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Processing Baby Pigs - Pork Industry Handbook  
Michigan State University Cooperative Extension Service  
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# pork industry handbook

COOPERATIVE EXTENSION SERVICE • MICHIGAN STATE UNIVERSITY

## Processing Baby Pigs

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Baby pig management should start before the pig is born. Provide a clean, dry, warm farrowing facility that is draft free and properly ventilated. After the pigs are born, it is very important that they nurse the sow to obtain the antibody rich colostrum milk for combating disease. The new litter of pigs should be processed within 24 hours after birth. Processing may include the following: weighing, navel cord care, clipping needle teeth, tail docking, iron injections, ear notching, and castrating. These skills can be performed in different ways, and in the sequence of personal preference. Some producers prefer to delay some of these procedures for 3 or 4 days to reduce stress on the very fragile one-day-old piglet. Those recording mortality from birth to weaning in excess of 8 to 10% should consider delaying some of these procedures.

The supplies and equipment needed for these practices are a disinfectant, such as chlorhexidine (Nolvasan®); an antiseptic such as a tincture of iodine (USP-2% solution); side cutters or equivalent for clipping the navel cord, needle teeth and tail; an injectable iron solution; a syringe with assorted needles; cord for tying off navels; an ear-notching tool and castration knife or scalpel. Use a shallow container for disinfectant in which to put the cutting edge of instruments between uses (Figure 1).

The working area should be clean and well lighted. All supplies and equipment should be placed for easy access. Work on one pig at a time, completing the processing for an individual pig before starting on another one.

These practices should be performed away from the mother sow, preferably in another room, since squealing pigs may upset her and other sows in the farrowing house. The pigs may be transported to the working area in a box or cart preferably with two compartments. In some operations it might be more practical to perform these skills at or near the farrowing crate or pen. Be careful when removing the pigs from the farrowing crate, because the sow might bite to protect her litter.

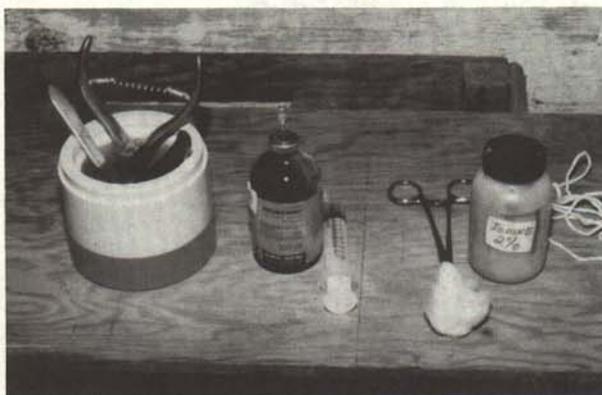


Figure 1. Materials and equipment used in processing baby pigs.

### Records

Many pork producers use production records to identify strengths and weaknesses in the operation. This recordkeeping process usually starts at birth when identification (see ear notching) is done for the purpose of tying information to the pigs. Items that can be recorded when processing baby pigs are birth date, pedigree information, name or number and breed of the sire and dam or breed composition of the pigs, which is very important in implementing an effective crossbreeding program. See PIH-39, Crossbreeding Systems for Commercial Pork Production. Remarks on anything unusual or wrong with the pig or dam should be noted. If the pigs are to be individually ear-notched, record all the identification numbers to be used on the litter.

### Weighing

Pork producers who use birth weights as part of their

management system can incorporate the weighing into the pig processing routine. Most pigs are not weighed at birth, but if they are this should be done first, followed by the rest of the processing. Weigh each pig and record the sex and weight. A total litter weight is often sufficient information (Figure 2).

### Restraining the Pig for Processing

One of the very successful and efficient methods of holding and restraining the pig is as follows (This method assumes you are right-handed): Place your left thumb (Figure 3a) into the crease behind the pig's right ear about midway from top to bottom. Maneuver your left index finger across the front of the pig's face and into the corner of the left side of its mouth, behind the needle teeth. Your left thumb will end up either behind the pig's ears or in front of them depending upon the length of your fingers. Beware not to choke the pig by pressing the remainder of your fingers into its throat. Use the fingers under the jaw to support some of the pig's weight. Dangle the pig in front of you and it will struggle less than if you pull it against you. You can also sit and support its weight on your knees, if necessary.

