SWINE FEEDING and MANAGEMENT from FARROWING to WEANING

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One of the biggest problems the swine producer faces is to produce and wean a large litter of strong pigs from every sow in the herd. The baby pig represents potential profit. The purpose of this publication is to point out management and feeding practices you should follow to insure weaning large litters of healthy pigs.

How well you manage will determine your litter weaning average. Management includes sanitation, disease prevention, and balanced nutrition. A well designed central farrowing house will make your management job much easier. Good farrowing house plans are available through your county agricultural extension office.

RECORDS

A good swine program must include a good system of identification and records.

One of the simplest and most easily remembered systems of ear-marking litters is shown in Fig. 1. The upper center figure shows a key to this system of marking. The rest of the figures are examples of litter numbers.

In the system, a notch in the outer margin of the right ear always has the value of one, no matter where it is located in the margin. Similarly, a notch in the outer margin of the left ear always has a value of 3, no matter where it is located. One in the inner margin of the right ear always has a value of 10; and one in the inner margin of the left ear, 30. To get the litter number, add the sums represented by the notches.

Breeding and farrowing records are valuable tools to any swine producer. Records can serve as the guide in culling sows and in selecting replacement gilts and boars.

The breeding and farrowing record should give the identification of the sow, date bred and farrowed, and number of pigs weaned. It should also have the birth and weaning weight of the litter.

Most of the national swine breed associations have developed special herd books which are available to swine producers. These books can be very helpful in keeping accurate records.

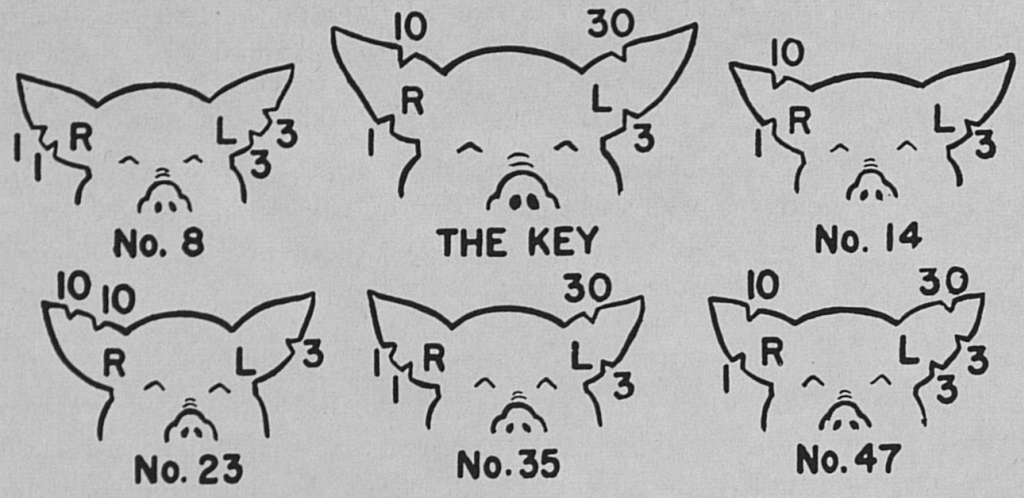

Fig. 1.—A simple method of earmarking to identify pigs.

SANITATION AND DISEASE PREVENTION

Pre-farrowing

Nowhere is sanitation and disease prevention more important than in the farrowing house and nursery. Pork producers have many powerful antibiotics and drugs that can effectively control many conditions. However, if you follow excellent sanitary precautions routinely, disease prevention will be a simpler matter. To develop the most effective sanitation and disease prevention program during the farrowing and nursing stage, you must really begin the program a few weeks prior to farrowing.

Worming.—Worm the sow with piperazine 3-4 weeks before farrowing. Do not use sodium fluoride at this time.

Immunizing.—Three to four weeks prior to farrowing, immunize the sow against erysipelas and any other diseases which might cause trouble during the farrowing—nursing stage. Do not immunize the sow against cholera during the gestation period. By immunizing the sow at this time, you are doing the same thing as giving each pig a small dose of serum. A mixed bacterin is available that contains different organisms often associated with baby pig troubles. The mixed bacterin is harmless from a disease-producing standpoint. The sow reacts to this immunization by producing large amounts of serum antibodies, which are in turn milked off in the colostrum. These antibodies give a certain amount of protection to the baby pig.

