Summer Sizzle

January 2018

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Session Brief

- Water – stock and shed
- Trigger points for making on farm decisions
- Looking after your assets, people, cows, farm
- Resources and tools to assist decision making and planning

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Current Situation on Your Farm

Whiteboard:

+ APC
+ Round length
+ PGR
+ Supplements
+ BCS

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Key Objective

Take action now; you can't wait for the rain and final scanning results to base your decisions on!

Clarity on when you need to be thinking about making the next set of farm management decisions

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Water Situation

✓ Stock water situation?

Practical ideas to manage?

Cows easily drinking 100-120L/water/cow/day

✓ Shed water situation?

Practical ideas to manage?

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Options to Manage Feed Supply & Feed Demand

- Supplementary feeding (Summer crops system dependent)
- Altering milking frequency: Strategic OAD, Whole herd OAD, 3 in 2 milking (16hrs)
- Culling
- Tactical dry off

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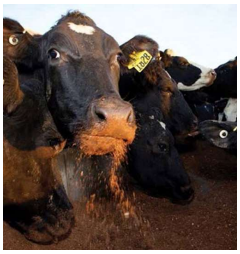
Supplements

- ✓ Stocktake of your current inventory
- ✓ Consider your options: Silage/Baleage, Whole Crop Silage, PKE, Grain, DDG, Molasses
- ✓ Summer crops system dependent (Turnips/Chicory)
- ✓ Cost out on a cents/KgDM feed and what's actually available
- ✓ Ring fence your winter requirements - RISK
- ✓ Be wary of; high DM feeds increasing water requirements, different supplementary feeds can have transitioning requirements, F.E.I (Fat Evaluation Index)
- ✓ Immediate MS response and carry over response (BCS, DIM), keeping cows milking



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Average Supplement Costings ex wastage, ex feed out cost!

23/01/18 PKE Spot $300/t+ plus $20/t delivery = $320/t wet / 90%DM / 1000 = **0.36c/KgDM**
24/01/18 PKE Spot $328/t = **0.39c/KgDM**

DDG Spot $465/t plus $20 delivery = $485/t wet / 90%DM / 1000 = **0.54c/KgDM**

Soy Hulls $360-380/t ? plus $20 delivery = $400/t wet / 88%DM / 1000 = **0.45c/KgDM**

Barley Grain $420-$440/t ? plus $20 delivery = $460/t wet / 90%DM / 1000 = **0.51c/KgDM**

Baleage $85+/bale landed / 220KgDM/bale = **0.39c/KgDM**

Dry Cow Grazing $30/cow/wk / 8-10KgDM/cow = **0.48c/KgDM**

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Response Rates

Biggest variable depending on feed deficits, residuals, how hungry the cow is (heat stress suppressant), quality of the supplement, access to clean water supply, how much supplement is actually being fed, current BCS profile….

Immediate milk solids response and carry over response from BCS and days in milk (extending lactation through supplements or the alternative would be dry off)

Range expected 80 -120gMS/KgDM @ $6.40 milk price

= 80gMS / 1000 x $6.40/KgMS = 0.51c/KgDM
= 100gMS / 1000 x $6.40/KgMS = 0.64c/KgDM
= 120gMS / 1000 x $6.40/KgMS = 0.77c/KgDM

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3 in 2 Milking (16hours)

- **What were *your* triggers?**

(BCS <4, KgMS/cow <1.5-1.6KgMS/cow/day, APC <2000KgDM/ha, heat stress, other?)

- Milking windows most common 5am – 5pm – 11am or 5am – 7pm – 11.30am
- Expect BCS gain of 0.1- 0.15 through the autumn period
- Approx. energy saving from walking = 0.3KgDM/cow/day (2MjME/Km walked flat land x 1.5km walked per milking @11MjME feed quality)
- **What are the Pro's & Con's from your perspective?**

https://www.dairynz.co.nz/milking/once-a-day-milking

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OAD milking

- **What were *your* triggers?**

(<4BCS 1st & 2nd calvers and MA cows <3.5, <1.2 -1.3KgMS/cow, <1800KgDM/ha APC, heat stress, water issues, labour)

