

# AgriSonic: Audio-Based Early Warning System for Animal Welfare

**Networked mics plus AI flag early illness, injury, and abnormal behavior across livestock species for real-time, noninvasive welfare monitoring.**

Researchers at Purdue University have developed an intelligent acoustic monitoring system for early detection of health issues, injury, and behavioral anomalies across a wide range of economically important, land-farmed animal species, including swine, poultry, cattle, goats, sheep, and others. The system leverages a network of strategically placed acoustic sensors and advanced machine learning algorithms to continuously monitor animal-generated vocalizations and environmental soundscapes within agricultural facilities. Unlike similar existing technologies, this monitoring system displays multi-species adaptability, behavioral classification, and broad welfare monitoring. Through its advanced multiplexed design, this system transforms acoustic environments into intelligent monitoring ecosystems, enabling precision livestock management, early disease detection, behavioral surveillance, and scalable animal welfare solutions for modern agricultural operations.

## Technology Validation:

Researchers are in the process of validating the viability of AI-driven classification of distress vocalizations, as well as developing a platform for normal and abnormal vocalizations in swine. These data points are expected to set the stage for fully validating the above system.

## Advantages:

- Non-invasive
- Early warning of health and behavioral issues
- Adaptable to a wide range of species
- Sensitive to multiple health and behavioral concerns
- Real-time monitoring of animal welfare

**Technology ID**  
2025-SORS-71128

## Category

Agriculture, Nutrition, &  
AgTech/Livestock & Animal  
Health Solutions  
Artificial Intelligence & Machine  
Learning/Audio Sensing & Signal  
Processing

## Authors

Luiz Brito  
Tae Hong Park  
Bryan C Pijanowski  
Thomas G Sors

## Further information

Abhijit Karve  
[AAKarve@prf.org](mailto:AAKarve@prf.org)

## View online



-Enables precision livestock management

**Applications:**

-Precision livestock management

-Animal husbandry

-Scalable agriculture solutions

**TRL: 2**

**Intellectual Property:**

Provisional-Patent, 2025-06-19, United States