



Your Levy at Work

Tactics for Dry Times

Inverloch: Monday 30th November at Warren and Kerrie Redmond's
Nambrok: Friday 11th December at Mike and Sarah O'Brien's
Yarram: Held Tuesday 17th November at Lachlan and Vicki McLeod's
Lardner: Wednesday 25th November at Rob and Jenni Marshall's

Copies of these notes available at www.gippsdairy.com.au or
contact John Gallienne 0407 863 493

These *Tactics for Dry Times* days are supported by Dairy Australia through GippsDairy. The days have been jointly organised by GippsDairy and John Gallienne, as well as the voluntary contribution of local farmers.

The farmer's role in these days goes above and beyond, and they have kindly opened their farms, their bank of knowledge and their situations for the benefit of all in the dairy industry. We sincerely thank them for the contributions in time, knowledge and for offering to be host farms or case study farms.

The unprecedented dry conditions experienced in south and west Gippsland commenced in mid-2014, with reduced rainfall and generally an absence of any run-off in many parts. This has put farm stock water levels at dire levels, with some farmers around particularly coastal Gippsland having to move and pump water for the second year in a row. The dry conditions came to a head in September and October 2015, with many areas recording nothing more than 10mm of rain for a six-week period, limiting the ability to harvest much pasture as silage, and grazing pasture availability dwindling by late October at the time of normally 'peak growth rates'. Dryland farms around Yarram, Tarraville and Hedley produced little if any silage at all, following on from a tough 2014 year.

It is times like these when the dairy farming community pulls together and draws on each other's experience, knowledge, good will and resilience. There is a wealth of knowledge and resources that exist in printed form, amongst the service sector of the industry, and most importantly in people's heads. Many have been through times like these before, even though recent tough seasons didn't have the combined water and feed deficit problems. But there are some positives. Milk price is not too bad in historic terms, grain and fodder are available, although fodder reserves are likely to run low and will get dearer, and cash reserves for many are intact at this point following two reasonable years.

The case studies of the farmers who have contributed to the day are in the notes. Please be aware that these are *their* plans and situations at the time of preparing for the day, and that these may not be perfect, may not be 'technically' or 'nutritionally' the best option, but it is what they plan to run with at this point. The plans may change as well, depending on how the season pans out.

We have deliberately chosen not to extend the plans beyond about April. This doesn't mean that the problem will be solved by then, or that there will be 100% grass in the diet by then (although that would be great!), but rather that it is hard to write a plan out with any degree of accuracy some six months in advance when so much will, or may have changed. If things are still tough, the industry will be putting more information and days like these together to help on specific issues such as drying off, feeding over the dry period, recovering damaged pastures etc.

Once again, thanks to the host farmers, as well as the case study farmers, who have all gone over and above their duty to help other farmers and the industry in general. Your contributions are greatly appreciated.

Matt Harms, ONFARM Consulting



A look at feed value and price comparisons in November 2015

Feed Type	Price \$/t as Fed	\$/tDM	Av Energy Value MJ ME/kg DM	Protein %	NDF %	c/MJ ME	Feed Value
Wheat	\$335	\$372	13	11	12	2.86	√√√
Wheat 6kg plus 18c additive	\$365	\$405	13	11	12	3.11	√√√
Grain mix	\$390	\$433	12.5	14	14	3.46	√√√
Barley	\$325	\$361	12	10	15	3.0	√√√
High quality pellets	\$390	\$433	12.8	14	15	3.38	√√√
12/12 pellets	\$360	\$400	12	12	18	3.33	√√√
Lucerne hay or vetch hay	\$360	\$411	10	20	41	4.1	√√
Cereal hay (eg wheaten)	\$260	\$289	10	9	52	2.89	√
Canola hay	\$260	\$289	9.8	16	41	2.95	√√
Own-made good silage (\$70/tDM grass)	\$52/bale	\$208	10	16	50	2.08	√√
Almond Hulls	\$180	\$200	10	5	35	2.0	√
Urea 10:1 response 90% eaten	\$580	\$140	12	20	45	1.17	√√√

- Energy drives production, so generally purchase on energy levels.
- Responses to protein are generally seen when protein is limiting, eg summer.
- These are 'general' market prices and are not necessarily what you should or will be paying, so don't use it as a way of screwing down your feed supplier!