- Tactical part herd or whole herd. For a short term period (2-3 weeks) or the rest of the season
- Potential production loss 5-10% KgMS (depending on feeding levels, current stress, limiting factors). May hold or even increase… Assume cows are producing 1.3KgMS/cow currently x 10% drop x $6.40KgMS = 0.83c/cow/day missed potential income
- So if you put cows on OAD for 3 weeks at 10% drop (1.3KgMS/cow/day) = 0.13KgMS/cow/day x 21 days x $6.40KgMS = $17.50/cow! Not a huge trade off!
- Negligible feed savings! 2-3% maximum from walking, don't do it to save feed per se!
- Potential BCS gains of 0.2 – 0.3 through the autumn if the herd continues on OAD milking frequency
- **What are the Pro's & Con's from your perspective?**

https://www.dairynz.co.nz/milking/once-a-day-milking

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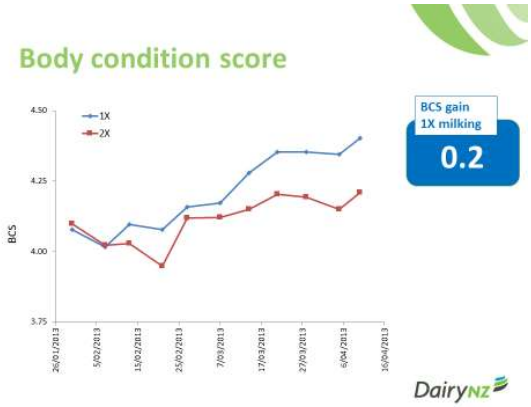

Jane Kay & Claire Phyn Dairy NZ Scientist, NZIPIM 2016

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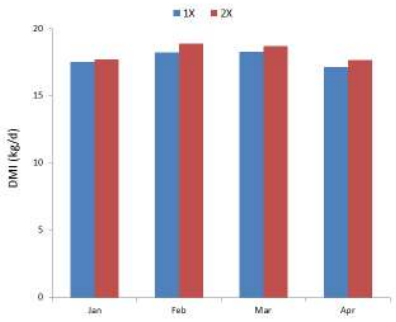
Feed demand



Intake difference
2%

Intake (kg/day)
0.4

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Jane Kay & Claire Phyn Dairy NZ Scientist, NZIPIM 2016

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Reduced milking Frequency	Research (potential production loses)	Commercial Farms (potential production loses)	
		Year 1	Year 4-5
Full Season	*milk solids / cow*	*milk solids / cow*	*milk solids / cow*
3 milkings in 2 days	-7%	-5 to -10%	0 to -5%
Once a day milking	-20% to -30%	-10 to – 25%	0 to -10%
Post Xmas			
3 milkings in 2 days	0 to -5%	0	0
Once a day milking	-4% to -15%	-5 to -10%	0 to -5%

Milk Smart 2016 – Josh Wheeler

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Culling

- Obvious and known culls gone
- Early scan for MT's?
- Space seems good from what we hear? Unless otherwise?
- Touch base with your stock agent
- Trickle away

Body Condition Score

- Quantify your herds body condition score profile individual BCS not simply a herd average
- Take action for any cows under BCS 4 immediately
- Any 1st and 2nd calvers below BCS 4 should be OAD territory
- Preferential feeding, split mobs, 3 in 2 milking regime, OAD milking
- Review condition score using a trained assessor, consultant, and/or vet
- Keep in mind your BCS target of 4.5 at dry off with no less than 15% below target
- Calving BCS targets MA cows 5 and 1st and 2nd calvers 5.5 with no more or less than 15% either side

DON'T RELY ON THE AUTUMN FLUSH TO SAVE YOUR BCS PROFILE

https://www.dairynz.co.nz/animal/body-condition-scoring/bcs-strategies/

Other Options

- Bring herd testing early to give you information around low producers, SCC cows
- Can you do an early scan? 35 – 40 days post conception

Replacement Stock

- Don't forget to check on young stock with a visit not a call….

Summary

Make a plan & set some key trigger points

- Monitor the situation
- Manage BCS – Protect next season and your herd
- Use supplement wisely – make sure some left for after rain (approx.100-150kg/DM/cow)
- Consider OAD or 3 in 2 milking to take pressure off both people and cows
- Make use of farm advisors, banks, vets, Dairy NZ & Technical Reps. Don't be afraid to ask – there business depends on your success

MAKE A DECESION, AND ACT NOW

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Recovery After The Rain

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What to do When it Rains?

- Have 100-150KgDM/cow supplement to cover 2-3 weeks after it rains as your pasture base will rot and disappear
- Up to half the grass available is lost after rain because it is dead and decays quickly
- The dry matter content of re growth is low (below 15%) because of its rapid growth, until your pasture base recovers
- Slow your rotation length and use supplements to meet herd demand to allow the average pasture cover to build and pasture growth rates to return to demand. Pasture root mass will also need to recover
- Consider under-sowing any paddocks with more than 15% gaps with an annual if conditions allow

https://www.dairynz.co.nz/farm/adverse-events/drought/farming-out-of-the-drought/

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Nitrogen Use After Summer Dry

- Nitrogen can be applied as soon as there is significant rain (>25mm)
- Apply Nitrogen at rates of 30-40KgN/ha or 70-85KgUrea/ha
- Nitrogen is a cost effective method of increasing feed supply. At 10:1 response and a cost of urea of $520/ tonne the cost per kg DM is 11c plus application

Extra Resources

https://www.dairynz.co.nz/farm/adverse-events/drought/

Realistically How Much are my Cows Eating?

