Making Livestock Decisions in Dry Times

RURAL SOLUTIONS SA
PIRSA

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PREMIUM FOOD AND WINE FROM OUR CLEAN ENVIRONMENT

Government of South Australia
Primary Industries and Regions SA

Livestock Decisions

- Every farm business is unique
- Droughts are progressive and do not happen over night
  - Ongoing dry conditions in the USE is not something we are used to
- Have a livestock enterprise that is flexible with drought risk
- Make decisions early and review them regularly
- Set a time table
- What is the mental and physical energy cost to a decision
- Skills, experience, knowledge gaps
- Focus on what can be controlled
- What are my resources
  - Livestock condition, financial, feed, water, stored soil moisture, machinery and infrastructure

Drought Proofing Livestock

- Disposable stock in enterprises
- Set critical rain date or soil moisture availability
- Know what animals you will offload in a drought and which ones you would keep
- Value of past experience – your own and others
- Still keep up with routine animal health such as drenching
- Assess weather livestock really going to be unavailable and too expensive to be purchased back in following the drought
- If water is going to be a constraint in certain paddocks look at creating flexible enterprises on those paddocks

Managing Livestock in a Drought

- Wean early
- Sell
- Feeding
- Agistment/Leasing
- Delay mating
- Avoid overgrazing paddocks as the cost of recovery is high – use sacrifice paddocks
- Confinement feeding
- Water availability – carting water is expensive
- Purchasing feed, on farm storage, weeds and capacity to feed it out

Livestock Decisions

COST OUT YOUR DECISIONS

MAKE DECISIONS EARLY

ONCE ANIMALS HAVE LOST TOO MUCH CONDITION ITS TOO LATE

SA stud breeder pleads guilty to cattle neglect

by Beef Central, 08 September 2015

A South Australian woman has pleaded guilty to the underfeeding of 29 cattle between June and September last year.

Images of the emaciated, lice infested cattle on a property near Myponga in South Australia have been broadcast on 7 television news this week.

One of the images of the neglected cattle broadcast on Channel 7.

7 News has reported that stud cattle breeder Susan Gristwood, the wife of Adelaide ear, nose and throat specialist Doctor Ronald Gristwood, admitted neglect in the Adelaide Magistrates Court on September 2.

In April the Gristwoods were charged with 30 counts of ill treating an animal and two counts of failing to comply with an animal welfare notice.

The RSPCA alleged 29 cattle were emaciated and 11 more were neglected between June and September 2014 on the Gristwoods' property south of Mount Compass.

