Dry season management

www.futurebeef.com.au

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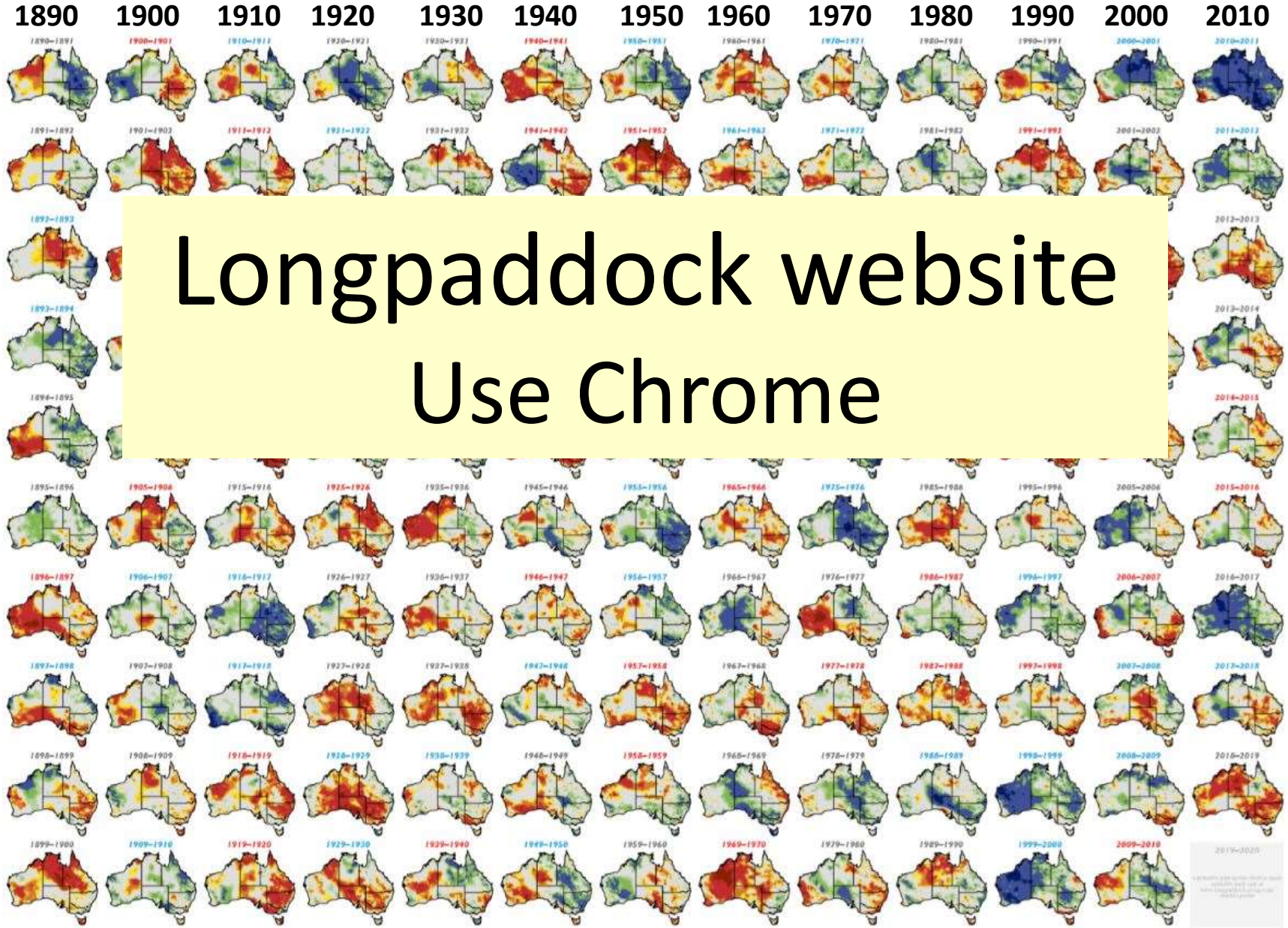
Topics

1. Rain & pasture web sites
2. Review drought plans
3. Feed budgeting
4. Drought options & tools
5. Feeding cattle
6. Holding breeder condition
7. Protein & energy supplements
8. Costing nutrients

Australia's Variable Rainfall

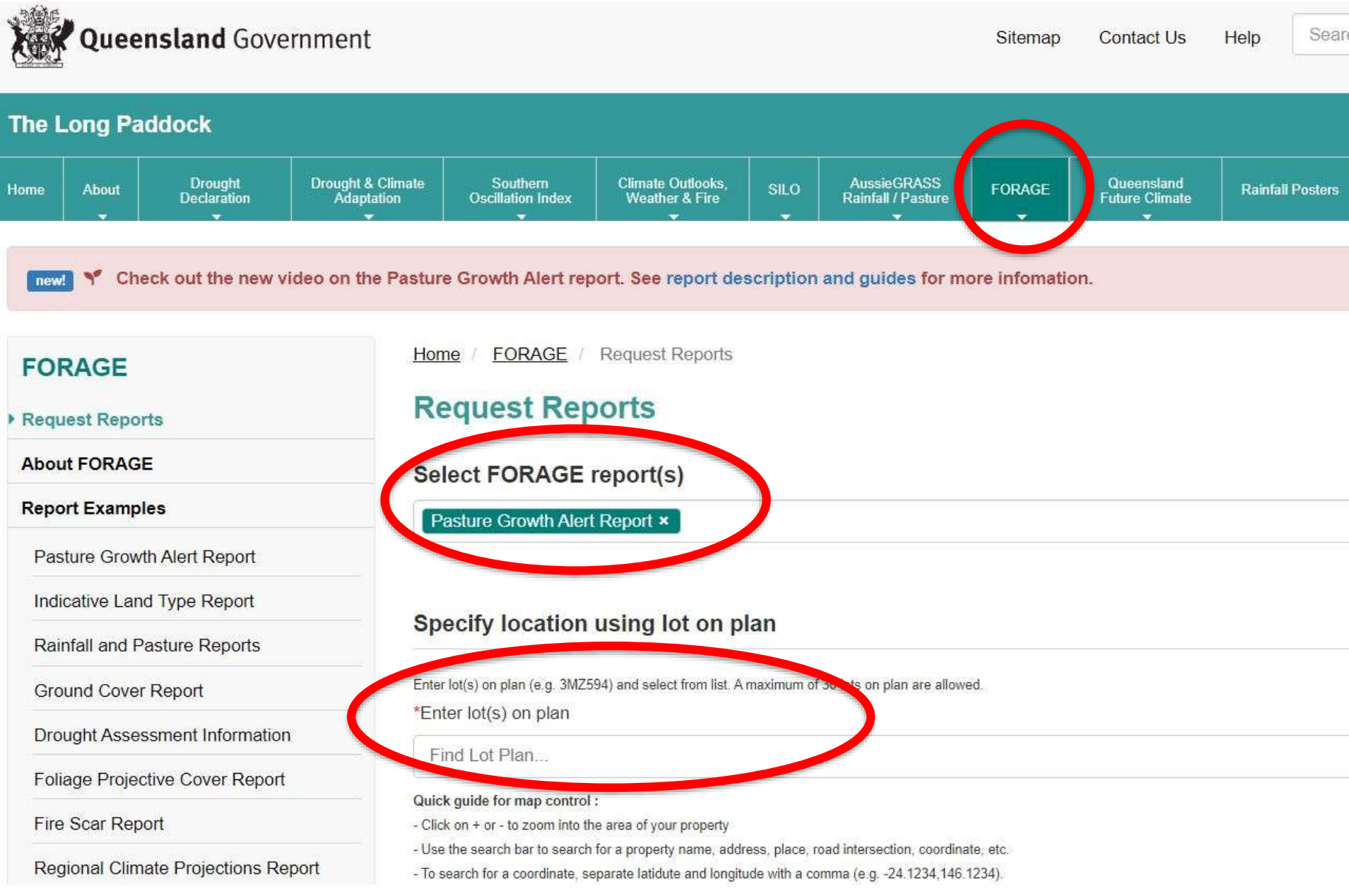
April to March annual Australian rainfall relative to historical records 1890 - 2019



Longpaddock website

Use Chrome

FORAGE – Pasture growth alert report



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Northern Australia Climate Program (NACP)
Qld Government, MLA, USQ

