factsheet
Pork Information Gateway

Efficient Employee Management

Author
Dr. Michael K. Swan, Washington State University

Reviewers
Dr. Diane Jackman, Eastern Illinois University
Mr. Gary Thome, Riverland Community College
Dr. David Doerfert, Texas Tech University

Introduction

Some swine barns produce pigs with much less labor and frustration than do others. This fact sheet identifies various factors that contribute to these disparities and what might be done to improve your employee efficiency.

Many adjustments to decrease time and labor are done for economic reasons:
- to reduce the cost of hired labor;
- to increase production with the same labor;
- to redirect labor hours to more profitable production enterprises.

Other changes are done primarily to improve the quality of life for the owner or operator. For example, an operator spends $5000 putting in windows in the swine barns so that they might see outside. In such cases the question is not "Can I justify this economically?" but rather "Can I afford it?"

Labor efficiency in swine barns are influenced by the following:
- physical building and room layout;
- production flow;
- level of automation or mechanization;
- quantity of equipment repairs required;
- work routines.

Layout

Larger farms have an advantage here: a farrowing room with 18 crates takes less time to manage per sow than a room with only 6 crates.

In addition to size, a good layout saves time by minimizing the distance that pigs feed and employees have to travel. Consider two weaner barns each with six rooms and identical pen areas. A midday weaner room check requires employees to walk 324 feet in the center hall layout compared to 600 feet in a motel style layout. Furthermore, the motel style layout in this example requires 25% more barn area. The underlying principle here is to reduce the hallways and alleyways to a minimum.

Room location will have an affect on time. Areas requiring frequent inspection such as farrowing and nursery are better placed close to the office and staff areas. Dry sow and finishing can be at a further distance and still be efficient.
Older operations that have expanded through modifying existing buildings have any number of compromises. Ramps in alleyways create impediments to moving feed carts. Structural posts can be in the way of doing chores. Repairs in such

barns are more frequent.

Drawing a map of the barn and superimposing the path taken to do chores may assist in identifying layout problems more clearly.

Production Flow

All-In/All-Out:

The trend to single stage, all-in/all-out nurseries (weaners stay in one room for their entire weaning period) saves a sequence of moving pigs and washing rooms over a two stage, hot room/cool room system. Cleaning is easier as the rooms are emptied completely and no care is needed to avoid spraying other pigs. Such systems do cost more initially because more pen space is required.

Multiple Weekly Schedule:

For smaller herds, producers can concentrate their work and improve labor efficiency by weaning sows every 2nd, 3rd or even every 5th week rather than every week. It takes less time to wash six weaner pens every other week than three pens every week. All in/all-out can be achieved with fewer rooms which are bigger and more practical.

Automation or Mechanization

Labor-saving equipment and systems have reduced the time needed to raise pigs. The change from straw to liquid manure for farrowing operations during the 1970s doubled the number of sows (from 50 to 100) that an individual operator and his family could handle. With more recent developments, this number has continued to grow.

Feeding:

Mechanical systems like auger, chain, pneumatic and liquid delivery systems are all used to reduce time and labor. Four times as much feed goes to the finishing barn than all the other areas combined. This should be the first to be automated.

Even modest improvements can save a significant amount of time. Shut-off micro switches added to milling or auger equipment saves observation time. Augers can be installed to move feed from the feed room to the pig rooms where it may still be delivered to the pigs in carts. Even the lowly feed cart can be improved by custom sizing it to fit particular alleys or by adding better quality wheels for easier faster rolling.

Pressure Washing:

Plumbing of high-pressure lines with quick disconnects to each room costs little and saves the time needed to drag portable units throughout the barn. Add a second, shorter wand for cleaning up close.

Special dirt-cutting nozzles which rotate a stream of water with a 0E spray pattern are very effective in cutting through caked-on manure and can reduce washing time by half. This will conserve water usage over time.

Hot-water systems cost more to install and operate but they can clean more thoroughly, lifting off the final grease layer that cold water leaves behind.

Presoaking the room for 30 minutes reduces washing time significantly. A water line with cheap lawn sprinkler heads can be mounted on the ceiling to do this job. To save water, put this water line on a timer or time clock.

