



pork industry handbook

COOPERATIVE EXTENSION SERVICE • MICHIGAN STATE UNIVERSITY

Care of the Sow during Farrowing and Lactation

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Introduction

Proper care of the sow during gestation, farrowing, and lactation is a means to reach a goal—a large litter of healthy pigs at birth that will remain healthy and grow rapidly. Care during this time must also prepare the sow for a successful repeat performance at the earliest time within the system of weaning and rebreeding used. The sow must reach farrowing in the best nutritional and microbiological health for herself and for the expected litter. Properly balanced rations should be fed in recommended amounts so that newborn pigs are well developed and strong. A herd health program that assures minimal exposure of the sow to disease or disease carriers during gestation is essential for maximal litter survival during the first weeks of life and for effective growth to weaning and market. The sows should be managed in a gentle and confident manner and on a regular daily schedule.

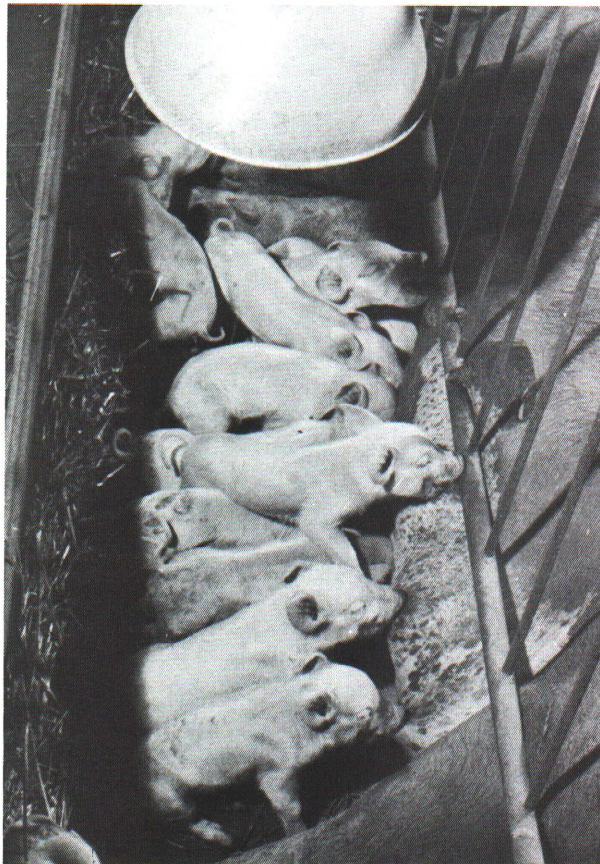
Pre-farrowing Deworming Sows

Sows should be dewormed about two weeks before moving to farrowing crates or pens. Treatment for external parasites at least twice (in approved repeat times for the product used) also should be accomplished within a few days before movement to the farrowing facility. (See PIH-44).

Prepare the Farrowing Units

If possible, the total farrowing unit should be cleaned completely of organic matter, disinfected and left unused for 5-7 days before a new group of sows is placed in the unit. When this is not practical, at least the individual pen, stall or crate should be completely cleaned of organic matter and disinfected before a new sow is placed in the unit.

"Clean" means what it says. The floors, partition walls, ceilings and equipment should have *all* organic matter, including dust, removed. This can be accomplished by



scraping, use of high pressure cleaners, steam cleaners, and/or a stiff scrub brush. Do a complete job.

Disinfectants are useless unless the cleaning job is complete. But there are many good disinfectants available, including the quaternary ammonium compounds, iodoform

compounds and others such as lye, to use when the cleaning job is done well. Some disinfectants such as those that contain coal tars or lye should be thoroughly rinsed off after several hours, especially from surfaces having direct contact with pigs.

Washing the Sow

Before the sow is placed in the farrowing pen, wash the teats and belly with mild soap and warm water. This will eliminate soil and fecal material that may contain numerous bacteria that are potential diarrhea-producing agents for the nursing pigs. This procedure will also eliminate ascaris (round worm) eggs that would serve as a source of infection to the nursing pig.

Feeding the Sow

During pre-farrow in the facility, sows can be fed as they have been during gestation. Better results are often reported, however, from feeding a laxative ration to prevent constipation. Constipation can be prevented or corrected by changing to a bland or bulky diet, by addition of 20 lb./ton of epsom salts or 15 lb./ton of potassium chloride, by use of linseed meal as part of the protein in the ration, or by use of other laxative ingredients. Oats or wheat bran may be used as 25% of the grain to create a bulky ration; in some areas, other fibrous feeds such as alfalfa meal or beet pulp may be preferred. Water should be freely available, but spillage that could cause wetness of the pen should be prevented.