Climate Mates to help graziers and industry better manage climate variability

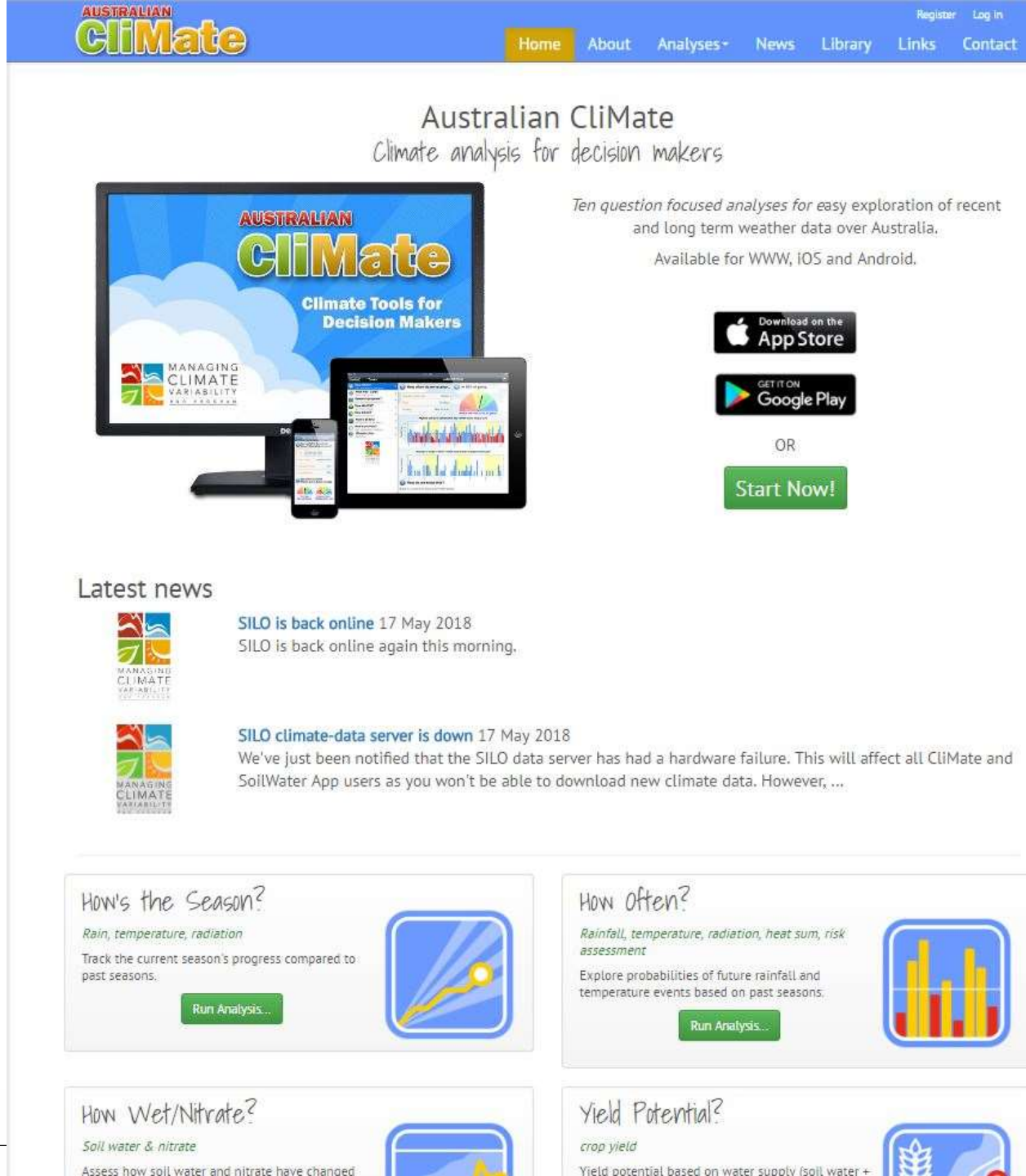
With parts of Australia gripped in a drought over the past few years, tools to help graziers better manage climate variability are crucial.

The Climate Mates will share critical knowledge, engage directly with producers and offer climate information and forecasts specifically tailored to their region.

CliMate

Search for Australian Climate app

https://climateapp.net.au/



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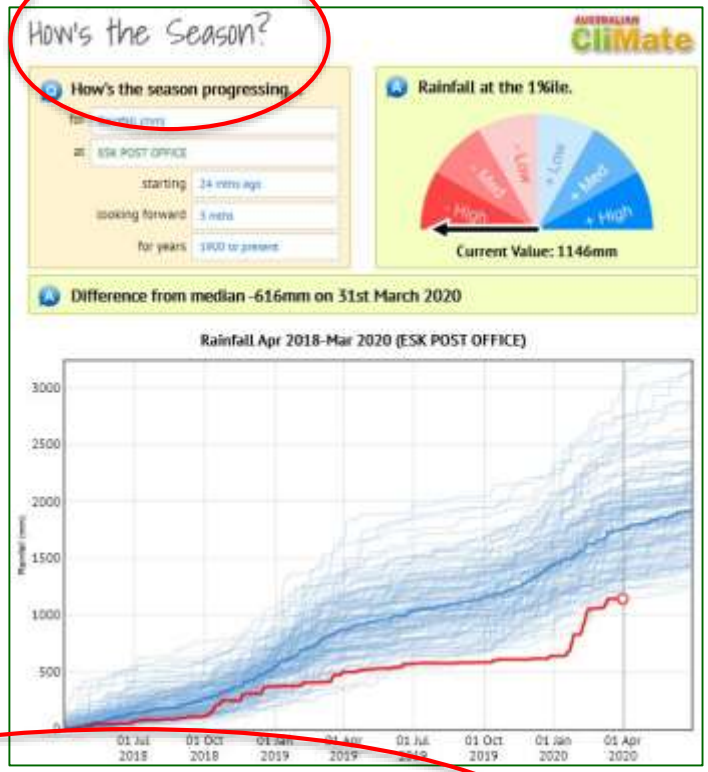
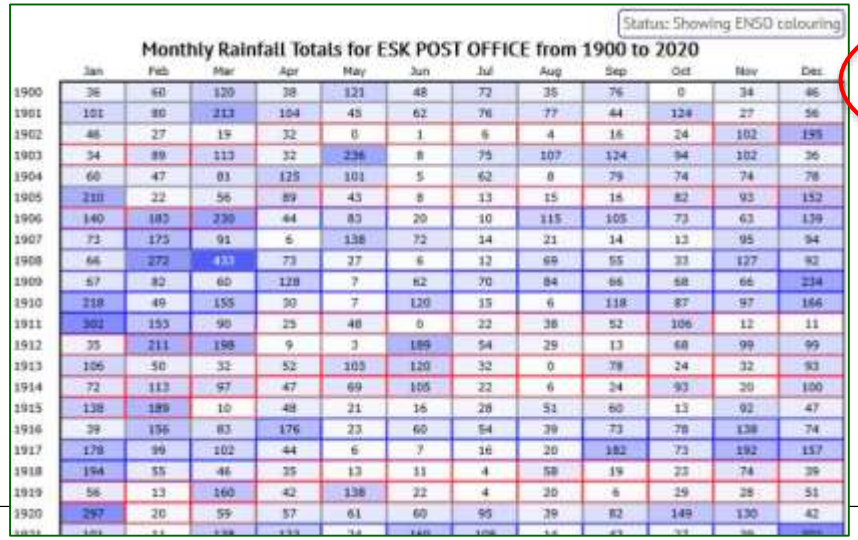
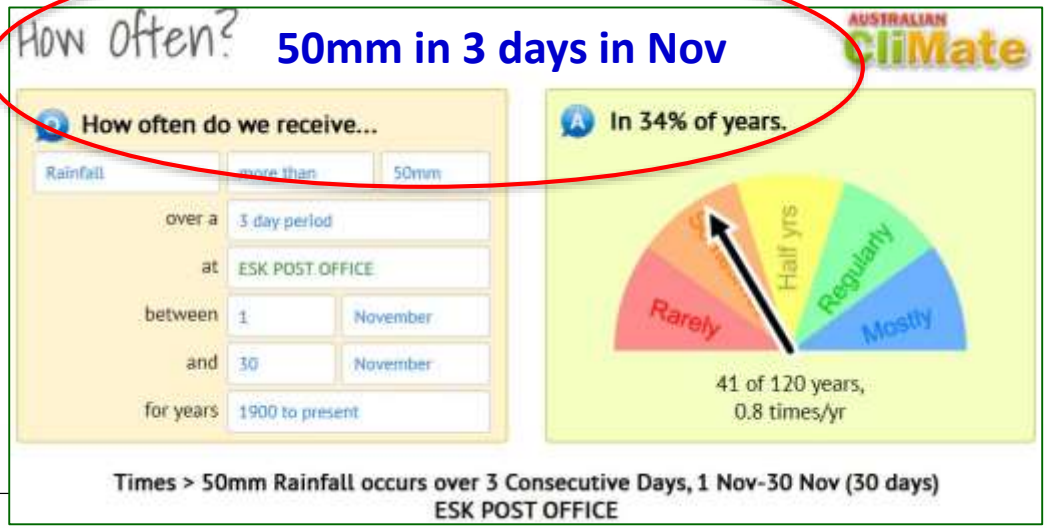






Drought decisions …

are difficult

Everybody's situation is different

Everyone is trying to do their best

With the benefit of hindsight ….

If we knew what the future will be like…

plan & review

annual cycles

Drought review

Worked well	Not well	Do differently
Do more	**Do less**	**Try new**

objectively – no blame – learn with mistakes

Making a drought plan

Drought plan

What are the goals of my grazing business converting productive pastures into beef, genetics..

My vision of success for managing thru drought stay healthy, hold equity, rain ready pastures …

Hate about drought…	Strategies…
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.