Handle a pregnant sow in a gentle manner at all times. The easiest way to immunize sows is to crowd them in a holding pen and work through them, injecting the bacterin in the skin behind the ear.

Cleaning and Disinfecting the Farrowing House.—The farrowing house can be effectively cleaned with a steam cleaner (Fig. 2), power sprayer, or a high pressure water system. Remove all manure and dirt before scrubbing with one of the above methods.

After cleaning the house, apply a disinfectant. Lye is an excellent disinfectant—add 1 pound to about 10 gallons of boiling water. Lye is very caustic, so be very careful in using it on metal fixtures or skin. Be sure to rinse off soap or detergents before applying a disinfectant.

Disinfectants must come in contact with the disease organisms in order to kill them, so if the organism is imbedded in a dirty crack, the disinfectant is powerless. Many excellent disinfectants are available, including quarternary ammonium compounds or phenol solutions.

A tightly constructed house can be effectively and economically disinfected by fumigating with formaldehyde gas. Gas has an advantage over liquids in that it will penetrate porous materials. Even with gas, however, it is still impossible to disinfect filth. A certain amount of personal danger is involved with gas, so use it with care.

Keep tractors, trucks, and manure spreaders out of farrowing houses.

Fig. 2.—A steam cleaner is an effective way to clean the farrowing house.

Move the clean sow into the clean farrowing crate 110 days after breeding (Figs. 3 and 4). The sow will usually get used to her new environment by the time she farrows.

Fig. 3.—Scrub sow with soap and water before placing her in farrowing crate.

Fig. 4.—A farrowing crate prevents baby pigs from being crushed by the sow.

Farrowing

Schedule your work load so you can be with the sow at farrowing. When milk fills the udder, the sow will usually farrow within 24 hours.

Inject the sow with 5 ml of combiotic in the muscle of the ham the day she farrows and again the day after farrowing. Mastitis and metritis are two infections that are frequently observed in the sow at farrowing time. By preventing these infections with excellent sanitation and the antibiotic injections, much better lactation performance may be expected.

Tie off and clip the navel cord as soon as each pig is farrowed. Each pig can be suspended by a small rope on the hind legs at a convenient working height. Tie the cord about an inch from the belly, and cut the cord below the string. Then paint the navel with tincture of iodine. While the pig is suspended, clip the tips of the needle teeth, being careful not to injure the gums (Fig. 5). Earmark for future identification. Always paint any skin puncture with iodine.

Assist weak pigs in nursing. Glucose may be given to weak pigs

Fig. 5.—Clip needle teeth at birth to prevent injury to sow's udder and other pigs in litter.

orally or injected (2 ml) into the fore flanks for 2 to 3 days. Any supplement given should be sterile and warmed to body temperature first.

Balance litters by shifting extra pigs from large litters to smaller litters. Always shift older, stronger pigs to younger litters.

Sacrifice all pigs under 1½ pounds.

Lactation Period.—Provide fresh water at all times for both sow and pigs. An automatic pressure-type waterer installed at a convenient level may serve both the sow and pigs.

Keep baby pigs dry. This is important because less body heat will be needed to maintain normal body temperature. Disease organisms need high moisture to thrive; therefore, controlling humidity cannot be over-emphasized. Protect from floor drafts to prevent chilling. A solid partition should divide every litter to prevent drafts and floor drainage from one pen to the other. Remove wet bedding daily.

Prevent nutritional anemia in baby pigs farrowed on concrete by giving an iron injection when the pigs are 2-3 days of age. If pigs that are nursing good milking sows do not start eating well by 15-16 days of age, give them a second iron injection.

Feed sows antibiotics. A minimum of 5 mg of antibiotics per pound of feed should be fed throughout the lactation period. Use furazolidone to treat the pigs individually as needed to control necrotic enteritis. When scouring is a widespread problem, include furazolidone in the sow ration 1 week before farrowing to 2 weeks after, along with the antibiotics.

