MAKING THE MOST OF THE SUCKLING PERIOD

Know why you do what you do and do it well!

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ABSTRACT

This paper and accompanying breakout session discussion was intended to help farm owners and managers refine the skills necessary to write and implement Standard Operating Procedures for the care of sucking pigs. Standard Operating Procedures should address specific practices and be effectively used animal caregivers. Standard Operating Procedures result in better care of pigs, enhanced productivity, and increased profitability.

INTRODUCTION

In the Introductory Swine Management course, taught each fall at Michigan State University, students study swine production practices and technologies. The desired outcome is that they would know how things are done and why they are done in a certain fashion. To facilitate this learning, students are required to complete two critical assignments, the writing of a Standard Operation Procedure Briefing and the writing of Standard Operating Procedures.

The Standard Operating Procedure Briefing (SOPB) is a 3 to 5 page review of current scientific literature which describes the justification for a specific production practice. The SOPB is written to answer the questions, “Should I do this on my farm? Why or why not?” The title of the SOPB should be written in form of a clearly understood question. The introduction should be sufficient, concise, and provide a clear scope of topic. The body of the paper briefly and thoroughly reviews original research papers focused on the specific swine management practice. Pertinent research methods are mentioned, but mostly undesirable or desirable outcomes are summarized. In the conclusion, the writer clearly states what to do or not to do. The conclusion must convey conviction and effectively convince others. References should be included; allowing another person to find the original research.

A Standard Operating Procedure (SOP) accurately explains in writing how to do something and when it should be done. It is a complete, logically ordered description of a process or technique or procedure. It should be very easy to read (large print, bold print, italics, indenting, and one aspect per page, correct spelling, spacing, and possibly with purposeful illustrations or photos). SOP’s are best presented in outline or bullet format, using brief statements describing actions. Too much text or verbiage should be avoided. They should have an attractive professional appearance. References are generally not included in the SOP as they are included in the SOPB. Ultimately, an SOP should effectively train. The best test is how well it trains the novice person.
A farm’s SOP manual is a comprehensive, typewritten set of production practices, specific to that farm. SOP’s should be quickly and readily accessed by all who work on the farm. Existing SOP’s should be reviewed and updated regularly to include new practices or changes in practices. The changes should be based on new research and summarized in a SOPB that justifies and describes the revisions.

EXAMPLE – BABY PIG CARE BIRTH TO WEANING

The Pork Information Gateway or Pork Industry Handbook factsheet entitled ‘Baby Pig Management – Birth to Weaning’ (Reese et al., 2007) is an excellent publication about practices meant for piglets from birth to weaning. The bulletin was written to discuss all practices. For some practices, an ‘active’ tense is used to describe how it is to be done. So the bulletin has portions that are SOP-like and could be used to train employee. The bulletin also includes portions that describe why various procedures are done. So in that manner, the bulletin is SOPB-like. However, references are not included and so the science justifying a practice cannot be studied to determine if the recommendation in the bulletin is true in all situations or if it is still relevant within modern intensive production systems.

To understand better how SOP’s are written, an example of text from this factsheet about colostrum intake can be examined:

- Prevent chilling so piglets stay warm and active.
- Split suckle. This involves removing part of the litter for one to two hour periods the first 12 hours after farrowing. For best results, remove the largest, strongest piglets for a one to two hour period during the morning and again in the afternoon, leaving the small piglets on the sow to nurse. Give the sow 20-30 U.S.P. units of oxytocin (1 to 1.5 ml) each time the largest piglets are removed. Be sure to hold the large piglets in a box fitted with supplemental heat to prevent chilling. Use this technique to ensure high colostrum intake before crossfostering.
- Collect colostrum from the sow or obtain cow colostrum and give it to piglets via a stomach tube or a syringe. To milk a sow, remove all her piglets for one hour. Then give her 20-30 U.S.P. units or 1 to 1.5 ml of oxytocin, wait one or two minutes, then strip her teats (front teats are better because they produce more milk) to obtain colostrum. Cow colostrum also can be used and may be more easily obtained. Either type of colostrum can be frozen in ice cube trays for future use. However, do not thaw the cubes in a microwave oven, because rapid thawing reduces the immunological value of the colostrum. Stomach tubes can be made from model airplane fuel tubing or by using a urinary catheter (size 14 French) available from medical supply stores. Attach the tube to a syringe and lubricate the tube with vegetable oil or KY jelly before inserting it 6-7 inches into the piglet’s stomach. Give the piglet 10-15 ml of colostrum once or twice during the first 24 hours of life.