The types of materials within the pig barn influences cleaning times. Two brands of plastic-coated flooring can have different clean abilities. An important factor is surface smoothness. Closely examine the material and rub your finger across it to determine its smoothness. In the absence of long-term controlled tests, your best bet is to consult with other producers as to their experience. Many of these materials, including the plastic floors, become more difficult to clean with age.

Moving Pigs:

Moving pigs can be a frustrating, time consuming exercise without the proper aids, proper procedures and a good deal of

patience. Careful preparation for moving pigs will avoid many problems.

The primary pig-moving device is a handheld crowding board of plywood or aluminum. Some cut this board into three hinged panels for more flexibility in alleys which are narrow or of varying width. For small pigs, it can be placed on the floor as a temporary barrier.

The route that the pigs travel must be free of visual distractions and hazards. Closed pen fronts remove the big distraction of other pigs. Alleyways must be clear of feed carts, shovels, unprotected gutters or other hazards. Gates and doors need to be securely positioned.

Alleyways, especially at corners, should be well lit. Pigs are attracted to light as long it does not glare in their eyes. This behavior can be exploited by leaving a light on in the room into which the pigs are being moved and darkening the hallway. A crowding board propped across a passage to redirect pigs is simply asking to be knocked down.

Time committed to correcting the particulars of pig flow is time well spent.

Repairs

Equipment repair is time consuming. There is a trend to using better, non-corrosive materials such as stainless steel and plastics to reduce the labor and expense of future replacement.
When installing new equipment, consider how it can be easily removed in the future. To cut the time and frustration in half, only make repairs with the pigs out of the pens.

Ventilation:

Due to the humidity and ammonia levels in swine barns, ventilation equipment is particularly subject to much deterioration. Maintenance can be reduced by choosing the following:

- fans made of non-corrosive materials such as Fiberglas and plastic housings, stainless steel motor mounts;
- connectors (motors to frame, housing to wall) of stainless steel;
- brands of motors which can be serviced locally;
- inside mounted plastic shutters for ease of cleaning, longer life;
- insulated doors to seal off the summer fans from the inside during the winter to reduce deterioration;
- a limited variety of fan motors so that spares might be kept; and
- a limited variety of thermostat types so that spares might be kept and the equipment better understood.

When purchasing ventilation equipment or indeed any equipment, a good practice is to ask yourself which component of this equipment is the weakest link and is likely to fail first. Refer to Ventilation Fact Sheet for more specific information.

Routine Maintenance:

Equipment breakdowns are always ill timed as they disrupt the normal work schedules. Regular maintenance can avoid some of these failures. For example, replacing a squeaky feed auger bearing today may avoid the problem of replacing a burned out motor and hungry pigs tomorrow. Preventative maintenance should be part of a weekly routine just as vaccination is an investment in preventing future problems. Develop a regular maintenance schedule and follow it.

Work Routines

Many of the ideas that improve labor efficiency involve changes to the barn, from a major change in layout to a small fine tuning of lighting for improved pig flow. But how do you determine if changes are necessary?

Daily Swine Work Log:

Time management consultants in industry ask their clients to start by keeping a log of how they spend their time. In contrast to other swine barn records you keep, the log need only be kept for a two-week period. Once completed and collated, the totals can be analyzed to determine which tasks are taking too much time.

Map of Barn Layout:

A lot of steps in your chore routines may be wasted in backtracking. To identify such problems, draw a map of the barn

and superimpose on it the route that employees follow in doing their barn chores. Possible changes to the route or even renovations to the barn are easier to visualize with such a map.

Detailed Listing of Work Routines:

Develop a detailed daily work routine. As with the map above, this will challenge management and employees to consider every move that everyone makes and will probably identify changes that should be made, either to the routine or to some physical feature of the building or equipment.

There is an important secondary benefit. Written out work routines can be used by someone else to run your operation while you are away on vacation or in times of emergency. Work routines should be expanded to include additional information particularly for unusual situations. For example, noting where the main water shut off is could be of great interest to someone doing your chores if a water line breaks.