Sow mortality: The hidden consequences

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My first experience in pig farming was in Brazil. That is my bias. I needed to come to the U.S. to experience the impact of PRRS on a swine farm. I was horrified with how much damage a nasty strain can cause.

I have also observed many big-picture similarities between the U.S. and Brazilian pig industries, though. These include genetics, vaccines, antibiotics, disinfectants, corn-SBM diets, prolapses, how we value the breeding target, and many other performance metrics.

However, the difference between the countries in one key metric is quite shocking. This is sow mortality.

I am not fighting in Brazil's corner, but using the 2024 data, the U.S. industry had 16% sow mortality, twice the Brazilian percentage. Can we attribute this solely to PRRS? A decent part, but we still see a ton of sows that die from "unknown/other" reasons. I am sure many of those deaths could be prevented.

A hard-to-control consequence of high sow mortality on-farm is the impact on herd parity structure, frequently showing up as a greater percentage of sows in both extremes of the sows' parity graph. Besides the notorious negative impact on the herd and on growing pig immunity, the whole farm throughput is reduced. A recent analysis that compared three different parity structures, including over 623 herds, highlighted that farms that maximize the percentage of P3 to P5 sows are more productive. Figure 1 shows the three patterns of parity herd structure, sows within P3 and P5, and piglets weaned per sow per year.
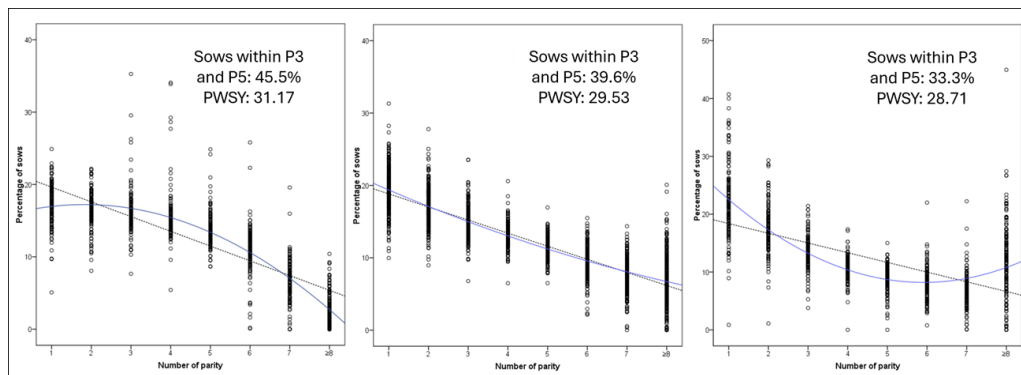

Figure 1. Parity distribution of 3 different patterns and their respective percentage of sows within P3 and P5. Each dot represents a sow farm, and the blue line is the quadratic function of the parity structure pattern. Adapted from Sanz-Fernández et al., 2024.

Now let's compare sow farms with high and low sow mortality in real-world numbers.

Imagine two 2,000-sow farms with an annual replacement rate of 45% (Figure 2). If Farm A has a 20% sow mortality rate, that means 400 sows per year die there. To keep the farm inventory, with the 900 gilts that enter every year, another 500 sows are culled. In a more favorable scenario, Farm B has an annual death loss of 10%, or 200 sows. That means that 700 other sows leave the farm as cull animals.
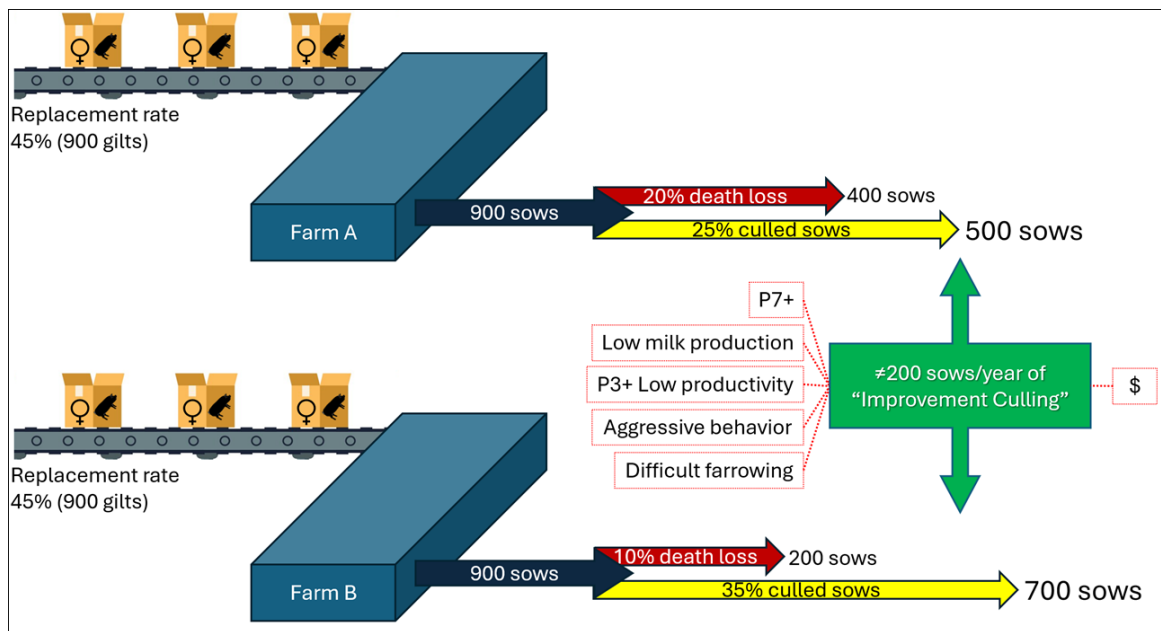

Figure 2. Comparison between two 2,000-sow farms with different sow mortality and cull sows per year.

In the grand scheme of things, that does not tell the whole story of the 10% difference in sow mortality effect. I like to look at the other side: the cull sows. Here is the "juice."

That 200-sow-per-year difference on Farm A accounted for mortality, and Farm B for cull sows represents an extraordinary opportunity to improve the breeding herd quality. How? Well, on Farm B, voluntary culls — those that you actively select to be culled due to age, poor performance, or behavior issues — will walk into a truck and even bring revenue. On Farm A, those 200 are dead sows. Some are in gestation, some in lactation, but regardless, they will not walk into a truck or produce any further revenue. To make matters worse, most of the time, those 200 are not the least productive. In the above example, we can say that Farm B gets 10% better than Farm A every year.

If you tell a new hire that approximately 1/5 of the sows die or are euthanized every year, plus 1/5 of the born-alive piglets will not be weaned, how mentally prepared does this person need to be? So here is another hidden consequence: the emotional impact on the employees, who care about the herd but must spend many days per year euthanizing sows and/or moving dead sows to the compost area.

Walking into a farm and saying, "Our sow mortality is sky-high at 17%; we need to reduce that immediately," might not resonate with the team. Instead, make it tangible. Does everyone know what 10% mortality means in the weekly losses of sows? On a 1,100-sow farm, that's the difference between losing two sows per week or exceeding that threshold. Set a clear, achievable goal: If the team keeps weekly mortality at two or fewer sows per week, they earn their bonus for maintaining sow mortality under 10%. When expectations are clear and the plan executable, results follow. Identifying the $100 and the $1 jobs is the first step; executing the $100 ones is the second and, most of the time, the last.

Make this part of the farm's culture, and you will save many preventable death losses and avoid suffering from the hidden and costly consequences of high sow mortality.