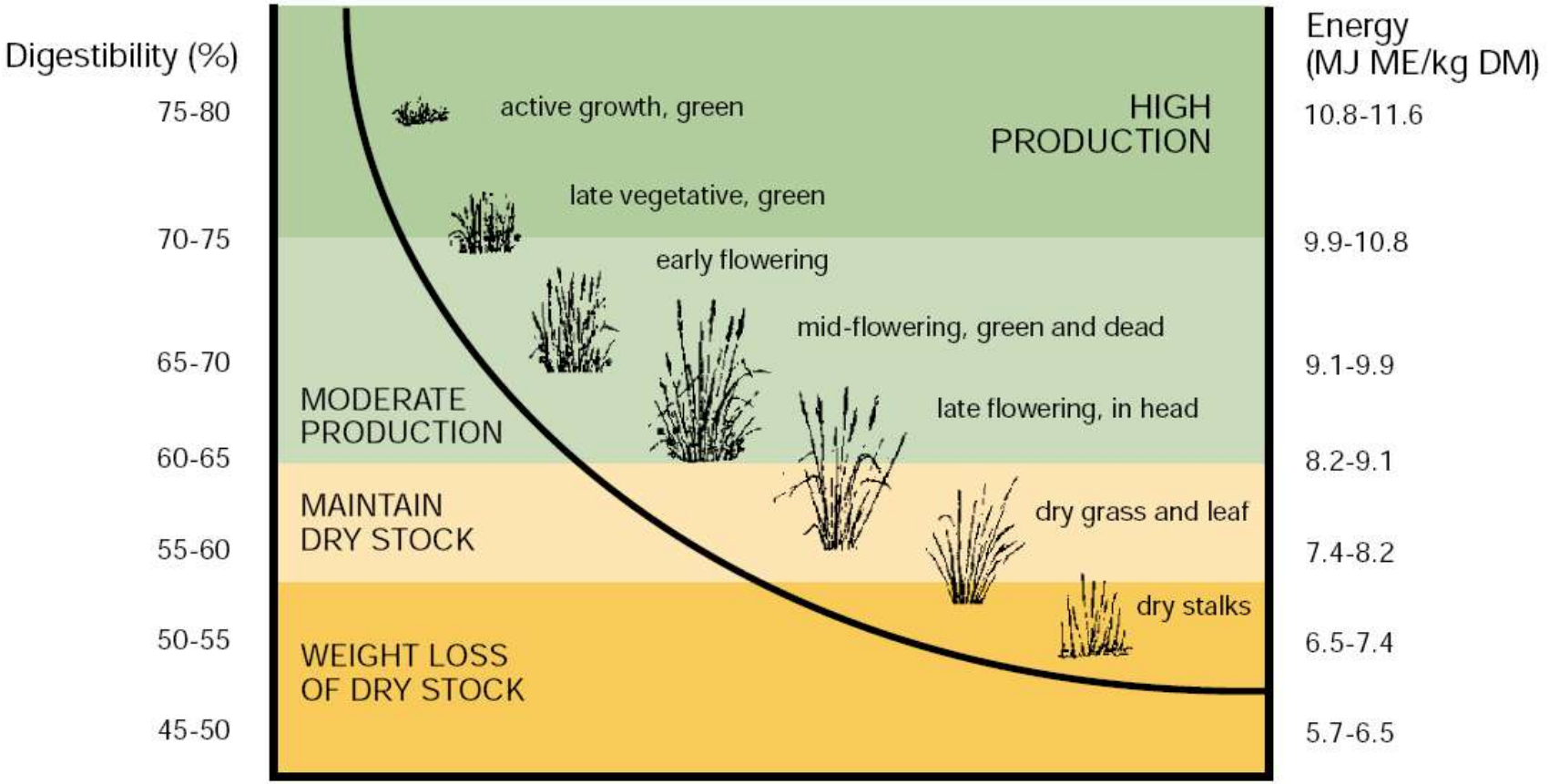
Susan Gristwood, owner of the Adelaide Angus Stud, last week pleaded guilty to

http://www.beefcentral.com/news/stud-breeder-pleads-guilty-to-animal-neglect-on-sa-property/

The energy cost of grazing

- Why not open all the farm gates and hope for the best?
- As a general rule grazing livestock require an additional 10-40% additional energy above maintenance for grazing depending on grazing conditions
- In extensive areas or where livestock walk considerable distances to obtain feed and water or in hilly country this could increase by 50% above maintenance
- Under extreme conditions an animal may spend up to 13 hours eating and still not meet nutritional requirements

Value of Pasture



SOURCE: NSW PROGRAZE® Manual, NSW Agriculture

Maintenance Energy

To determine maintenance energy quickly:

Beef

10% of BW +10

ie. 10% of 500kg + 10 = 60MJ/day

Add extra 50% under drought grazing situation = 90 MJ/day

Dry sheep

10% of BW + 1.8

ie. 10% of 50kg + 1.8 = 6.8MJ/day

Add extra 50% under drought grazing situation = 10.2 MJ/day

Weaners

15% of BW + 1.4

How much can animals eat?

- 3% of body weight as dry matter e.g 500kg cow x 3% = 15kg DM (good quality feed)
- 120/NDF% of diet = % of body weight as dry matter intake
- Mature pasture has a 70% NDF 120/70= 1.7% of bodyweight
- 60kg ewe dry who requires 9.3 MJME/day to maintain herself she can only eat 1.7% of her body weight as poor quality dry feed. She can only physically fit in 1.02 kg of dry matter. If the dry feed is supplying 8MJME/kg DM 1.02x8 =8.16 MJME/kg providing enough feed is on offer in the paddock
- No allowance has been made for grazing under drought conditions

Supplementary Feed

Energy in barley is 12.5MJ/kg DM

Ewe energy deficit = -1.14MJ/d DM

Amount of grain required = 1.14MJ/12.5MJ

=90 gm/h/d barley

Convert to an as-fed basis

=0.09 x 100/90 = 100 gms/hd/day barley as fed

If we are not adequately supplementary feeding than there is further degradation of paddocks, animals will expend more energy searching for feed and will continue to lose weight