Scenarios:

460KgLWt cow producing 1.6KgMS/cow/day, walking 2.5Km/day flat land holding BCS feed 11MjME feed
= 55MjME maintenance, 128MjME MS, 5MjME walking = 188MjME / 11MjME feed = **17KgDM/cow/day**

500KgLWt cow producing 1.4KgMS/cow/day 3 in 2 milking, walking 3Km on average rolling land, losing 0.1BCS, feed 10.5MjME feed
= 59MjME maintenance, 120MjME MS, 9MjME walking, BCS loss 4MjME positive (mobilising own body reserves) = 184MjME / 10.5MjME feed = **17.5KgDM/cow**

450KgLWt cow producing 1.2KgMS/cow/day milking OAD, walking 2Km, increasing BCS 0.15 units and fed 11MjME feed
= 54MjME maintenance, 96MjME MS, 4MjME walking, BCS gain 7.5 = 162MjME / 11MjME feed = **14.5KgDM/cow/day**

480KgLWt cow producing 1.85KgMS/cow/day, TAD, walking 3.5Km/day, flat land, losing 0.2 BCS, fed 11.5MjME feed
= 57MjME maintenance, 148MjME MS, 7MjME walking, BCS loss 7.5MjME positive (mobilising own body reserves) = 205MjME / 11.5MjME feed = **18KgDM**

Daily milking cow requirements: kg DM/cow/day at 10.5 MJ ME/kg DM

Breed	kg Lwt	kg MS/cow/day						
		0.8	1.0	1.2	1.4	1.6	1.8	2.0
J	375	10.4	11.9	13.4	14.9			
J	400	10.9	12.4	13.9	15.4			
J x F	450	11.6	13.1	14.7	16.3	17.8		
Fr	500	12.1	13.7	15.3	17.0	18.6	20.0	
Fr	550	12.6	14.2	15.8	17.4	19.0	20.4	22.0

(No walking or Lwt loss or Lwt gain included).

Daily milking cow requirements: kg DM/cow/day at 11.0 MJ ME/kg DM

Breed	kg Lwt	kg MS/cow/day						
		1.0	1.2	1.4	1.6	1.8	2.0	2.2
J	375	11.2	12.6	14.0	15.4			
J	400	11.5	12.9	14.3	15.7			
J x F	450	12.2	13.7	15.2	16.6	18.1		
Fr	500	12.8	14.3	15.8	17.3	18.8	20	
Fr	550	13.3	14.8	16.3	17.8	19.3	20.6	22.0

(No walking or Lwt loss or Lwt gain included).

Daily milking cow requirements: kg DM/cow/day at 12.0 MJ ME/kg DM

Breed	kg Lwt	kg MS/cow/day						
		1.4	1.6	1.8	2.0	2.2	2.4	2.5
J	375	12.5	13.7	14.9				
J	400	12.6	13.9	15.1	16.3			
J x F	450	13.3	14.6	15.9	17.2	18.5		
Fr	500	13.9	15.2	16.5	17.8	19.1	20.7	
Fr	550	14.3	15.6	16.9	18.2	19.5	21.1	21.7

(No walking or Lwt loss or Lwt gain included).

Facts and Figures Page 50 and 51

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Heat Stress

Studies indicate that New Zealand cows can suffer heat stress when temperatures go above 23°C and humidity above 75%, especially with little or no wind

Management Options:

- ✓ Lactating cows will typically require more than 100 litres/cow/day and will drink between two to six times per day
- ✓ Alter milking time
- ✓ Make use of shade or shelter, so long as it is well ventilated
- ✓ Portable trough at or near the yard
- ✓ If practical feed higher % of supplements in the evening
- ✓ If an option hose down the concrete if your water is cool enough
- ✓ Split mobs to reduce milking time
- ✓ Graze cows closer to the shed to reduce walking time and distance

https://www.dairynz.co.nz/animal/cow-health/heat-stress//

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Shade

Animals standing in the sun gain heat from external sources - direct sunlight, reflected sunlight and surrounding air. In addition, heat is produced internally by fermentation of feed in the rumen and cell metabolism. Therefore, high-producing dairy cows with high levels of intake and metabolic rate generate internal heat. In a hot and/or humid environment, they cannot dissipate this heat load efficiently.

