

Case Study - Bob & Anne Wilson, “Tagasaste Farm”, Lancelin

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Bob and Anne Wilson have long been aware of the role of perennial pastures and fodder shrubs in managing risk in their beef cattle operation near Lancelin.

Bob began planting the fodder shrub tagasaste on their lease property, ‘Tagasaste Farm’, more than 20 years ago.

Located 25 km from the coast and with an annual rainfall of 650 mm, the farm is principally undulating deep sand with no perched water table.

As one of 13 demonstration farmers in the *Grain & Graze* project in the Northern Agricultural Region, Bob has been involved in a three year grazing study. Stock movement records between 2005 and 2008 were analysed to compare grazing from perennial and annual pastures.

In Bob’s case, annual volunteer pastures, tagasaste and a mix of subtropical perennial grasses - Rhodes grass, signal grass and panics - have all been under scrutiny.

The tagasaste has been established for many years and covers 880 ha - or 51 percent - of the farm’s 1,740 grazing hectares.

Over the past four years, Bob has planted 220 ha to the Rhodes grass mix. Included in this figure was 90 ha of perennial grasses planted in August 2007, but these are not yet ready for grazing and were not included in the study.

Tagasaste Farm in the past carried 350 breeders, as well as taking cattle on agistment during the growing season, but in November 2006 Bob & Anne bought a further 550 PTIC cows.

In the lead up to buying more of their own stock, numbers were generally down for a couple of reasons.

“We were having difficulty sourcing a consistent supply of agistment cattle and more importantly, growing season rainfall in 2006 was the lowest on record,” Bob says.

The three year *Grain & Graze* study highlights the consistent contribution of tagasaste to total grazing days throughout the year.

Tagasaste supported 58 percent of the property’s total grazing between 2005 and 2008 and the annual stocking rate in the tagasaste over the three years ranged from 6.12 DSE/ha to 9.02 DSE/ha (*Table 1*).

Two very dry seasons meant Bob was left with more stock on the property over summer than he would ordinarily like, but the tagasaste supported stocking rates of 9.96 DSE/ha in the summer of 06/07 and 10.39 DSE/ha in the summer of 07/08.

“Despite having more stock on the farm over summer than in previous years, they are looking as good as they ever have,” Bob says.

Table 1. Bob Wilson grazing results by fodder type, from February 2005 to January 2008.

	Fodder	DSE/ha	DSE grazing days	Area (ha)	% of area	% of total grazing
2005	Annual volunteer	5.74	1,671,045	798	46	44
	Tagasaste	6.12	1,964,878	880	51	52
	Sub tropical perennials	5.55	125,504	62	4	3
2006	Annual volunteer	3.39	902,690	729	42	26
	Tagasaste	6.99	2,246,067	880	51	65
	Sub tropical perennials	6.94	332,020	131	8	10
2007	Annual volunteer	6.40	1,703,776	729	42	35
	Tagasaste	9.02	2,897,953	880	51	59
	Sub tropical perennials	6.69	319,714	131	8	6

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“Rotationally grazed, tagasaste can be utilized year round and it has carried us through.”

“We were lucky to get good rain in December 2007, which freshened it up.”

“In addition, we misted 300 ha of the tagasaste for wingless grasshoppers in November and December, which helped the flush of new growth.”

Experience has shown Bob that tagasaste can support high stocking rates if it is well managed.

His tagasaste is rotationally grazed, fertilized annually with 100 kg/ha Super Potash 5:1 and cut every third year. In years gone by, leaf analysis showed yellowing of tagasaste leaves during the growing season. This has now been rectified with 20 kg/ha of manganese sulphate every five years.

Bob grazes the tagasaste hard in the spring to avoid the fodder shrub flowering, when it becomes unpalatable to cattle because of a build up of phenolics.

“And it suits our production system to hammer the tagasaste hard in the spring as our own calves are putting on weight and we would generally have trading cattle here,” he explains.

At present, calving takes place from May for 12 weeks, but given the false breaks over the past couple of years, Bob is considering pushing it back to June and closing the window to nine weeks.

Ideally the Wilsons want their cows to be calving when there is green feed available from the annual pastures.

“But given the false breaks of the past two years, we could not have relied on clover and annuals at this time, when lactating cows are desperately chasing a green pick,” Bob says.

However, the perennial grasses have performed, providing valuable green feed.

Following 110 mm of rain in January and February 2006, Bob grazed one paddock of perennial grasses that had been established five months earlier.

The warm season grasses responded rapidly to the rainfall and supported a stocking rate of 10.9 DSE/ha between February and April 2006.

But Bob points out that you need a number of paddocks of the grasses to be able to set up a rotation.

“The perennial grasses provide quality green feed when annual pastures are otherwise useless, but having just one paddock of them is a problem,” he says.

“We were fortunate that we had the tagasaste to turn the stock on to at that time of year and that at least provides maintenance feed.”

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Table 2. Bob and Anne Wilson, Lancelin, Seasonal stocking rates by pasture type, measured in DSE/ha.

