What cow is best for Tasmanian dairying?

The traits you need to focus on

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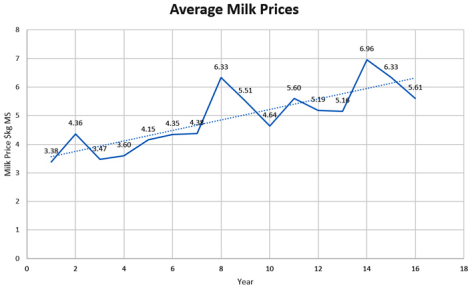
Topics

Cows	What we think we want our cows to do
Herds	What we need our herds to do
Cow vs Herd	Understanding relationships between cow and herd performance
Example	A real example showing above
Cow traits	Cow traits for Tasmanian (Australian) pasture-based dairy farms

Focus will be helping you to understand what you need for your farm

Tasmanian dairy farmers have slightly different drivers, advantages and disadvantages than mainland dairy farmers. **We need to beware of the one-size-fits-all messaging**

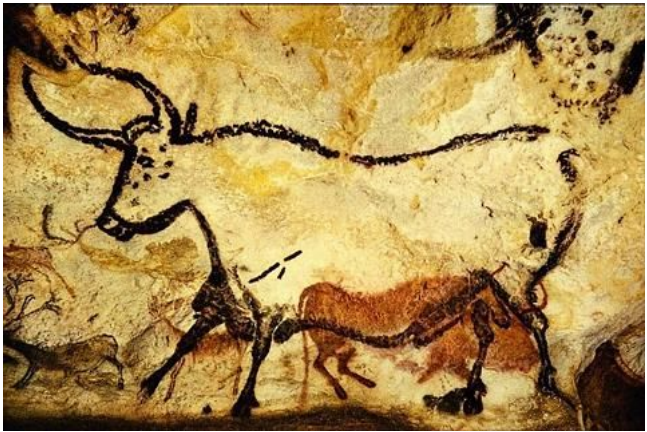
Tassie industry averages



Approximately:

- 2.7 cows/Ha
- 10T pasture/Ha/year
- 1T urea at $450/tonne
- 1T grain/cow/year
- Grain at $380/tonne
- Prodn 410 kg MS cow/year
- Milk at $5.60 kg MS

COWS



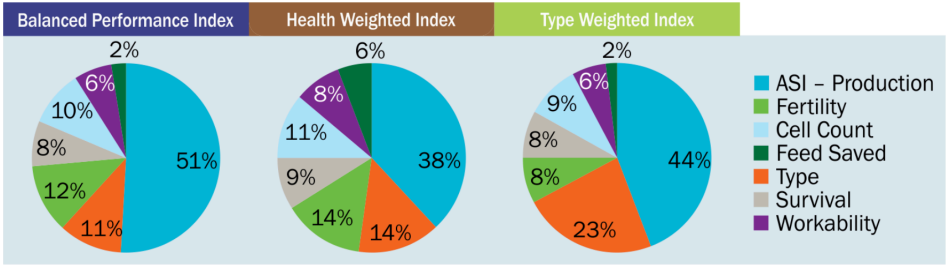
What traits does industry say define a good cow?

Production	a cow that makes more solids
Fertility	that is easy to get in calf
Health	and causes no problems along the way
Efficiency	does all this on less feed
Survival	hangs in there through thick and thin
Workability	and we don't notice them
Type	and we are proud of them

And we want this cow now

Tomorrow might be too late...

Selection traits



Everything we want is here

Now we don't have to think about it again—or do we?

Production: the most heavily weighted trait

So lets think about where 'extra' cow production comes from?

- She needs extra feed

The question becomes where does she get this extra feed?

- You grow it (extra pasture). **Many farms are struggling to grow more**
- You buy it (extra supplement). **Harder to do in Tassie given grain prices**
- If don't do either, and she's good enough she will steal it! **Some cows in Tassie**
- If don't do either and not good enough, she wont produce **Some cows in Tassie**

Are you increasing pasture consumption?