Producer reflections on drought

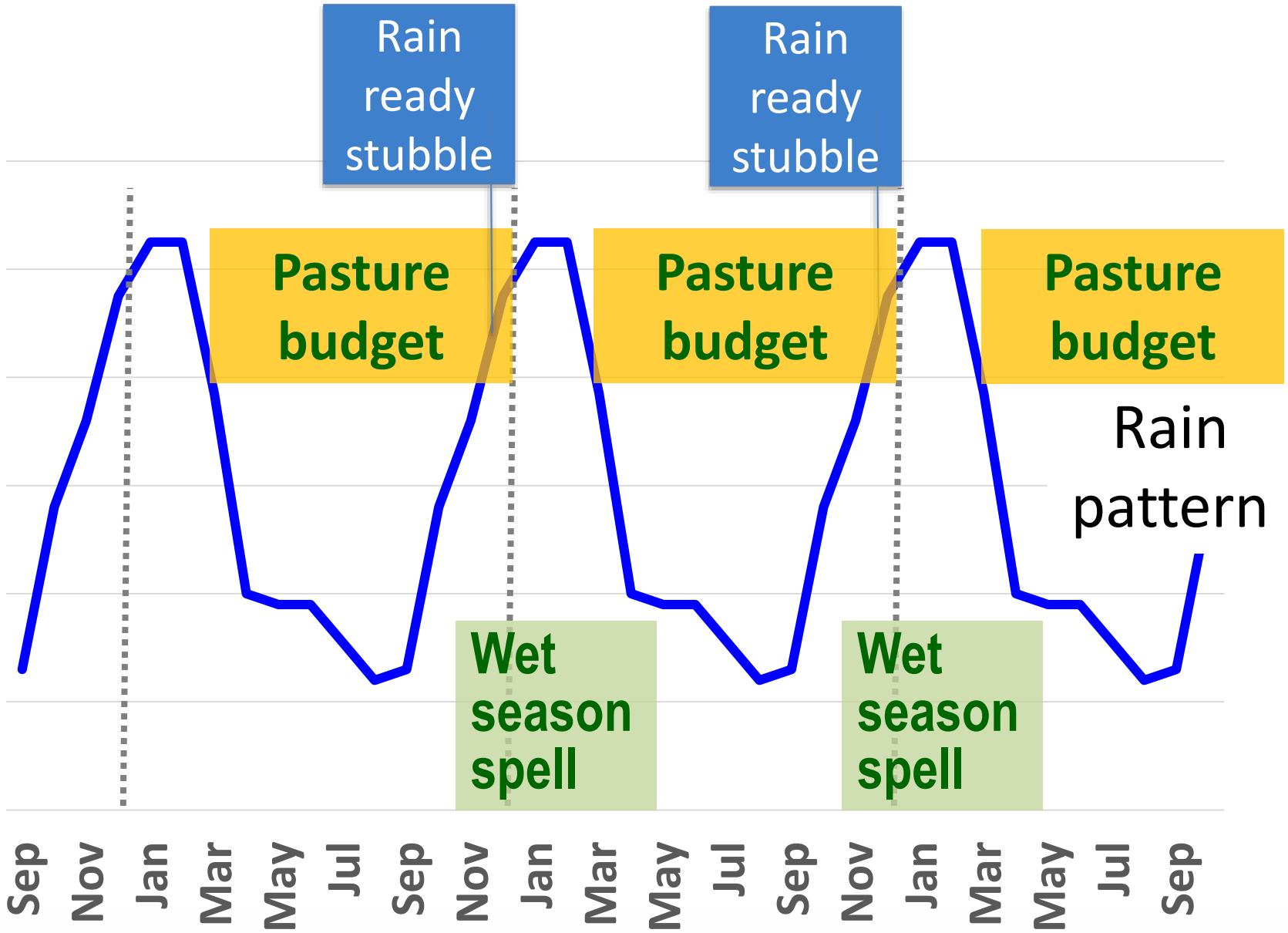
Producers nominated…

- **best decision:** destocking to **critical dates**
- **worst decision:** not acting early enough

Key messages focused on forward planning…
'Know what you are going to do and when'
was the key to staying in control.

"Review of drought preparation and business strategies for the North-West Slopes, 2002-03"
David Llewelyn, Senior Livestock Officer (Beef Products), Moree.

