

CASE STUDY:

Understanding how out-of-feed events impact FCR

Synopsis

- 200 BinSentry bin sensors were installed July 2022 to August 2023
- 28 Hanor sites with a total of 100 hog barns monitored
- 195 groups totaling 234,000 finished pigs observed

Key Findings

- The vast majority of out-of-feed hours are due to slide management issues.
- Sites that experienced greater out-of-feed hours (whether due to slide management or no feed in bins) saw higher feed conversion ratios (FCR).
- The impact of the outages observed is **7 basis points** of FCR, costing **\$3.15 per pig** compared to groups with zero outages. This is about **\$4,441.50 per barn** of annual opportunity.
- Improving the average FCR of **47%** of Hanor's groups by 0.07 basis points would result in a 0.033 overall FCR improvement Hanor-wide. This saves over **\$1,700 per group**.



Want to learn more?

Speak with one of our experts about how BinSentry can help improve your feed management, minimize out-of-feed events, and boost your conversion ratios.

For more information or to book a demo:

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Understanding how out-of-feed events impact FCR

To reach their peak productivity and potential, animals require a consistent supply of feed. Whenever animals are without feed, feed conversion ratios (FCR) should be impacted.

However, to date, there has been no strong or obvious correlation between out-of-feed events and higher (worse) FCR scores. We set out to find out why.

What do out-of-feed events mean?

Whenever we have looked at out-of-feed events across an entire operation, we rarely see a correlation between barns with higher numbers of events and poorer FCR scores.

Uncovering a new cause of out-of-feed events

By monitoring more than 20,000 feed bins across North America, BinSentry has uncovered another source of out-of-feed events.

- **We found that nearly 80% of all out-of-feed events** are caused by poor management of manual bin slides.

In other words, feed is on-farm, but not accessible to the animals.

- **Only 20% of out-of-feed events** are due to empty bins or having no feed on-site.

Before BinSentry, producers had no way of seeing or measuring slide-management related out-of-feed events. **That means almost 80% of all out-of-feed events went undetected.**

What we wanted to find out:

- Now that we can see (and address) both slide management and empty bin out-of-feed events, is there a stronger correlation between out-of-feed events and higher FCR scores?
- If so, how much can FCR be improved across an entire swine operation?

Study background

BinSentry partnered with Hanor, one of the largest pork producers in North America, boasting operations in seven states with over 650 employees.

- 200 BinSentry bin sensors were installed July 2022 to August 2023
- We monitored 28 Hanor sites with a total of 100 hog barns
- 195 groups were observed, totaling 234,000 finished pigs

