

F O C U S

ON SWINE HEALTH AND PERFORMANCE

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Experts Speak Out On Erysipelas

“With the losses due to reduced growth, mortality, condemnation, and additional treatment costs, it is not at all rare to see estimated losses of \$25 per pig placed in the grow finish barn after an (erysipelas) outbreak.”

S U M M A R Y

- Erysipelas affects the entire pork chain, not just the growing pig in the finisher.
- Erysipelas outbreaks can cost at least \$25/head in affected finishers.
- Vaccination against erysipelas year round provides affordable income insurance.

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Bad Memories

Memories can be bad in two ways. The first is that we have poor memories, especially institutional memory of failures. Secondly, when we do remember those failures, we may remember the damage, but often we do not remember the cause. This may be where we are concerning the control of erysipelas outbreaks in our grow finish herds.

It seems that anything that has not happened in the last year, especially on our own farm, is considered to have a low likelihood of recurrence. Though we hear of outbreaks in other herds, the causes and control measures are not readily identified and remembered. For better management, we need to emphasize the high costs of an outbreak, the sporadic nature of outbreaks, and the opportunities for control of these outbreaks.

When erysipelas happens, especially in the late grow finish stage, the effects can be devastating. It is devastating not only to the bottom line, but also to the well-being of the pigs, the job satisfaction of the stockpersons and the quality of the pigs delivered to the slaughter plant. Twenty to 30% of the pigs in a barn can be affected, with the results being mortality, condemnation, lameness, fever and high treatment costs. Pigs have been refused at slaughter plants due to the presence of skin lesions or fever, and pigs have died en route due to the fast acting nature of the disease.

Financial losses can be calculated in a number of ways. The most obvious way is to simply estimate the revenue if the outbreak did not occur. If pigs die or are condemned the only additional

calculations would be for the feed costs to get that pig to market. In other words, in many cases full value pigs are being lost at a high rate. With current values of carcasses exceeding \$150 for an optimal weight pig, it does not take long for losses to add up. With the losses due to reduced growth, mortality, condemnation and additional treatment costs, it is not at all rare to see estimated losses of \$25 per pig placed in the grow finish barn after an outbreak.

If we look at disease costs as simply the losses associated with lost product, we underestimate the true effects of disease. We see that packers are also concerned about pigs that have gone through an erysipelas outbreak. The incidence of skin lesions, lameness and fever results in poor quality carcasses. In addition, there is a higher likelihood of antibiotic contamination when late stage treatments are pursued, especially at extra label levels. There is distress among caregivers, disruption of delivery patterns and often painful conditions for the pigs. These factors must also be taken into account and added to the considerations in evaluating control measures.

The epidemiology of these erysipelas breaks is poorly understood. The source of the bacteria and the precipitating factors have been discussed, but it appears that we do not have an adequate understanding of methods to prevent pathogen exposure. Outbreaks continue to occur after sows have been vaccinated and these sow herds have not shown signs of the disease. Likewise, it has been difficult to project which groups are at a higher likelihood of infection. There appears to be a cycle to the outbreaks, with some summers having much higher levels of lameness and mortality attributable to erysipelas. Some older veterinarians have spoken of a seven-year cycle, though it appears that this cycle is becoming shorter and more outbreaks are being seen on a sporadic basis, both in the summer and in the winter.

The main preventative measure that we have is vaccination. Vaccination has costs, both in purchasing it and also in the administration. It does provide good control and yet its use is often sporadic. Many older veterinarians have suggested that the cyclical nature of the occurrence of erysipelas in growing pigs is due to the cyclical use of the vaccine. As memories of erysipelas outbreaks fade and the pressures of short-term costs minimization increase, we often see the elimination of erysipelas vaccine from control programs. This is driven by two problematic assumptions in pig production. The first is that, as the time after the last erysipelas outbreak lengthens, the likelihood of a subsequent outbreak decreases. The second is that income can be maximized through cost minimization.

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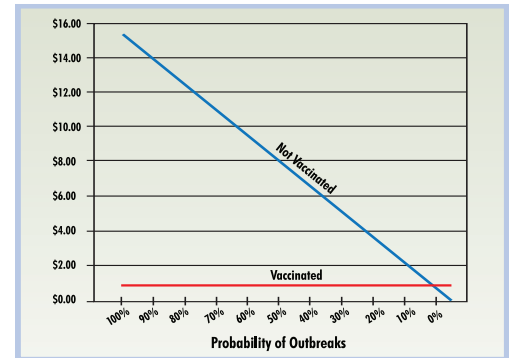
The first assumption can be addressed quite easily. We must recognize that there is an ever present challenge from potential erysipelas outbreaks. Unless we understand the epidemiology of the disease and have alternative control measures in place, we should assume that the challenge has not changed and that the risk continues to be as high as it ever was, if not higher.

The second assumption needs to be addressed more thoroughly when we discuss disease control. Reducing costs must be balanced against the real risk of decreasing the value of output. That output devaluation, though sporadic, is severe, and is associated with a large number of ancillary costs that have been previously discussed. Disease control is not a short-term strategy and should not be driven by “driving costs out of the system”.

Table 1: Cost of erysipelas

C O S T O F E R Y S I P E L A S		
	Not Vaccinated	Vaccinated
Value of marketed pigs at full weight	\$120	\$120
Lost income due to a death	\$100	\$100
Lost income due to a condemnation	\$120	\$120
Lost income due to poor growth rate	\$65	\$65
Erysipelas effects:		
Added mortality rate	6.60%	0.00%
Added condemnation rate	1.50%	0.00%
Added cull/lightweight rate	8.00%	0.00%
Vaccine cost:	\$0.00	\$0.74
Totals – Erysipelas costs:	\$13.60	\$0.74

Figure 1: Comparison of costs of vaccine and outbreaks under differing likelihoods



Conclusions

Erysipelas is a problem that has always been in swine disease textbooks. Our understanding is still incomplete, as is evidenced by the continual challenges that we face. These outbreaks make for bad memories and the only way we can make it worse is to forget about them.

Cost control vs. opportunity investment is the framework within which vaccination program decisions are made. Savvy producers constantly evaluate the level and use of farm inputs. Growth promotants, various medicines, milk substitutes, vaccines, feed additives etc. provide a rich set of choices to either raise cost unnecessarily or create value and increase profitability. Given the stakes, an erysipelas vaccination program carried out year-round is affordable insurance and a key investment in value creation especially when every penny counts.

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