With the pig in this position, it usually does not struggle or squeal, and you can cut the teeth, cut the tail, inject into the muscle of the neck, and dip the tail and navel, in very rapid succession without changing the hold on the pig.

### Navel Cord Care

During pregnancy the fetus obtains nutrients and voids urine through the umbilical (navel) cord. When this cord is broken as the pig leaves the birth canal, the passageway within the cord provides a potential passageway for bacteria into the body of the newborn, and sometimes infection results. To help in preventing infection, the navel can be treated with a tincture of iodine (USP-2% solution).

Sometimes newborn pigs bleed excessively immediately after the umbilical cord breaks, especially if it breaks shorter than 4 to 5 inches. The loss of blood will cause the pig to get a poor start and possibly die. If bleeding does occur from the navel, tie off immediately with string using a square or surgeon's knot (Figure 4). The cause of the excess bleeding could be due to a failure in the blood clotting mechanism.

With disinfected side cutters, cut off the navel cord. If the navel has been tied, you can leave about 1 inch (Figure 3b). Leave 3 or 4 inches if the navel has not been tied; check for bleeding if navel is fresh. Apply iodine antiseptic by swabbing, spraying or dipping (Figure 3c). The dip method requires placing the navel inside the antiseptic bottle and shaking gently. Any of these methods is satisfactory, but be sure to get good coverage of the navel. Use disinfected sidecutters and a fresh iodine solution, since iodine solutions break down in the presence of organic matter. A contaminated iodine solution might actually cause an infection. If the cord is dry and shriveled, it may not be necessary to treat. Just cut it off, leaving about an inch of cord.

### Clipping Needle Teeth

The newborn pig has eight needle teeth, sometimes referred to as wolf teeth which should be clipped within 24 hours after birth. They are located on the sides of the upper and lower jaws. Clipping these teeth is necessary because pigs may bite each other and the sow's udder, leaving small cuts to become infected. The irritation may be so severe that the sow might refuse to nurse the pigs.

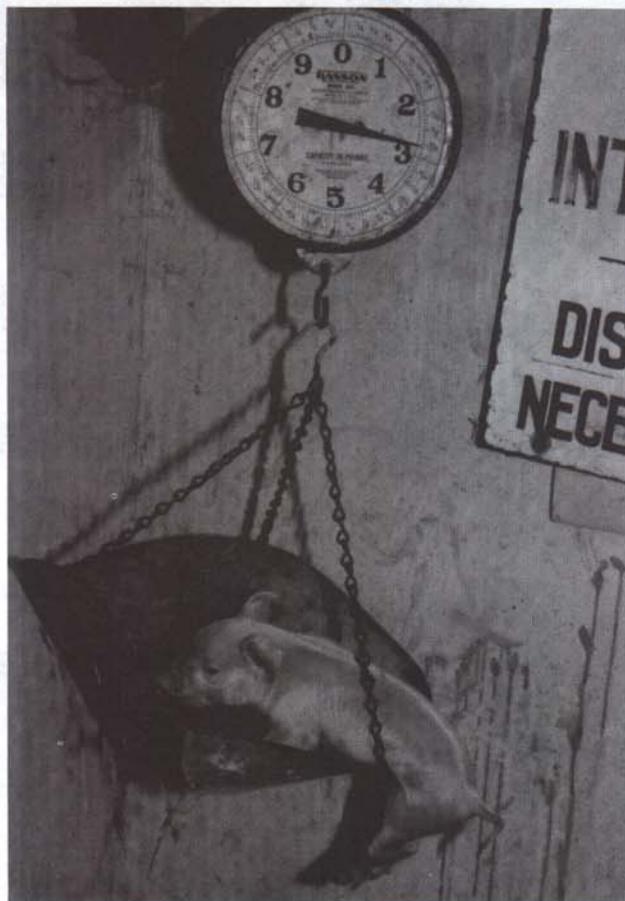


Figure 2. A simple scale used for weighing pigs.

Place the sterilized sidecutters over both lower needle teeth on one side with the flat side to the gum line (Figure 3d and 3e). Make sure the sidecutters are parallel to the gum, and cut off one-half of the two lower teeth at once. Turn the sidecutters and cut the two upper teeth. Do the same to the other side. Be careful not to cut the pig's gum or tongue. Cutting teeth too short may cause an abscess on the jaw that is sometimes called "bull nose."

