

Meeting challenges with diversity



Tony & Katy Hamilton

Forbes
Lachlan Valley

- > Border check, raised beds
- > Surface water, bore water
- > Lucerne, wheat, canola, barley, oaten hay, soybeans, sorghum, jojoba, cattle trading

Diversification is the key to Tony Hamilton's mixed dryland and irrigated cropping and cattle farm in the Lachlan Valley. Tony, who was formerly an agricultural consultant in the Cootamundra area, has been farming in the Jemalong Irrigation District, west of Forbes since 1990. He grows about 400 ha of crop, trades cattle and has a permanent planting of 20 ha of jojobas.

Warili has a surface entitlement from the Lachlan River and a small bore licence. During the past five seasons, Tony has received between 0 and 5% allocation from Jemalong Irrigation so has had to rely solely on bore water. He buys additional bore water on the temporary market to boost his supply.

To date, 200 ha of the farm has been lasered and developed for irrigation. However if water wasn't limited, there is the potential to irrigate much of the farm. Tony surveyed and designed the layout, and employed contractors to carry out the laser levelling – taking great care to avoid cutting into the subsoil and preserving the topsoil. Essentially the irrigation area is divided into four blocks and any runoff is captured and reused.

Keeping options open

Initially the farm was laid out to border check where Tony grew lucerne for hay. With continuing low hay prices he diversified into double cropping based on a rotation of wheat and azuki beans. Now Tony's layout consists mainly of raised beds and he grows a diverse range of crops including canola, wheat, barley and oaten hay, as well as soybeans and sorghum for both grain and fodder – "to keep my options open".

To maintain this flexibility Tony purchased a disc planter. He was specifically after a machine that would give excellent depth control and be able to direct drill into heavy stubble loads.

"Direct drilling and maintaining stubble is the way I'm heading with my cropping programme, not only to alleviate compaction and crusting problems but – by maintaining ground cover I'm better able to capture rainfall."

Tony said he regularly achieves 5–6 t/ha yields for his wheat but just can't get the eight tonne yields "they are talking about". He says one of the reasons is ryegrass resistance to group A and B herbicides which is becoming a real issue. This is another reason Tony is into fodder production, because crops are cut at flowering, which prevents ryegrass from seeding.

Tony still grows lucerne for hay and seed, and is thinking of expanding the lucerne side of his business to capitalise on the strong fodder market during the current drought. He generally manages to get five cuts of hay, with a total yield of 12–15 t/ha, and two waterings per cut. Most of his prime quality lucerne is made into big bales and transported to a local chaff mill.

Tony runs a couple of hundred head of steers on both the irrigation and the dry. The cattle are rotationally grazed on dryland pasture, saltbush and planted fodder crops such as grazing wheat or forage sorghum. He is evaluating whether or not to continue to graze cattle on irrigation due to the damage they cause to channels and the paddocks. Tony doesn't usually supplementary feed although he has made silage for his cattle in the past. He feels there is value in doing this in good seasons with a lot of excess feed but questions the economics of using water to specifically grow silage in his situation.



"Being mainly trade cattle I would be better off to grow a higher value crop and not buy in the cattle," he said.

Maximising irrigation efficiency

Tony is trying to maximise the efficiency of his flood system with good layouts, installing a recycling system, and increasing flow rates. Jemalong Irrigation is facilitating the change from dethridge wheels to high volume outlets. However he thinks if the price of water continues to increase, coupled with decreased availability of water, the next step will be to convert to from flood to a spray or drip system.

"I have looked closely at it but the economics just don't stack up for me yet in a broadacre situation."

Tony feels any help from the Federal Government's water initiative to facilitate these changes would be most welcome and would speed up the adoption of these technologies for broadacre agriculture. He said there also needs to be certainty about surface water and groundwater rights before farmers would be willing to spend huge amounts on capital improvements to irrigation systems. He has heard "horror stories" of farmers spending huge amounts of money converting to drip irrigation only to have their bore water allocation cut by two-thirds.

However, Tony also feels there are a lot of efficiencies yet to be gained with current flood layouts, particularly with regards to automation and flow rates.

High value crop for diversity

Seven years ago, the Hamiltons diversified with a permanent planting of 20 ha of jojoba.

The jojobas are watered by subsurface drip from bore water. Although initially very labour intensive, they now don't need so much maintenance.

The jojobas are harvested for seed several times a year, using a modified almond harvester imported from the US. The seed is cleaned before being pooled with other growers' seed. It is then cold-pressed by Cootamundra Oilseeds to extract the valuable 'liquid wax' used for shampoo, cosmetics and massage oils. Tony currently harvests about 10 tonnes of seed but this should increase up to 40 tonnes once the trees are fully mature.

When initially researching higher value enterprises, they also tossed up wine grapes and olives but decided that those markets were already saturated. Tony said the beauty of jojobas is that they are very drought and salt tolerant, and although production is reduced, will survive without water. However they are hard to grow and very slow growing. Tony said when they first got into the jojobas they were getting good money but the price has dropped significantly due to Argentinean imports and low world prices. Tony is hoping that a market may open up for the jojoba meal as recent research has shown it acts as an appetite suppressant.

Given the past five years of poor seasonal conditions and low water allocations Tony and Katy feel they have significant challenges ahead on *Warili* both from a marketing and climate point of view. However a willingness to adapt to change, enterprise diversity, and their constant strive to improve their farming system puts them in a position to manage scarce resources efficiently and reap the benefits of their efforts in better seasons.

"There also needs to be some certainty about surface water and groundwater rights before farmers would be willing to spend huge amounts on high-tech irrigation systems..... however, there are also a lot of efficiencies yet to be gained with current flood layouts, particularly with regards to automation and flow rates."