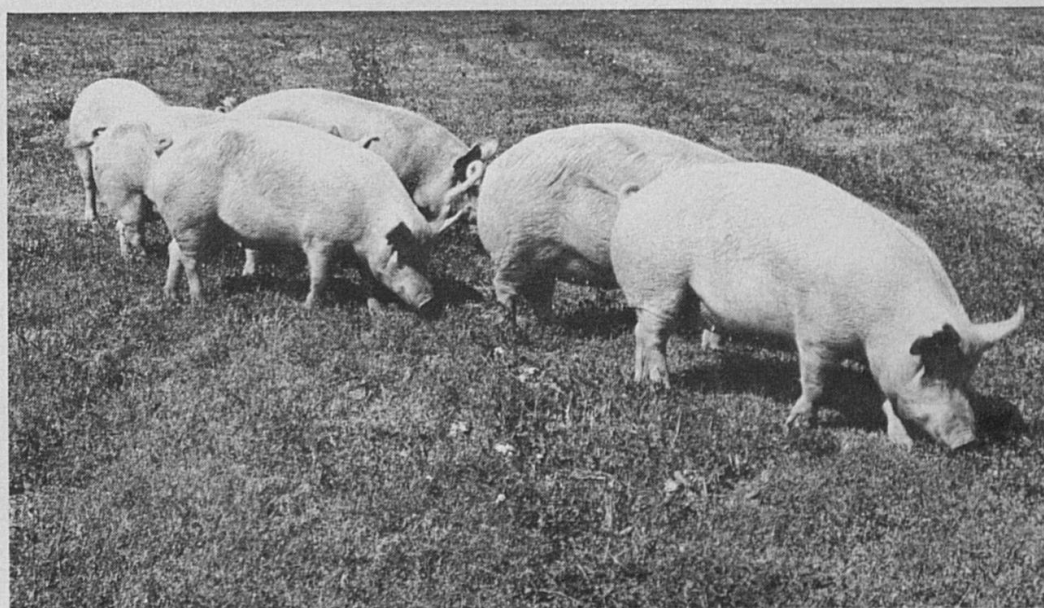


Fig. 2.—Good legume pasture in the summer and balboa rye in the winter can replace about 50 percent of the feed cost for the breeding herd.

### Methods of Feeding

*Hand Feeding*—Hand feeding is recommended for gestating sows. Limited feeding controls the sows condition better. This results in less embryonic mortality and saves a large amount of feed. Sows on restricted feed will reproduce longer than sows allowed full feed.

When restricting sows' feed intake, spread the feed over a large area or provide feeding stalls so that each sow gets the proper amount of feed (Fig. 3).

*Time Feeding*—With this method pregnant sows and gilts are given limited access to a self-feeder. This has produced good results in recent tests. To control weight gains properly, sows and gilts should not have free access to the self-feeders during more than 24 out of 72 hours.

### MANAGEMENT TIPS

1. Do not overfeed, especially energy foods.
2. Do not run sows and gilts together.
3. Follow proper boar to sow ratio.
4. Keep gestating sows on clean pasture; avoid contaminated lots.
5. Provide shade, shelter, and water.