Facts Not Opinions!

	Full Year 15/16 Traditional (no step ups)	Full Year 15/16 max FMI	Milk Price December Traditional	Milk Price January Traditional	Milk Price March Traditional
Milk price \$/kgMS	\$5.34	\$5.64	\$4.94	\$5.25	\$5.46
Milk price c/l	39.8	42	36.8	39.1	40.7
Grain mix/pellet price	\$390	\$390	\$390	\$390?	\$390?
kgMS to pay for 1kg	0.074kg	0.07kg	0.08kg	0.07kg	0.07kg
Litres to pay for 1kg	1	1.08	1.06	1	0.96
Milk price to grain price ratio	1:1	1.08	0.94	1	1.04

Some further facts to note:

1. In late lactation, more energy is partitioned to body condition and less to milk production.
2. It takes more energy to put body condition on a cow when she is dry than when she is still milking. To gain 1kg in late lactation takes 44MJ but 55MJ as a dry cow.
3. The additional weight in one extra condition score is 44kg (Friesian) and 38kg for a smaller cross-bred.
4. Diets for milking cows require a minimum 33% NDF (fibre) and considerable chew factor (functional fibre). So on a diet of 18kgDM total if there is no or very little grass, one third of the diet needs to be high fibre feeds such as hay and silage with no more than two thirds of the diet as 'high energy' feed such as grain and turnips.

Some rules of thumb:

- One standard silage bale is 500kg wet weight and most are 50% dry matter, so a standard silage bale is 250kgDM. One bale will provide 50 cows with 5kgDM (but remember wastage). A standard round bale of hay is 290kgDM.
- Wastage can easily be 10%, so 5kgDM = 4.5kg eaten
- To work out the weight of bales on a truck of hay, divide the tonnage delivered by the number of bales.
- Hay is typically 85-90% dry matter, so allow for this in calculations.

And one 'opinion':

It costs around \$2.70/cow/day to feed a dry cow on 100% purchased dry cow fodder this year, for no return- so a loss of \$2.70/cow/day. Even a low return on milkers may be better than a large loss on a dry cow!

Ratios and Indicators in This 15/16 Season

	2014/15 prices		Opening Traditional 2015/2016	Opening max FMI
	Traditional	maxFMI		
Milk Price				
\$/kg Milk Solids	\$5.72	\$6.02	\$5.34	\$5.64
cents/litre	42.6	44.9	39.8c	42.0c
Supplement Prices \$/tonne				
Grain	\$330		\$330	\$330
Hay	\$300		\$350	\$350
Kg solids to pay for 1tonne concentrate	57.7	54.8	62	58.8
Milk Price (cents/L) to Grain Price (cents/kg) Ratio	1.29	1.36	1.21	1.27

THE CHANGING VALUE OF MILK WITHIN A YEAR

Consider the value of a standard litre (4.15% BF/3.3% Pr) with in a year (supplied to major processors) with 100,000 litres sent every month. 8c/kgMS productivity.

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Full year
Trad.	42.4	38.2	36.8	36.8	36.8	36.8	39.1	40.3	40.7	42.4	43.3	44.1	39.8
max FMI	46.9	40.4	36.8	36.8	36.8	36.8	39.1	42.5	45.2	46.9	47.7	48.6	42.0

Note: All of the above figures assume no share deductions. Deduct for shares depending on your situation, and 4.4 c/kg MS deducted as industry levies

Case Study 1: Maintaining high milk production

Rod and Lyndell Cope, former Tarwin Lower Focus Farm

Farming on the sandy loam country at Middle Tarwin has seen an excellent season for pasture growth through the late autumn and winter period, but an extremely dry late September to November period has seen pasture growth slow dramatically in late October, silage yields well down on what is typically needed and silage feeding commence in the first week of November - the earliest time ever!

