Evergreen FARMING

CARING FOR OUR COUNTRY

CASE STUDY - *Will Browne, Warradarge*

Will and Libby Brown are not newcomers to perennial pastures, having first planted the fodder shrub tagasaste some 15 years ago. But with the recent run of dry years, and the development of subtropical perennial grasses as a viable option for the West Midlands, they are now confident to plant all 700 hectares of their poor sand down to a combination of tagasaste and perennial grasses. And they are well on their way, with 415 hectares of existing perennials being boosted by a further 135 hectares planted in 2009. The remaining 150 hectares of poor sand still in annuals will be sown down to perennials over the next 2 years.

The Browne's farm the 2000 hectare "Warradarge Hill", halfway between Badgingarra and Eneabba. The country is undulating and the soils range from gravel on the breakaway hills to deep sand in the valleys. Annual crops and pastures grow well on the gravel soils, but are disappointing on the sands. In fact, the poor performance of annual pastures on the deep sands in recent dry years has convinced them that perennial pastures are the only way to go on these poor soils.

This is quite a transformation from how the farm was originally farmed following clearing in the 1960's. Back then, superphosphate was cheap and rainfall more reliable, and even the poor sands could grow a half decent annual pasture. But those days didn't last long. When the wool market went south in the early 90's, the obvious response was to reduce sheep numbers and get into cropping. This proved successful on the better gravelly soils, but not on the poorer sandy soils. The Browne's still continuously crop their gravel soils these days using a canola / wheat / barley rotation. But this still left the poor sandy soils as the weak link of the business.

Come in tagasaste. Will started planting tagasaste in the mid 90's and has since gone on to plant over 400 hectares of it. It has improved the productivity of their poor sands and prompted a move in to cattle. Will now runs around 300 breeding cows which live exclusively on the tagasaste through autum, winter and spring. He runs a cow and calf to every 1.5 hectares of tagasaste, which is a stocking rate of approximately 10 DSE/ha winter grazed. This is 3 to 4 times the traditional carrying capacity of this country when it was supporting annual pasture.

Well managed Tagasaste

During the last 3 years, Will has sowed a mix of subtropical perennial grasses in the inter-row of his establishing tagasaste. He believes this offers multiple benefits. It increases the productivity of the paddock in the first few years while the tagasaste matures. It holds the sand together between the rows of tagasaste. And it provides a more diverse pasture mix for the livestock. The first paddock established this way in 2007 has been a roaring success, thanks in part to 75 mm of summer rain in the first year. It has been subdivided with electric fencing into 4 smaller paddocks to improve grazing management. So far the 2 very different types of perennial pastures have tolerated both each other and the heavy grazing Will has thrown at it. As a consequence, both the 2008 and 2009 tagasaste plantings have had subtropical perennial grasses sown in the inter-row.

The impact of recent dry years has certainly influenced Will's decision to expand the area sown to perennial pastures. Both 2006 and 2007 were dry years, and livestock in particular suffered. However, the farm received 75mm of rain in a couple of heavy thunderstorms in December 2007 and January 2008. This caused significant sheet and gully erosion in annual crop and pasture paddocks, but virtually none in any of the paddocks with tagasaste or perennial grasses. In addition, the summer rain destroyed the quality and availability of crop stubbles and dry annual pastures. But the tagasaste and perennial grasses grew like steam and the livestock piled on the weight. Remembering that at this time of year livestock are normally losing weight. Without perennials, this summer

Case Study - Will Browne, Warradarge

The cow herd with Tagasaste in the background

Tagasaste with perennial grass inter-row

rain would have only put further pressure of stock already suffering after 2 tough years.

Later in 2008, after a protracted break to the season, a very wet July and a bone dry August, livestock were struggling again. So much so that the sheep, which are run solely on annual pastures, were totally agisted off the farm in mid-September. What's most remarkable is the cattle, running on tagasaste and perennial grasses, went through 2008 with only a small amount of hay.

But Will says that perennials aren't magic. They won't grow unless there is rain and/or soil moisture. To illustrate this point he says the summer of 06/07 was dry, and this followed a very dry 2006 growing season. His perennials were unable to provide a significant boost to livestock in autumn 2007 simply because it hadn't rained for such a long time. In years such as this, significant hand feeding and/or selling or agisting stock off is still required.

In a more normal year, Will has a set plan as to how each class of stock on the farm utilizes the range of tagasaste, perennial pastures, annual pastures and crop stubbles on offer. Cows typically spend winter and spring on tagasaste, and then move on to stubbles over summer, before returning to tagasaste in the autumn to calve down when they might receive some hay. Calves meanwhile are weaned off cows in late Spring and then spend time over summer and autumn on the higher feed quality offered by the perennial grasses, tagasaste and better crop stubbles.

Will's SAMM x Merino ewes spend all year on annual pastures, but are confinement fed at the break of season with hay, lupins and seconds wheat. This allows annual pastures a chance to get away for a few weeks. The Poll Dorset cross lambs are weaned in Spring and initially spend time on subclover pastures until they are put on the better crop stubble paddocks after harvest. They are progressively sold from November through to February. So far Will has not grazed his sheep on perennial pastures, partly because cattle are so much more suited to tagasaste, and partly because he is worried the sheep might overgraze the perennial grasses. As a result, the sheep flock has received significantly more supplementary feeding than the cattle herd. As Will points out, this quickly erodes profit margins.

Due to the current low margins with breeding cows, and the unpredictability of recent seasons, Will is interested in doing some trading of young stock over winter and spring. This should improve returns, as pasture is more efficiently converted to live weight gain in young cattle compared to cows and calves. Cow numbers would be reduced to make room for these trade cattle, thus reducing the number of animals carried over summer and autumn each year. This would reduce the need for expensive and time consuming supplementary feeding. And also provide more flexibility in a tough year, as the number of trade animals purchased could simply be reduced or the timing of purchase delayed.

Will concludes by saying that the 4 to 6 week longer growing season and the ability to convert summer rain into green feed are the two big economic advantages that perennials have over annuals. By more efficiently turning every drop of rainfall into grass, he has been able to increase animal production per hectare without increasing the need for expensive supplementary feeding.

This case study is written by Philip Barrett-Lennard (Evergreen Farming / agVivo) as part of the Perennial Pasture Companions Project supported by Caring for our Country.