



Research Targets Sow Mortality

By Geoff Geddes, for Swine Innovation Porc

There are many conditions from which sows can recover, but death isn't one of them. Apart from the psychological toll that sow losses place on workers, they can be deadly to your bottom line. Researchers understand this all too well, and are seeking to address the issue, along with other sow challenges, in the project "Optimizing sow productivity and management: Impact of grouping practices on sow reproductive performance and piglet development and identification of risk factors for sow mortality".

Major changes have occurred in recent years in the Canadian pig industry, with producers transitioning from crates to group housing, and with significant genetic progress being made related to sow productivity and large litters. All the same, anecdotal reports suggest that sow longevity has decreased.

"With producers reporting higher mortality levels than we've seen in recent years, it has become a hot button issue that needs to be addressed," said Dr. Jennifer Brown, research scientist, Ethology and Welfare at the Prairie Swine Centre in Saskatoon, Saskatchewan.

"We also had a recent report from Iowa State University linking mortality to water quality and bump feeding prior to farrowing, so it's a problem that is drawing great interest these days."

And the survey says...

In an effort to explore the matter more deeply, Dr. Brown and her colleagues have released a

survey to all Canadian pork producers that looks at reasons for mortality and culling (see below for a link to the survey). Researchers are also making farm visits and working with producers to evaluate high and low mortality herds to pinpoint causes of death.

At the same time, Dr. Brown's team is exploring another aspect of sow preservation by assessing group housing practices.

"We want to look at different timings for mixing of sows," said Dr. Brown. "What happens if the group is formed right after weaning versus shortly after insemination? What if you wait a full 28 - 35 days so you know that implantation has occurred and then form a group? We already did this study with static groups, so this time we'll focus on dynamic groups and explore effects of social status on reproduction, embryo development and piglet vitality."

Producer Survey

[Click here to participate in a survey on sow mortality and longevity.](#)

The first 200 respondents will receive an Amazon gift coupon! Participation is voluntary and the survey should take about 15 minutes.



*Goup-housed sows on a farm in Ontario.
Photo: Doug Richards*

As producers seek to enhance performance in the barn while limiting losses, both parts of the project have implications for industry. Determining the cause of increasing mortality is the first step to reversing the trend. Does genetic selection for highly productive sows also make them more fragile and vulnerable? Is there something to the Iowa State study around water quality or do we need changes to sow management practices?

When less is more

"We also need to standardize reporting measures for mortality and culling to enhance consistency. One speaker at the 2020 Banff Pork Seminar suggested that having fewer categories for euthanasia or culling could improve accuracy in reporting deaths. If we can encourage record keeping systems to be more consistent across the board, we should have more reliable numbers to work with in analyzing sow mortality and hopefully decreasing it."

On the subject of grouping, Dr. Brown found that sows mixed earlier had an initial reduction

in stillborn pigs. At first, researchers attributed this drop to the sows being fitter from moving around more frequently during gestation. Upon further study, however, they saw that the early mixed sows and those combined just after insemination had lower stillborn numbers than sows mixed 28 - 35 days after gestation.

"The latter finding suggests that something else is going on in early gestation to reduce stillborns. One explanation is that, thanks to more activity early on by the sow, fetuses may be better distributed on the uterine horns or have superior placental attachment. We want to dig into this with measurements in early gestation to understand the effects of early mixing on piglet development and how it relates to reduced stillborns and piglet vitality in general."

The results of this project will provide clear directions regarding risk factors for sow mortality, changes in sow longevity and improvements that can be made in terms of sow management and record keeping to benefit pork producers.

Short of bringing pigs back from the dead, that's the best that industry could hope for. 😊

For more information....

You may contact Dr. Jennifer Brown from the Prairie Swine Centre at jennifer.brown@usask.ca if you would like to learn more about the work described in this article.

More information about the project *Optimizing sow productivity and management: impact of grouping practices on sow reproductive performance and piglet development and identification of risk factors for sow mortality* may be found on our website:

www.swineinnovationporc.ca/animal-welfare