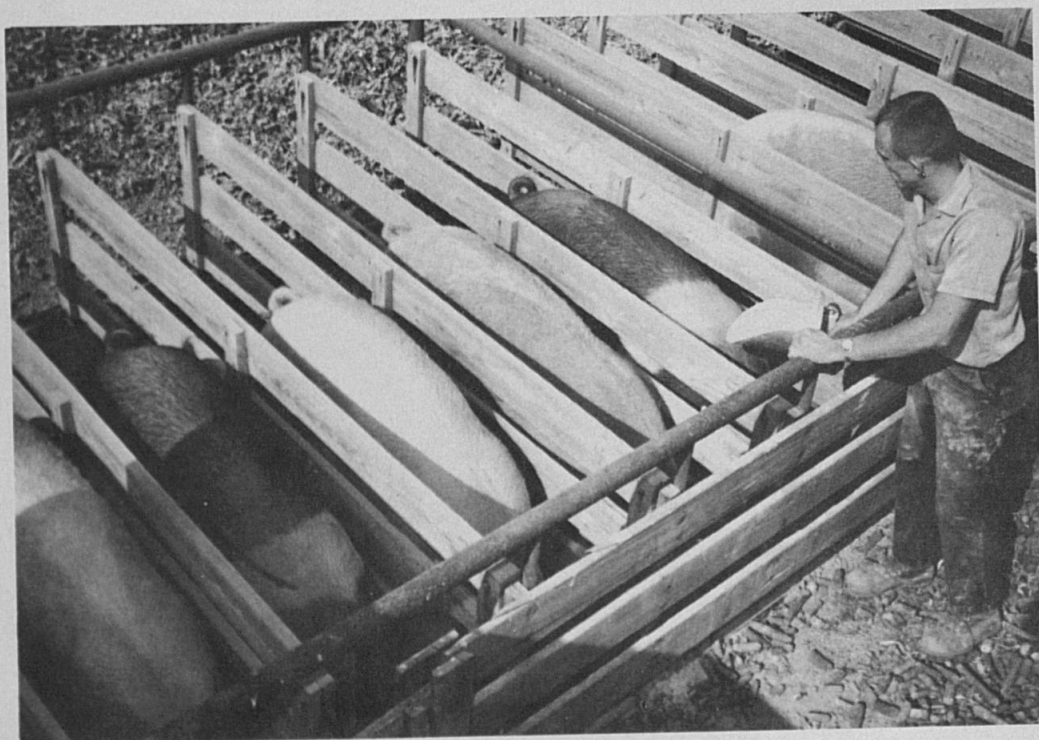


Fig. 3.—Feeding stalls insure that each sow is receiving the exact amount of feed desired.



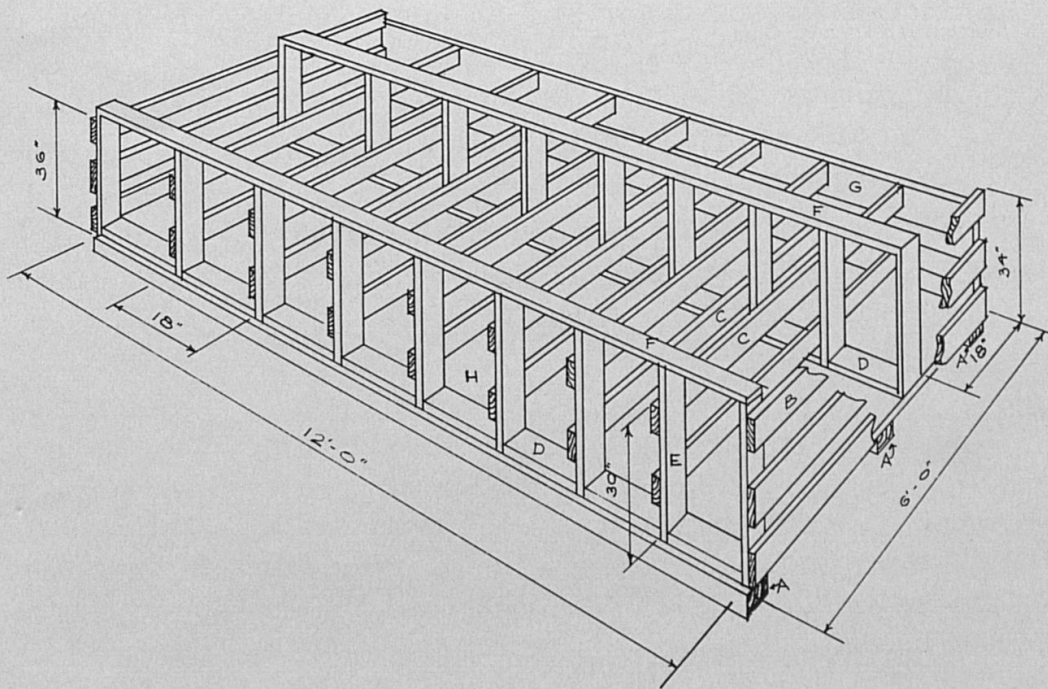


Fig. 4.—Construction details for sow feeding stalls.

## BOAR MANAGEMENT

One of the best ways to avoid most of the problems involved in the new herd sire is to purchase the boar well ahead of the time for full service. Some of the important considerations are transportation, housing, feeding, diseases, and management.

### Transportation

1. Do not haul boars together unless they have run together before. If you buy more than one boar, separate each one with a strong partition.
2. Use a truck that has been cleaned and disinfected since hauling other livestock.
3. Provide shade and moist bedding (preferably sand) when the temperature is above 65°F. Provide straw for bedding whenever the temperature is below 50°F.
4. Protect against wind created by movement of vehicle.

