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Sow farm analysis at a system-level

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Just as one evaluates an individual sow farm by enumerating and summarizing the performances of various individual animal groupings, so a system of sow farms can be pulled together for analysis. Current software tools allow standardized data to be compiled for review. Not only does this include sow performance data (PigCHAMP or other comparable software packages). Other important types of data, pertinent to the successful management of a farm system, can be collected as well. These include feed consumption records, employment records, disease-diagnostics records, and financial performance.

Sow performance data

Individual sow performance data is collected and entered into a sow herd management software package. The individuals' information is then used to understand the various subpopulations in the sow unit. Cross-farm comparisons generally extract key variables from several farms during different time periods. These data allow an individual farm to track its progress over time, in comparison to the

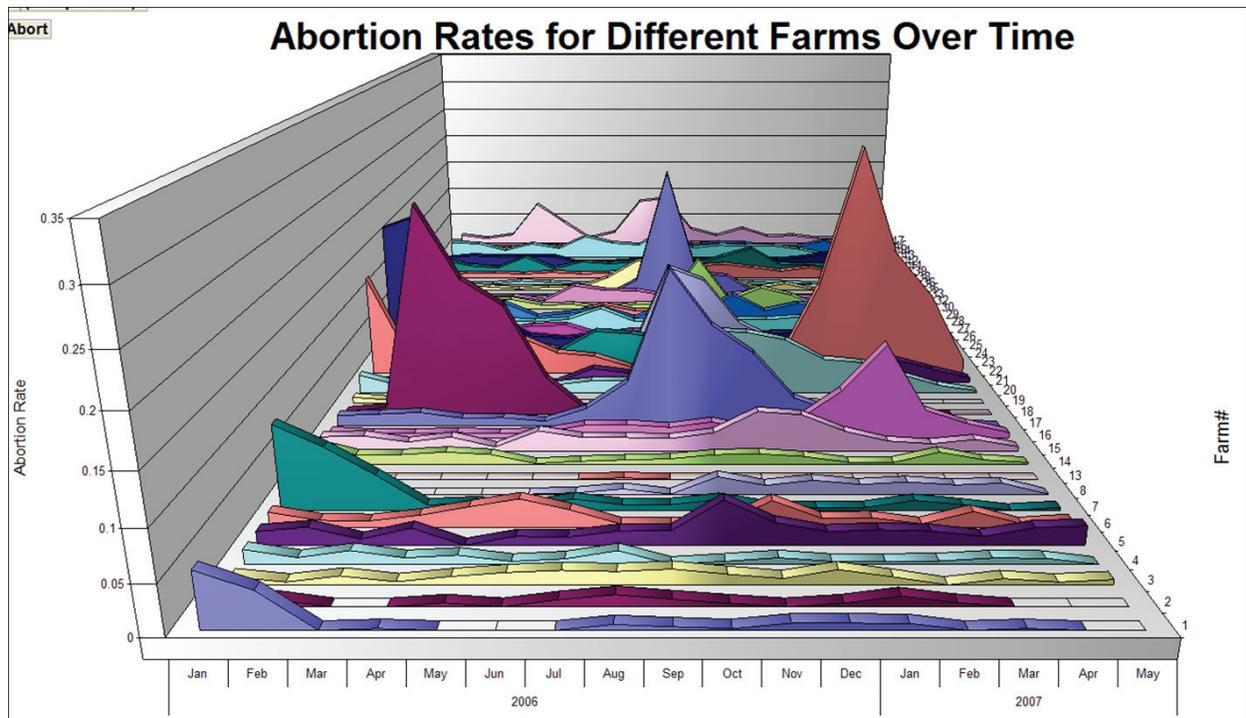
other farms, as well as allowing the system to summarize and gauge its own aggregate progress in different areas.

Beyond this crude comparative benchmarking, extraction of more detailed farm level data can be used to understand can be used to analyze the functioning and performance within the system. An example of this would be in understanding the LitterSize impact of Parity throughout the system, considering the effect of individual farms, or the display of abortion rates across a system to reveal potential seasonal patterns (**Figure 1**). Descriptive and inferential statistics can be applied to reveal significant differences between farms. Furthermore, other potentially confounding variables can be incorporated into the analysis for increased model accuracy.

Feeding performance data

Feed intake is generally not captured in traditional sow management software systems, despite there often being options for doing so, because of the significant extra effort required for entering this data at the individual sow

Figure 1: Abortion rates for different farms over time



level and the questionable accuracy of amounts recorded. Considering the great expense of feed in any livestock operation, its efficient, effective utilization should not be overlooked. The simplest and most reliable methods for capturing, monitoring and analyzing feed consumption usually rely on the collection of “feed delivery ticket” volume over a period of time related to the number of lactating or gestating sow days during the same period.

Benefits of managing feed consumption at the system-level are the continual focus on individual farms related to system standards and the appreciation of seasonal effect. The major drawback is the possible inaccuracy created by missing feed tickets and the uncertainty this creates.