Annual cycles & critical trigger dates…



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Feed budgeting

300 kg

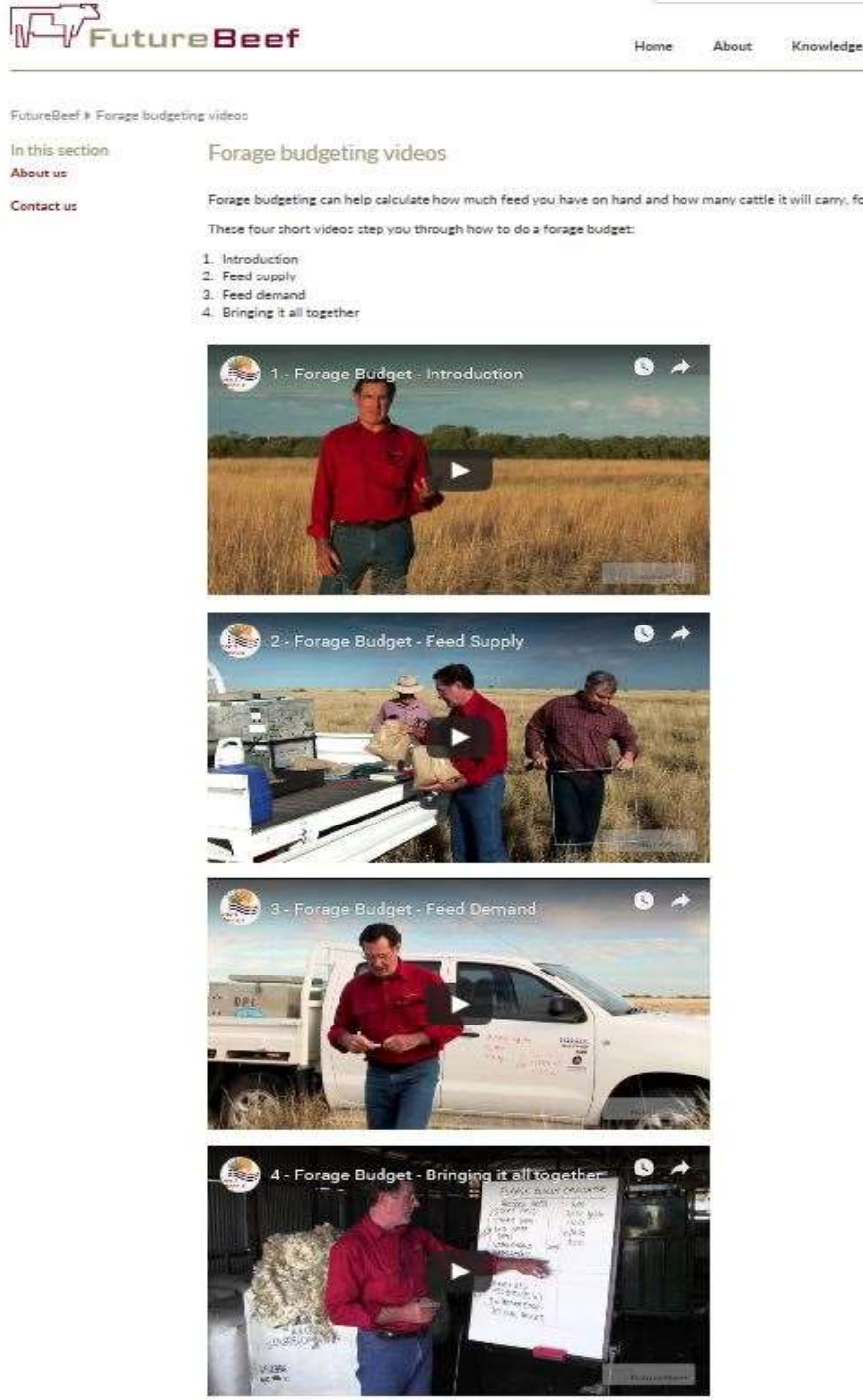
10 kg/head/day

30 days / 1 cows

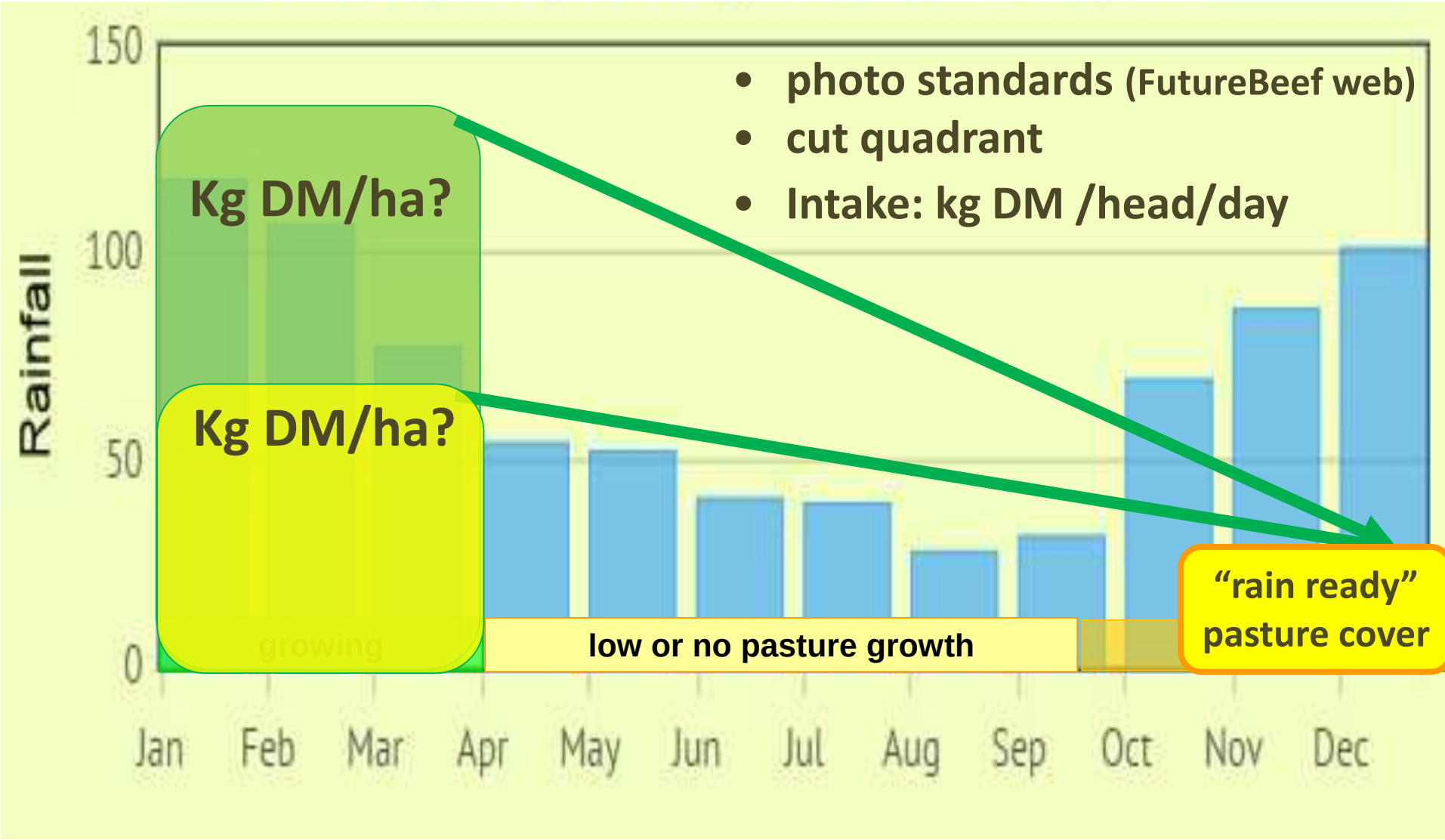
1 day / 30 cows

Paddock scale: watch Col Paton's 4 short YouTube videos

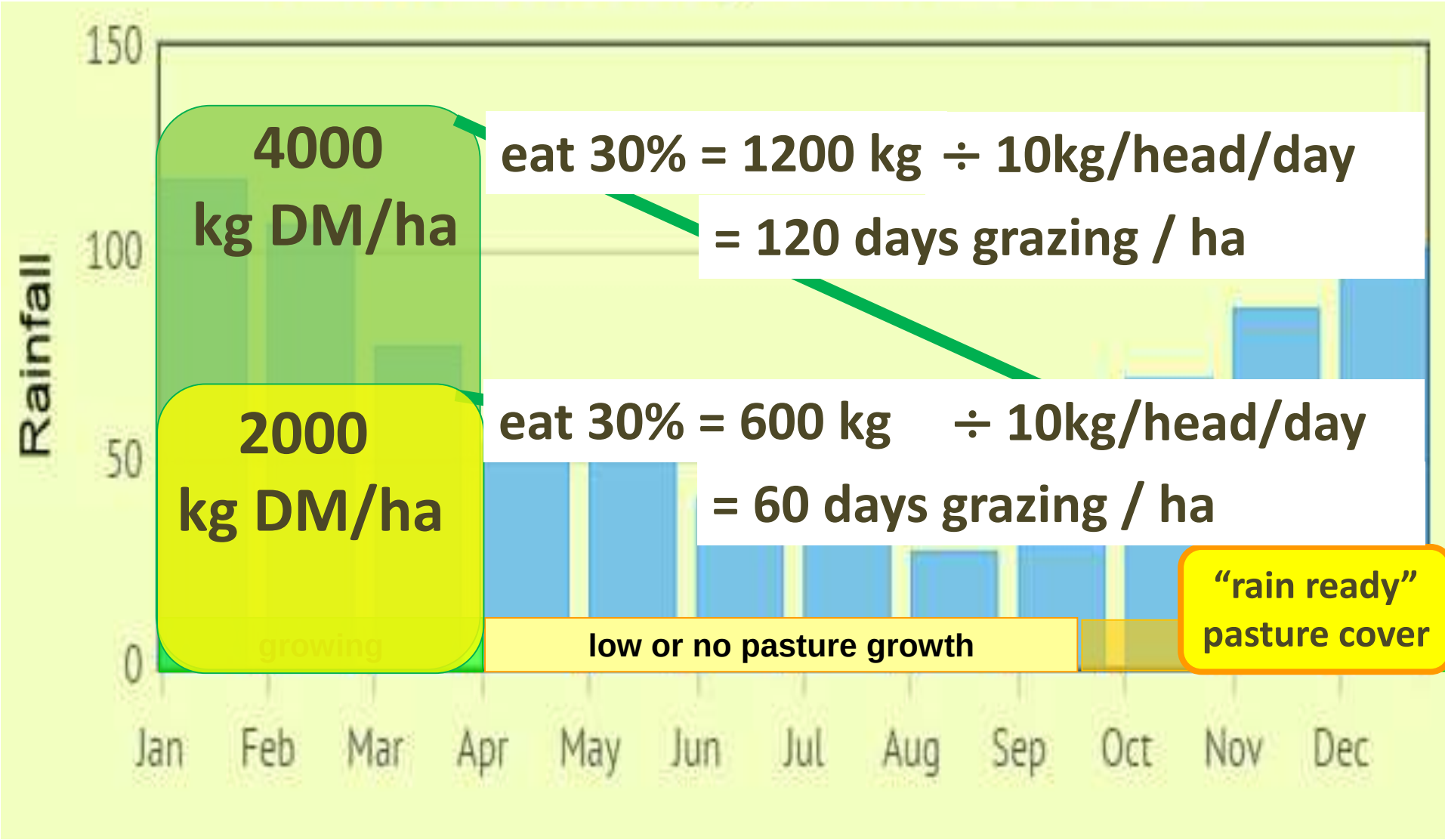
Google search:
Col Paton
Forage Budget
Futurebeef



Pasture budgeting from autumn till Xmas



Pasture budgeting - rough example



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Drought options - if more cattle than pasture…

- Sell
- Feed - production
- Feed - maintenance
- Feedlot
- Agistment
- Drove
- Lease
- Buy land
- Euthanasia

People usually use a mix of options

Sayings about selling…

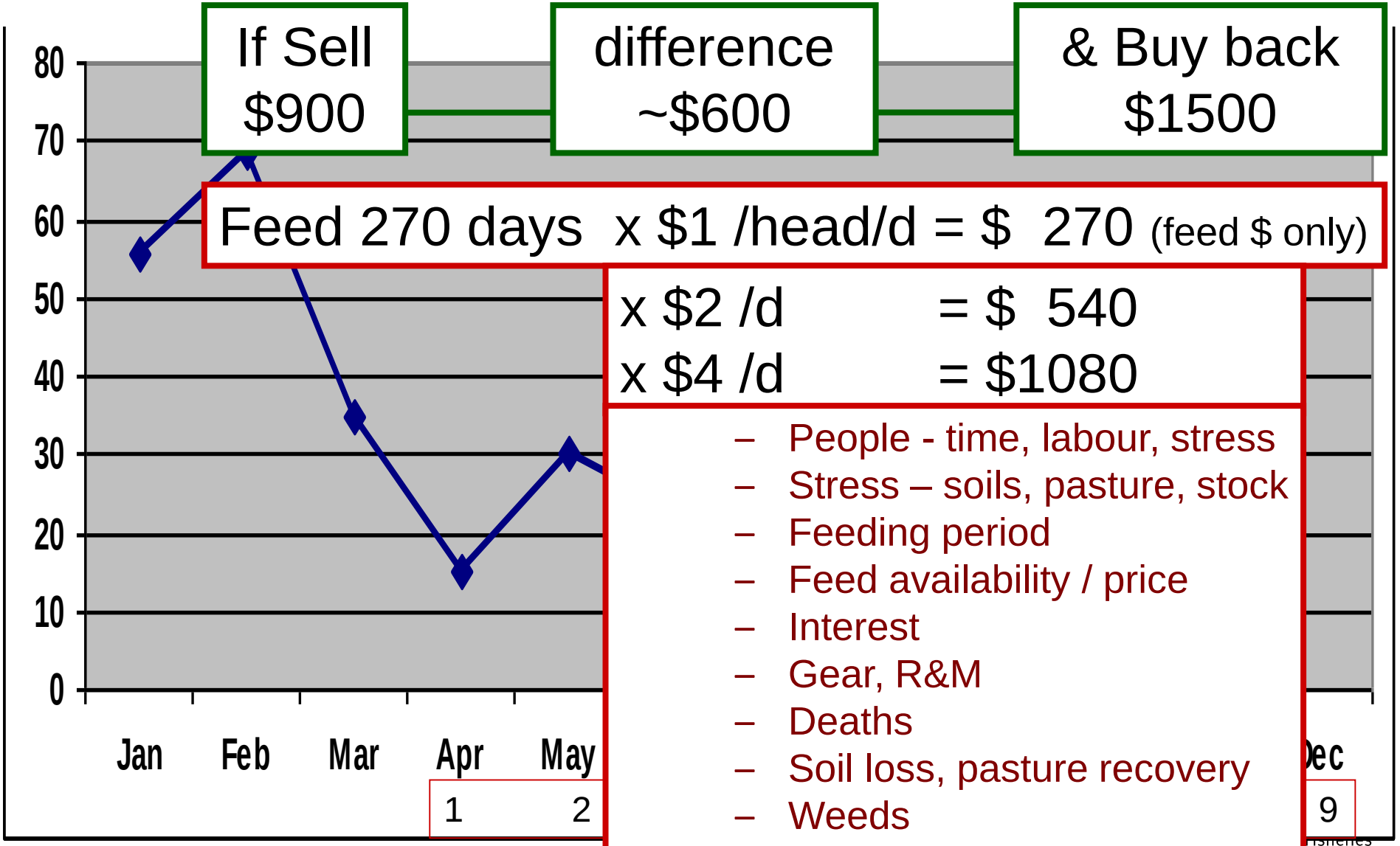
- Cattle = $ and $ don't feel the dry
- Sell and regret but sell
- Sell them don't smell them
- Cattle are not an endangered species