Castrate male pigs before they are 5 weeks old (Figs. 6 and 7).

Two sows and litters may be combined for convenience and to save space when the pigs are 2 weeks old (Fig. 8). This multiplies the disease prevention problem; however, it may be done routinely if you provide excellent management.

Vaccination.—Vaccinate for hog cholera and erysipelas after the pigs are 5 weeks old. Pigs should be healthy and weighing at least 25 pounds when vaccinated. The actual time for vaccination will be determined by the weaning age. The most practical weaning age is 5-8 weeks, so vaccination for cholera and erysipelas should be done at about 6½ weeks of age. Use a modified live virus and serum from a reputable company for cholera and a bacterin for erysipelas.

FEEDING

Farrowing

Feed the sow a laxative ration, and give her smaller amounts than she has been eating just before farrowing. A gestation ration or

Fig. 6.—Castrate pigs at 2 to 5 weeks of age. Make incisions low to insure proper drainage and healing.

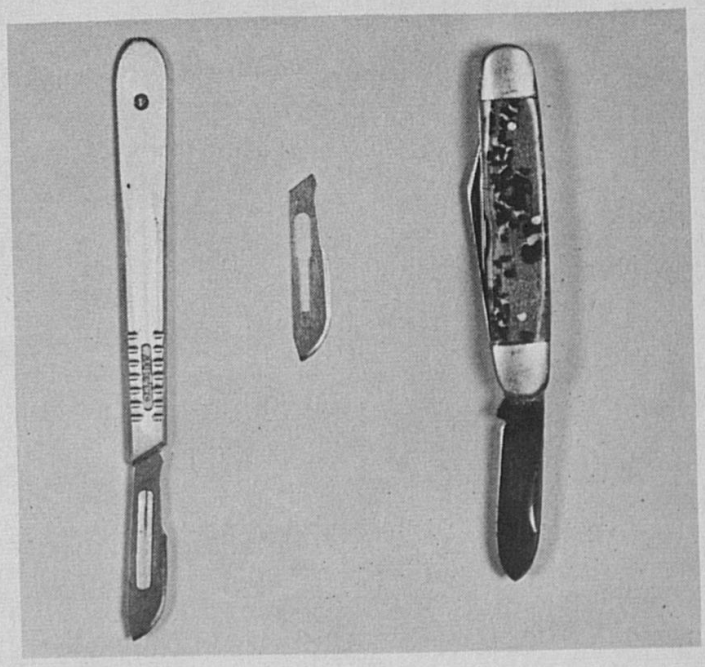

Fig. 7.—A knife or scalpel with removable blade may be used for castration.

a lactation ration containing one-fifth to one-fourth oat and/or wheat products will be sufficient for the farrowing ration. Provide the sow with fresh water at all times. After farrowing, let the sow eat all she wants to prevent restlessness and to insure maximum milk flow. A sow

Fig. 8.—Combining sows and litter 2 weeks after farrowing will save labor. Note the heat lamp and creep area in rear.

that has been sick should be brought to full feed more slowly. If scouring is observed in the pigs, bring the sow to full feed more slowly. An excellent farrowing-lactation ration is given in Table 1. The ration contains 15 percent protein and 5 mg antibiotic per pound of feed.

A good sow should produce 7-10 pounds of milk daily when fed this lactation ration.

Table 1.—Lactation Sow Ration

Ingredients	Pounds	Pound/Ton
Ground yellow corn	60.00	1,200
Ground oats	20.00	400
17% dehydrated alfalfa meal	5.00	100
50% solvent soybean oilmeal	8.00	160
50% meat and bone scraps	5.00	100
Ground limestone	1.00	20
Steamed bonemeal	0.50	10
Iodized salt	0.50	10
Vitamin A	200,000 I.U.	4 million I.U.
Vitamin D_2	40,000 I.U.	1 million I.U.
Riboflavin	100 milligrams	2 grams
Calcium pantothenate	200 milligrams	4 grams
Niacin	400 milligrams	8 grams
Vitamin B_{12}	500 micrograms	10 milligrams
Antibiotic	500 milligrams	10 grams
Total pounds	100.00	2,000

Sows may be self-fed from self-feeders or given a full feed in small feeders or fed on clean concrete floors.