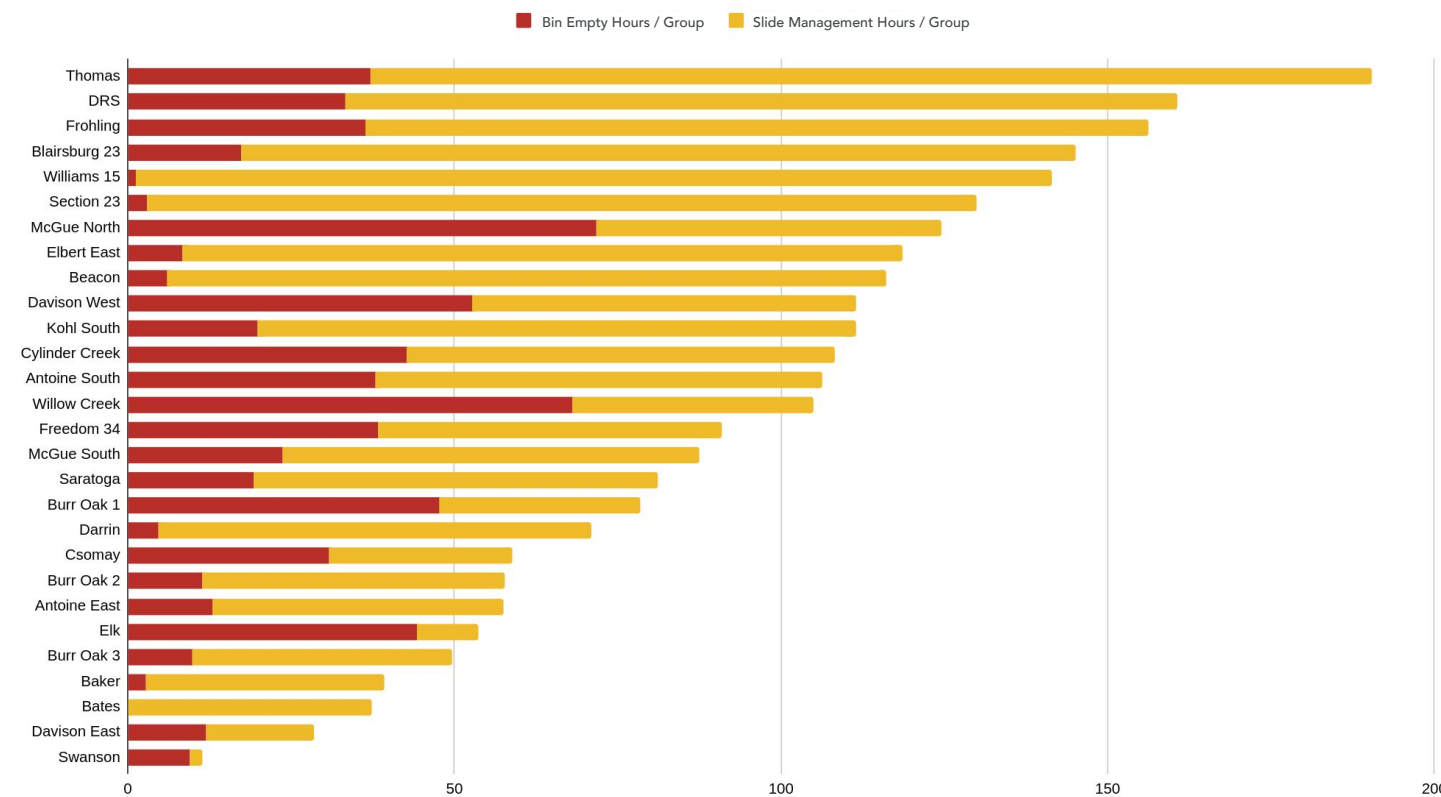
Case study findings

The graph below shows combined out-of-feed hours (time in which animals were without feed) for each of the 28 Hanor sites from September 2022 – December 2023.

The bars in yellow represent out-of-feed hours caused by slide management errors, while the red bars represent out-of-feed hours due to having no feed in the bins.

Combined Out-of-Feed Hours by Site

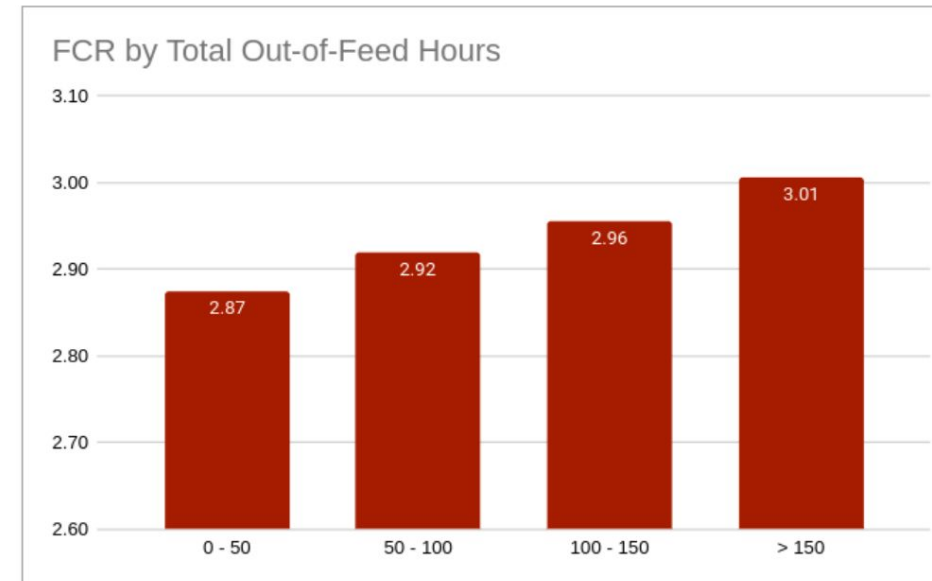
Sites by Average Cumulative Out-of-Feed Hours per Group



As you can see, the vast majority of out-of-feed hours are due to slide management mistakes. In other words – feed is on site, but slides are not open.

