David & Joanna Grigg

(Note: Commentary included)

Tempello

- 4800 ha steep/rolling hill (2600 effec)
- 4500 sheep su
- 5200 cattle su
- Sub-clover key legume
- Any summer legume a bonus

Tempello - commentary

- Firstly, I will give a quick rundown on the farm so you can see why legumes, namely sub-clover, are so important to our bottom line.
- We are situated 10 minutes SW of Blenheim, on the edge of grapes and into the start of the hill country.
- About half of the 4800 ha farm is effective. Only point 6% is flat. Average rainfall is 600 mm at the house and 1000 at the highest point. We have been as low as 320 mm in more than one forgettable year.
- The farm runs from 100 to 1000 meters.
- The area is known for extremely unreliable autumns, somewhat more reliable springs and milder winters. We can get considerable growth going into June
- The ewes are made up of merinos run on the Taylor pass country and corrie and corrie/PD run on the Fairhall side hill country. We wean lambs in November, usually anywhere between 20% and 80% prime off mum depending on factors we will discuss later.

Tempello - commentary

- Legumes are really only present in spring and autumn, if it is good.
- Very short window of opportunity in spring with summer dry settling in by end of November.
- Key growth period runs from late August to end of October. Growth rates of 50 kg DM/ha/day are not unusual for October. This is the difference between mainly store or prime lambs. With the volatile seasons it is becoming more and more a boom and bust scenario so making the most from any sort of Spring is paramount.
- Although rainfall is often the limiting factor pasture management and fertility play a big part.
- We grow around 65% of our feed in a 90 day period starting 5th September going through to late November early December which is about 4500-5000 kg/DM/ha.

Tempello - commentary

- We are a semi extensive property with the main development opportunities lying in further sub division on the hill country.

- Sub-clover is our predominant legume species on the hill country. This was first established in the 70s through aerial oversowing and top dressing. RATES for the oldies amongst us were 2 pounds white clover and 3 pounds sub clover and 20 ryegrass to the acre. Translated for those born in the modern era this is around 3 kg white clover 4.5 of sub and 24 ryegrass. This was sown with 600 kg per ha of potash super. Cultivars of sub used were Mt Barker and Woogenellup

- Our hill blocks range from Olsen P of 10 to 18 and the soil pH range is 5.5 to 6.
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- Generally our sulphur levels are good ranging from 7 - 10.

- Of latter years our fertiliser focus has changed to a lime sulphur viaphos application with added trace elements to create the right balance.

Woogenellup

Woogy is by far the more dominant of the two major species of sub

Mt Barker

Mt Barker is the other cultivar characterised by the red bands

Advantage of legume $179/ha for Corrie and Corrie/PD system in 600 ha key lamb production area of Tempello

	Drought (900 kg DM/ha) low clover and low grass	Grass dominance (<5% legume)	Ideal legume (up to 60% sub)
Kg lamb weaned	27	30	34
Value $3/kg store and $6.80 kg killed	$81	$90	$113 to $130
Advantage	$0	$9	$32 to $49
Over 2200 lambs	$0	$19,800	$70,400 to $107,800
Per ha advantage (600 ha area)		$ 33	$117 to $179

Tempello - commentary

- **So how do we put a measure on these benefits:**
- Looking at this table we have three different scenarios which actually happened at home.
- This assumes 2011 lamb prices.
- First column shows a drought situation with low pasture covers.
- Value of lamb was $81 at weaning.
- The next column shows a high pasture cover but with poor quality pasture – something we saw quite a bit of before sub-division. That year lambs weaned around 30 kg – earning around $90 per head. This is a $9 advantage on the drought year.

Tempello - commentary

- However, the final column says it all if legume content is up to 60% in spring.
- Lambs weaned at 34 kg, returning $113 to $130 per head, depending on whether they killed out or sold store. This gave an $32 to $49 advantage per head.
- Over 2200 lambs this is an extra $70 to $100k in the bank
- Over the 600 hectares of the Corrie operation this is $117 to $179/hectare extra.
- So I suppose you can say legumes can make up to a $179 per ha difference in a dryland hill country operation.
- Ewes wean at 65kg making it easy to summer them. To me this and the lamb results are the true benefits of sub clover.
- Obviously the season does have an impact on legume production but good pasture management plays a big part.

How do we get a high sub-clover diet?