### Tail Docking

Recommended floor space in modern pork production systems provides for adequate pig comfort. However, space is more restricted than in outside lots, and pigs will sometimes try to bite or chew on their penmates. The undocked tail is a very convenient target, and sometimes results in tail biting or cannibalism. This leads to injury and possibly infection. To prevent tail biting, tails are docked (or cut off) newborn pigs. Tail docking usually is required at feeder pig markets. Tail docking should be done within 24 hours after birth because it is least stressful on the pig for these reasons: the pig is small and easy to hold; at this age littermates are less likely to investigate and nip or bite a newly docked tail; the pig and farrowing area are still clean; and the pig is well protected with antibodies from the colostrum milk of the sow. Use sterilized sidecutters or equivalent with a blunt cutting edge to dock the tail about 1 inch from the place where the tail joins the body of the pig. Leave no more than one-half to three-quarters of the tail (Figure 3f). Apply antiseptic to the wound. The tail should be completely healed within 7 to 10 days. Do not use a very sharp instrument, such as a scalpel, because excess bleeding will occur. Cutting the tail



Figure 3a. An efficient method of holding and restraining the pig.



Figure 3b. Clipping the navel cord.



Figure 3c. Dipping the navel with a fresh tincture of iodine.



Figure 3d and e. Clipping the needle teeth.

too short could interfere with the muscle activity around the anus later in the pig's life and could be an aggravating factor in anal prolapse. If too much tail is left, tail biting might still occur. Occasionally, a tail will bleed excessively. If this occurs, tie it off using the same method as for navel cords.

#### Iron Injection

Iron injection is necessary to prevent anemia. See E-1159 *Baby Pig Anemia*. Iron-deficiency anemia

develops rapidly in nursing pigs because of low iron in the newborn pig, the low iron of sow's colostrum and milk, the lack of contact with iron in the soil, and the rapid growth rate of the nursing pig. With no access to soil, iron deficiency anemia may result within 7 to 10 days after birth. Oral iron often prevents anemia but might fail for pigs with diarrhea or those not consuming creep feed.

Iron should be administered to the pig within 3 to 4 days after birth. The iron injection is often administered at the same time the other practices are performed to save



Figure 3f. Docking the tail. Leave about a 1-inch tail stump.



Figure 3g. Injecting iron into the neck muscle.

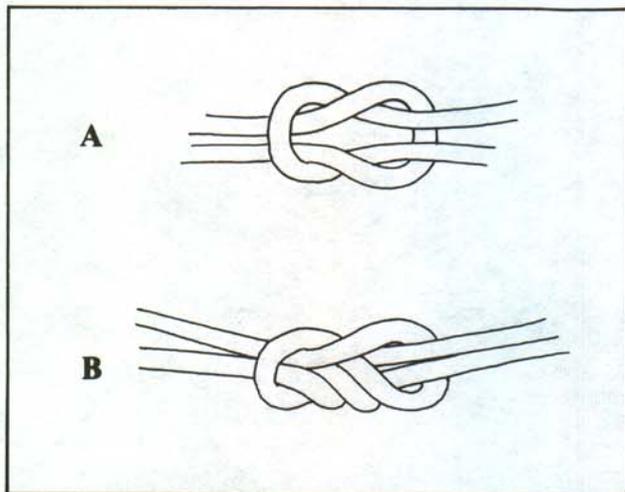


Figure 4. A. square knot; B. surgeon's knot.

labor. If pigs are to be weaned by 3 weeks of age, a single injection of 100 mg. of iron will suffice. If pigs are to be weaned later than 3 weeks of age, then 150 to 200 mg. of iron should be injected. A single injection is usually adequate. If sows are heavy milkers with rapidly growing pigs that do not consume creep feed, a second iron injection may be necessary before weaning. Using a clean syringe, withdraw the iron solution from its container, using a 14 or 16 gauge (large diameter) needle which is left inserted in the container. After filling the syringe, use a 20 gauge, ½-inch needle to inject the iron into the pig's muscle. Do not overdose, as too much iron can be detrimental and even toxic. Check the label on the iron product for dosage. Injection needles need not be changed or disinfected between pigs; but, the injection site, if dirty, should be wiped clean with an antiseptic. Clean and disinfect

instruments after processing a group of baby pigs. The use of disposable syringes and needles facilitates sanitation.