Notice that the first bullet statement above is reasonable as it relates to good production. It does not, however, tell the reader specifically ‘how’ to prevent chilling. The second bullet has more action statements, “remove the largest, strongest piglets for a one to two hour period” and “give the sow 20-30 U.S.P. units of oxytocin (1 to 1.5 ml) each time
the largest piglets are removed. But even these lack enough detail so that a person could be confident in accomplishing these tasks. An employee may ask “Is it one or two hours?” and “Where and how do I give the injection?” The content of the third bullet likewise has a few good action statements which could be developed into SOP statements, with just a bit more detail and exactness. But as is, there are questions which must be answered before a novice could accomplish provision of supplemental colostrum to disadvantaged piglets.

Another very informational document about the care of the piglet during lactation is Chapter 7 in the Swine Nutrition Guide (Patience et al., 1995). A portion of this chapter is also devoted to the importance of colostrum intake by the newborn piglet (below). Action statements have been underlined to draw attention to them here. However, a person reading these statements will likely have questions about “How do I observe litters? What do I look for? How do I know they are weak? How do I assist them? How long would I hold them up to suckle a teat? If I split the litter in half, where do I find a box with a heater? How much cow colostrum do I give each piglet?” The bulk of the text from this publication is reasoning for intervention and a discussion of the importance of colostrum intake. It is excellent background material to be included in an SOP and would give a new employee an appreciation for why procedures should be followed. However, it would not be something a new employee could read and grasp what exactly should be done.

The first requirement for successful piglet feeding is to ensure that each newborn receives an adequate supply of colostrum. Colostrum is the first milk produced by the sow after parturition; its function is to provide nutrients and other essential substances in a highly concentrated form. In addition, colostrum helps to increase disease resistance in piglets by providing immunization with immunoglobulins (also called antibodies). Immunoglobulins are proteins, absorbed by the newborn pig's gut, that provide protection against disease.

The immunoglobulin concentration of sow's milk declines very rapidly after farrowing. In addition, as a result of a process known as gut closure, piglets rapidly lose their ability to absorb immunoglobulins. If piglets do not suckle during their first 24 hours; they have a greatly reduced chance of obtaining adequate immune protection and may not survive. A point to remember: immunoglobulins present in the colostrum are effective only against diseases to which the sow has been exposed. If pregnant sows are brought into a new barn and farrow within 21 days, they may not protect their offspring against bacteria present in the new barn. Scouring in newborn piglets is one symptom of inadequate sow exposure to disease causing organisms.

To ensure all piglets acquire colostrum, producers should take the time to observe litters shortly after farrowing and assist weak piglets to suckle by giving them access to the sow's udder. One way to give access is called "split suckling". Shortly after birth, half the piglets are removed from the sow and are kept in a warm, dry box. The two halves of the litter are rotated on and off the sow to give individual piglets' maximum opportunity to suckle and receive colostrum. Currently, commercial products that contain immunoglobulins and highly digestible energy sources are available. An oral dose of these products may reduce a newborn piglet's need for its mother's colostrum.

Another way to ensure piglets receive some colostrum is to keep a supply of cow colostrum in the freezer and give weak and unthrifty piglets an oral dose (using a small syringe) if they have had inadequate suckling of their mother's colostrum.
In contrast to the two examples discussed above, the next and last page of this proceedings paper contains an example of text and formatting which is more typical of what may be included in an effective SOP about ensuring all piglets consume adequate colostrum. It is more reader-friendly, action oriented, and thorough in addressing all aspects of the split-suckle process.

CONCLUSION

Those who own and manage farms which have employees will be continuously challenged to train their employees how to best care for the animals on the farm. A Standard Operating Procedure Briefing (SOPB) is an evaluation of current scientific literature related to a specific production practice, in order to answer the question “Should I do this on my farm? Why or why not?” If the decision is to ‘implement the practice on the farm’ then the Standard Operating Procedure is written to help employees quickly develop the abilities to consistently complete the procedure effectively. Together, Standard Operating Procedure Briefings and Standard Operating Procedures result in better care of pigs, enhanced productivity, and increased profitability.

LITERATURE CITED