Tools – assess options

Futurebeef, beef business tools

1. Sell versus feed
2. Marketing options
3. Agistment
4. Production feeding
5. Costing nutrients

Sell versus feeding



Sell and replace.	Income ($ / head)	Expenditure ($ / head)
Sell sheep off shears (net proceeds)	30.00	
Interest earned (10 months @ 4.5%)	1.13	
Purchase replacements off shears (landed on farm)		50.00
Precautionary drench		0.20
Totals	31.13	50.20
Net		-19.07

Retain and feed.	Income ($ / head)	Expenditure ($ / head)
Feed cost @ 65c/hd/wk (43 weeks)		27.95
Storage and handling allowance		1.00
Value of wool production (4.5kg greasy @ $3.50/kg)	15.75	
Interest paid on feed cost (10 months @ 9.0% p.a.)		2.10
Totals	15.75	31.05
Net		-15.30

Less stress – opportunity – soil/pastures

Stress – labour – deaths – prices – soil/pastures

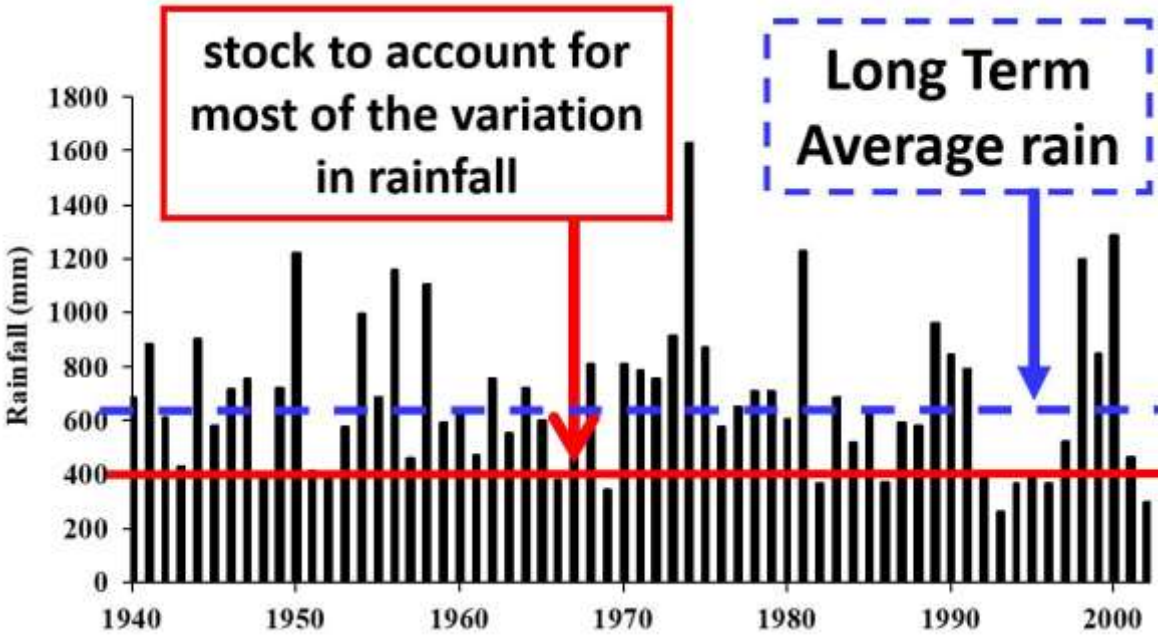
Agist.	Income ($ / head)	Expenditure ($ / head)
Transport to agistment block		2.00
Agistment fees (43 weeks @ 50 c/hd/week)		21.50
Inspection costs (10 trips)		2.50
Allowance for 2% extra deaths		0.60
Transport back to home block		2.00
Precautionary drench		0.20
Value of wool production (4.5kg greasy @ $3.50/kg)	15.75	
Interest paid on agistment fees (10 months @ 9.0% p.a.)		1.61
Totals	15.75	30.41
Net		-14.66

Feeding and managing sheep in dry times
Bulletin 4651 Nov 2005
Department of Agriculture, WA

Managing for variability

- Stock no's →summer pasture yield →land condition + rain
- Wet spell + annual pasture budget (eat 30%) – move early

- Stock to 75% of average rainfall



- Not all breeders - trade cattle (easy to sell)
- Pasture focus – using stock to make more productive system

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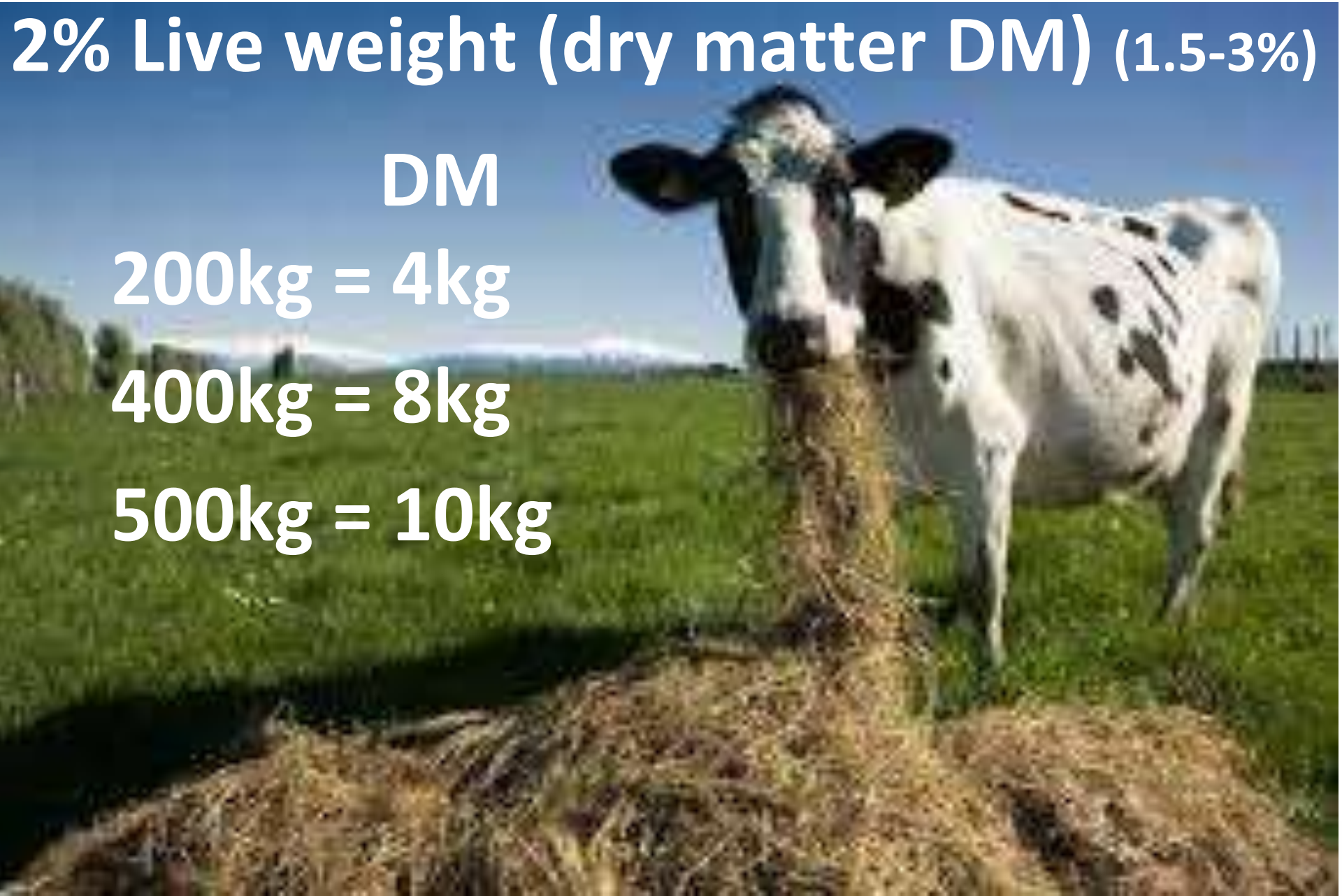
Water intake

About 10% of live weight

200kg = 20 L (15-40)
400kg = 40 L (25-70)

LESS	**MORE**
Cold	Hot
Wet feed	Dry feed
Low performance	High performance
	e.g. growth, lactation

How much do cattle eat?