If not, chances are it's just extra production **potential**. This means some cows **steal feed** from herd mates—at no net gain—and some cows **aren't able to eat more to produce more**

Lets milk fewer but higher-producing cows

You reduce stocking rate and this leave more pasture for each. This works; in fact it is the only way it can work in pasture-based herds where more supplement **cannot be fed** or is **uneconomical**

- You have fewer but hungrier mouths
- This keeps herd demand constant
- You will send more energy into milk
- But she needs to be a good grazer if she is to take in the extra pasture

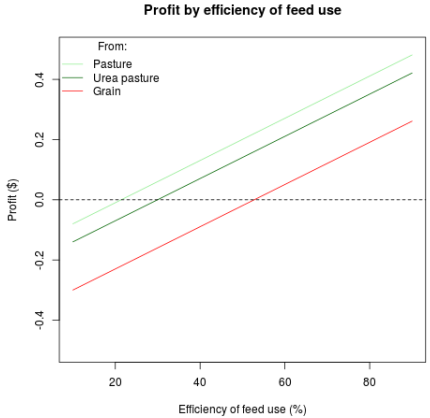
The best way is to grow more grass

If you can grow extra pasture you can meet the extra cow potential with cheap feed. But you may already have **unmet potential in your cows!**

Extra cow production

Feed required

- ≈ 6.5 MJ consumed to make 1 L milk
- Pasture and grain ≈ 11 MJ kg DM
- Enough energy to make 1.7 L milk (on average)—if no wastage
- Note: this response is not the same for every kg of grain fed!

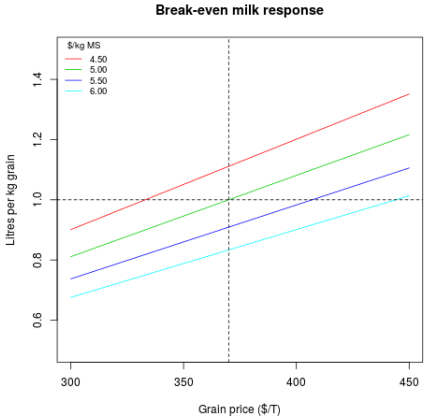


Let's just buy the extra feed—fuel the machine!

- At present you need ≈0.9L/kg grain to get your money back
- Can you make profit doing this?
  - Across a whole year?
  - Across every year?

Almost certainly not!

Grain feeding must be **strategic**—note: daily $ calculations don't always give right option over the longer term



Or maybe we should grow the extra feed?

If you can increase pasture production you should

- At present you only need utilise 30–40% of extra pasture to get your money back
- Or only 50% extra pasture if from nitrogen
- Can you make profit doing this?

Yes! almost always!

Most extra milk should come from home-grown feed/pasture

Purchased supplement's key role is to help you **optimise pasture consumption**. You only feed extra (above this minimum) if the **milk price/grain price ratio is favourable** and you can feed it **efficiently**. You need to be **aware** and **flexible**

Fertility: Only <15% of the weighting...

A cow that lives longer depreciates less every year

- F: $2,000 cow lasts 4 years and sold at $800 = $300 depreciation pa
- X: $1400 cow last 6 years and sold at $650 = $125 depreciation pa

We need fewer replacements—lowers mating/rearing costs ($2,000 each heifer)

- F: $500 cow/yr in replacement costs (25% replacements pa)
- X: $330 cow/yr in replacement costs (17% replacements pa)

Total real differences are significant!

- F: $300 depreciation + $500 replacement = $800 pa
- X: $125 depreciation + $330 replacement = $455 pa

These benefits more than offset increased costs

This example has a cost difference of $345 per cow p.a. to the 'lesser' cow. This is equivalent to an extra 60 kg solids at no cost! **Who's the 'lesser' cow now!**

Production or fertility for Tassie?

Which of these is easier to convert into profit in Tasmania?

+5% prodn (+25 kg solids)

- from pasture
  - \$140 – \$40 = \$100
- from urea pasture (responsive)
  - \$140 – \$60 = \$80
- from purchased grain
  - \$140 – \$95 = \$45

+5% 6-wk ICR

- 3% fewer empties
- 3% fewer replacements
  - \$75 lower replac. costs
- 1 more lactation (5 to 6)
  - \$25 less depreciation
- \$100 extra profit

No brainer—fertility is worth more!

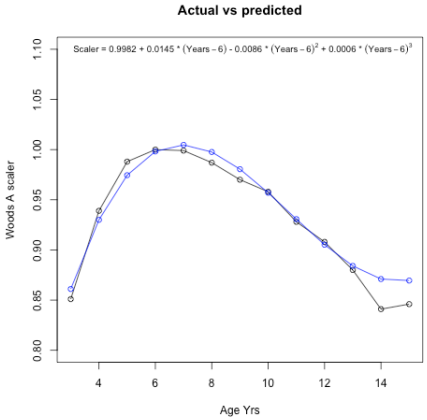
You would have to get all your extra production from uneaten pasture to match this!

Select for fertility and you get production as well!

