Soil testing highlights potential for lime at KI

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Hunt for healthy soil: Adam Buick with first cross ewes on his Kangaroo Island farm.

Soil testing has identified the potential to lift stocking rates by managing soil acidity for Kangaroo Island lamb and wool producer, Adam Buick.

Adam and his partner Alyce, along with Adam's parents Jeff and Andrea Buick, farm across two blocks totalling just over 800ha at Penneshaw and operate a grazing enterprise involving a self-replacing Merino flock and a first cross flock producing composite sired lambs.

The majority of the farm is in pasture except for 82ha which is cropped for stock feed.

The fifth generation farmer's focus on managing acidity is a direct result of his involvement in an MLA funded Healthy Soils Group which has highlighted the value of soil testing to identify soil conditions limiting productivity.

"I was really interested in soil testing, improving pastures and increasing productivity - being involved in the Healthy Soil Group seemed like the perfect opportunity," Mr Buick said.

The Kangaroo Island Healthy Soil Group held a number of workshops and farm walks and secured funding for members to invest in a technology aimed at increasing soil health and farm productivity.

The first workshop involved taking a soil core at the Buick's farm and examining the soil pH along the 1m soil core profile.

"Dad had hosted a field day 10 years ago which involved digging a soil pit in a paddock used for hay production where the clover was struggling - soil tests for the site back then showed the pH was 4.5 (CaCl2)," Mr Buick said.

"Soil testing was all new to me so when we were given a $500 budget to spend on improving soil health I took the opportunity to invest in soil testing. It was a chance for me to get my head around where our soils were in terms of fertility and soil conditions, where they should be and what our key limiting factors were to increasing pasture production."

The Buicks soil testing program involved eight paddocks with the aim of producing a snapshot of the current soil conditions.

Six of the paddocks had soil samples taken to a depth of 100mm while two paddocks had samples taken to 200mm.

"The test results showed we had good levels of phosphorous and potassium and low sulphur levels, but the standout figures in all the tests were the soil acidity levels," Mr Buick said.

"While one paddock had a pH of 5.0 (CaCl2), the majority of paddocks had low pH readings ranging from 4.6 to 4.7(CaCl2), showing they required lime.

"The results prompted us to put out a trial to see what response we would get to lime and a couple of things were clear - where we applied lime there was an increase in the clover content of the pasture and the clover was more vigorous in the pasture, resulting in better quality hay."

Mr Buick is now committed to a developing a liming program for the whole farm and using soil tests to monitor changes in pH over time.

"Ideally I'd like to lime the whole property at a rate of 2.5t/ha to bring the pH up about 0.5 of a unit, with the ultimate target of eventually getting the pH to 5.5 (CaCl2). Luckily we have local deposits of lime on the island which means lime works out at about $38/tonne delivered and a further $8/tonne for spreading," he said.

"We will be looking at applying lime to the surface of paddocks which are being direct drilled with new pastures as part of our pasture improvement program, but we will

also spread lime on established pastures. We are working on the theory that if we can get the soil pH to 5.0 or better then we will have greater clover and ryegrass production which will give us the capacity to increase our stocking rate."

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- Tips and tools to help undertake on-farm soil testing
- All-new factsheets on soil testing and management
- Enhanced version of the phosphorus tool and manual