Recovery Decisions

- Buying in stock versus breeding back slowly
- Purchasing livestock at the break versus several months later
- Trading animals
- Take on agistment or lease land
- Restocking with genetic superior animals versus what is cheapest
- Exploring other forms of income from land that may have traditionally been grazed e.g crop
- Aware of animal health issues following a drought
- Set new goals for the livestock enterprise
- Generate cash flow
- Early feed options

Long Term Strategies

- Evaluating lambing or calving times to match feed
- Livestock enterprise goals : breeder, finisher, stores, weaners
- Pregnancy scanning – sell non breeders and prioritise feed
- Develop the skill to assess pasture quality and quantity and match animals e.g grazing charts
- Have a drought plan in place
- Use predictors of drought and dry spells and make decisions early
- Assess fodder reserves/on farm storage
- Improve soil – clay spreading, address pH

Long Term Strategies

- Create flexibility in the livestock enterprise e.g trading animals
- Imprint feed calves and lambs with feeds to be used once animal weaned at least 3 weeks prior to weaning a minimum for 4 times
- Consider weaning ages
- Grazing management to avoid over grazing and utilise pasture and alllow recovery of pasture after a drought
- Evaluate pasture species
  - Annual vs perennial
  - Seed characteristics
  - Resilience to dry conditions
  - Re-establishment costs

Opportunities Created Through Drought

- Lease land
- Replace old animals with younger
- Change breeds
- Crops that were planted for grain can be cut for hay to be used on farm or sold
- Tighten calving or lambing patterns by selling late females

Weaning Age and Feed Savings

- Females benefit by converting the additional energy available to maintaining bodyweight and maximising joining for the following year.
- Feed does not need to be processed through mother into milk for the lamb or calf which is an inefficient use of energy
- Ewes or cows that are not required can be sold or sent away on agistment
- Weaners can do better as not competing with their mothers for feed and can allocate a better paddock or feed
- A ewe and lamb or cow and calf fed separately require less feed than if fed as a unit

Requirements

Class of Stock	MJ ME Required per day	DSE Rating	Totals
Cow and Calf (450 kg)	119	13.2	DSE 13.2 MJ ME 119
Dry Cow (450 kg)	54	6	
Weaner Calf	34	3.8	DSE 9.8 MJ ME 88
Ewe and Lamb (45 kg)	14	2.4	DSE 2.4 MJ ME 14
Dry Ewe (45 kg)	7	0.9	
Weaner Lamb	5	0.8	DSE 1.7 MJ ME 12

Optimal Weaning Age for Optimal Pasture Efficiencies

WHAT IS THE OPTIMAL WEANING AGE FOR CALVES AND LAMBS FOR OPTIMAL FEED EFFICENCY AND UTILISATION?

Optimal Weaning Age for Optimal Pasture Efficiencies

- By 3-4 months of age a calf has a fully functioning rumen
- By 12 weeks a lamb has a fully functioning rumen
- When females milk supply reduced due to lack of feed lambs or calves will be forced to forage more and the rumen development is enhanced as a result
- Optimal weaning age for calves is 6 months of age
- Optimal weaning age for lambs is 12-14 weeks of age
- Early weaned calves should ideally be at least 100 kg and no less than 80 kg
- Early weaned lambs should ideally be at least 15 kg and no less than 10 kg
- Imprint feeding is critical

The decision to feed

- Animals lose weight in a drought because the stocking rate or demand of feed from the animal exceeds the carrying capacity or supply of feed
- Assess what feed you have and suitability for target animals
- Price and availability of feed if it must be purchased
- Should I sell some hay and purchase grain
  - Grain is often cheaper on a per MJ basis
- Do I have adequate feed to feed into winter particularly if a late break occurs
- Do I have the means to process grain for cattle and infrastructure to feed it out.
- Are commercial pellets an option
- Do I need to supplementary feed or fully hand feed

Why do a Feed Budget

- How much feed will I need and the cost
- Feed costs can take years to recoup from
- Know what each class of stock require
- Assess paddock feed available
- Determine what is needed and match to feed reserves on hand or what will be required to purchase in
- Forecast for the coming months
- Am I better to sell

Feed Costs?????

WHAT WOULD IT COST TO FULLY HAND FEED A 550KG COW FROM THE 1ST OF DECEMBER TO THE 31ST OF JULY WITH HAY TO FULLY MEET HER MAINTENACE ENERGY REQUIRMENTS ASSUMING NO PASTURE IS AVAILABLE?