- Better fertility means cows live longer
- This means more middle aged cows lactating
- Lactation performance peaks 5–8 years of age

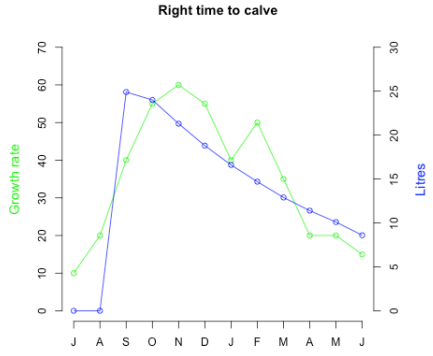
Get fertility & you get production!

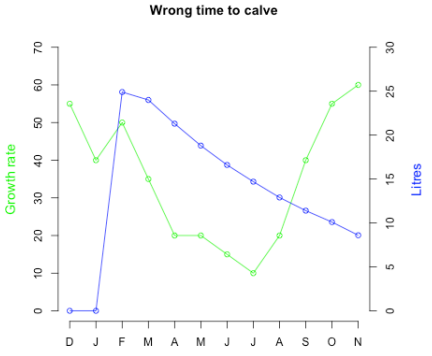
Optimises herd **age structure**. This is 100% profit!



Fertility and cost of production

An extreme example...





Fertility impacts on production and COP are favourable

Extra production:

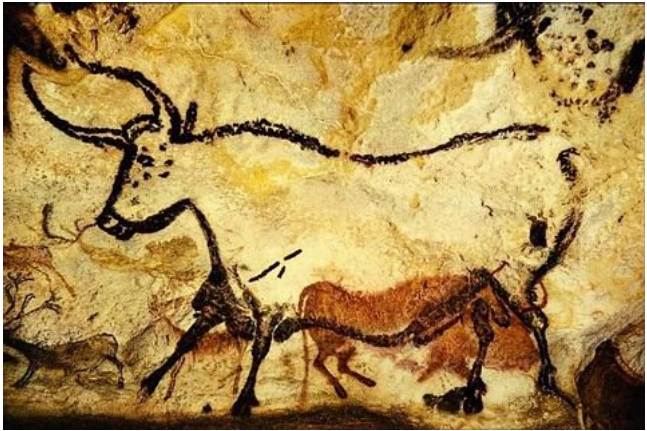
- Increases cow feed demand across the board
- Extra feed mostly has to be bought
- The farming system has to gear up
- Mostly **increases** COP

Extra fertility:

- Provides for more compact calving patterns
- This supports more intake from pasture
- Allows for fewer replacement
- Mostly **decreases** COP

What trait is better for Tassie? (& Australia...)

Traits that lower the cost of production help improve our **international competitiveness**. Get it right and you can have low COP and good production.



Where is the problem here?

100 Ha farm growing/consuming 12T DM/Ha/Yr, feeding 1T grain cow/yr

Cows produce 450 kg MS

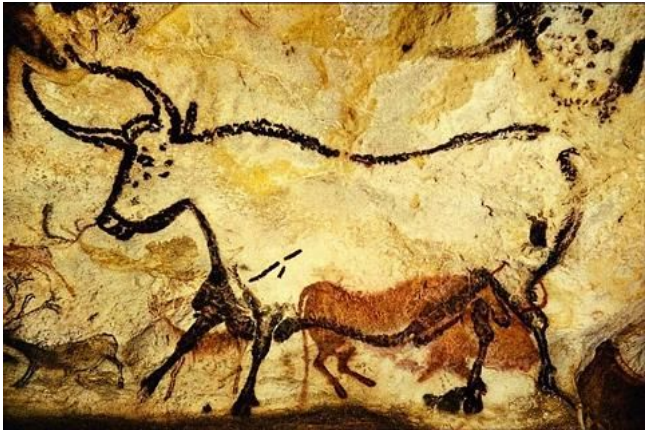
- 3.5T for milk; 1.9T for maint
- 5.4T total $\rightarrow$ 4.4T grass each
- 270 cows $\rightarrow$ 132,000 kg MS
- 12T pasture DM/HA

Cows produce 400 kg MS

- 3.1T for milk; 1.9T for maint
- 5.0T total $\rightarrow$ 4.0T grass each
- 300 cows $\rightarrow$ 132,000 kg MS
- 12 T pasture DM/Ha

Same farm production...

Where has my cow production advantage gone at farm level? There are different herd costs; but **no material difference in farm production** if everything else stays the same. Your game is **horticulture**—using a cow instead of a machine to harvest.