Cows' sweating mechanisms are poor and they rely on respiration to cool themselves. Heating from sunlight has the potential to stress livestock in New Zealand, particularly if ambient air temperatures exceed 20°C or humidity levels are above 75%.

Livestock with black or thick coats are particularly at risk. In the Hawke's Bay, skin temperature on black cattle exposed to natural levels of summer sunlight, reached 50°C (Betteridge, et al. 2012).

Dairy cows that are too hot adapt their behaviour to try and stay cool – most notably by reducing the amount of time spent grazing, seeking shade, increasing water consumption and often collecting round water troughs.

Heat stress can reduce feed intake and milk production. It can also negatively impact on reproductive performance and, in severe cases, can result in death (Roman-Ponce et al., 1977; De Rensis and Scaramuzzi, 2003, Armstrong, 1994).

A dairy cow's body temperature typically peaks during and following the afternoon milking. This is due to the long distances walked, exposure to sun on the races and a large number of animals being in close proximity to each other.

https://www.dairynz.co.nz/Search/Results?Term=trees+for+shade

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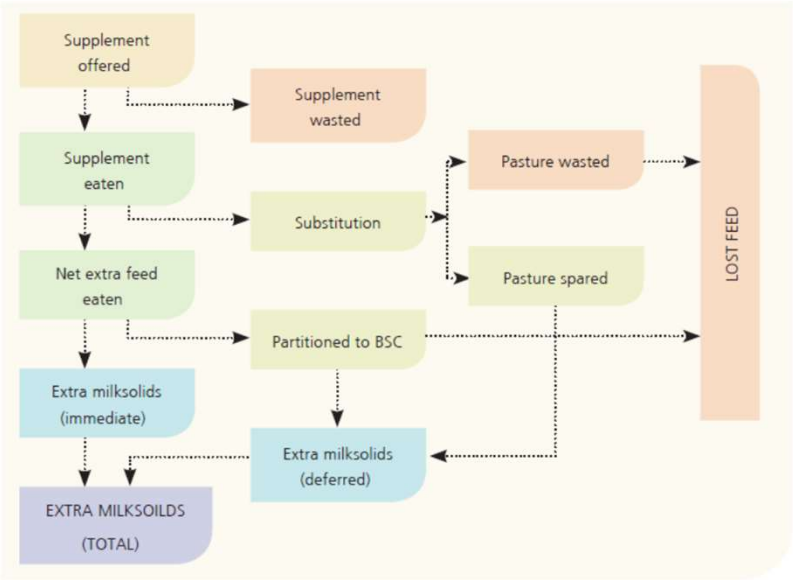
Factors that affect the milksolids response to supplements



Source: Facts & Figures Page 94

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Summer Protein

As a general rule for all diets	Protein content of diet required % DM
Early lactation	18
Mid lactation	16
Late lactation	14
Dry cow	12

Pasture composition and value

The nutritional value of ryegrass-based pastures as a feed for dairy cows varies seasonally.

Table 1. Effect of season on pasture composition

Season	Pasture composition						
	DM (%)	ME (MJ/kg)	CP (%)	NDF (%)	SSS (%)	Starch (% SSS)	Fat (%)
Spring	12-18	11-12.5	18-35	35-45	7-25	2-4	3-6
Summer	15-20	9.5-10.5	14-22	42-52	7-25	4-8	5
Summer dry	20-30	8-9.5	9-14	52-65	7-25	7-15	4-8
Autumn/ winter	13-18	11.0-11.5	15-20	40-47	7-25	2-4	3-5

Grazing management can also influence the nutritional value of pasture.

Source: Facts & Figures Pages 63 & 65

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Supplement Sources for Protein

Feed Type	Crude Protein %
Good pasture silage	17-18%
Poorer pasture silage	14-15%
Soy Hulls	13.5 – 14%
Turnips	12-18%
*DDG	25 – 35%
Molasses	4%
PKE	14%