Maintenance full hand feeding rates (as fed)

Stock	Grain 12ME	Hay 8.5ME	Poorer hay 7ME + lick / meal (molasses supp +)	Grain*: hay 50:50 *or pellets	Grain : hay 80:20	Silage 30%DM, 9ME
Weaners 200kg (0.2ADG)	2.5	3.5	4 + 0.3	3	2.5	12
Yearlings 250kg (0.1ADG)	3	4	4.5 + 0.3	3.5	3	15
Adult 400kg	4	6	6.5 + 0.3	5	4.5	20
Breeder late preg 425kg	5	8.5	8 + 1	7	6.5	27
Breeder lactating 425kg	6 + 2 kg hay	10.5	8.5 + 2	9	8	30

Source: Full hand feeding of beef cattle – quantities. Bill McKiernan (NSW DPI)

Weaning information

- Benefits of good weaning flows through the whole business for years
- Prepared ahead of time – control mating, foetal aging (know months ahead)
- Good nutrition
- Low stress (food, water, shelter, low stress stock handling)
- Segregate on size, shy feeders

Weaning and educating calves

Carli McConnel, Mt Brisbane. Beeftalk 39, Winter 2014
https://futurebeef.com.au/weaning-educating-calves/
appendix slide 43

Weaner management in northern beef herds (MLA)

https://futurebeef.com.au/wp-content/uploads/Weaner-management-in-northern-beef-herds.pdf

Dry season management of a beef business: a guide to planning, managing and supplementary feeding. (DAF) P47

https://futurebeef.com.au/document-library/dry-season-management-beef-business-guide-planning-managing-supplementary-feeding/

Estimated full feeding costs – 425 kg breeder

	Grain: hay 50:50 $600/t (60c/kg)	$/hd/day	Days	$/hd/period
Adult breeder	5 kg	$3.00	210	$630
- Late pregnant	7 kg	$4.20	60	$252
- Lactating	9 kg	$5.40	95	$513
			365	$1,395*

***Feed cost only**

- add labour, interest, R&M, losses
- impact on soils, pastures, stress
- time, prices, availabilities (??)

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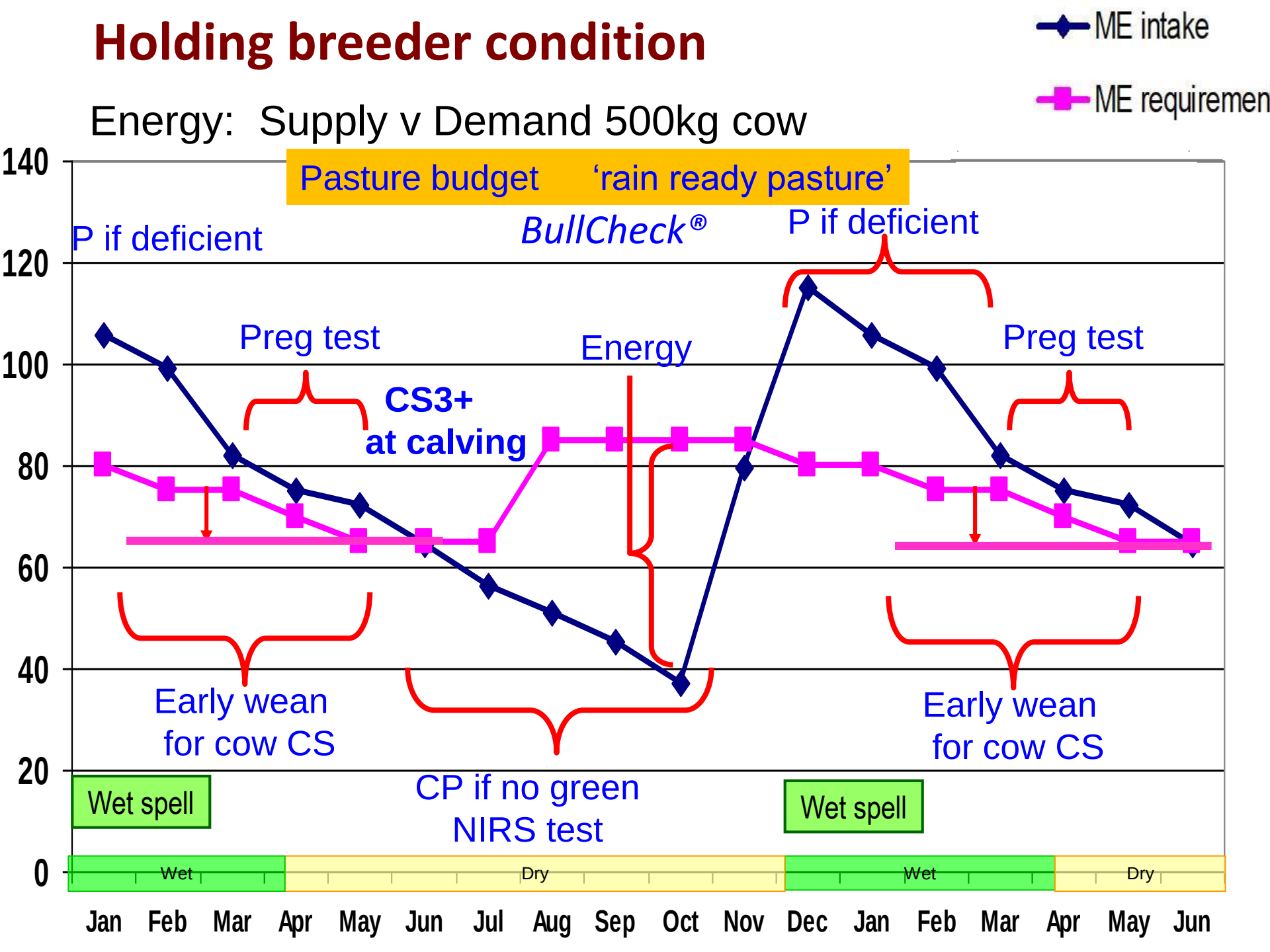
Holding breeder condition

Which cows are more likely to be cycling?

1 2 3 4 5

Condition score

Holding breeder condition



Protein & energy supplements

Protein (100g-1.5kg; CP 75-150 g+)

- Dry licks
- Whole cotton seed (not ad lib - oil)
- Protein meals (avoid gutsing soymeal)
- Dried distillers grain
- Molasses supplements/rollers
- Protein blocks
- Chick pea, mung bean
- Water – urea + sulphur

Energy 1-3kg+ (10-30+MJ)

- Grain (1% limestone, 0.3% salt)
- Whole cotton seed (limestone)
- Molasses (add protein)
- Hay (nitrate, prussic, hang on feed)
- Silage (high water)
- Distillers grain/syrup (S <50%)
- Protein meals (PKE)
- Pulse grains
- Energy blocks
- Cane (water, fibre, low CP, chemicals)
- Grape marc (45%water, chemicals, quality ranges from compost to ok)

Costing energy & protein

Feed	Liquid supplements c/L	Liquid supplements kg/L	$/t ex vendor AS FED	$/t freight AS FED	$/t landed AS FED	c/kg AS FED	$/t dry matter	Dry Matter% DM%	ENERGY ME (MJ/kg) DM	ENERGY ME (MJ/kg) AS FED	ENERGY cents/ MJ ME	PROTEIN CP% DM	PROTEIN CP% AS FED	PROTEIN $/kg CP
calculations going right → / calculations going left ←	vendor / B x F	label			C + D / F x 10	A ÷ B or E ÷ 10	E ÷ G	If label is 'as fed' enter 100%	label / J ÷ G x 100	G x H ÷ 100 / label	F ÷ J	label / L÷G x100	G x K ÷ 100 / label	F ÷ L
enter feed name below	A	B	C	D	E	F		G	H	J		K	L	
Grain		0	$450	$50	$500	50	$556	90%	x 12.0 =	10.8	4.6	12.0%	11%	$ 4.63
Palm Kernel Meal - 1T bag		0	$450	$50	$500	50	$556	90%	x 11.0 =	9.9	5.1	15.0%	14%	$ 3.70
Soy Hull Pellets - 1T bag		0	$475	$50	$525	53	$583	90%	x 11.0 =	9.9	5.3	11.5%	10%	$ 5.07
Palm Kernel Meal Pellet - 800kg bag		0	$475	$50	$525	53	$583	90%	x 11.0 =	9.9	5.3	15.0%	14%	$ 3.89
Liquid supplement example - energy/protein	50	1.32			$379	38	$557	68%	x 10.0 =	6.8	5.6	22.0%	15%	$ 2.53
Hay		0	$300	$200	$500	50	$568	88%	x 10.0 =	8.8	5.7	10.0%	9%	$ 5.68
Production Pellets - bulk		0	$580	$50	$630	63	$700	90%	x 10.8 =	9.7	6.5	12.0%	11%	$ 5.83
Dry distillers grain (1T bag)		0	$610	$50	$660	66	$733	90%	x 11.0 =	9.9	6.7	30.0%	27%	$ 2.44
Grape marc		0	$50	$250	$300	30	$600	50%	x 8.5 =	4.3	7.1	12.0%	6%	$ 5.00
Canola meal - 1T bag		0	$650	$50	$700	70	$778	90%	x 11.0 =	9.9	7.1	36.0%	32%	$ 2.16
Whole cotton seed		0	$800	$150	$950	95	$1,056	90%	x 13.0 =	11.7	8.1	24.0%	22%	$ 4.40
Copra meal - 20kg bag		0	$775	$50	$825	83	$917	90%	x 11.0 =	9.9	8.3	21.0%	19%	$ 4.37
Liquid supplement example - protein	70	1.28			$547	55	$1,013	54%	x 10.0 =	5.4	10.1	28.0%	15%	$ 3.62
Dry lick		0	$900	$50	$950	95	$979	97%	x 3.5 =	3.4	28.0	72.0%	70%	$ 1.36

FutureBeef business tools **NSW DPI feed cost calculator** **drought & supplementary feed calculator**

Fodder biosecurity – chemicals

You may not know what chemicals were used on the crop or how the feed was produced, so ask the feed supplier about the risk of residues or contaminants during drought periods.

