

Water as a Predictor of Tomorrow's Pig Performance

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With the advent of all-in/all-out pig flows, the swine industry has made great progress at determining overall performance and cost of this performance for nursery, finisher, and wean-to-finish facilities. However, closeout summaries provide a look at what was (daily gain, feed conversion, cost of gain, etc) following sale of the last pig from a group. What's missing is a monitor on the biological process of growth during the growth period.

Several attempts have been made to monitor the growth process. Many production companies and producers utilize feed budgets based on projected growth. These budgets are based on previous histories of groups of pigs in similar facilities and are often corrected for season of the year. Producers using these budgets to monitor growth compare feed deliveries against projected deliveries, both for dates delivered and amounts delivered.

The challenge of using feed budgets is that producers are using 6 to 12 ton estimates of feed disappearance. Early on during the growth process, when feed intake is relatively low, it may take upwards of two weeks for a group of pigs to consume one delivery of feed. As pigs approach market weight, feed deliveries become more frequent, enabling closer monitoring of the process versus projections.

However, feed deliveries to the bulk bin are only a crude indicator of intake patterns. Unknowns include whether there were disruptions to feed delivery in the facility due to bridging or equipment malfunctions, and whether the bulk bin was empty for a period of time (two hours to two days) prior to delivery of the feed.

In most facilities, a better predictor and monitor of performance is water disappearance. While feed intake is dependent on feed being delivered to the feeder, and the feeder dispensing feed, water is generally under the direct control of the pigs in the facility, assuming drinker devices are maintained in working condition in each pen.

Unlike feed disappearance, it is relatively easy to monitor water disappearance on a daily basis. All that is required is a water meter installed in the drinking water line. It is

important that this meter not include water used for summer cooling or cleaning activities, as these uses of water are not under the direct control of the pigs in the facility.

While many producers have begun recording daily water meter readings, few have developed methods to display the daily totals in graphic form. It is my experience that unless the data is displayed in graphic form, daily caregivers in production facilities don't readily think about changes in intake patterns. However, once displayed in graphic form, caregivers (either owners, contract growers, or employees) can readily visualize changes in disappearance.

With this in mind, an MSExcel spreadsheet has been developed to create barn sheets to record and display in a graphic format daily water disappearance. This spreadsheet is available for free downloading at the home page for this article.

As a general starting point, producers charting daily water disappearance should pay closer attention to pig health and behavior any time there are three days of decreased water disappearance in a row or a 30-40% decline in water disappearance from day to day. These guides are only that – a starting point for using water disappearance to monitor relative pig health and performance. As more producers and caregivers gain experience in monitoring water disappearance, and relate patterns to a variety of conditions, including season of the year and changes in climatic conditions, it is possible that at specific sites other patterns may emerge as critical predictors of pig performance and health.