A complete mixed ration is preferred for sows.

Creep Feeding

The creep feed is the supplementary feed given baby pigs still nursing their mothers. It is designed to supplement sow's milk in providing nutrients for maximum growth. For this reason the creep feed does not have to be a milk replacer ration. It is designed and formulated to be (1) very tasty to get pigs to eat at an earlier age and (2) highly nutritious to promote maximum growth. When baby pigs start consuming any quantity of dry feed, provide an adequate supply of clean water. Pigs will soon learn to operate a self-flushing, pressure-type waterer.

It is always advisable to have 15 percent cane sugar in the pre-starter feed. Table 2 gives a suggested pre-starter ration to be fed the first 3 weeks after farrowing.

Table 2.—Pig Pre-starter Ration

Ingredients	Pounds	Pound/Ton
Ground yellow corn	28.80	576
Rolled oats (table grade)	20.00	400
Sugar (cane or beet)	15.00	300
50% solvent soybean oilmeal	10.00	200
Dried skim milk	20.00	400
60% Menhaden fish meal	2.50	50
Dried corn distillers solubles	2.50	50
Ground limestone	0.50	10
Iodized salt	0.50	10
Trace mineral mixture	0.20	4
Vitamin A	300,000 I.U.	6 million I.U.
Vitamin D_2	60,000 I.U.	1.2 million I.U.
Riboflavin	500 milligrams	10 grams
Calcium pantothenate	1,000 milligrams	20 grams
Niacin	2,400 milligrams	48 grams
Choline chloride	2,500 milligrams	50 grams
Vitamin B_{12}	1,000 micrograms	20 milligrams
Antibiotic	2,500 milligrams	50 grams
Total pounds	100.00	2,000

After 3 weeks changing to a starter ration is recommended. This ration may be fed until the pigs weigh about 40 pounds, then change to a conventional 16 percent protein ration. A suggested starter ration is presented in Table 3.

You can buy vitamin premixes and add them to all the rations

Table 3.—Pig Starter Ration

Ingredients	Pounds	Pound/Ton
Ground yellow corn	39.50	790
Rolled oats (table grade)	20.00	400
Sugar (cane or beet)	5.00	100
50% Soybean oilmeal	18.00	360
Skim milk	10.00	200
60% Menhaden fish meal	2.80	50
Dried corn distillers solubles	2.50	50
Ground limestone	0.50	10
Iodized salt	0.50	10
Trace mineral mixture	0.20	4
Vitamin A	200,000 I.U.	4 million
Vitamin D_2	50,000 I.U.	1 million
Riboflavin	400 milligrams	8 grams
Calcium panthenate	800 milligrams	16 grams
Niacin	1,800	36 grams
Choline chloride	2,000 milligrams	40 grams
Vitamin B_{12}	1,000 micrograms	20 milligrams
Antibiotic	2,500 milligrams	50 grams
Total	100.000	2,000

given in this publication. Add these premixes to furnish the levels suggested in each formula. (One pound = 454 grams; 1 gram = 1,000 milligrams; 1 milligram = 1,000 micrograms.)

WEANING

Baby pigs may be weaned successfully any time after 3 weeks, depending on management and facilities. Do not wean pigs weighing less than 12 pounds unless necessary (Fig. 9).

For most producers the practical time to wean is when pigs are about 5-6 weeks old. At this age the pigs will be weighing 15-25 pounds and will be eating large quantities of feed. Sows may be rebred immediately after weaning the pigs at 5 weeks. No breeding difficulties will be encountered because of weaning. In some cases conception will be decreased by weaning pigs at 3 weeks and rebreeding the sow immediately.

The baby pigs should weigh more than 30 pounds at the end of the starter feeding period. When pigs weigh from 40 to 75 pounds, the best ration for maximum economy is a 16 percent corn-soya ration with proper fortification.