### Housing

1. Keep the boar away from the herd for 1 month. Put him in a clean, disinfected house which has been vacant for at least 3 weeks.

2. Provide the boar with about 20 square feet of dry, draft-free, but well ventilated sleeping area. In cool weather straw should be provided as bedding. In hot weather (above 75°F. be sure to provide the boar with a clean, cool area since summer heat can reduce fertility.
3. The boar should be provided about 5,000-6,000 square feet of exercise area. Put sleeping and feeding areas some distance apart to encourage exercise.

### **Feeding**

Feed the boar the same ration the gestating sow receives (Table 5).

Avoid overfeeding as it may cause sluggishness. Feed young boars enough to permit a daily gain of 1 to 1¼ pounds prior to the breeding season. A self feeder is not recommended, but do follow a regular feeding schedule.

About 2 weeks before the breeding season increase the daily feed allowance by 50 percent. For example, an off-season allowance of 4 pounds should be increased to 6 pounds daily.

### **Disease and Parasite Control**

The disease and parasite control program is the same as for the sow herd. See page 4.

### **Management Tips**

1. Avoid using nose rings as they may affect the boar as a "breeder."
2. Mate boars to four to six healthy females scheduled for slaughter. If more than one of these females returns to heat within 25 days after mating, the boar's fertility is questionable.
3. Remove tusks from boars (Fig. 5).
4. Follow a recommended boar-to-sow ratio as outlined in Table 6. Each boar's breeding capacity and aggressiveness vary a good deal. So it is hard to say what the "normal" breeding load is. The figures in Table 6 are based on research and practical experience.
5. Usually you can increase the breeding effectiveness of most boars by letting them run with the sows only at night. This permits mating during the coolest part of the day and prevents overexertion and overheating which could result from mating behavior during the day.



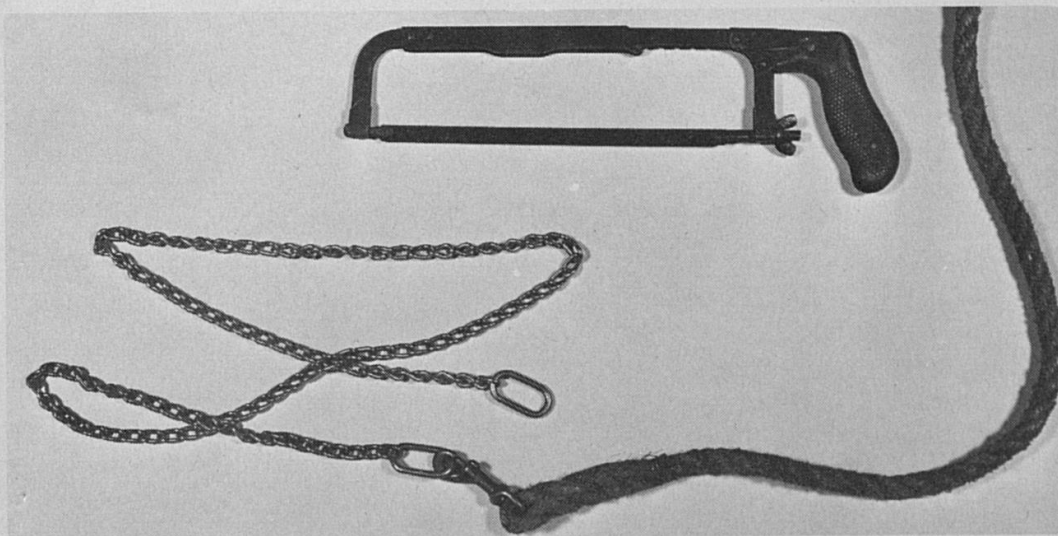


Fig. 5.—Equipment needed for removing tusk from boars. The chain snare is for restraining boar and the hack saw for removing tusk.

Table 6—Recommended Breeding Load

Age, Month	Pen Mating	Mating by Hand
7 or less	None	None
7 to 9	2 per week	2 per week
9 to 12	8-10 in 3-wk period	15-20 in 3-wk period
12 to 18	10-12 in 3-wk period	20-25 in 3-wk period
18 and over	12-15 in 3-wk period	25-30 in 3-wk period

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