The connection between slide management and FCR

Sites that experienced greater out-of-feed hours (whether due to slide management or no feed in bins) saw higher feed conversion rates.



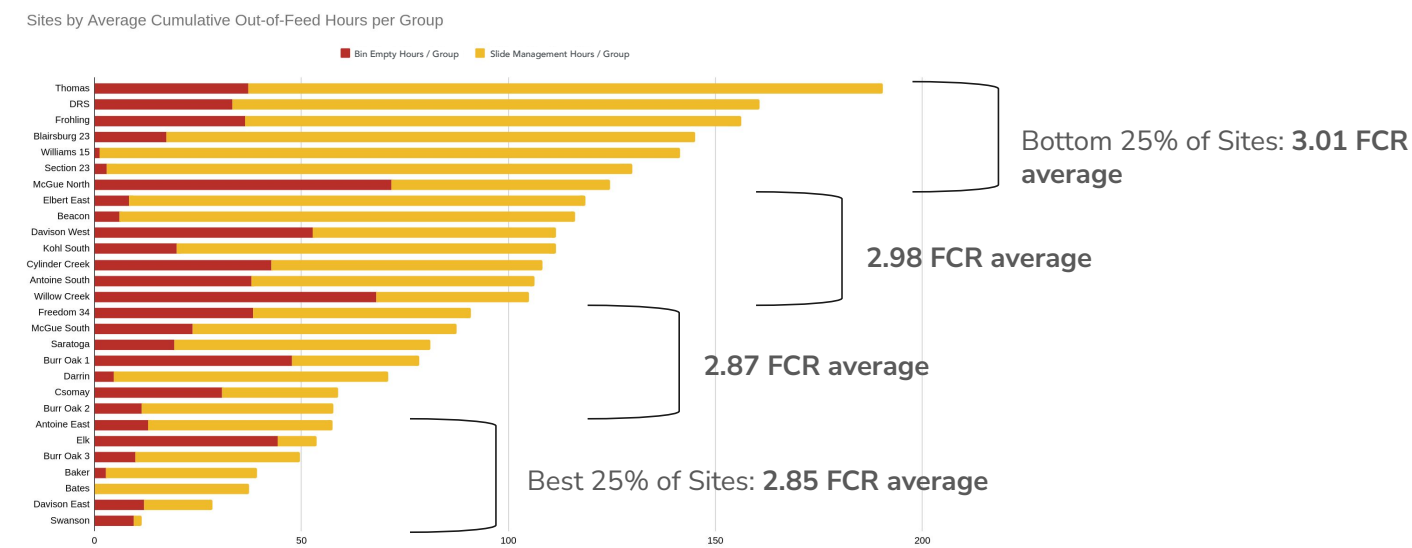
On the low end of the graph, 0-50 out of feed hours resulted in an **average FCR score of 2.87.**

On the highest end, 150 out-of-feed hours (or greater) resulted in an **average FCR score of 3.01.**

Putting it all together: FCR and out-of-feed events

Now, if we segment out the sites with the highest measured out-of-feed events and their FCR scores, we get a graph that looks like this:

FCR Correlation - Top Out-of-Feed Performers



With this out-of-feed data, we can now easily identify and take steps to address the sites with the most serious slide management issues and worst/highest FCR scores.

Observations and conclusions

- Over 195 groups were analyzed between September 2022 and December 2023. BinSentry found that 93 (or 47%) of them had 1+ feed outage lasting 24 hours or more.
- The impact of these 24-hour outages is 7 basis points of FCR, costing \$3.15 per pig compared to groups with zero outages. This is about **\$4,441.50 per barn of annual opportunity.**
- Improving the average FCR of 47% of Hanor's groups by 0.07 basis points would result in a 0.033 overall FCR improvement Hanor-wide. This saves over \$1,700 per group.

BinSentry can help eliminate out-of-feed events through real time measurement and customized alerts, so that issues like poor slide management, which had been invisible until now, are corrected immediately before they impact feed conversion ratios.