Cow numbers: 430, reducing to 420 by late November

Milking area: 173ha

Stocking rate: 2.43 cows/ha

Start of calving: 15th June

Silage on hand as at 1st November: 180tDM in stack and 600 rolls. Total silage 390tDM or 0.9tDM/milker. All very good to excellent quality

Fodder crop: nil

Young stock numbers: 160 R1s and 120 R2s

Likely purchased fodder requirements: 300t cereal hay for milkers & 90t for the young stock

Feeding strategy:

The feeding strategy will centre on a feeding period in full force for the milking herd from mid-November until late April or around 165 days. Their aim is to maintain a high level of milk production for as long as possible and hopefully well in to the new year. With silage levels well short of requirements (40% of requirements) and young stock needing to be factored in, there is only enough silage to feed milkers at 3kgDM/cow/day for the full feeding period.

A feed plan was developed to factor in a high level of milk production (above 1.9kgMS), maintaining cow condition, maintaining milker numbers for as long as possible (no early dry off) and feeding heifers well. All assumed no grass available from sometime in December through to mid-April.

Silage feeding commenced in early November to maintain a 30-day grazing round. The level of silage in the diet increased as required and will be maintained at the maximum until early to mid-January, when good quality cereal hay will come in to the diet to stretch the remaining silage out to mid-February. When the silage runs out (likely in late-Feb) the diet will consist of cereal hay, high grain in the bale (7-8kg of a buffered grain/concentrate additive mix) and whatever grass may be available but aiming to build pasture cover with any available moisture. With drying off commencing from mid-April, cow numbers will reduce according to calving date but this can be intensified if needed.

R1 heifers require 140 rolls of good silage (Lucerne ryegrass bales on hand) and medium protein pellets.

R2 heifers will get a roll of good silage and a bale of cereal hay per day, totalling 180 rolls silage and 90t cereal hay.

Key points:

- maintain high milk production until the last third of lactation
- Maintain body condition
- Maintain milker numbers
- Feed heifers well with silage and hay and grain/pellets on the R1s.

Case Study 2: Achieving milk production simply

Tim and Grit Cashin, Leongatha South Focus Farm

Tim and Grit are the current Leongatha South Focus Farmers. They have set the goals of maintaining a low-cost feeding regime, with moderate levels of milk production. The system must be simple, effective, guarantee results and manageable. The Cashins like to see definite results, not rely on 'maybes'.

Cow numbers: 305, reducing to 280-290 by late November

Milking area: 122ha

Stocking rate: 2.45 cows/ha

Start of calving: 10th July

Silage on hand as at 1st November: 620 rolls. Total silage 240tDM or 0.9tDM/milker

Fodder crop: 12ha turnips sown mid-October (not factored in, so any will be a bonus)

Young stock numbers: 96 R1s and 80 R2s

Likely purchased fodder requirements: 105t vetch hay and 70t wheaten hay for milkers and 70t vetch for the young stock

Dry cows: there are 240 rolls pasture hay left over from last season, and it is hoped with adjustment and an autumn break that this will be adequate

The silage on hand allows for around 0.9tDM/cow, and for a likely or planned 180 day feeding period, it provides no more than 5kgDM/cow/day. The young stock have been an area in the past that have lacked attention, and Tim and Grit don't want to go back to having neglected and under-weight heifers. As a result, these will receive good attention, and a diet that is able to supply their requirements, despite the cost. R1 heifers in the past few years have been ad-lib fed grain and silage, and this will be no different this year, so some silage is allocated to them. R2 heifers have generally been fed pasture, and so a plan has been put in place to meet their requirements via vetch hay and pasture, and then grain and vetch hay if there is no pasture.

Tim always believes that a feeding plan needs to be simple, measurable and easy to manage. A consistent diet allows for the counting of the numbers of bales from start to end, making for easy number-crunching. As a result, the milkers will receive maximum grain in the shed, as barley, and silage and hay will be added to make up the cow requirements. A bale of vetch per day and three silage rolls will be the starting diet with 7.5kg barley, and this will switch to four silage rolls, one vetch bale and one wheaten hay bale per day into summer. This has allowed Tim to calculate that they need to buy three loads of vetch (180 bales) and two loads cereal hay (120 bales) for milkers until April and a further two loads of vetch for R2 heifers (120 bales). An expensive exercise, but the Cashins have prepared themselves for it. The aim will be to supply a good diet to the milkers, and return a margin over supplementary feed cost of \$5-\$6/cow/day.

