BEING SOIL SAVVY

‘Take the focus off the cattle and put it on the soil and pasture.’ This was the best advice Mick and Rowena Ellis received when they moved on to their lifestyle farm in Mansfield. The couple has worked hard to understand their soils and have used agronomists to support them in making changes to their paddocks.

Their first soil test in 2006 recorded a pH of 4.8 in calcium chloride (CaCl2), evidence of acid soils. This was accompanied by high aluminium levels. Aluminium toxicity was impacting the ability of plants to access and utilise nutrients. Mick and Rowena applied single superphosphate and Lilydale lime at 2 tonnes per hectare.

They now conduct soil tests every two years to monitor changes. Analysis of performance comes easily to this couple who work as management consultants for off-farm income. They know the value of measuring and monitoring. Mick points out that it is important to eliminate as many test variables as possible, “so from now on we’ll conduct our soil tests at the same time each sample year.”

The soil test in 2010 showed the benefit of the lime application; the pH reached 5.3 in CaCl2. In the most recent test in 2011 the pH had dropped to 4.8. Hard grazing and the past couple of wet years have likely leached basic cations such as calcium (Ca2+), magnesium (Mg2+), and potassium (K+) resulting in the pH drop. Mick and Rowena plan to apply both lime and super in the coming months.

The desire to diversify production in the farm was on Rowena’s mind. “I’ve always wanted to produce food on a larger scale.” After a great deal of research she trialled caper growing. Their capers are now on the market, with demand outstripping supply.

Caper plants are drought and frost tolerant and resistant to pests and diseases. A drawback is that they prefer neutral to moderately alkaline soils. Mick and Rowena’s soil tests illustrated a significant mismatch between their Mansfield soils and what the capers required. They used lime to manage the soil acidity in the caper paddocks, bringing the pH up to 7.0 in CaCl2. The use of lime will be required as part of ongoing management.

Early plantings of 120 caper plants met with mixed success. Only 40 survived but it gave the couple a firm idea about which plant stock was suited to the Mansfield soil and climate. An Australian bred variety ‘Eureka’ is now thriving. The plants are only two years old but already they are producing capers suitable for harvesting.

The capers are grown in two paddocks, each approximately 1 hectare. Soils in each paddock are tested separately. They were able to identify that sulphur was low in one paddock, while lack of nitrogen was a potential problem in another. Soil tests allow Mick and Rowena to accurately target their fertiliser and lime program to the needs of their crop.

Maintaining good levels of organic material around the capers supports soil biological activity, has encouraged earthworm activity and reduced the need for watering by protecting the soil surface. Increasingly, Rowena is using a mixture of straw and horse manure to keep weeds to a minimum.

Both Mick and Rowena have the view that trialling approaches is vital. Backing this up with the collection of data over a period of time assists them to make informed decisions about what needs to be done on their farm.

Rowena Ellis and one of her caper bushes.