Written assurance from suppliers of feed

You should ask for a commodity vendor declaration (CVD) from the feed supplier. Although suppliers do not legally have to give you a CVD, you should ask for one so that you have written details of the chemicals used during production. If a supplier refuses to give you a CVD, you can:

- source feed from another producer
- source fodder from an accredited fodder scheme
- have the feed tested for chemical residues and contaminants
- only feed the by-product or fodder to breeders or cattle that are not entering the food chain immediately. Slaughter withholding periods vary depending on the chemical and the level in the feed. In most, but not all, cases, withholding stock from slaughter on known clean feed sources for 60 days will be enough.

Fodder biosecurity – weeds

Fodder vendor declaration

accredited / tested supply

Source

Contents (chemical treatments, WHP)

Restrict feeding locations

Records

Monitor

Control

Council weed officers

https://agforceqld.org.au/intranet/file.php?id=5610

Grazier quotes

"I look after my pastures…
My pastures look after my cattle…
My cattle look after me."

"Successful graziers get the grass-cattle balance right"

"Never fall in love with your cattle but rather have a life long romance with family and country!"

Roger Sneath
roger.sneath@daf.qld.gov.au

Take home messages

- Have business goals & drought plan
- Balance stock numbers to pasture (pasture budgets)
- Rain ready pasture at end of dry season
- Spell some paddocks (wet season)
- Feed: ~ 2% Lwt DM (calves 2.5-3%)
- Water: ~10% Lwt (more for hot, milk, production)

Review of drought preparation and business strategies for the North-West Slopes, 2002-03

David Llewelyn, Senior Livestock Officer (Beef Products), Moree

Thirteen key lessons learnt

1. Drought occurs when stocking rate exceeds carrying capacity (i.e. drought is not only rainfall-induced).
2. Humans control stocking rate.
3. Nature controls carrying capacity.
4. Success in drought is achieved in the same way as at other times (e.g. using sound business management principles).
5. We should start with goals, and write and communicate the plan, including the recovery plan. (Plan now for next time, write the plan down. Have the plan in the folder. Don't lose the folder.)
6. Fine tune the plan regularly once it is put into place.
7. Move early.
8. Remain positive — keep in touch with positive people.
9. Set critical dates.
10. Beware the emotional load! Share the responsibility with family members. Don't be afraid to seek help.
11. Watch out for unmanageable equity losses.
12. Look on mistakes as learning opportunities.
13. Preserve the resource base for financial recovery and future generations.

Drought considerations

- **Stay healthy** – manage stress
- **Segregate** on feed requirements / size – savings, stock health
- **Early wean** for cow condition & fertility
- **Vaccines** (5in1, botulism), **Parasite control** – lice / worms, Vit ADE
- **Water** – quality, good access, dams fenced, troughs, clean & deepen dams
- **Gradual changes** in feeds, fill cattle on safe feed
- **Beware the break** – weak cattle, exposure, green pick, weeds (feed / confine)
- **Spell paddocks, assess summer growth – pasture budget**
- **Plan supplement needs early / contracts**
- **Keep records / update drought plans (goals)**

  - what did /when /why.
  - what worked well, not well, do different

Typical drought trends

Rain	- down
Pasture	- down
Productivity	- down
Cattle value	- down
Income / equity	- down
Feed costs	- up
Work load	- up
Repairs / costs	- up
Stress-people/pastures/stock/finance	- up
Time frame	- unknown
Feeling of control	- down

Drought plan
strategies to combat each of these

Selling

PLUSES

- Often seen as a good option in hindsight
- May rain - good decision at time
- In control - act early, keep adjusting
- Acting early – weight, $, pasture sparing
- Controls downside risk
- Less stress - more time / opportunity
- “Cattle = $ and $ don’t feel the dry”
- Most productive animals remain

NEGATIVES

- Taking a loss - missed future profit?
- Low sale price? - high buy back?
- Losing genetics / quality
- Buy back quality / genetics?

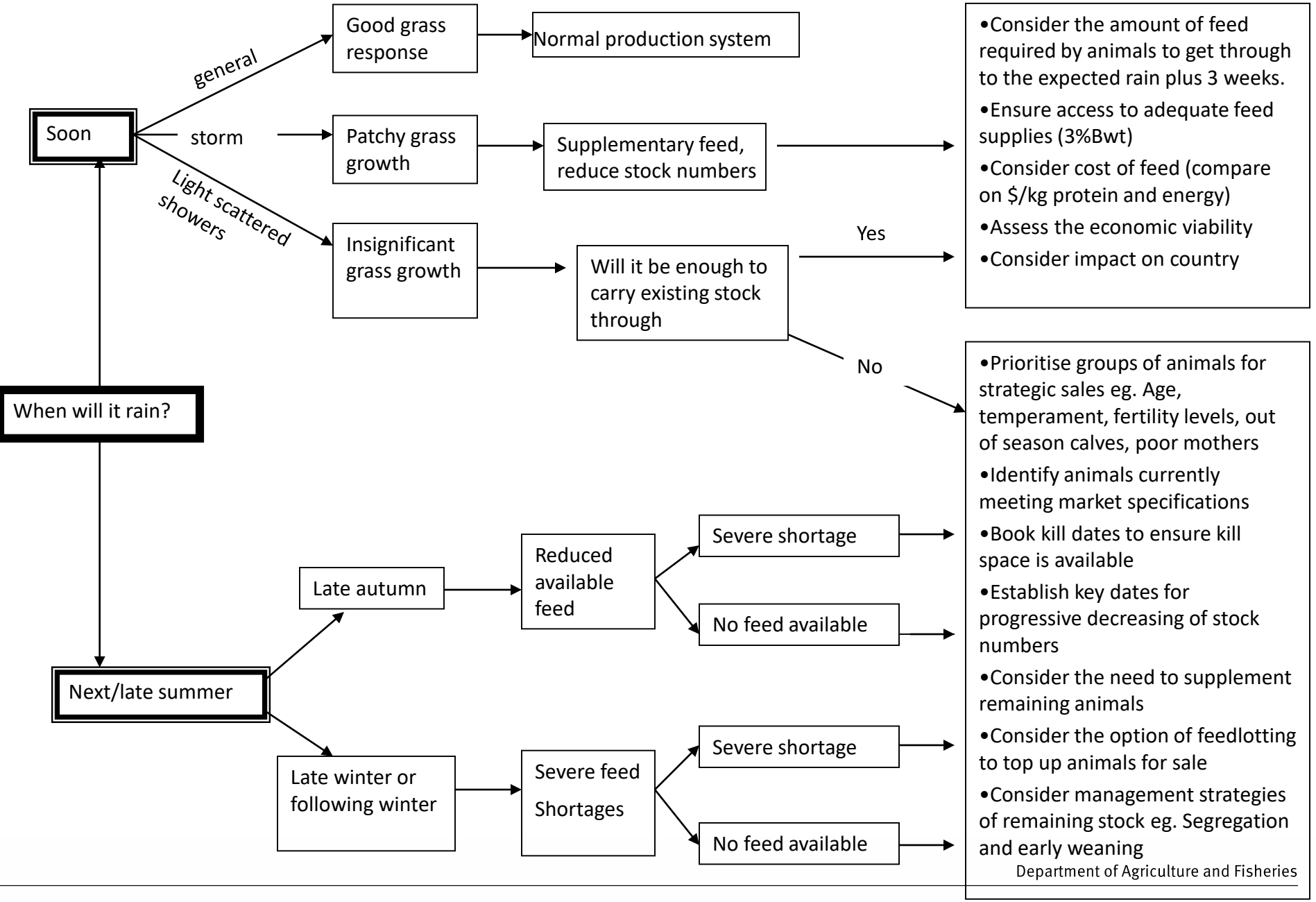
Feeding

PLUSES

- If not too long & expensive
- If well planned & prepared
- If consistent feed supply
- If can get good value feed

NEGATIVES

- How long will it go for?
- Rising feed costs, supply issues, intakes
- Could be higher costs than expected
- Less time & opportunity
- Stress
- Stock may become un-saleable
- Stock losses
- Pasture damage, soil loss / production


