

Season 5, Episode 8: Technology Insights and Considerations for Producers

Dr. Isabella Condotta, University of Illinois at Urbana-Champaign, shares key findings from her research and provides actionable insights into how these findings can be applied by producers and other professionals in the swine sector.

What is Precision Livestock Farming and Management?

Precision livestock farming and management involves the use of advanced technology to monitor animals in real-time across various aspects of production, including health, production, reproduction, and physical characteristics. This approach is vital for improving farm efficiency, addressing labor shortages, and meeting the growing demand for animal products. By optimizing farm operations, precision livestock farming not only enhances efficiency but also promotes better animal welfare, health, and sustainability, ensuring long-term profitability and helping producers maintain a healthier work-life balance.

A core component of precision livestock farming is the use of real-time data, which allows researchers and producers to quickly identify changes and take prompt action. Without real-time data, delays in receiving information can result in missed early warning signs of issues, leading to more significant challenges later. For instance, monitoring an animal's body weight over a three-day period with realtime data enables quicker detection of health concerns or growth-related factors. In contrast, relying on slower data collection over a week may delay timely intervention. Real-time access to data empowers faster, more informed decision-making, ultimately boosting farm productivity and enhancing animal well-being.

Collecting Data Using Sensors

Sensors are essential for data collection on farms, as manually assessing all animals in real-time is not feasible. Sensors fall into two primary categories: non-wearable and wearable. Both are effective as long as they provide the necessary data to support decision-making. Non-wearable sensors, such as cameras and microphones, can predict body weight, assess body condition scores, and monitor individual activity levels. These sensors can help detect issues like lameness and identify patterns related to estrus or mothering ability. Wearable sensors, such as ear tags for pigs, offer additional functionalities. Beyond identification, these ear tags can include internal sensors like accelerometers to track activity and temperature sensors for health monitoring. Similar to smartwatches for humans, these wearable devices offer valuable real-time insights into animal behavior and well-being.

Implementing Technology on Farm

Research into farm technology is rapidly advancing, focusing on selecting the best tools for implementation and determining which technologies are most suitable for data collection. Researchers are tackling key industry challenges, such as body weight, lameness, body condition, and other factors that impact production. Dr. Condotta, for example, is investigating animal behavior, studying postures and activity levels, and correlating these behaviors with other production metrics. The swine industry is increasingly adopting new technologies, with many companies and producers already integrating these innovations into their operations to improve efficiency and productivity.

To Listen to this full podcast please visit: <u>https://globalagnetwork.com/pigx/podcast/season-5-episode-</u> <u>8-technology-insights-and-considerations-for-producers</u>