Farrowing and Lactation Temperature Requirements

Temperature in the sow area should be in the sow comfort range of 55-75 F.; on solid or slotted floors without bedding, baby pig areas should be kept at 90 -95 F. for the first few days, and then in the 70-80 F. range until weaning at 3-6 weeks of age.

Knowing When a Sow Will Farrow

The sow must be at the right place at the right time for farrowing, according to the management system used. Recorded breeding dates, calculated farrowing dates, and close observation are essential for proper farrowing management. Signs during late pregnancy help to insure that sows do not farrow at the wrong place and without proper attention.

If farrowing is to take place in a crate or pen, the sow should be in that place no later than the 110th day of gestation. This avoids loss of litters farrowed on the short end of a normal gestation period (111-115 days) and permits time for dams to become accustomed to the facility and routine of daily care before onset of birth. If breeding dates are not recorded, each sow should be carefully observed daily during obvious late pregnancy for enlarged abdomen area, swollen vulva, and filled teats as basis for estimating the farrowing date.

Presence of milk usually indicates that farrowing will occur within 24 hours. The milk may be grayish in its earliest stage but becomes characteristically white as time of farrowing approaches. Sows may become restless or nervous, may try to escape the crate, chew on anything available, urinate frequently, and attempt to build a nest or bed.

If milk is present, the sow should be prepared and moved immediately to the farrowing facility. If farrowing facility space is available, move questionable sows to the facility early rather than waiting "one more day."

The Birth Process

Attending sows at farrowing decreases the number of "stillborn" pigs that die during birth or within the first few hours afterwards; pigs can be freed from membranes, weak pigs revived, etc., and care can be given that reduces other deaths in the first few days after farrowing.

Duration of labor ranges from 30 minutes to more than 5 hours. Pigs may be born either head first or rear feet first; either is normal. Some fetal membrane may partially cover pigs, but afterbirth generally occurs in a larger amount near the end of farrowing. Occasionally, a pig is enclosed in the afterbirth material and will quickly suffocate if not removed from it. "Stillborn" pigs are those that have died during farrowing; dead pigs may have been dead for only a few days or for an extended time; "mummies" are pigs that have been dead long enough for much reabsorption of the soft tissues, but not of the skeleton, to have taken place.

The average interval between birth of pigs is approximately 15 minutes but can vary from simultaneous to several hours in individual cases. Use of oxytocin to speed up rate of delivery is useful if correctly done and if farrowing is proceeding slowly but otherwise normally. A rule of thumb, not universally recommended but widely followed, is to administer oxytocin when the first interval of 30 minutes after birth of the previous pigs has occurred without birth of another pig or without expelling membranes that indicate farrowing is completed. Oxytocin should not be used until birth of one or more pigs has occurred. Oxytocin should *not* be used if symptoms, such as straining without delivery, indicate that a pig is blocking the birth canal.

Prolonged labor, especially that which is associated with difficult birth, and litters produced by large, older sows, are often accompanied by increased numbers of stillbirths and added death losses in the first few days after farrowing. Sows that have been overfed during gestation are more subject to prolonged labor, and some individuals seem to be genetically prone to this problem. Proper feeding can prevent overweight, and selection and culling may eliminate animals that are generally prone to difficult births.

Assisting Difficult Births

At times, manual assistance is necessary to accomplish delivery but should not be used until obviously needed. Continued strong labor for an extended period without birth of pigs indicates need for such assistance. A well-lubricated, gloved hand and arm should be inserted into the reproductive tract as far as needed to encounter a pig "in place" for birth; the pig should be grasped and gently but firmly pulled to assist delivery.

Difficult births often enhance the occurrence of symptoms of MMA—mastitis (inflammation of the udder), metritis (inflammation of the uterus),agalactia (inadequate milk supply) (See PIH-37). To decrease the likelihood of creating complications as a result of manual assistance, use an antibacterial solution, such as nitrofurazone, as a lubricant for this purpose. Infusion of 50-100 cc. of such solution into the reproductive tract following conclusion of farrowing often helps decrease or prevent infection. Intramuscular injection with an antibiotic can also be helpful.