- Clovers over sown 1970s
- A hill block gets shut up every 8-10 years in spring, to build seed bank (one block/year).
- Identify low legume blocks and try and graze before march rain, then leave until 5 trifoliate leaves.
- May have to sacrifice any early ‘false strikes’

Tempello - commentary

- To build a seed bank, we identify low legume producing blocks in the spring time.
- Target the block for autumn. Start by partially cleaning up through the summer and once autumn rains arrive keep right off it.
- Once the sub strikes it is vital to leave it until five trifoliate leaves. This ensures the root mass underneath is established for the following spring.
- During the winter months we hammer it down hard cleaning up everything.
- From this point that's it. We let it go right through the spring letting it flower set seed and get the burrs down.
- By mid December the process is done and it is wonderful feed for cows and calves.

Winter & Spring

- Thump grass/established legume in winter
- Spring: don't graze until post-flowering mid-December
- Reap the rewards the following spring!
- Ongoing management includes spelling

Sub division key

These photos are from the Legume Photo Diary site.

The rank stuff (above) is pre-grazing late summer and on the right, is pasture that was partially grazed late February setting it up for germination.

Not totally cleaned up but some cover does provide shade for young seedlings

Grass out of control. Fence!

This photo illustrates the down side of Tempello. Total suppression of any clover and consequently poor lamb growth are direct results

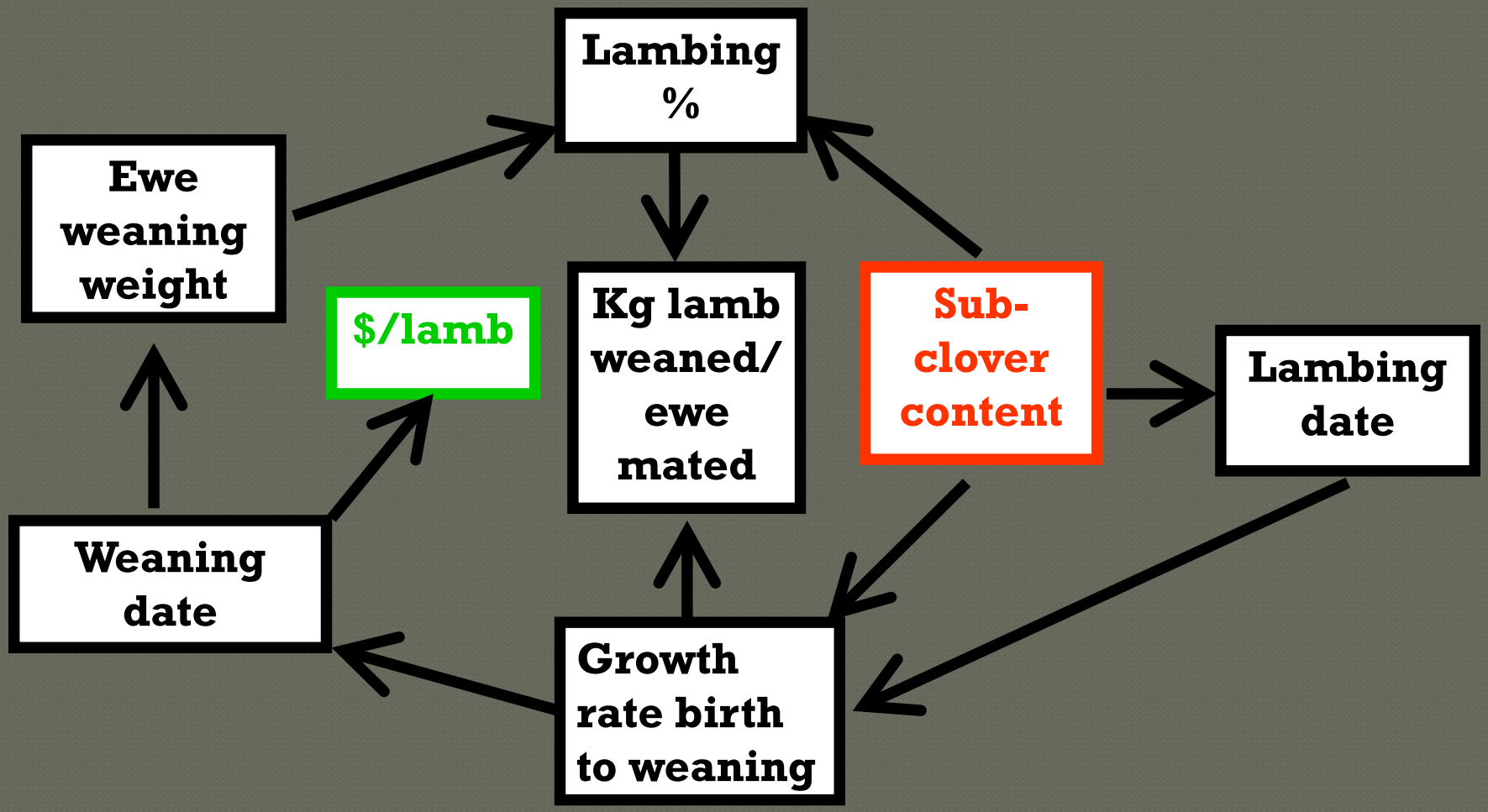
Weaning weights of 27 kg were achieved that spring. If we had better control things could be a lot different. That type of feed would not maintain ewes later into the summer.