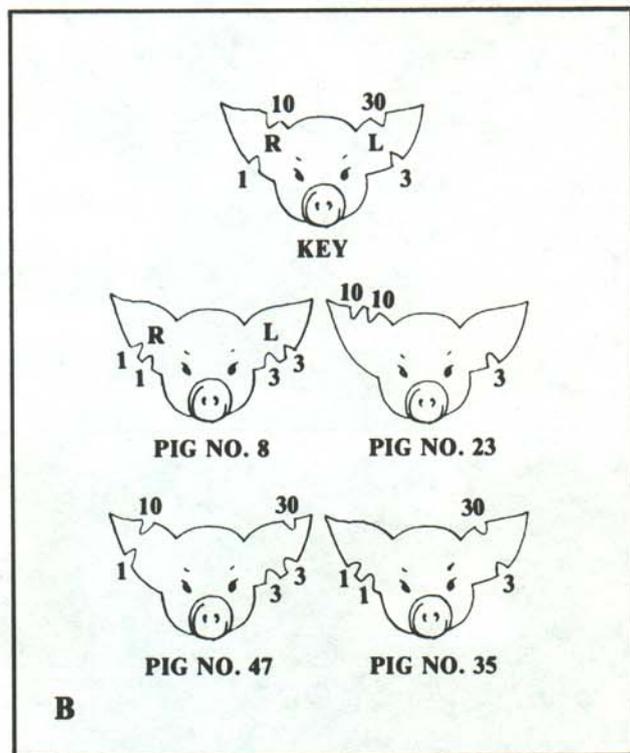
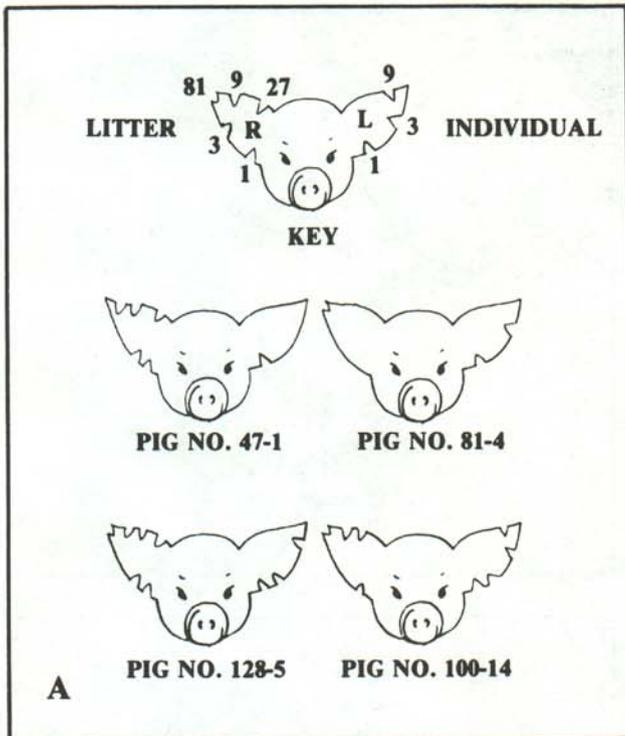
Iron should not be injected into the ham. The injection should be given in the neck (Figure 3g) because of possible nerve damage and, also, because of a residual iron stain in the carcass of market hogs if it is given in the ham. Inject the iron into the neck muscle just off the midline. Be careful not to inject into the spinal area. Keep a finger on the site momentarily to help prevent or reduce runback. Recommended site for subcutaneous injections is the loose flank skin in front of the hind legs.

#### Ear Notching

Ear notching is the most common method for permanent pig identification (See the section on records). The notches or holes grow as the pig grows. Ear notching should be done soon after birth for immediate identification. Each pig must have a unique ear notch in many seedstock herds because it is a requirement for pedigree and performance records. It is not necessary that each pig have an individual number in operations where all hogs except replacement gilts are marketed for slaughter. Each litter, or all pigs in a farrowing group, or only gilts to be considered for replacements, might be ear-notched at birth with the same pattern. Market hogs might be notched with the week they were born, starting with week-one on January 1 and July 1. This makes it possible to calculate days to market weight.