Nervous and Hysterical Sows

Some sows may become temporarily "hysterical" and vicious; these are likely to trample or lie on several of their pigs or kill them by biting; some producers cull these sows on temperament. Such sows must be attended to prevent

loss of newborn pigs; loss can be prevented or minimized by removing pigs to a warm place until farrowing is completed. The hysteria generally subsides in a few hours. Test the sow by placing only one pig with her and watching her reaction.

Nutrition of Newborn Pigs

It is highly important that each pig receive colostrum to provide immediate and temporary protection against common bacterial infections. Pigs are born into a hostile bacterial environment. Antibodies in the sow's milk are the best protection against these bacteria. Proper nutrition of the sow, including a laxative ration prior to and following farrowing; maintaining proper environmental temperature; and freedom from contagious disease organisms—all help to insure normal milk production.

Baby pigs may be unable to nurse because of a hostile sow, a large litter of pigs, small or otherwise weak pigs, death of the sow, or failure of the sow to have milk. Other ways baby pigs can get antibodies are by being bottle-fed colostrum; they can foster-nurse another newly farrowed sow; or they can nurse a sow whose litter is well beyond the 3-day-old stage frequently considered as the upper limit for transferring pigs. Colostrum can be hand-milked to provide initial artificial feedings; prolonged needs may be met by rotating pigs to other dams whose litters are removed for an hour or two, or by a permanent transfer to a foster dam. Gentle sows with litters as old as 3 weeks can be used as foster mothers for newborn pigs; it is good insurance to feed some colostrum before transfer to such a sow.

Sow milk replacers are nutritionally adequate for newborn pigs, but they lack antibodies; they do contain antibiotics, which help to control growth of unfavorable bacteria. Effective use of sow milk replacers requires stringent cleanliness of feeding equipment and housing area for baby pigs to control bacterial growth. Diarrhea is a common hazard for newborn pigs reared artificially in make-shift conditions. Wetness, chilling, and engorgement promote diarrhea.

Feeding the Sow during Lactation

Sows need not be fed for 12-24 hours after farrowing, but water should be continuously available. Two or three lb. of a laxative feed may be fed at the first post-farrow feeding; amount fed should be gradually increased until the maximal feed level is reached by 10 days after farrowing. Full feeding from the day of farrowing can be successfully used. Sows that are thin at farrow may benefit from generous feeding in the early post-farrow.

Sows nursing large litters need essentially full feeding during lactation. This may depend somewhat on the energy content of the ration and the length of the lactation period if sows are mated at first post-weaning estrus. In sows that finish lactation with excessive weight losses and in an energy-depleted condition, estrus tends to be delayed well beyond the usual 3-7 days post-weaning.

Experiments are underway to re-evaluate what constitutes the most economical lactation feeding programs. Sows in normal condition at farrowing can lose weight during lactation without impairment of pig growth or loss of breeding efficiency. Sows nursing fewer than 8 pigs may be fed a basic maintenance amount (6 lb./day) with an added allotment, such as 0.5 lb. for each pig being nursed. It is not necessary to reduce feed intake before weaning. Regardless of level of feed intake, milk secretion in an udder will cease when pressure reaches a certain threshold level.

Feeding the Pig during Lactation

Sows' milk does not contain enough iron for baby pigs. Iron must be given to pigs within their first 3 or 4 days or anemia will result.

Pigs can be supplied with iron by giving them clean sod (not from a hog lot), iron injections (iron dextran in the ham or heavy neck muscle), or iron compounds mixed with other minerals which pigs can eat. (See PIH-34.)

When pigs are about 1 week old, start feeding them a prestarter (about 20% protein) or starter feed in a shallow pan. The prestarter is usually more acceptable and pigs will start to eat earlier. It is used only to get pigs to start to eat. A little prestarter or starter feed mixed with some clean sod will often start pigs eating earlier.

After pigs start to eat, switch to a starter feed (about 18% protein) and feed this until the pigs weigh 25-30 lb. At this time, the ration can be switched to a lower cost (16%) pig grower feed.

Clean, fresh water should be available to pigs even before they start to eat dry feeds.

Controlling Health Problems

Sows should be observed carefully during the first few days after farrowing. Lack of appetite, listlessness, and failure to respond positively to nursing activity of the pigs indicate need for corrective treatment. Prevention of these conditions will decrease incidence and severity of the MMA syndrome. (See PIH-37.)

