



This project aims to create an early-warning system about disease outbreaks for farmers, vets and other people working with livestock.

Providing early alerts for the dairy industry about livestock diseases is important to ensure necessary protective actions are in place as soon as possible or the appropriate investigations can begin promptly.

The project is investigating two different alarm systems. The first is for immediate and confirmed threats such as army worms, foreign animal diseases and three-day sickness (BEF).

The second is designed to understand if a collection of signs or symptoms displayed might indicate sickness.

Benefits

Detecting diseases early and providing timely information to relevant people could help reduce the severity of the illness and potentially limit any potential spread.

Early detection could also ensure that relevant investigations into the disease could begin as soon as possible, collecting and analysing timely data, tests, and other relevant information.

Unlocking the potential of cows

Dairy UP's P2 project aims to unlock the potential of dairy cows to achieve their genetic potential under NSW conditions.

P2 is a suite of seven projects that collectively explore ways to profitably increase both productivity and wellbeing in commercial settings.

P2a: Cattle Longevity: Age and Parity & Intensive Herds

P2a: Longevity: Future

P2b: Early Alerts

P2c: Milk as a Diagnostic Tool

P2d: Facility Design for Cow Comfort

P2e: Calf Husbandry

P2f: Infectious Diseases ('Infectome')

P2g: Heifers Early Calving

This document provides an update on P2b: Early Alerts.

Alerts informing dairy farmers, veterinarians and other industry stakeholders working with livestock could also uncover diseases earlier and facilitate the detection of additional cases.

As well as providing a biosecurity tool, this project will benefit the health and welfare of animals, through earlier detection and appropriate intervention.

While this research is part of a NSW project, it could have relevance nationally.

Research approach

This project is underpinned by syndromic surveillance.



Syndromic surveillance draws on a wide range of data sources looking for signs that might indicate sickness – otherwise known as a change in disease level.

Data sources that could be used in this project include:

- Herd recording information
- DataGene’s central data repository
- Diagnostic laboratory information (government and private labs)
- Records from selected Dairy UP monitoring farms
- Farm advisor records
- Abattoir records
- The national arbovirus monitoring program.

The first step is to analyse the data to understand what is ‘normal’ so that statistically relevant changes can be identified. For example, it’s normal for abortions to occasionally occur on dairy farms. The Dairy UP team wants to determine the threshold of the number and/or frequency of abortions that should trigger an alarm for investigation and action. This information is being obtained in P1a:

The project is also investigating the best way to centralise the information – for example using a web portal or interface system. The final step is to determine how to deliver the alerts effectively and efficiently.

Progress update (July 2024)

The project has been delayed by developmental delays with software and the scope has been limited to ephemeral fever, fall army worm and facial eczema.

Next steps

The next steps are to align the method of alerting farms with sufficient time to enact changes.

Related work

This project is linked with the following Dairy UP projects:

- P1a: Cattle Longevity
- P2c: Milk as a Diagnostic Tool,
- P9b: Milk as an indicator of Heat Load
- P2e: Calf Husbandry
- P2f: Infectious Diseases.

Collaborators

The P2b project is a collaboration between Scibus, NSW DPI.

More info

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Delivery organisations



Partner organisations



Additional program supporters, collaborations or partnerships

Charles Sturt University | DairyBio | DataGene | Eagle Direct | Entegra
 Macquarie University | NSW EPA | smaXtec | UC Davis | University of Technology Sydney