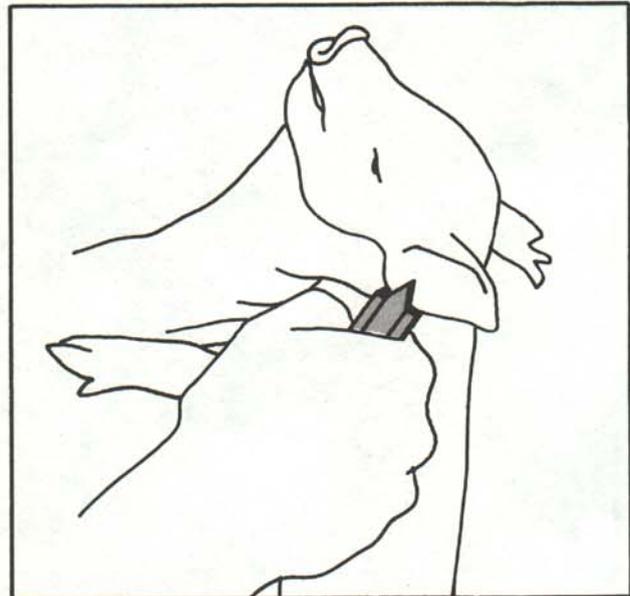
#### Ear Notching Systems

The most common individual pig and litter ear-marking system is shown in Figure 5a. It is the identification system required by the purebred swine associations in the U.S. The litter number is notched in the pig's right ear and the individual pig number in the pig's left ear. Figure 5b shows another system that might be useful for some operations.



**Figure 5. Examples of ear-notching numbering systems: A. Universal ear-notching system using litter and individual pig numbers; B. Using individual pig numbers.**

Count the pigs and record (if applicable) the pig numbers for this litter on the farrowing record form. Use a V-ear notcher (Figure 6) designed for newborn pigs. Notch all males first, then females, or vice versa. Notches that are too shallow may fill in, heal over, and be difficult to read. A notch that is too deep may result in a torn ear. Leave at least 1/4 inch between notches. Do not make notches too close to the tip of the ear, as these can be torn off. When



**Figure 6. Notching the left ear.**

you have notches on both, top and bottom of the ear near the tip, position them so that the deep points of the notches are offset from each other. When making a notch on top of the ear close to the head, uncurl the ear with your fingers so you can make it deep into the cartilage. Otherwise, it might be unreadable after it heals.

Usually, the litter number is notched first in one ear and then the pig number in the other. It is a good idea to keep your attention on what you are doing because, once a mistake is made, it is permanent!

