

## Season 7, Episode 2: From Data to Decisions in Swine Production



**Dr. Edison Magalhães**, assistant professor in the department of Animal Science at Iowa State University, discusses how producers can leverage data to make informed decisions that improve herd performance from birth to market. He highlights the challenges of siloed data across different teams, the impact those gaps can have on performance and the importance of integrating data to gain a more complete picture of herd health and productivity.

### **Background**

In this episode, the discussion begins with Dr. Edison Magalhães describing the impact of data on decision-making at the farm level and how the industry has evolved in its use of data over time. He also explores the necessary next steps for effectively applying the analyzed information. Initially working as a swine veterinary practitioner, Dr. Magalhães identified common trends related to mortality and performance in pigs. He then utilized diagnostic and retrospective data to investigate the potential causes of performance loss. Through his analysis, he discovered that many factors influencing performance were not accounted for, prompting him to rethink how data can be used in the swine industry. He emphasized the importance of utilizing retrospective data and achieving standardization in data usage.

### **Challenges of Siloed Data Across Different Teams**

Siloed data is not being effectively shared, which creates challenges in analysis. Access to various types of data is crucial because success can be achieved by adopting a holistic approach that encompasses the entire production process, from birth to market. This involves connecting sow farms, nurseries, finishers, and slaughterhouses while also considering factors that impact productivity, such as management, nutrition, and labor. Improving data availability and integration, along with enhancing communication within the industry, can help address some tough questions about pork production. Without better communication, our understanding of the industry remains limited.

### **More About PROSPER (Predictors of Swine Performance) and other Technologies**

PROSPER started as a response to a query about the impact of Porcine Reproductive and Respiratory Syndrome (PRRS) on swine production. The project's goal was to integrate data silos for better analysis and understanding. Initially, data was compiled manually through Excel, which was time-consuming. To improve efficiency, programming software was adopted to automate data integration into a master table. The PROSPER program revealed that 68% of nursery mortality is linked to sow farms, particularly influenced by wean quality scores. Future success will rely on collaboration between farm managers and data analysts to interpret this data holistically, enabling better decision-making. While considering artificial intelligence (AI), it's essential to first identify necessary analytical models in the swine industry before developing AI solutions, as AI requires time to learn from existing models.

### **Key Takeaways**

The discussion highlights the critical role of data in informed decision-making at the farm level within the swine industry. A key takeaway is the necessity of breaking down data silos and improving data sharing among teams to enhance productivity. Integrating data from all stages of production can reveal valuable insights, such as the significant influence of sow farms on nursery mortality rates. Collaboration between farm managers and data analysts is essential for achieving a holistic understanding of this data, ultimately driving better decision-making and outcomes in pork production.

**To listen to this full podcast please visit:** <https://globalagnetwork.com/pigx/podcast/season-7-episode-2-from-data-to-decisions-in-swine-production>