Malmo and van Wees—Tinamba, Gippsland (MID)

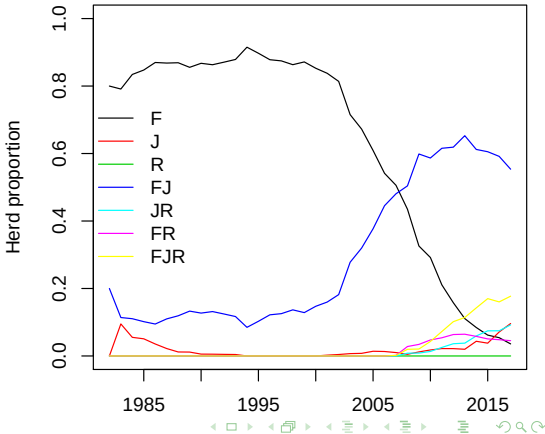
- Converted from Fr to XB (1st XB in herd in 2000; now into a 3-way XB)
- Detailed records for over 20 years
- Remained seasonal calving, feeding 1-3 tonnes grain cow year (1.7 T avg)
- Examined cow, hectare and farm performance over this time

The main reason for going to XB

Wanted to remain single-calving. Wanted single periods of everything. **Wanted regular OS holidays**. Jakob was embarrassed by his herds' poor fertility performance

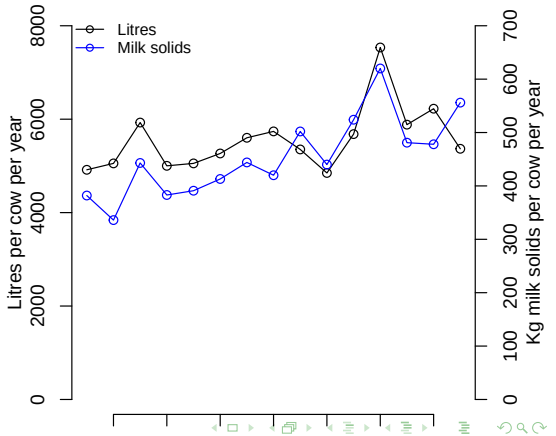
Herd changes

- Began 2-way cross with J
- Recently to 3-way cross with red-breed
- 3-breed not yet stabilised
- Physical and financial data from across the transition

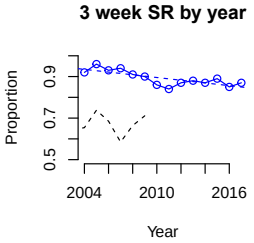


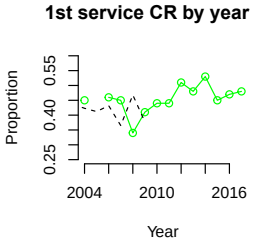
Cow production performance

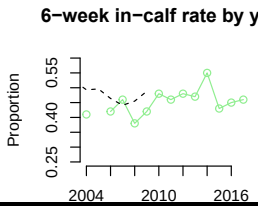
- Not much increase to cow production for 10+ years; recently starting to increase again
- Jakob and Hans care only about 'how profitable' not 'how much production'
- Cows are efficient—produce around 1kg MS per 1kg BWt

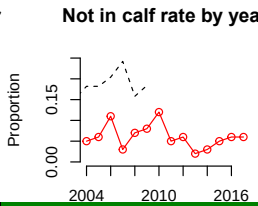


Cow reproduction performance—a leading herd now



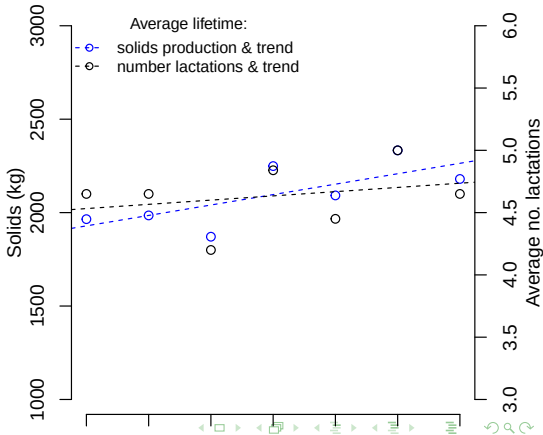






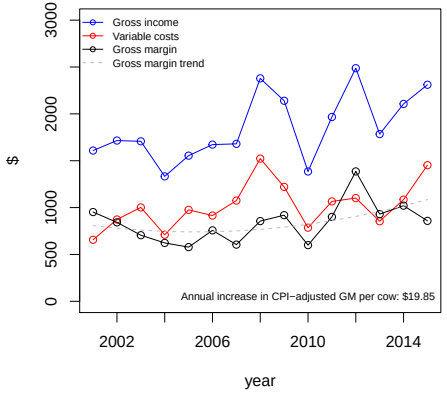
Cow lifetime production and profit performance

- Generally increasing each year—nice trend to have!
- Would be even higher except they have vigorous voluntary culling
- Their is a waiting list of farmers to buy these cull cows for dairying!