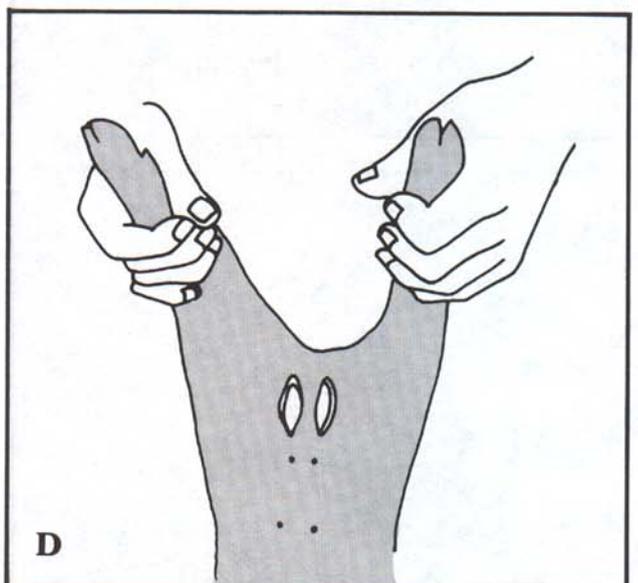
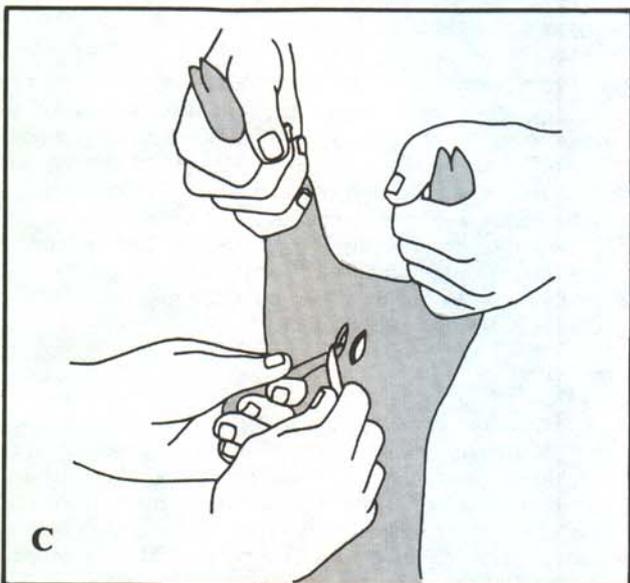
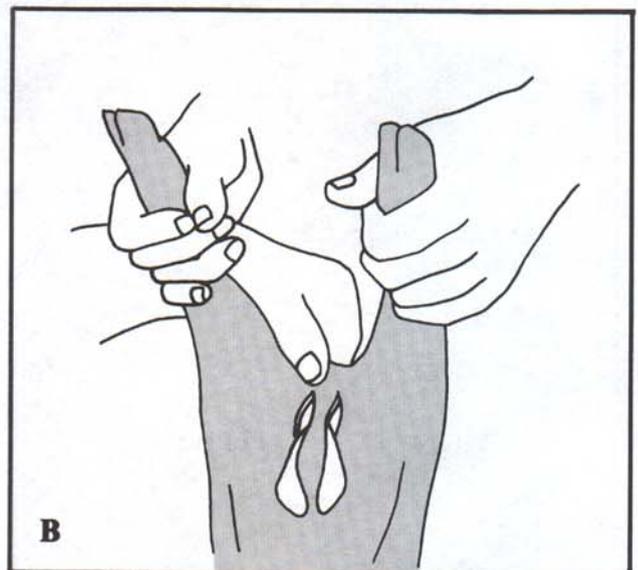
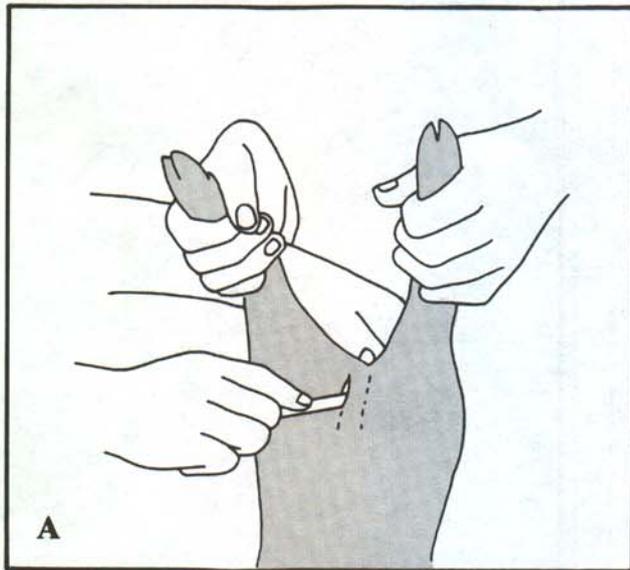
### Castration

Castration, the surgical removal of the two testicles, is a routine management practice for male pigs destined for slaughter. The testicles produce sperm and the male hormone, testosterone. Pork from boars, or uncastrated male pigs at slaughter weight, may have an odor during cooking that is very offensive to many people. This is called a "boar odor" or a "tainted" odor.

Various techniques are used for castration. The position of the animal during surgery and the method and degree of restraint are dictated by the age and size of the animal. The best time to castrate a pig is between 1 and 21 days of age. Young pigs are easier to hold or restrain. They bleed less from surgery and may have antibody protection from the sow's colostrum. Pigs can be successfully castrated on day one. One of the major disadvantages of castrating early is that scrotal hernias are more difficult to detect. Most scrotal hernias are genetic in origin. Do not keep for breeding, boars and gilts from any litter in which one or more pigs was herniated.

For pigs several weeks old, one person holds the pig by the rear legs while the other person does the castrating (Figure 7). For younger pigs, it is possible for one person to hold the pig with one hand (Figure 8), or between the knees and also do the castration. A mechanical pig holder can be used.

