



SWINE EXTENSION

Providing educational resources and applied research to assist Minnesota's pork producers and allied industry.

Culling sows: are we looking at all the factors?

*John Deen DVM, PhD,
Associate Professor, Veterinary Population Science, University of Minnesota*

As I review reproductive records I am always surprised at the wide diversity of reasons and levels of sow culling. This is in the face of similar genotypes, housing systems and nutrition. It really does suggest that the differences in culling behavior are more associated with the people on the farm than the sows on the farm.

There are really two basic reasons to remove a sow. The first is to replace that sow with a more productive animal. The second is to remove that sow for its own benefit, usually due to painful conditions. The latter is usually self-evident and it's not an economic decision. The former reason really does need some further analysis.

When culling is sow based on its prior productive history, it assumes that we can accurately assess its future productivity. It also assumes that when a sow is called for productivity reasons it is immediately replaced with that more productive animal. Culling for productivity and not replacing that animal may make pigs per sow per year look good, but it rarely makes economic sense as even lower productivity sows can outperform an empty sow space. Thus the biggest factor in removing a sow is whether there is a replacement available. If there is a replacement available we can start a more complex analysis.

Our simple question has been whether we can accurately predict future performance of an individual sow. In our assessment there are three characteristics we need to assess to predict future performance:

- The prior productive history of the sow
- The prior productive history of the other sows in the herd
- The physical characteristics of the sow including lameness, age and conformation

Many producers have a look at the predictive value of the prior history of the sow. For instance; a return to estrus may predict that if it is bred again it is more likely to return once again. This may be a reason to cull in animal, but the accuracy of that prediction is driven by the productivity of the rest of the herd. A sow in a herd with a 70% farrowing rate should have much more latitude than a sow in a herd with a 90% farrowing rate. Often we find much more culling due to poor productivity in a herd with low productivity that is best blamed on people rather than the sow. It is hard to find herds that have successfully called their way to high productivity.

Perhaps another way to describe the problem of culling in the low productivity herd is to take the concept of statistical noise. A little farrowing rate herd should be seen as a statistically noisy herd, that it is hard to predict how an individual animal will perform because there is so much variation in performance over time across sows. Thus it makes decisions on individual sows highly inaccurate.

Frankly, the best predictor of future performance appears to be the age and appearance of the sow. Future productivity appears to be best predicted by looking at the sow. Lameness, even minor levels, appears to increase the likelihood of future low productivity at a more accurate level than simply looking at prior productivity. Conformational issues also appear to be useful in

assessing an animal's contribution to the herd. Finally, the parity of the sow, especially when not disguised by cross fostering practices, predicts progeny quality issues quite accurately. These latter factors are more difficult to monitor and will need more detailed record-keeping to validate their effects in individual herds.

It is difficult to sometimes imagine the mechanism by which prior productivity issues in a sow will continue into the future, unless there is something physically wrong with that sow. Conversely, it should be easy to imagine that a physically compromised animal could have difficulties in the future. From looking at the records, sometimes that latter aspect is missing.