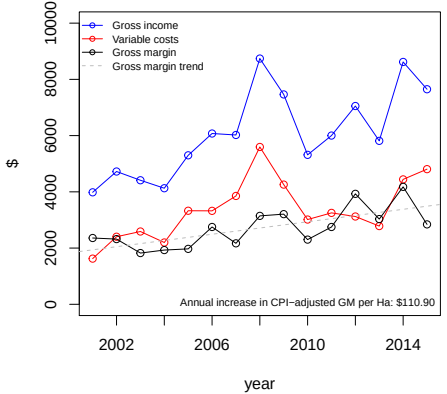


Cow/hectare financial performance

Cow financial



Hectare financial

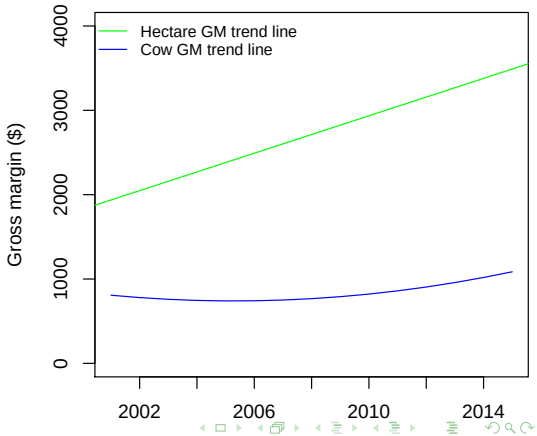


Cow and hectare financial performance trends

- Cows went **'backwards'** for a few years
- Hectare performance has **always increased**
- The farm is **highly profitable**

Profitable, sustainable, flexible

And **enjoyable**–both farm owner and share farmer are contented (& proud)

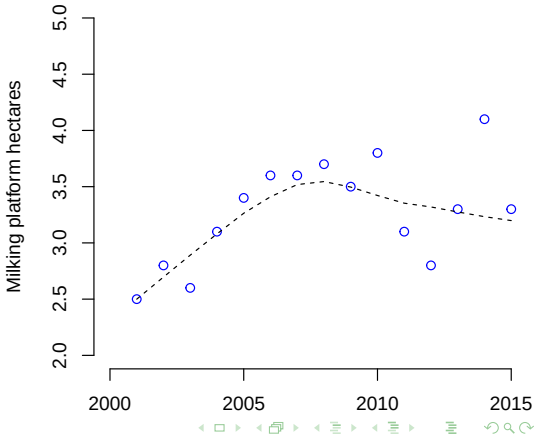


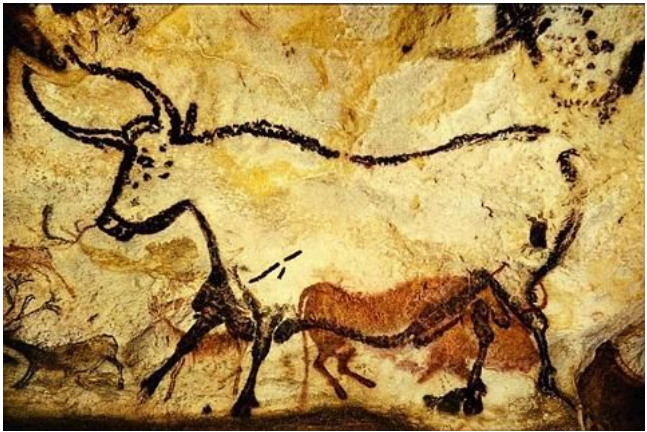
So what happened? Good management that's what!

- Via stocking rate (herd size)!
- Milked a few more slightly lower producing cows to offset any decline in cow production!
- This allowed them to harvest fertility and longevity gains

The power to adapt is in your hands

Milking a few more vs milking when you don't want to. **Too many farmers don't have any choice!**





My cow for Tasmania

Under the background assumptions of...

- A pasture-based herd
- Strategically using purchased supplement
- Stocked to eat all the grass

The cow for this system is

- Fertile
- Modest producer—I don't really care, as long as she can graze
- Doesn't kick your head in or drag her udder on the ground
- Has a leg in each corner and an ear that can hold a tag

Focus on fertility in your selection

Ask why fertility is only **weighted at or below 14%** in the industry indices?

Questions & discussion

HERD HEALTH

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