Once the pig is restrained, clean the scrotum and surrounding area with a cotton swab soaked in a mild disinfectant. A disinfected, sharp, castration knife, scalpel, or razor-blade type instrument can be used to make the incision. Examine the testicles before making the incision to determine if there are two of similar size. If there is a scrotal enlargement, it could indicate a scrotal hernia or rup-



**Figure 7.** Castration procedure for pigs several weeks old: **A.** Making the incision; **B.** Squeezing out the testicles; **C.** Cutting the cord; **D.** Testicles removed; **E.** Restraining the pig; **F.** Removing a testicle.



**Figure 8. One person castrating a young pig.**

ture. Do not castrate the pig unless you are trained to repair hernias. The pig's intestines will be forced through the incision. Sometimes the testicle is removed before a scrotal hernia is discovered. If this happens the herniation must be repaired by suturing immediately.

If one or both testicles are not found, the pig may be a cryptorchid, meaning that the testicle(s) failed to descend through the inguinal canal from the abdomen during development. When this condition is noticed, ear notch the pig and make a record of it. Often, the testicle(s) will descend to a normal position as the pig grows. The pig should be castrated later, after the testicle presents itself.

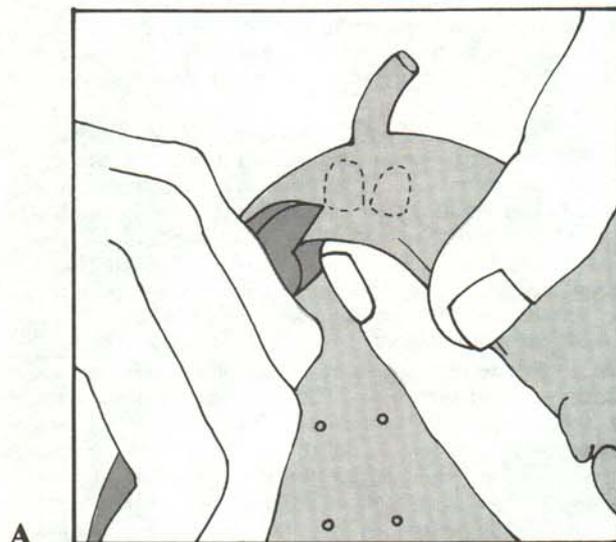
With one hand, tighten the skin over the scrotum to help expose the testicle and the site for the incision. With the castration instrument, make two incisions about as long as the testicles near the center of each. Cut deeply enough to go through the outside body skin. Cutting or not cutting the white membrane (tunica vaginalis) which surrounds the testicle is an individual preference and is optional on small pigs. Squeeze, or pop, the testicles through the incision. If it is difficult to get the testicle through the incision, enlarge the incision slightly at the end closest to the tail.

Pull out the testicle toward the tail at a right angle to the length of the body and cut the cord close to the incision. Do not pull straight up on the testicle. Repeat the procedure for the second testicle. It is best not to apply antiseptic because it causes the pig to sit and rub dirt and debris from the floor or bedding into the incisions, causing more harm than antiseptic does good.

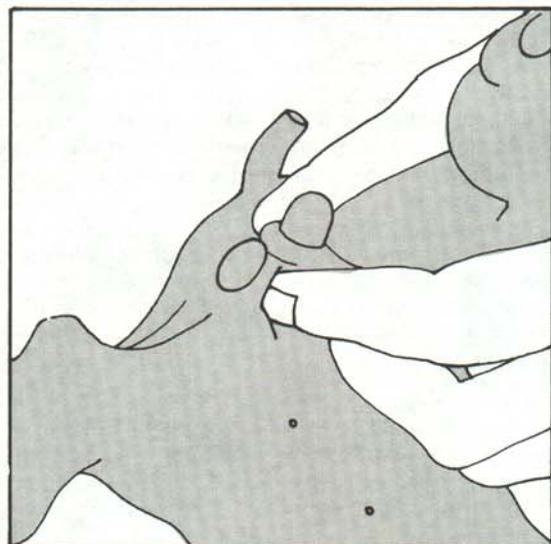
Later, observe castrated animals for excess bleeding or the presence of tissue or intestines (hernia). Cut off any cord that may be protruding from the incision as this may serve as a wick for infection but make sure it is not intestine. If intestines protrude, gently push them back through the opening and close up by suturing the tunica vaginalis. It is much easier to replace the intestines if the tunica vaginalis covering the testicle is not removed during castration.

