

# Soil health trials target biological input response

On-farm demonstration trials using biological management practices to improve soil health on cattle grazing and farming holdings in Central Queensland are underway this summer.

Department of Primary Industries and Fisheries cropping land management extension officer Valeria Berry leads a newly-funded, three-year project involving 12 producers from Baralaba, Biloela, Calliope, Surat and Taroom districts.

Three producers from the Mareeba district who are members of the Northern Gulf Resource Management Group (NGRMG) are also involved within the project.

Valeria identified an opportunity for the Fitzroy Basin Association (FBA) in collaboration with the NGRMG to put forward a project proposal to the National Landcare Program called "Healthy Soils, Healthy future: Bridging the gaps for sustainable agriculture".

"Our project members now have access to a \$507,000 funding grant to kick start on-farm trials and demonstration sites as well as capacity building activities from July this year," Valeria said.

"We have a unique opportunity to investigate a range of management techniques to address the natural resource issues of fertility decline, soil organic carbon loss, water quality detriment and erosion," Valeria said.

The research component will use one replicated on-farm trial site and 13 demonstration sites averaging 25 hectares. These trials will be established to assess the impact of new and alternative management practices on soil health.

Valeria said the research topics proposed for predominantly pasture country include pasture cropping, green manure crops and the use of biological soil treatments such as compost tea and biodynamic preparations.

The demonstration sites would be treated on average four times a year depending on a range of factors including appropriate soil moisture conditions.

Soil and plant health will be monitored to assess changes in soil carbon, nutrition and biology levels, and crop and pasture performance will also be monitored.

## Critical gaps

"This research will address critical gaps in soil health knowledge with an aim to demonstrate the benefits of a number of alternative or new soil management practices," Valeria said.

"A number of landholders are experimenting with these innovative techniques.

"Their contribution to this project is invaluable as they are fully committed to soil health and sustainability outcomes backed by a wealth of knowledge already gained."

Valeria said the project aimed to deliver three educational training workshops and two on-farm field days each year. The workshops will be an opportunity for all primary producers within the Fitzroy Basin to seek further information in understanding soil and plant health benefits.

"Improved soil health will ultimately increase soil fertility and water holding capacity and lead to a stronger economic enterprise performance through productivity gains and reduced input costs.

"This project will play a role in investigating management practices to improve soil carbon levels. There is an objective to demonstrate that in our climatic environment, soil carbon levels can be increased through imposed management by primary producers.

"Experimentation to improve our soil content by utilising free CO<sub>2</sub> (carbon dioxide) is very important and timely now that carbon credits are in the spotlight.

"This could be a future avenue to reward primary producers for their action in sequestering carbon," Valeria said. ■



Baralaba Landcare Group member and project co-operator Lucy House, discusses management options to enhance the soil health of their pasture demonstration site with DPI&F cropping lands extension officer Valeria Berry, Biloela.