Managing Weaned Pigs

Weaning baby pigs from their mothers is fairly simple, but it may cause severe stunting unless you follow a few basic principles.

Fig. 9.—A set of scales will provide weaning weight information. This is essential in selecting breeding stock.

Baby pigs may be weaned at any age only if proper environment is provided. Under most production programs the practical weaning age will be 5 weeks. The 5-week schedule fits in very nicely with a 6-week farrowing schedule. Pigs weaned at 5 weeks of age have already learned to eat and will present very few management problems. When pigs are weaned at about 3 weeks of age, they may not have learned to eat dry feed yet and, therefore, must be handled very carefully.

Table 4 will help you in providing the most favorable conditions for the early-weaned pig.

Table 4.—Proper Conditions for Pigs at Weaning

Age in weeks	5	4	3
Minimum weaning wt, lb	25	15	12
Nursery temperature	65°	70°	75°
Minimum floor space per pig, ft	6	5	4
Maximum No. pigs per ft of feeder	4	4	4
Maximum No. pigs per waterer	25	20	10
Maximum No. pigs per group	25	20	10

Advantage of Early Weaning:

Early weaning saves labor.
Early weaning saves space.
Early weaning saves sow feed.
Early weaning reduces sow weight loss.
Early weaning permits quicker rebreeding.
Early weaning provides optimum nutrition.
Early weaning encourages multiple farrowing.

BUT:

Early weaning requires better management.
Early weaning requires better facilities.

Isolation.—The farrowing house and nursery should be fully enclosed to control flies, birds, and rodents. Place screens on windows to be opened and on open doors.

There is some evidence to indicate that birds may carry transmissible gastro-enteritis (TGE). Therefore, take all precautions to control starlings.

Pork producers should establish certain rules of conduct to prevent the spread of disease. When visiting other farms, always disinfect your footwear and stay out of baby pig areas unless invited by the owner to inspect his pigs. Leave dogs and other animals you cannot control at home. If you ever encounter diseased hogs, end your visiting for the day and wash thoroughly before making contact with other hogs.

On your own farm be sure to provide a foot bath at the farrowing house and nursery, and insist that all visitors use the foot bath. Begin your daily hog chores at the farrowing house and end with the mature hogs.

Do not return to your farrowing house unless necessary. Keep all dogs, cats, chickens, birds, rodents, and flies from your young pigs.

It is a good idea to follow a checklist at farrowing time. You have too many small, but very important, jobs to do before and after farrowing for you to remember them all. You can use this list as a guide to a more efficient job.

BEFORE FARROWING:

1. Worm sow with piperazine 3-4 weeks prior to farrowing.
2. Give booster shot for swine erysipelas 3-4 weeks prior to farrowing.
3. Clean and disinfect farrowing house.
4. Wash sow and place in farrowing pen 3-4 days prior to farrowing.

5. Clean pen twice daily.
6. Control flies at all times.

FARROWING DAY:

1. Inject 5 ml of combiotic in the ham.
2. Use heat lamps.
3. Wipe off pigs with clean rags.
4. Tie and cut navel cord—use iodine solution.
5. Clip needle teeth—disinfect nippers.
6. Earmark for identification.
7. Sacrifice pigs under 1½ pounds.
8. Prevent drafts.

DAY AFTER FARROWING:

1. Allow sow to eat all she wants.
2. Provide fresh water for sow and pigs.
3. Keep pen dry.
4. Give sow 5 ml combiotic.

THREE DAYS AFTER FARROWING: Prevent anemia by giving iron injection.

SEVEN TO 10 DAYS AFTER FARROWING:

1. Provide starter rations—place in corner near heat lamp.
2. Castrate male pigs—use disinfectant.

SIX WEEKS AFTER FARROWING: Vaccinate for cholera—this will be determined by weaning time. Do not vaccinate within 1 week of weaning.

TWO WEEKS AFTER WEANING: Worm pigs with piperazine.

This circular and Circular 592, "Swine Feeding and Management from Weaning to Market," replace Circular 368, "Pigs—From Birth to Market in Six Months."

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