When will it rain?
Soon
general
storm
Light scattered showers
Good grass response
Normal production system
Patchy grass growth
Supplementary feed, reduce stock numbers
Insignificant grass growth
Will it be enough to carry existing stock through
Yes
No
•Consider the amount of feed required by animals to get through to the expected rain plus 3 weeks.
•Ensure access to adequate feed supplies (3%Bwt)
•Consider cost of feed (compare on $/kg protein and energy)
•Assess the economic viability
•Consider impact on country
Next/late summer
Late autumn
Reduced available feed
Severe shortage
No feed available
Late winter or following winter
Severe feed Shortages
Severe shortage
No feed available
•Prioritise groups of animals for strategic sales eg. Age, temperament, fertility levels, out of season calves, poor mothers
•Identify animals currently meeting market specifications
•Book kill dates to ensure kill space is available
•Establish key dates for progressive decreasing of stock numbers
•Consider the need to supplement remaining animals
•Consider the option of feedlotting to top up animals for sale
•Consider management strategies of remaining stock eg. Segregation and early weaning

Weaning and educating calves 24 May 2016 https://futurebeef.com.au/weaning-educating-calves/

Correct training of calves at weaning means easier animals to work with

Weaning is far more than separating the calf from the cow until they both stop bellowing. Correct management and training of calves at weaning sets their pattern of behaviour for the rest of their lives.

Before weaning

For the first few days after weaning, calves try to get back to their mothers and can manage to do the seemingly impossible. To avoid injuries and escapes, check all equipment ahead of time that will be used at weaning, including yards, hay feeders and water troughs.

It is best to assume a 'belt and braces' approach. Calves get bored and will often manage to open a catch by playing with it, so put another chain or wire around gate catches. Broken weldmesh in round bale feeders can catch calves' hooves. There is nothing worse than finding a good calf crippled because he spent the night with a leg caught in the hay feeder.

At weaning

Muster your cows and calves. After doing whatever is needed to the cows, such as pregnancy testing and vaccinating, let them out into a paddock close to the yards with access to a larger grass paddock. Cows find weaning very stressful too. Many cows will break fences and jump grids to get back to their calves if they are moved too far apart on the first day of weaning.

After three to five days the cows will have forgotten about their calves and will be much easier to move further out. Make sure the water troughs are clean and the hay feeders full before putting the first of the calves into the weaning yard. Then leave them overnight. There will be a lot of bellowing from both the cows and the calves, but this is quite normal.

Training begins

For the first two days, spend time walking quietly through the calves. Move them slowly and calmly into another yard while you fill the hay racks. This teaches the calves to walk through gateways and move at your direction. On the third day, run the calves into the working yards and teach them to draft and walk up the race. Do this by letting ten or so go past and stopping the rest. Work the first group of ten through the race and crush without stopping them. Then go back and get another group. By doing this, even the most nervous calves will learn what is required of them. Do this every day as you fill the hay racks.

Weaning is a good time to teach weaners to eat from a trough. While they are locked in the yard and bored, they will try new things they wouldn't touch in the paddock. Once the calves work well through the yards it is time to take them out and introduce them to whatever you use on your property, such as dogs, horses and bikes. Open the gates from the yards and stand by to slow them up if they start to run. Work them around the paddock, letting them graze as you do this. A laneway is ideal for this work but any small well–fenced paddock will do.

Once you are happy with the way they are working while you are handling them, let them have the full day out in the paddock and just yard them at night. Weaners will often rush at night when they can be frightened by stray dogs or dingoes. Yard the weaners for three or four days until they just walk along in front of the bike or horse. Then they can go out into another paddock to grow up.

Running some older steers with weaners in the paddock will help settle the weaners down and also help protect them from dog attacks. While working the weaners, make a note of any calves that do not settle down. If a calf does not respond to the constant handling at weaning, it will always be difficult to handle and should be identified for culling.

Health

All calves in ticky country should be vaccinated against tick fever at weaning. Once you know how many weaners you have, order the 3–germ blood. Give the weaners their second 5–in–1 (or 7–in–1) vaccination. If they haven't had any 5–in–1 vaccinations, give them their first injection and the second 4 to 6 weeks later. The stress of weaning tends to lower the calves' defences, making them more susceptible to internal parasites. If you suspect internal parasites are a problem, test for worm burdens in the calves and drench if appropriate.

Coccidiosis is caused by organisms that live in the calves' gut and on the ground. The stress of weaning often allows these parasites to multiply and cause problems. The most common symptom is scouring and general ill health. In severe cases the calf can die. Animals less severely affected take a long time to recover because the organism damages the lining of the gut. Feeding calves in racks and troughs will help prevent them picking up the coccidian organism from the ground.

Benefits

The time and cost put into training weaners is recouped many times over as the animals grow and enter the adult herd. Well–trained weaners are a pleasure to work with, whereas cattle that have not been trained well at weaning cause many problems. If you buy in cattle, particularly cattle that you don't know, try giving them a few days 'weaner training' before you let them out. Steers going into the finishing paddock and replacement heifers that are to go into the breeder herd will all benefit from a few days re–education'.

This article was originally printed in Beeftalk (a special feature in the Queensland Country Life) Issue 39 Winter 2014 on 31 July 2014 and contributed by Carli McConnel, Mt Brisbane, Esk Telephone: (07) 5426 0169 or email: carlimcconnel@westnet.com.au

Just some MLA publications free to download

https://www.mla.com.au/news-and-events/publications/

- **Grazing land management: Sustainable and productive natural resource management.**
  Producers who read this booklet will emerge better informed on how to manage land condition, improve the level and evenness of grazed pasture use and enhance cattle diet quality. It may also encourage enthusiastic operators to participate in the EDGEnetwork Grazling Land Management workshop where they will gain a more comprehensive understanding of the management options and tools available.

- **A guide to best practice husbandry in beef cattle - Branding, castrating and dehorning**
- **Weaner management in northern beef herds**
- **Heifer management in northern beef herds 2nd edition**
- **Beef cattle nutrition - An introduction to the essentials**
- **Managing the breeder herd - Practical steps to breeding livestock in northern Australia**
- **Phosphorus management of beef cattle in northern Australia**
- **Water medication a guide for beef producers**
- **Review of the effects of water quality on ruminant health and productivityReview of Hydronic Fodder Production for Beef Cattle**

- **The Wambiana grazing trial -** Key learnings for sustainable and profitable management in a variable environment https://futurebeef.com.au/resources/projects/wambiana-grazing-trial/

Drought management information and contacts

- DAF Drought assistance 13 25 23 www.daf.qld.gov.au/environment/drought
- Rural Financial Counselling Service (RFCS) https://www.agriculture.gov.au/ag-farm-food/drought/assistance/rural-financial-counselling-service
  Drought updates, rain data/pasture maps www.longpaddock.qld.gov.au
- Rainfall data - Rainman https://www.daf.qld.gov.au/business-priorities/agriculture/plants/crops-pastures/broadacre-field-crops/cropping-efficiency/rainman
- BOM – rainfall data www.bom.gov.au/climate/data
- CliMate (rainfall, temp data) https://climateapp.net.au/
- FutureBeef www.futurebeef.com.au
- Forage budget videos https://futurebeef.com.au/forage-budgeting-videos/
- Pasture photo standards http://futurebeef.com.au/topics/pastures-and-forage-crops/pasture-photo-standards/
- Victoria State Government http://www.dpi.vic.gov.au
- NSW DPI – beef & sheep www.dpi.nsw.gov.au/agriculture/livestock
- Full feeding cattle – quantities & management http://www.dpi.nsw.gov.au/agriculture/livestock/beef/feed
- Cattle prices http://www.mla.com.au/Prices-and-markets
- Commodity & cattle prices http://agprice.grainandgraze3.com.au/
- Cattle spreadsheet calculators https://futurebeef.com.au/knowledge-centre/beef-business-tools/
- Agbiz farm budgeting tools https://www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/agribusiness/agbiz

Sheep sites

- Leading sheep www.leadingsheep.com.au
- AWI (Australia Wool Innovation) http://www.wool.com/en/on-farm-research-and-development/sheep-health-welfare-and-productivity/sheep-nutrition
- Qld Gov Business & Industry portal www.business.qld.gov.au/industry/agriculture/animal-management/sheep/health-welfare
- Leading sheep: Newsletter – 'Around the Camp', 21 Feb 2014 http://www.leadingsheep.com.au/2014/02/around-the-camp-water-infrastructure-feed-suppliers-mental-health-agrihive-drought-stories/

Cattle: Nutrient Requirements of Beef Cattle. NRC 1984 (and feed values)
https://books.google.com.au/books/about/Nutrient_Requirements_of_Beef_Cattle.html?id=Q2MrAAAAYAAJ&redir_esc=y

Goats:

- Give goats a go (MLA) https://www.mla.com.au/extension-training-and-tools/going-into-goats/
- Nutrition and management of goats in drought https://www.agrifutures.com.au/wp-content/uploads/publications/03-016.pdf

Horses:
Drought feeding and management for horses David Nash http://agriculture.vic.gov.au/__data/assets/pdf_file/0020/228530/RIRDC-Drought-Feeding-and-Management-for-Horses.pdf