The lactation may be shortened if absolutely needed, even on some of the herd, as there is a holiday planned for when the cows are in late lactation.

Key points:

- A moderate base of silage for milkers has allowed a calculated amount of fodder to be bought
- System needs to be simple, easy to manage and measurable
- Young stock will not be compromised as in the past, so two loads of vetch has been purchased to feed R2 heifers, along with 4kg barley through the shed when pasture

runs out.

Case Study 3: Learnings from past tough times with feed and water

Matt and Robyn Colwill, former Mardan Focus Farm

Matt and Robyn are the former Mardan Focus Farmers. They experienced tough feed and water situations in 2006/07 when they were in the Focus Farm program. It was the help of a neighbour providing water that helped them get through, and since then, they ensured their farm was as drought-proof as possible.

Cow numbers: 236, reducing to 230 by December

Milking area: 100ha with a 16ha turnout block and 25ha steeper area on home farm

Stocking rate: 2.36 cows/ha

Start of calving: May

Silage on hand as at 1st November: 327 rolls. But hoping to get a further 160 bales. With 62 bales left over, total silage 549 rolls or around 165tDM or 0.7tDM/milker

Young stock numbers: 49 R1s and 43 R2s

Likely purchased fodder requirements: 70t wheaten hay for milkers and 110t oaten hay for the milkers as well as springers next season as it may not be available. Likely outlay \$47,500 +GST

Dry cows: there are 50 rolls pasture hay left over from last season, and 40 bales barley hay left over from last season, giving around 50% of dry cow requirements

The plan at this stage (it gets constantly reviewed depending on the conditions) is that cow condition and production will not be compromised. This way, when conditions turn around and it does rain, the herd and farm will be ready to bounce back. Pellets will remain at 6.5kg/day but this also gets constantly reviewed. The Colwills have big-framed cows that need a lot of feed, and so they ensure that this is provided.

Water was a major problem during the 2006/07 drought, and strategies were put in place to minimise the farm's and herd's exposure to water shortage. Additional dams were constructed where they were allowed to be sited, as Colwills wanted to know what water they had, rather than relying on the 'hit and miss' nature of drilling a bore. Despite water security, Matt is switching to reducing water usage by recycling effluent water from the second pond and using it to wash the yard.

The Colwills have also been strict on ensuring that cashflow is intact so that should conditions like these eventuate, the cash is there to buy what is required, relieving a lot of stress. They have bought early and some carryover stocks from last season have reduced the reliance on a lot of purchased feed.

Key points:

- Feed early and don't let production drop, as it is hard to get it back
- Don't compromise cow condition
- Get the business into as good a cashflow position as possible to allow purchases to be made
- Water security gives peace of mind for future events.

Case Study 4: Young Stock Feeding

Paul and Louise Sherar, former Loch Focus Farmers

The Sherars have always had a knack of rearing a lot of heifers, and with taking on a second farm in 2013, it has been a great strategy for building up their asset base. But with a dry season, particularly at their Koonwarra farm, and silage yields at around 30% of requirements across the two farms, a lot of fodder is going to be needed to feed milkers and young stock alike.

Cow numbers: 530 over two farms (300 and 230)

Start of calving: March and August (Loch) and May (Koonwarra)

Silage on hand as at 1st November: 400 rolls (350kgDM/bale) Koonwarra or 140tDM and 440 rolls Loch (130tDM)

Young stock numbers: 262 R1s (2015 born) and 189 R2s (2014 born). There is a surplus of R1 heifers and a small surplus of R2 heifers

Likely purchased fodder requirements:

milkers: 75t wheaten hay, 100t canola hay and 50t lucerne hay

young stock: 50t wheaten hay

Fodder crop for young stock: 5ha at Nyora turnout block

Feeding strategy:

With the purchase of a farm at Nyora with settlement in March 2016, maintaining high young stock numbers has been part of the Sherar's strategy for building equity as well as ensuring they have the cow numbers for the start-up of the new farm. Feeding young stock well has always been of major importance, with very little variation in size between heifers and adult cows in the Sherar herds. Faced with a large shortfall in fodder and a lot of mouths to feed, Paul embarked on sourcing fodder early, as well as seeking an additional turnout block that may deliver not only grass but also some extra silage or hay. There is also the opportunity to crop several low-lying badly pugged paddocks with a millet crop on this new block.