**will vary check with supplier and source of DDG*

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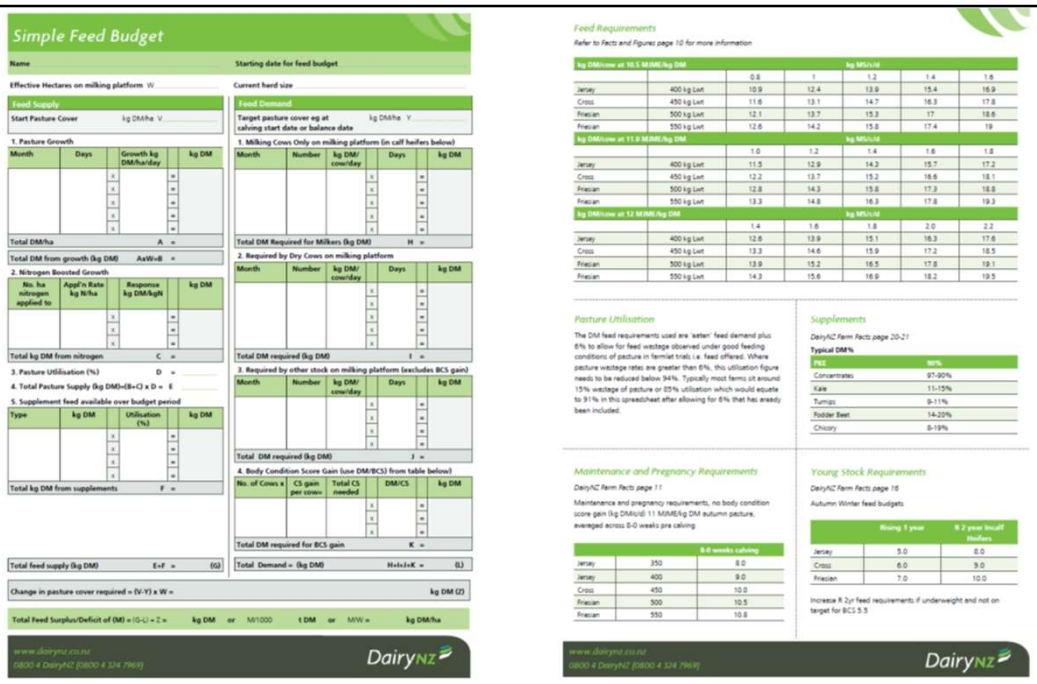


https://www.dairynz.co.nz/Search/Results?Term=simple+feed+budget

Farm Watch Info

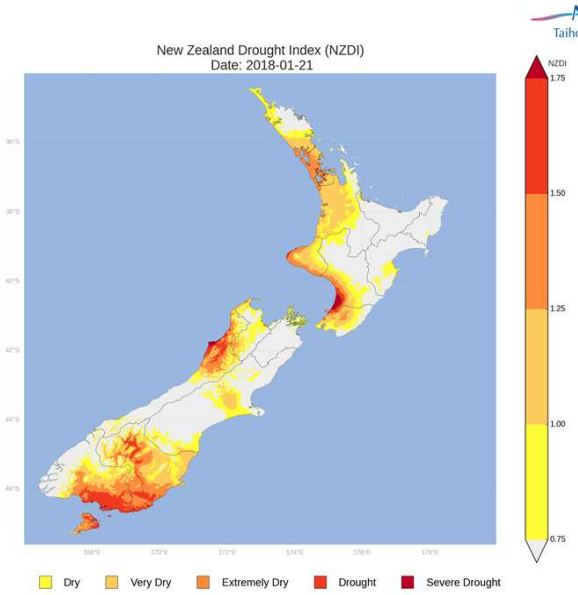
DairyNZ farmwatch

Local Data - A summary of on-farm situations on Southland farms at Tuesday 16th January 2018

	Sys	Soil Temp	Rain mm	Growth	APC	% in milk	SR	BCS	Kg N/ha YTD	Supps cow/day	Ms/cow day	Ms/ha day	Ms/ha YTD	Rot
Browns	3	20	0	34	2038	99	3.0	-	-	2	1.70	5.49	856	20
Drummond	3	15.8	0	28	1861	99	2.6	4.8	50	5.0	1.60	4.00	680	35
Five Rivers	3	18	47	10	1736	-	2.5	4.2	93	0	1.15	3.04	627	34
Five Rivers Irrig	3	18	85	85	2320	100	3.1	4.7	200	-	1.64	5.06	811	27
Riverton	3	20	0	27	1840	99	3.0	4.4	125	8.0	1.62	4.47	711	27
Sthn Dairy Hub	3	18	0	29	1975	100	2.7	4.6	20	3.0	1.50	3.75	518	29
Tairei	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuatapere	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Waikaka Valley	3	21	0	29	2052	100	3.1	4.4	95	1.5@	1.65	5.00	812	30

For definitions of Systems and abbreviations visit FarmWatch @ DairyNZ website. # OAD herd only ** 24mm Irrigation applied @1.5kg per milking on 3 & 2

https://www.dairynz.co.nz/farm/farmwatch/



https://www.radionz.co.nz/news/national/348500/video-watch-the-big-dry-unfold

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