Pasture type	2005				2006				2007			
	autumn	winter	spring	summer	autumn	winter	spring	summer	autumn	winter	spring	summer
Annual Volunteer	2.2	8.0	8.0	5.1	1.2	2.6	3.6	6.3	5.5	6.7	6.7	7.1
Tagasaste	2.8	5.6	11.5	4.9	3.3	5.2	9.9	10.0	8.9	9.0	8.2	10.4
Perennial grass	6.4	5.1	6.4	4.6	10.9	3.9	5.5	7.7	3.9	4.5	9.8	8.9

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Ultimately he would like to plant the balance of the farm that is still annual pasture to these perennial grasses, but that is a long term goal.

Convinced that perennials is the way ahead, Bob says he would like to see subtropical perennials grasses in the inter-row of his tagasaste, but he concedes that the grasses and the fodder shrub would have to be established at the same time.

“And then there is the unresolved issue of the ideal row spacing for the tagasaste,” he adds.

Comparing perennials and annuals

Grain & Graze in the Northern Agricultural Region of WA is funded by MLA, AWI, GRDC, Land & Water Australia, with local support from NACC and the Department of Agriculture and Food. The project is one of nine across the nation that sets

out to boost farm profitability on mixed farms whilst helping to protect the environment.

Records from the 13 demonstration farmers have been analysed to compare the grazing value of perennials with annual pastures and crop stubbles. Bob kept a record of his livestock movements which allowed the calculation of DSE grazing days from each pasture type. A DSE rating was applied to mobs of cattle to allow comparison across the region and DSE grazing days were then calculated by totaling the number of stock in a mob and the time period they grazed a given pasture type. For the purpose of this study the seasonal split was as follows:

Autumn – February, March, April

Winter – May, June, July

Spring - August, September, October

Summer – November, December, January

For more information on the Grain & Graze studies in the Northern Agricultural Region, please visit:

www.grainandgraze.com.au

The Wilsons run one of 13 farms in the Northern Agricultural Region being monitored in the Grain & Graze project. Alison Cooke is a Project Officer with Evergreen Farming working on Grain & Graze.



**Total DSE grazing days by pasture type
February 2005 to January 2008**

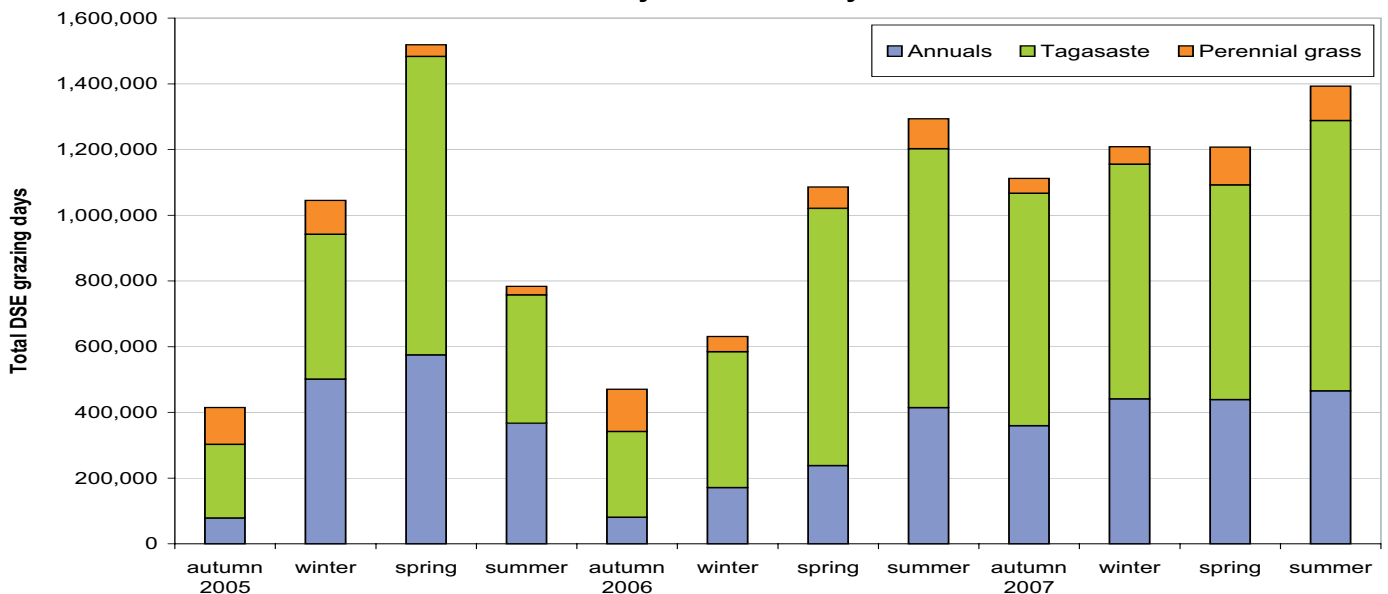


Fig 1: Total grazing days by pasture type for different fodder types.