If MMA is prevalent, a prevention and treatment program should be developed through veterinary consultation and by management programs. The same is true for diseases such as atrophic rhinitis, transmissible gastroenteritis, Smedi, and mycoplasmal pneumonia. Checking for normal bowel activity and use of a rectal thermometer to detect fever can pinpoint early need for treatment.

Disease Prevention

Despite recent advances in the diagnosis and preventive procedures for the control of some diseases, the sow and her newborn litter remain vulnerable to a substantial number of pathogenic agents. Most successful producers plan their management programs to circumvent as much as possible disease transmission during this critical time. Maximum isolation of the pregnant sow and gilt from all rodents, cats, dogs, humans and new herd additions is a productive practice. Likewise, careful cleaning and sanitizing of facilities as described is important. Thorough cleansing of the sow as she enters the farrowing facility seemingly has been a factor in controlling some contagious disease organisms. Managing the sow and litter to insure maximal colostrum intake has distinct advantage for the newborn litter.

If swine are being reared in areas of heavy swine concentrations, vaccines and bacterins should be used to the fullest advantage. This is particularly true during seasons of the year when stress is unavoidable and when the viability of pathogens is high. Examples of diseases for which immunization seems wise are transmissible gastroenteritis (TGE) (See PIH-47), erysipelas, leptospirosis (5 strains), and in some localities perhaps pseudorabies. A federally licensed and approved vaccine is now available for use in the prevention of atrophic rhinitis (See PIH-50). The large number of enteric disorders that pose a threat to the newborn are perhaps best prevented by eliminating stressors such as cold and drafty pig areas, high humidity and unsanitary surroundings within the house. Some herds

are now receiving autogenous types of bacterins in situations where enteric problems are extreme.

The old axiom that an ounce of prevention is worth a pound of cure seems particularly applicable to this stage of the life cycle.

Schedule of Events

1. First week after weaning—breed sows.
2. Three weeks before farrowing—treat for internal and external parasites.
3. One week before farrowing—repeat treatment for internal and external parasites.
4. At 110 days after breeding—thoroughly wash sow, move to farrowing facility; begin feeding laxative ration.
5. From 111 days to farrowing—observe for signs of approaching farrowing. Attend at farrowing, or make judgment that attendance is not warranted.
6. Provide special care for weak or small pigs, and for large litters. Observe sow and litter for signs of problems.
7. By 10 days post-farrowing—bring sow to maximal feed level.
8. Cull sows at weaning on basis of productivity, temperament, and other economic factors.

Summary

1. Institute and maintain a disease-prevention, health-maintenance program for all brood stock at all times to protect sows and litters from diseases at and following farrowing.
2. Record breeding dates, calculate farrowing dates, and observe sows closely during late gestation to assure that sows are moved to the farrowing facility by the 110th day of gestation.
3. Farrowing will usually occur within 24 hours after milk is present. As farrowing approaches, sows may be restless and excitable; some may be vicious.
4. Treat sows twice for internal and external parasites within the shortest recommended time (for products used) before moving to farrowing facility.
5. Feed a ration with laxative effect from 110 days through the first week after farrowing.
6. Attending sows at farrowing can prevent death of pigs

due to trauma, biting, suffocation in membranes, and weakness.

7. Normal farrowing may be completed in less than 1 hour, or may exceed 5 hours. Injection of oxytocin can shorten total farrowing time but should not be used if there are indications that the birth canal may be obstructed.
8. Manual assistance in delivery of pigs should be undertaken only when signs indicate inability of the sow to deliver unassisted; use arm-length glove, lubrication, and inject an antibacterial solution if manual assistance is necessary for delivery.
9. All newborn pigs should receive colostrum. Extra care for weak or small pigs and for large litters can result in more pigs weaned.
10. In the first few days after farrowing, observe sows and pigs carefully for evidence of disease condition or inadequate milk production or intake.
11. After farrowing, increase daily ration gradually; attain maximal feed level by 10 days; maximal amount should be based on number of pigs in the litter.
12. Production level, temperament, and other economics of using sows vs. gilts should determine when sows are replaced.

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Additional information can be found in the following PIH fact sheets:

PIH-18 Baby Pig Management—Birth to Weaning
PIH-23 Swine Rations
PIH-34 Baby Pig Anemia
PIH-37 Mastitis, Metritis, Agalactia (MMA)
PIH-38 Pseudorabies
PIH-40 External Parasite Control
PIH-44 Internal Parasites of Swine
PIH-47 Transmissible Gastroenteritis (TGE)
PIH-50 Atrophic Rhinitis

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