

# Limitations to Improvements in AI Efficiency

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## ■ Introduction

Limitations to the improvement of artificial insemination in swine should not be correlated to the lack of technology. In fact, the amount of technology waiting to find its way into swine production is almost overwhelming. The limitation is not technology, but rather implementation. How do we make these new technologies work on the farm? Far too often when new technologies are implemented they are taken out of the context for which they were intended. For example, transcervical insemination was developed for use with sexed semen, delivery of frozen semen and potentially for non-surgical embryo transfer. However, the implementation of this technique in the industry was to reduce the cost of semen by splitting semen doses. This increased the variation in reproductive performance and therefore actually reduced interest in this technology. An associated problem is placing too much confidence in new equipment or techniques, while forgetting or abandoning basic principles of swine reproductive management. We must be aware of these pitfalls.

Several important points must be discussed when adopting new technology. First, what is the biological limitation of the technology being implemented? For example, if one has a 90%+ farrowing rate and a total born of 12+ pigs per litter how much can we expect technology to deliver. Once performance optimums are achieved, technology benefits the operation by reducing costs, reducing labour or improving the use of genetically superior animals. If some such value cannot be captured, it is difficult to convince managers or employees to make the change.

Secondly, the errors made in trying to adapt new technologies are numerous. Problems with adoption of new technologies involve:

- Lack of training and information

- Lack of focus on the details
- Lack of success and fear of failure
- Increased costs and/or labour so production reverts back to no change at all.

Rozeboom (2000) wrote a review on the *constraints* of new reproductive technologies that are emerging in the swine industry. The focus of this paper will be on issues that *cause* constraints on implementation of new technology.

## ■ Training Employees

The two most common reasons that people do not do what they are supposed to do are:

- They do not know why they should do it.
- They do not know how to do the task (Fournies, 1988).

Far too often employees are placed in a position, or given a task with job requirements, that they are not capable of implementing. Employees listening to a set of instructions will agree or nod their heads to acknowledge that they understand what to do. Often employees are afraid to ask questions because of poor or negative responses given to them in the past, thereby inhibiting good communication.

There are several learning principles that can help improve an employee's training experience.

- **Participation** – Active learning, such as hands on training, seems to last longer and is a quicker process than using written or oral instructions.
- **Repetition** – Sometimes this is not as enjoyable as other methods, but a great deal is learned this way. Be creative to make it interesting.
- **Relevance** – If the material is meaningful, they will learn it faster.
- **Transference** – The closer the demands of the training program match the demands for the job, the faster a person will learn to master the job.
- **Feedback** – The learning curve will accelerate if the employees adjust their thought process through feedback. Employers need to be cautious in delivering feedback in a manner that produces the desired results.

One must understand that there is a multitude of learning styles. Be prepared to find many methods to train a single task or new technique. Also, never ask the question, “do you understand?” Rarely will an individual admit they don't understand, even though they don't. Always phrase your questions such that the employee has to tell you how and why they are applying the new technique (Wilson, 1998)

## ■ Lack of Focus on Details

Be cautious during implementation of new technologies that employees remember the basics of reproduction management. Issues like quality heat checking, maintaining excellent feed intake in lactation and quality semen doses are all issues that can't be forgotten when adapting new technologies. Far too often the mindset is that the new procedures or technologies will eliminate other steps in the breeding barn.

## ■ Lack of Success or Fear of Failure

Create an environment where employees are allowed to be successful, yet at the same time make it challenging and interesting so they become enthused and motivated. As a person succeeds, they will take on larger and more complicated tasks without the fear of trying something new. Well trained and dedicated employees are the only sustainable source of competitive strength.

Success is an important element in creating a motivational environment for your employees. The most important task a manager can do is help make their employees successful. Making employees successful involves matching skills and personalities of employees to particular tasks and duties. One of the more difficult traits for a manager to work with is low self-esteem; low self-esteem equates in the employer's mind to employees who are generally unfocused, easily frustrated, underachievers, who are sensitive to criticism and have poor organizational skills. (Pitino, 1997)

**Never assume information is known or understood.** Educate employees about every step, and from every perspective, in order to help them understand what and why the technique is being performed. Today, with an increasing population of farm workers with no prior swine production experience, managers must be careful assuming that responsibilities of animal care and management are understood. Give employees tasks that they are capable of undertaking successfully. Increase the degree of difficulty as they gain more and more skill levels through training and experience. As employees become successful you will find they will develop passion!!

The use of compliments is fine if it is deserved. Make sure that compliments are earned and genuine if you want an employee to continue to strive for greater success.

## ■ Increased Cost and/or Labour

There is little room for adoption of new technologies if production costs are increased without being offset by increased profitability. If labour inputs are increased, one will find that it will not take long for the crew to revert back to the old procedures.

## ■ Summary

Several rules of implementation should be followed when adapting new technologies. These rules are rules for implementation:

- Benefit assessment?
- Cost/Benefit ratios?
- What level of training is required?
- How will training be accomplished?
- What changes are required on farm to implement technologies?
- Do you have the personnel to implement technology?

Managers need to determine the problem in the production unit that needs improvement and whether the benefits of the new technology outweigh the limitations in terms of time, money and market influences. Traditionally, the application of reproduction technologies into swine production is slow and managers must understand that there are few technologies that can or will change results in a short period of time. New technology is not the issue; implementation is.

## ■ References

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