

Case Study - Craig & Donelle Forsyth, 'Avoca', Irwin

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Station cattle, perennial pastures and rotational grazing have transformed a once unsustainable sheep and cropping farm into a thriving and environmentally sustainable business.

When Craig and Donelle Forsyth purchased 'Avoca' in 1978, they continued on as they only knew how with sheep and cropping. Not accustomed to the light sandy soils, each summer they were faced with severe erosion problems. Whether it be wind or water – “the erosion was that bad that after each summer we had to repaint our cars because they were so badly sandblasted,” Craig recalls.

As time went on, erosion was not the only problem. Cropping was barely profitable; with herbicide resistance, waterlogging and disease having a big impact on their bottom line.

Eventually something had to be done.

Eight years ago they made the very hard decision to sell all their sheep and stop cropping. With generations of hard work gone into their sheep genetics, getting rid of the sheep was an emotional time. But they also knew it was the right decision.

Needing to stabilise these light sandy soils, the Forsyths sowed their first paddock to sub-tropical perennial grasses in 2001. A mixture of 1 kg/ha each of Finecut Rhodes grass, Signal grass and Gatton panic was used. Since then more than 800 hectares have been sown to sub-tropical perennial grasses.

Over time the seed mixture has changed slightly with Craig now sowing 2 kg/ha of Gatton panic and 0.5 kg/ha each of Rhodes grass and Signal grass. This gives “a more diverse pasture” and at the same time reduces the risk of establishment failure, as each species has a slightly different optimum sowing depth.

With the move to 100% livestock, the Forsyths knew they needed better pasture management. In 2002, they started setting up a wagon wheel cell grazing system. This involves a central watering hub with a number of paddocks feeding off it.

Livestock are rotated from paddock to paddock through these watering hubs. Currently there are 8 watering hubs with 54 paddocks feeding off them. The aim is to eventually have about 90 paddocks.

“If we had our time again, we would have set up the wagon wheel grazing system first, and then introduced the sub-tropical perennial grasses. Rotational grazing greatly improves your annual pastures” said Craig.

The change from traditional set stocking to rotational grazing also means that there are now only a few, large mobs of cattle on the property at any time. 200 to 300 steers in a mob is common.

Craig found water to be one of the most critical issues when setting up this new grazing system. With large mobs in small paddocks, water can either make or break the system. “When the cattle come in to drink, the trough, no matter how big or small cannot get below ¼ empty,” Craig says. Once it goes below that critical point, the cattle tend to panic and then all try to drink at once, creating chaos and inevitably damage to the water system.

The water hub needs to support the cattle’s natural drinking instinct. “In their wild environment, there were always predators around. They needed to drink quickly and then move out to a safer grazing environment,” said Craig. Although there are no predators in this system, the electric fence surrounding the hub gives the same effect.

Setting up the fencing and water infrastructure has required a big financial outlay for the Forsyths, but they definitely think it is worthwhile. By developing a better grazing system, they can run more stock.

With limited capital, rather than buying cattle, Craig and Donelle entered into a share profit alliance with a pastoralist



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about 5 years ago. Pastoral cattle belonging to the pastoralist are grown out at “Avoca” before being live exported. The Forsyths receive a fee equal to two thirds of the value of the weight gained at “Avoca”. This alliance works well for both parties, as the Forsyths do not need to outlay capital to buy cattle, and the pastoralist does not need to pay for agistment.

This system also helps to better match feed demand with supply, as most of the cattle arrive from April onwards and then leave before summer. This enables them to stock up over winter and spring when feed is abundant, but maintain a low stocking rate over summer to ensure sustainability. During the last couple of dry years Craig has also been able to manipulate the stock numbers to reflect the season. “When we are having a good season we can bring in more cattle, but when it is dry we don’t bring in as many cattle, and in some cases, like 2006, we can even send cattle back to the stations,” said Craig.

Biodiversity plays an important role in maintaining environmental sustainability on ‘Avoca’. There are a couple of quality blocks of remnant vegetation which are dominated by banksias and blackbutts. These areas are home to the endangered Carnaby’s Cockatoo, White-winged Triller and the Brown Honeyeater plus a number of other priority and non endangered species. Not only are the areas of remnant vegetation home to a number of bird species they are also home to a wide variety of ants, spiders and beetles.

Perennial pastures also play a role in the biodiversity on ‘Avoca’. Research by Grain and Graze has identified they host more species of invertebrates and birds than any other pasture type on the place. This suggests that perennial pastures create a healthier environment than other pasture types. Craig thinks we need to know more about biodiversity, especially the good “bugs” that provide some balance to the farming system.



A watering hub. Note the floating liquid supplement dispenser. This is the only type of supplement cattle receive on “Avoca”.

Future plans for ‘Avoca’ include a complete change to a perennial based system. This includes paddocks of sub-tropical perennial grasses and perennial fodder shrubs such as tagasaste and rhagodia. Ideally, Craig would have these as separate paddocks (though linked via one watering hub), as he believes the different perennial pasture types compliment each other in their grazing, but oppose one another in their management. Having them in the same paddock would be detrimental to one of the perennials.

To test this theory, Craig has established a trial paddock sown to both sub-tropical perennial grasses and tagasaste. It will be interesting to see what happens.

The Forsyths believe they have yet to get the most out of their system. At present they are turning off about 1500 head of cattle a year. Their aim is to produce 1 kg of live weight gain per hectare per mm of rain. With an average rainfall of 400 mm and 2600 grazable hectares, this would equate to approximately 1 million kilograms of live weight gain. If each beast was to gain 200 kg, this would mean the Forsyths could turn off around 5000 cattle a year. Now, there’s a challenge!

The Forsyths run one of 13 farms in the Northern Agricultural Region being monitored in the Grain and Graze project. Sarah Knight is a Project Officer with Mingenew-Irwin Group working on Grain and Graze.