

Media Release



FUTURE FARM
INDUSTRIES CRC
PROFITABLE PERENNIALS™ FOR AUSTRALIAN LANDSCAPES

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Native plant chemistry could play an important role in improving livestock health

Unique chemical compounds found in native plants could play a pivotal role in creating a sustainable way to improve and maintain livestock health.

Research by the Future Farm Industries CRC (FFI CRC) has shown that secondary compounds found in some native plants have the ability to alter a livestock's metabolism and digestion.

Enrich project researcher Dr Phil Vercoe (The University of Western Australia) said many native plants produce compounds as a defence against overgrazing and insect attack.

"Many of these compounds have the ability to interact in a positive way with an animal's metabolism or alter microbe populations in the stomach (rumen) that can have an antibiotic effect or improve digestion," Dr Vercoe said.

"For example, some plants can decrease the amount of ammonia production from amino acids digested by livestock, which has the effect of improving the efficiency of an animal's nitrogen utilisation. Other plants have the effect of reducing methane production – the most common greenhouse gas in agriculture.

"These bioactive compounds show great promise in the lab but getting them to work inside an animal's gut is a more complicated story."

The challenge for the *Enrich* project is to now work out the ways of getting the plants we have identified with the ability of altering rumen and metabolic processes to work in the field before we can be confident about how they can add value on the farm.

"So far *Enrich* has focused on a native shrub's ability to fit into current production systems in terms of their ability to fill feed gaps, provide a more predictable pattern of year-round feed, and provide environmental benefits such as providing shade and shelter," Dr Vercoe explained.

"The next step forward is to determine the role that plants, which can manipulate rumen ecosystems, can play in such systems to create new polycultures on the farm that can also improve livestock production and health."

Some of the *Enrich* grazing trials are currently determining if sheep can self medicate with the shrubs being evaluated. This concept follows the well-established livestock management principle that sheep have the ability to associate feedstuffs with the consequences of eating them. This can allow them to select a diet that meets their nutritional requirements – a principle recently extended to include self-medication.

"The idea is that by having a selection of bioactive native shrubs in the paddock, sheep will have more choices to self-medicate and improve their health," Dr Vercoe explained.

Enrich is an FFI CRC and Meat and Livestock Australia sponsored research project with links to the Commonwealth Department of Agriculture, Forestry and Fisheries that is aiming to create productive and better adapted grazing systems through the incorporation of native perennial shrubs. UWA, CSIRO, DAFWA, SARDI and NSW I&I are also involved in the *Enrich* project.

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