The plan focusses on a feeding period of six months or 180 days, with better quality silage going to R2 heifers with hopefully a moderately successful summer crop of millet (4tDM/ha) providing block grazing for around 40 days for 90 heifers. The stock will also have access to silage in rings. The R2s need to grow at around 0.7kg liveweight per head per day, and the proposed diet should provide adequate energy although protein may be a bit low. To satisfy their requirements, 180 rolls of good silage will be required for the 90 heifers on the block. For those not on the block (around 100), the diet will be cereal and canola hay. The target energy intake for the R2 heifers is 70MJ and minimum 14% protein. This is being supplied via 6.3kgDM intake.

R1 heifers will receive 2kg/day grain mix and around 3kg wheaten or canola hay to achieve a 0.7kg/day liveweight gain. This will see around 150t hay required and around 94t grain. The target energy intake for the R1 heifers is 48MJ and a minimum protein of 17%. This is being supplied via 4.8kgDM intake.

Key points:

- Large number of heifers needing to be fed in each age group
- R1 heifers require 48MJ and 17% protein diet to achieve 0.7kg/head/day growth to meet target joining weights. This will be supplied by grain and cereal hay.
- R2 heifers require 70MJ/day and 14% protein minimum to achieve 0.7kg/head/day growth. This will be supplied by millet crop and silage or canola hay and silage if crop fails.

What About The Young Stock?



It is often said that the replacement heifers are your superannuation...well the returns from superannuation fluctuate, and when there isn't spare funds to put into super, it is an easy investment to ignore.

Well simply...DON'T!

Provided with these notes are some really good facts, figures, tables and guides such as the DA Heifers on Target guide. There is a good online tool to calculate the feed requirements of heifers, given the target growth rates, and this can be found at www.dairyaustralia.com.au/HeiferDietCalculator

To keep things simple, below is a table with typical Friesian heifer weights for typical Gippsland calving dates, being May-born and August-born (mid-way period for autumn and spring calvers) and the age and expected weights they should be in Jan/Feb, and their minimum feed requirements given typical summer paddock feed (i.e. little to no pasture!). Any green pick or summer crop is a bonus!

	Friesian Rising one year olds		Rising two year olds	
	Autumn born	Spring born	Autumn born	Spring born
Age months	9-10	6-7	21-22	18-19
Target weight January	210-235kg	150-175kg	500-520kg	380-400kg
Minimum MJ ME and protein % required for maintenance and 0.8kg/head/day growth	50MJ and 17%	44MJ and 17%	94MJ and 14%	80MJ and 14%
Diet to provide requirements option 1 (pellets and silage) per 50 head	2.6kg as fed 18% protein pellets and 2.5kgDM silage = 140kg pellets per day and 1 roll silage every second day	2kg as fed 18% pellets and 2kgDM silage = 100kg pellets and 1 roll silage every second day	3.8kg as fed 15% protein pellets and 5kg DM silage = 200kg pellets and 1 roll silage per day	3.1kg as fed 15% protein pellets and 4kgDM silage = 160kg pellets and 1 roll silage per day
Diet to provide requirements Option 2 (cereal grain and protein or cereal hay) per 50 head	1.6kg as fed wheat and canola (2/3 1/3 mix) and 3kgDM vetch. = 85kg grain and 1/3 bale vetch per day	1.5kg as fed wheat and canola mix and 2.5kgDM vetch hay = 80kg grain and 1/4-1/3 bale vetch per day	4.4kg wheat and canola and 4.5kgDM good cereal hay = 230kg grain and 1/2 bale cereal hay per day	3.3kg as fed wheat and canola mix and 4kg good cereal hay = 170kg grain and 1/2 bale cereal hay per day