#### Side Cutter Method of Castration

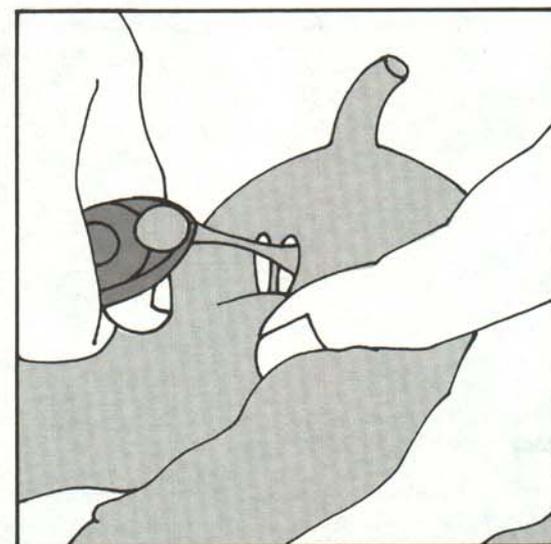
The side-cut method of castration is successfully practiced in some parts of the U.S. (Figure 9). It is a simple



**A**



**B**



**C**

**Figure 9. Castration, using a sidecutters: A. Making the incision; B. Exposing the testicles; C. Removing the testicle.**

technique that is performed between 4 and 10 days of age, when pigs are small, requiring only one person to do the job. Problems can be encountered when pigs are castrated at less than 3 days or older than 10 days using this method.

For this method,\* the pig is held with one hand by one leg, belly outward. With the middle finger, or whichever is comfortable to use, the testicles are made more pronounced. The resulting fold of skin is where the incision, is made. Disinfected side cutters are positioned about two-thirds of the way into the fold with a clean cut made directly through the scrotal tissue (right of the midline). After the cut on the right side has been made, a similar incision, but to the left of the midline, is made. The testicles are made to pop out through the incisions as they are pinched with the thumb and forefinger of the same hand that is holding the pig. Important: Press very firmly with the thumb against the pelvis of the pig in front of the scrotum when pulling the testicles out with the side cutters so that the cord will break off at the point where the thumb is pressed. Otherwise it is common to cause a hernia. There is little or no bleeding with this method. The testicle, after it is exposed, is grasped with the side cutters. Care is taken to avoid cutting through the cords beneath the testicle as they are now ready to be pulled out with the testicle. The right testicle and associated cords are pulled out slowly and steadily. There is no cutting of the cords in this method as they are pulled out completely with the testicle. Remove any loose cord tissue left outside the incision. Nothing but the disinfected side cutters touches the exposed tissue.

For beginning pork producers, it is often best to have a veterinarian or other skilled individual demonstrate the proper techniques of castration. Some State Extension Services also conduct swine farrowing schools that teach castration and other skills in taking care of baby pigs.

### Summary

Your goal should be to process a litter of pigs in about 10 minutes (does not include castration). Pigs born during the night are processed as one of the first jobs in the morning. Those born during the day should be processed

\*Hartman, T. J., D. C. Mahan, L. Watkins, J. Reed, D. Dawson and M. Olinger. 1979. "A New Early Castration (side-cut method) Procedure for Young Swine." From *Ohio Swine Research and Industry Report*, pp 1-5.

as soon as possible after birth. All of the following should be done before moving on to the next litter. Begin processing by:

1. Weighing pigs if this is done on your farm.
2. Clipping navel cord.
  - a. Restrain the pig (see section on holding the pig).
  - b. Dip cutting tool in disinfectant.
  - c. Cut the navel cord.
3. Clipping teeth.
  - a. Hold pig in same position as above.
  - b. Dip cutting tool in disinfectant.
  - c. Cut the eight needle teeth.
4. Cutting tail.
  - a. Hold pig in same position as above.
  - b. Dip cutting tool in disinfectant.
  - c. Cut tail leaving about 1 inch.
5. Giving injections.
  - a. Hold pig in same position as above.
  - b. Give iron and other injections that you use on your farm.
6. Notching ears.
  - a. Hold pig in a position most efficient for you.
  - b. Dip notchers in disinfectant.
  - c. Notch ears, using system for your farm.
7. Applying antiseptic to navel, tail, and ear.
8. Castrating (see castration section).

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Reference to commercial products is for clarification purposes only and is not an endorsement of those mentioned nor discrimination against those omitted.

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