

## Pasture Smarts Partner Farms – Gippsland

DairyFeedbase is one of the dairy industry's leading applied research and innovation programs designed to revolutionise feedbase management on Australian dairy farms. A joint venture between Dairy Australia, Gardiner Dairy Foundation and Agriculture Victoria, DairyFeedbase was launched in 2018 and uses the latest technology and bioscience to significantly improve on-farm profitability. The program has the potential to see returns to the industry of \$100 million a year within 10 years.

Farmers can expect DairyFeedbase to deliver easy-to-use digital tools and real-time information to improve decision-making in the paddock and strategically allocate feed at a herd and individual cow level.

### About Pasture Smarts

We all appreciate the value of pasture and can agree that it is important to manage pasture well and optimise utilisation, but we also know it's not always an easy thing to do, especially considering the increasing demands of larger properties and animals.

The Pasture Smarts project aims to create a new management framework for measuring and utilising pasture that leads to higher yields, grazed and conserved more effectively, with better management of risks, and with a goal of simplifying day-to-day management.

This project is developing tools that allow the automated assessment of pasture dry matter yield and nutritive characteristics and is packaging these to enable real-time and forecast allocation of pasture to grazing cattle. These tools build on the principles of grazing management that exist today but allow these principles to be applied in a time-efficient manner on-farm. Over the last 18 months we have been working with seven partner farms across Victoria and South Australia. We have taken extensive (over 3000) pasture cuts from these farms over that time and have tested a range of tools and produced a prototype mobile application (app) and farm dashboard.

### **Dr Liz Morse-McNabb** Senior Research Scientist



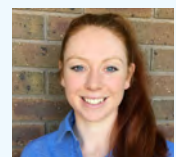
Liz is a Senior Research Scientist and leads the Pasture Smarts project within the DairyFeedbase program. Liz is a remote sensing scientist, specialising in satellite platforms with an undergraduate degree in agriculture. She has developed substantial expertise in the capture, collation, management, integration and delivery of large spatial datasets since joining the department in 2003.

### **Dr Anna Thomson** Research Scientist



Dr Anna is a Research Scientist who began her career at the University of Reading, UK, investigating the utilisation of alternative forages in European livestock systems. Since commencing at Agriculture Victoria's Ellinbank Smartfarm, she has focused on using technologies to estimate pasture nutritional value on-farm, in near real-time. Anna enjoys doing research that has practical applications for farmers and has been heavily involved in the co-development of a pasture monitoring mobile app with the first cohort of Pasture Smarts partner farmers so far.

### **Amy Copland** Technical Officer



Amy is a Technical Officer based at Agriculture Victoria's Ellinbank SmartFarm and contributes to projects involving dairy cow nutrition and grazing management, forage measurements and managing experimental data. In the Pasture Smarts project Amy uses sonar, lidar, fixed, hand-held and drone-mounted sensors to measure pasture yield remotely.

### **Dani Stayches** Technical Assistant



Dani is a Technical Assistant based at Agriculture Victoria's Ellinbank SmartFarm since 2015. Dani is one of Agriculture Victoria Research's most experienced UAV pilots and has a major role in the Pasture Smarts project flying UAVs and carrying out field work using a range of sensors.

### Turn over for more information about the levels of participation

If you have any queries, please contact the project leader: Dr Liz Morse-McNabb at [elizabeth.morse-mcnabb@agriculture.vic.gov.au](mailto:elizabeth.morse-mcnabb@agriculture.vic.gov.au)

## Pasture Smarts Partner Farms – Levels of participation

### How you can help

We are looking to partner with more farms across Victoria to test that our models work and get your feedback on the prototype mobile app and dashboard. We would really appreciate access to your farm at least once to gather a set of pasture cuts and use our sensor technologies. This would provide evidence that this work can also be applied on other farms. We would also like you to test our mobile app and dashboard while providing feedback on what you like, don't like and features that you think are missing. We will set up a farm map with you, capturing all your paddocks and laneways and the current forage type of each paddock.

### Project timeline

We aim to have our additional partner farms all mapped and ready to go by mid-April 2021. We would like these farmers to remain in the program until at least June 2022.

#### Phase 1

We will set up your farm map, take some field measurements and then provide you with a mobile app and dashboard customised for your farm.

You then will be provided with whole paddock estimates of pasture yield and a feed wedge to use in your day to day grazing management. You can also use the app to enter your own information. This is not essential but useful to us while we are developing the models for continued accuracy checking. If you make a major change like changing your forage mix in a paddock, then you will need to inform us.

#### Phase 2

Paddock spatial variability will be provided directly to your app and dashboard.

#### Phase 3

A forecast of pasture growth per paddock will be provided directly to your app and dashboard.

#### Professor Joe Jacobs

Research Director

Joe is the Research Director for Animal Production Sciences and is based at Agriculture Victoria's Ellinbank Smartfarm. Joe has an extensive background in forage agronomy and animal nutrition and grazing management. He is interested in the integration of emerging measurement technologies for pasture measurement and management into everyday farm use to improve pasture utilisation and farm profitability. Joe provides management and oversight across all the DairyFeedbase projects.



#### David Hunter

Senior Technical Officer

David is a Senior Technical Officer in the Spatial Information Sciences group based at Agriculture Victoria's Bendigo site. David manages the computing infrastructure, and software that are critical for the Pasture Smarts project.



#### Dr Misbah Aiad

Research Scientist

Misbah joined the team of systems modelling and simulation in Agriculture Victoria Research in 2019. Misbah enjoys working on analysis of complex systems, big data processing, along with visualisation and automation, using a broad range of programming skills and practices of large problem decomposition. Misbah is automating the download, processing and upload of various data streams in the Pasture Smarts project.



#### If you would like additional information or an expression of interest form

If you have any queries, please contact the project leader:  
Dr Liz Morse-McNabb at  
[elizabeth.morse-mcnabb@agriculture.vic.gov.au](mailto:elizabeth.morse-mcnabb@agriculture.vic.gov.au)  
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