

## Grain & Graze Case Study - Alan & Joy Heitman, “Arena”

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*Cattle grazing tagasaste at ‘Arena’.*

Situated in south Mingenew, ‘Arena’ is a 2,800 ha mixed farming enterprise comprised of gravel sands to yellow sand plain to sand over clay in valley floors. Those paddocks that are not cropped are either left as annuals (volunteer or improved) or the poorer permanently non cropped paddocks planted to sub tropical perennial grasses, tagasaste and saltbush. Stock include cattle and sheep for commercial purposes as well as for stud and feed lotting. With an average rainfall of 420 mm, the last 2 years have seen well below average with 218 mm in 2006 and 287 mm in 2007.

The Heitmans’ enterprise involves having most livestock on their farm over winter and spring when feed is abundant, turning them off before summer then bringing them back in autumn. The Heitmans are fortunate in summer that they

can utilise crop stubbles on their other properties to carry the sheep which graze on ‘Arena’ over the growing season. These sheep are then brought back to ‘Arena’ in autumn when they are preparing to crop the other properties. To reduce stock numbers in poorer years only the best stock are kept while all others sold. This reduces the burden on all their properties.

Tagasaste, the standout pasture type on ‘Arena’, was introduced in 1996 after realising that the poor deep white sands were very unproductive and lacking in essential minerals. Thanks to the tagasaste guru Bob Wilson, ‘Arena’ now has 360 ha of tagasaste divided into 14 paddocks. It is utilised all year round but is relied upon heavily in summer.

In 2005, 12% of ‘Arena’ was tagasaste, which provided 27% of the total grazing and in 2006 it provided 36%. Over the summers of 2005/06 (8.4 DSE/ha) and 2006/07 (4.7 DSE/ha) tagasaste supported the highest stocking rates of any pasture type. For June 2005 to May 2006 tagasaste and perennial grasses had the highest stocking rate (5.9 DSE/ha). From June 2006 to May 2007, tagasaste (4.8 DSE/ha) had the highest stocking rate followed by perennial grasses (2.8 DSE/ha) which were substantially lower.

The Heitmans believe the success to their tagasaste is that it is planted in low lying areas where they believe it has access to water all year round as it is generally always green and healthy. Pruning to a meter high is considered essential. Tagasaste has its place on ‘Arena’ not only as a feed source but

**Table 1.** Stocking rate by pasture type at ‘Arena’ from 2005 to 2007.

Fodder	DSE/ha		Total DSE Grazing Days		Area in ha of each Pasture Type		% by Area		% by Grazing	
	2005/06	2006/07	2005/06	2006/07	2005/06	2006/07	2005/06	2006/07	2005/06	2006/07
Annual Pasture	3.6	1.3	1,303,099	457,069	992	962	39	31	46	26
Clover Pasture	-	2.2	-	257,070	-	314	-	10	-	15
Wheat Stubble	0.5	0.4	53,886	39,871	303	404	12	10	2	2
Barley Stubble	1.6	-	147,153	-	258	-	10	-	5	-
Lupin Stubble	0.7	0.4	76,544	15,516	304	102	12	3	3	1
Oats	4.0	0.5	194,277	180,159	133	910	5	29	7	10
Tagasaste	5.9	4.8	783,744	631,078	364	364	14	12	27	36
New Perennials	2.8	-	89,867	-	87	-	3	-	3	-
Perennial Grass	5.9	2.8	206,149	184,585	96	183	4	6	7	10

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as shelter. Cows calve in tagasaste paddocks and on occasions ewes also lamb down in them as well, which have resulted in higher lambing percentages. However, not all of the Heitmans' experiences with tagasaste have been positive. The joining of cows in tagasaste proved to be very unproductive. In the year which this occurred they experienced a very low pregnancy in calf percentage so they now join them in pasture paddocks with a ninety five percent result in 2007.

Over the past 2 years (June 2005 to May 2007) perennial grasses had highest stocking rates in spring and lowest in autumn. In spring 2005 (9.9 DSE/ha) they had the highest stocking rate of any pasture type. In spring 2006 (4.7 DSE/ha) it was a lot lower but still the highest of all pasture types.

Sub tropical perennial grasses became part of Arena's diverse array of pasture types in 2003. Initially one paddock was planted to the Evergreen Mix with the second paddock going in during September 2005. These perennials have been planted generally on unproductive cropping country consisting of non wetting white sands, though some is on some fairly good gravel country. With the drier years they have experienced recently, the perennials on the sand are doing quite well but the ones on the gravel have thinned out a bit. The advantage

of having perennial grasses in their system is that they are able to take advantage of out of season rainfall.

Stubbles are not that productive in terms of grazing on 'Arena'. Wheat (0.5 DSE/ha 2005/06 and 0.4 DSE/ha 06/07) occupied 10-12% of the property, accounting for only 2% of grazing. Lupins covered 12% in 2005 and 3% in 2006 with stocking rates of 0.5 DSE/ha and 0.7 DSE/ha respectively. However, lupins are essential to 'Arena'. Lupin stubbles give the ewes the added extra they need for increased ovulation and can increase lambing percentage by 10% or more.

The Heitmans have successfully matched their feed supply to demand by having a number of different pasture options, including sub tropical perennial grasses, tagasaste, annual pastures and oats. This diverse array of pasture types results in different pasture growth at different times of the year, thus providing year round feed.

**Table 2.** Average for 12 months from June 2005 to May 2006 and June 2006 to May 2007.

	2005/06	2006/07
<b>Dry Sheep Equivalent / ha</b>	3.1	1.5
<b>Total DSE Grazing Days</b>	2,854,719	1,765,348

*Figure 1. 'Arena' Total DSE Grazing Days from June 2005 to May 2007.*