Maintenance Requirements of Cattle

Table 3. Nutrient requirements of breeding cattle

Liveweight	Daily gain (Kg)	Daily requirements			
		Energy MJ ME	Protein (g)	Calcium (g)	Phosphorus (g)
Pregnant heifers – Last third of pregnancy					
350	0.4	62	616	20	15
400	0.4	67	664	22	16
450	0.4	72	710	23	18
Dry pregnant mature cow – Last third of pregnancy					
350	0.0	50	478	12	12
350	0.4	61	609	20	15
400	0.0	59	525	13	13
400	0.4	67	657	22	16
450	0.0	60	570	15	15
450	0.4	72	703	23	18
500	0.0	65	614	17	17
500	0.4	77	746	25	20
550	0.0	70	657	18	18
550	0.4	82	790	26	21
Lactating heifers – Calf up to four months old					
350	0.2	76	866	27	19
400	0.2	82	916	28	20
450	0.2	88	963	29	22
Lactating mature – Calf up to four months old					
350	0.0	69	814	23	18
400	0.0	75	864	25	19
450	0.0	80	911	26	21
500	0.0	85	957	28	22
550	0.0	90	1,001	29	24
Bulls					
500	0.4	86	779	23	19
600	0.4	95	857	25	22
750	0.4	108	942	26	25
800	0.0	95	882	27	27

Feed Budgeting – Cow Example

Feeding Period Full Hand Feeding Cows: 1st December to 31 July 243 days of feeding

550 kg Autumn Calving Cows with no paddock feed available

120 days from calving 70 MJ/day= 90 days

Lactating cow 90 MJ/day (March onwards) = 153 days

Good quality hay 9.5 MJ

- 7.4 kg/DM/day pre calving to meet energy requirements (total 666 kg/DM for 90 days)
- 9.5 kg/DM/day post calving to meet energy requirements (total 1453.5 kg/DM for 153 days)

Total 2119.5 kg DM = 2119.5 x 100/90 = 2355 kg of hay as fed

Assume good quality hay at $200/t = cost $471 to feed each cow for the 243 day period

Feed Budgeting – Cow Example

- No fuel or labour costs have been included
- No allowance has been made of the feed outside of milk for a calf to 5 months of age
- Partial supplementary requirements outside of this period have not been considered
- The potential income lost from selling pregnant cows has not been factored in but neither has the cost to produce a weaner calf
- Reality is many people do not feed cattle to requirements and cattle tend to suffer most in a drought

Maintenance Requirements of Ewes to Maintain CS 3

TABLE 1a. Energy Required by Ewes @ Condition Score 3 to maintain weight

Maintenance energy (MJ/d) for ewes under drought paddock conditions							Confinement Fed	
Day of pregnancy	small frame (45kg) maintain @ CS 3 single	twin	medium frame (50kg) maintain @ CS 3 single	twin	large frame (60kg) maintain @ CS 3 single	twin	medium frame maintain @ CS 3 single	twin
dry	7.4	7.4	8.0	8.0	9.3	9.3	6.7	6.7
50	7.6	7.8	8.4	8.6	9.7	9.9	7.0	7.2
70	8.0	8.4	8.7	9.1	10.1	10.7	7.4	7.9
100	9.0	10.2	9.9	11.1	11.5	12.9	8.6	9.8
130	11.3	14.1	12.3	15.4	14.4	17.7	10.9	14.1
days lactating	maintain @ CS 3 single	twin	maintain @ CS 3 single	twin	maintain @ CS 3 single	twin	ewes and lambs	
10	17.3	21.7	18.7	23.4	21.5	26.9	ask for advice on confinement feeding ewes and lambs	
30	18.7	23.9	20.2	25.8	23.2	29.6		
50	15.5	19.1	16.7	20.6	19.2	23.7		

Feed Budgeting – Sheep Example

Partial Hand Feeding Period Ewe: 1st January to 30th April 120 days (4 months) of feeding. Ewe is lambing on 1st April and is a single bearing ewe

60 kg ewe mid pregnancy– 11.5 MJ/day (70 days)

60 kg ewe late pregnancy – 14.4 MJ/day (20days)

60 kg ewe early lactation – 21.5 MJ/day (30 days)

Feed Budgeting – Sheep Example

Dry pasture is providing 5 MJ/day (can work this out by FOO and NDF to predict intake)