Just right!

Apart from our model in the middle this is how we want it.

Lamb growth rates in the spring are 380 – 450 g/day allowing us to wean and catch the high premiums in November

How sub clover drives $



Tempello - commentary

- The flow chart is an attempt to try and link together just how sub clover drives our dollars

- Sub clover content is the main driver of lambing date. That is we try to have the bulk of lambing underway in the first week of September. Soil temp is starting to climb over 10 degrees .

- It is no use to us having a lambing date that does not suit our growth curve.

- Absolutely essential to have ewes milking from day one

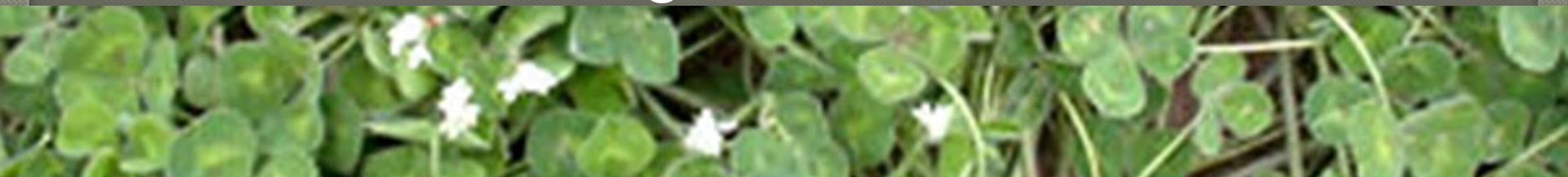
- Growth rate from birth to weaning is affected by sub clover content . Under 20% probably means a store lamb

Tempello - commentary

- Weaning date is set by pasture quality, and to a degree market trends, the early sales are the best.
- The moment dry sets in and clover burns off we wean.
- As mentioned earlier the ewe weaning weight determines your next seasons lambing percentage. If we can wean at say 65 kg then all we have to do is maintain her until flushing. If she needs lifting it normally involves supplements which can be expensive.
- We have found that keeping lambs on ewes if pasture quality is not holding her body weight just to try and make a little more out of the lamb is incredibly detrimental.
- So being able to wean early is a huge advantage.

Getting to 20 ha blocks worth it

- $176 extra/ha justifies $300k spend on fencing/water? Yes
- From 60 to 76+ tonnes lamb meat with 600 fewer ewes
- Still 8 su/ha this area
- Extra ewe grazing days
- Lamb income 2011 would have been $65k lower if no changes made



Tempello - commentary

- In 2001 each ewe was weaning only 29 kg of lamb weight. In mid 2000s ewes were doing 45.5kg of lamb liveweight per ewe mated.
- Lambing percentage lifted from 128% in 2002 to an average of 138%-141% over the last three years. This is because of the flow-on effect of higher ewe weaning weights.
- The tonnes of meat coming off the 600 ha hub of the farm increased from 60 to 76 tonnes. This was despite ewe number dropping from 2700 to 2100. The 600 fewer ewes were made up by an extra 120 cows (cow numbers lifted from 100 to 220). The stocking rate stayed about the same – around 8 su /ha.
- So has our $300,000 investment paid off?
- If our farm was producing at the same level it was in 2000 with 2100 ewes 27kg lambs at 128%, our lamb cheque this would have been $220k. Now 138% lambing with fewer ewes with 34kg lamb income was around $285k.
- That is an extra $65 k in one year. And those years don't come along very often!

Threats to system: mites & grass

Red legged earth mites

Need more cattle (March 2012)

16 Nov 2010