Employment data

People raise pigs. Understanding the human resources input within a system is also well worth the effort of standardized monitoring. How many person-hours does it take to produce a weaned pig? How many hours should it take? What is the impact of employee turnover on productivity? Establishing standards for time input and focusing on employee retention through monitoring employee turnover benefits a system by allowing individual farms to chart their performance and progress through time and against the system at large. A drawback of using such a standardized system is that local factors affecting the required labor input are not accounted for in the analysis. Difficult labor markets, persistent farm-specific disease challenges, physical condition of the farm, and available technologies may confound an individual farms needs.

Health data

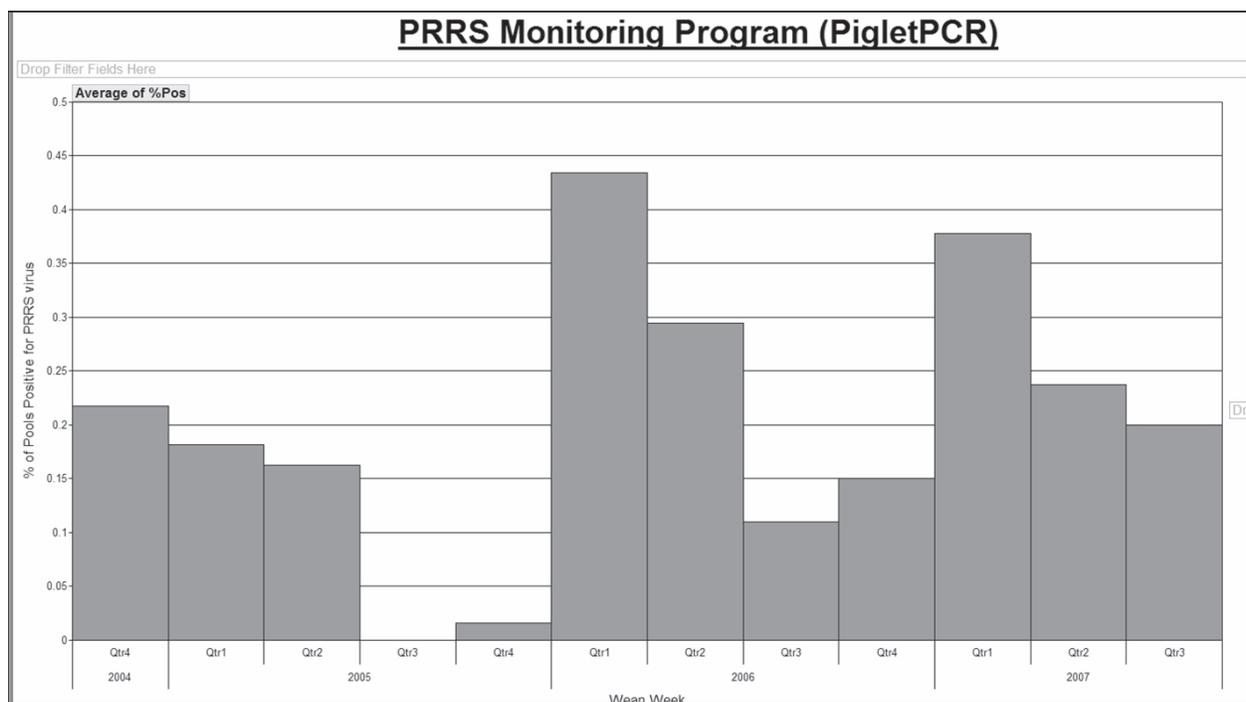
Health data is ultimately reflected in performance data. A simple example is monitoring the % PCR-positive piglets at weaning (**Figure 2**). There are benefits in systematically collecting health related data. This information can demonstrate the PRRS stability of a farm and/or give customers increased confidence in the piglets they are receiving. Tissue diagnostics on piglets (mainly associated with neonatal diarrhea) can provide a wealth of information regarding the prevalence of pathogens, over time, amongst farms with known management practices.

The major drawbacks of the systematic capture and evaluation of health data are the diversity of laboratories and tests employed, the unwieldiness of the data, the difficulty in standardizing location data, and the cost of broadcasting expensive diagnostic efforts across many sites.

Financial data

As money and resources flow into a farm, at least as much money should flow back in. Once there is confidence that bills will be paid, other considerations should be made regarding a system’s financial status. Determining the appropriate level of owner equity to manage the current year’s tax situations and deciding whether the sow unit will be a profit center or a cost center, vary from farm to farm over time. The concepts and themes are common, though, and the financial health of an entire system can be gauged and evaluated over time.

Figure 2: PRRS monitoring program (PigletPCR)



Summary

Standardized records are useful in objectively viewing a system and identifying outliers- farms to be emulated vs. farms to be improved. Deeper-level data, buried in the aggregate, can also be useful in understanding specific differences within a system. System-level analysis is also helpful in detecting system-level trends, not visible on a single farm.

Bear in mind, however, that the greatest drawback in relying on system-level data to run a business comes by way of detachment. Solutions to farm specific problems are best realized and implemented at the farm level, whether they be production, feed management, staffing, or health concerns. Monitoring is good, understanding is better, but correcting will require more calluses than keystrokes.