Energy deficit of

- Mid pregnancy 6.5 MJ/day
- Late pregnancy 9.4 MJ/day
- Early lactation 16.5 MJ/day

Energy in barley is 12.5MJ/Kg DM

Amount of grain required

- Mid pregnancy = 6.5MJ/12.5 MJ =0.52 kg/h/day barley
- Late pregnancy = 9.4 MJ/12.5MJ = 0.75 kg/h/day barley
- Early lactation = 16.5 MJ/12.5 MJ = 1.3 kg/h/day barley

Feed Budgeting – Sheep Example

Mid pregnancy will need 36.4kg/DM barley for 1 ewe (70 days)
Late pregnancy will need 15 kg/DM barley for 1 ewe (20 days)
Early Lactation will need 39 kg/DM barley for 1 ewe (30 days)
Total of 90.4 kg /DM
Covert to as fed basis

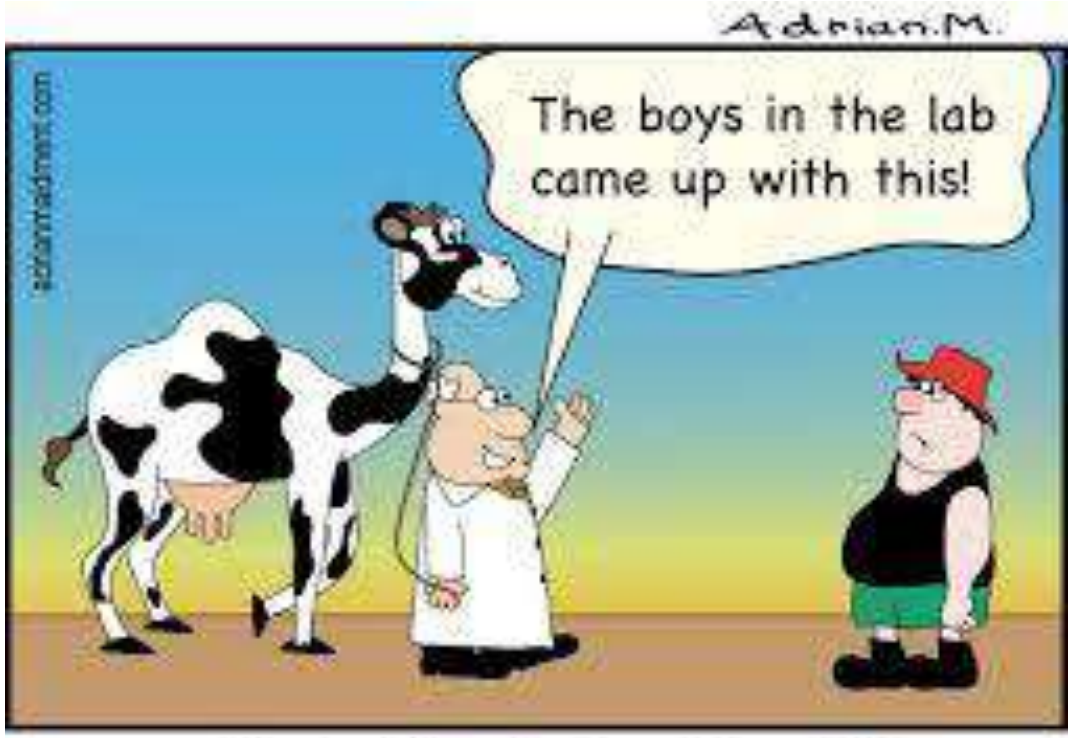
- 36.4 x 100/90 = 40.4 kg/head barley mid pregnancy
- 15 x 100/90 = 16.7 kg/head barley late pregnancy
- 39 x 100/90 = 43.3 kg/head barley early lactation

Need 100.4 kg barley as fed for 1 ewe for the 120 days
Assuming feed barley costs $250/t = $25.10 per ewe

Summary

- Every farm business is unique and so are the decisions
- Learn from your own and others experiences and find support – your not alone!
- Have a plan and make decisions early – don't just pray for rain!
- Seek advice if you don't know – don't wing it!
- Cost out decisions – feed bills can be crippling!
- Plan for recovery – it will rain again!
- Plan for the long term this is not the first drought and is likely not going to be the last

Thank you!



Solving farming in a drought?

sheep connect south australia