FACTSHEET

Guidance on extreme dry management

October 2021

This factsheet provides help and guidance on managing the effects of extreme dry, focusing particularly on feed requirements. It includes top line advice on the main factors to consider, plus references to sources of further information. First and foremost: **Don't delay. Plan. Prioritise.**

KEY AREA MANAGEMENT

The key areas of management during a period of extreme dry are: your overall business, feed supply, stock, and land management. Don't try to do everything at once; make it manageable. Set yourself short and long-term goals, starting with the areas of greatest need, e.g. feed supply and demand. The sooner you start managing the situation, the sooner you'll regain control.

Short term	Long term

1. BUSINESS

- Write a plan and inform staff
- Determine critical decision dates
- Consult accountant and bank regarding cash flow
- Consult staff re future management depending on length of dry period

2. FEED

Measure or estimate available feed and stock water. Decide how best to use it. Consider options:

- supplementary feed: if/what/when
- grazing off
- share farming
- Plan for longer periods of dry

3. STOCK

- Prioritise feed use
- Decide which stock to sell if required
- Rebuild stock units
- Decide whether to delay mating
- Consider body conditioning

4. LAND MANAGEMENT

- Check adequacy of shaded areas for stock
- Measure soil structure, soil loss
- Check for over grazing
- Plan for next year's production
- Consider sacrifice paddocks

BUSINESS

Write a plan so it can be shared and acted upon by everyone involved in your business. Include dates by which key decisions need to be made.

Don't just keep it all in your head. Staff and family are all facing the challenges a period of extreme dry delivers. Involving them in the management plan can help them make a contribution, feel valued and give you valuable support.

If the dry persists, include the financial impacts on your cashflow in the management plan. Consult your accountant and bank manager proactively, and keep them informed.

FEED

Measure how much feed is available. Be conservative as feed is likely to be of a lower quality than normal. Include all sources of available feed, such as hay, silage, baleage and grain. Consider forecasted grass growth. Construct a simple feed budget and review it regularly, i.e. weekly. Also compare it to your financial budget and adjust your expenditure accordingly. Be realistic. Completing a cash flow will help you allocate extra money to products you need or other options you have highlighted, e.g. off-farm grazing. You may need to sit down with your bank manager or accountant to complete this, or at least keep them informed.

You might find it useful to ask yourself these questions:

- How long will the feed in each paddock last?
- What is the order of priority for paddocks according to quality and lasting ability?
- Which mob should be allocated to which paddock?
- Which classes of stock can afford to lose weight?
- What supplement feed do I have?
- How much supplement needs to be added to make the paddock last the required time?
- What am I going to do about any deficit?

If feed supply is not going to meet demand, consider the following options:

- Supplementary feed: a simple way to overcome feed deficit, with the benefits usually outweighing the cost. Your local farm supply store will have the most up-to-date information, particularly on supply and pricing
- Grazing off: the earlier the better to gain greatest benefit. Farmer networks are particularly helpful here, including your stock agent

Remember to consider water availability for stock as well as feed. Water stress is just as crucial to animal performance as feed intake.

Always plan for the worst case scenario.

SUPPLEMENTARY FEED OPTIONS

Grain feeding

Introduce grain slowly (25-50 grams per day) and increase gradually to give the rumen time to adjust. It is recommended supplementary grain feed rates do not exceed 30%. This is because sheep will often gorge themselves if they are introduced to grain suddenly, particularly when they are hungry. If sheep over-eat, bacteria in the rumen ferment the grain into strong acids, eventually causing metabolic acidosis which can result in toxic shock and death. The smaller the grain particle, the more rapidly this occurs so take care when using smaller and crushed grains. To help prevent this from happening, it is important sheep have access to other feed, especially hay or pasture. This helps ensure sheep continue to chew their cud preventing a build-up of acid in the rumen. So keep an eye on stock when new feeds are introduced.

Table 1: Typical grain feed values

Grain type	%DM	ME concentration (MJ ME/kg DM)
Wheat	86	13.5
Barley	85	13.1
Oats	86	12.0
Maize meal	86	13.9

The above table presents the average %DM and ME concentration for the most commonly used grain feeds. For precise feed planning, we recommend you obtain test results for your own grain on hand.

PKE (palm kernel extract)

PKE should also be introduced slowly, and not exceed a feed rate of 30% for ewes and 20% for lambs. While it is a safer feed than grain, sheep need to retain access to fibre in order to chew their cud. Straw, hay or pastures remain the best options. A concern with PKE is the high copper content. PKE typically contains 20–30mg/kg DM while copper levels in New Zealand pastures range between 3.5–18kg/kg DM. Sheep cannot excrete copper, so it accumulates in the liver and is released into the blood stream when the animal is placed under stress. Excess copper causes tissue damage and kills red blood cells, with death often the only symptom.

Sheep nuts

Sheep nuts are typically more expensive than PKE, but can be fed straight onto the paddock with minimum wastage. They also contain a full range of minerals and have a high metabolisable energy (ME).

Hay and silage

The value of hay and silage varies dramatically as, when harvesting, decisions have to be made between high quality, therefore low yield or low quality and a higher yield. Hay and silages are usually very high in fibre and low in protein. When feeding hay or silage the higher the value (high quality pasture and good fermentation), the higher the productive gains. Pit silage made from semi-wilted pasture usually has a DM content of 30-35%, with a cubic meter containing 160–200kg DM. Fully-wilted pasture cut for silage usually has a DM content of 18%. Hay from pasture usually has a DM content of 80-85%, with a 500kg bale having up to 420kgs of DM. Neither of these feeds needs to be introduced as slowly as other supplements, but it's worth taking some time increasing the amount gradually.

Feed storage

When buying in feed, make sure you store it correctly as poor storage leads to extra problems at a time when you can least afford them. Mouldy hay and grain and poor quality silage can cause listeria, fungal infections, nitrate poisoning and metabolic disease.

FEED REQUIREMENTS—SHEEP

Table 2: Estimated energy intake requirements of pregnant ewes MJME/hd/d (divide by 11 to get approximate Dry Matter Intake requirement in kgDM/hd/d).

	Single Ewe			Twin Ewe			Triplet Ewe		
Day of Pregnancy	**55kg**	**65kg**	**75kg**	**55kg**	**65kg**	**75kg**	**55kg**	**65kg**	**75kg**
30 days	10.1	11.4	12.7	10.1	11.4	12.7	10.1	11.4	12.7
60 days	10.1	11.4	12.7	10.1	11.4	12.7	10.1	11.4	12.7
100 days	12.4	13.7	15.0	14.1	15.5	16.8	15.4	16.7	18.0
120 days	13.6	14.9	16.3	16.0	17.3	18.6	17.1	18.4	19.7
130 days	14.6	16.0	17.3	17.6	18.9	20.3	19.0	20.4	21.7
140 days	15.9	17.2	18.5	19.8	21.1	22.4	21.8	23.1	24.4
Lambing date	17.1	18.4	19.7	21.9	23.3	24.6	24.5	25.9	27.2

Day of Pregnancy

Use the FeedSmart app **www.feedsmart.co.nz** to calculate feed requirements

NB: Note that in late pregnancy a triplet ewe is unlikely to be able to consume sufficient grass to meet her requirements and will lose condition over this period.

FEED REQUIREMENTS—BEEF COWS

Table 3: Estimated Dry Matter Intake requirements of beef cows (based on a 450kg cow).

A = up to day 150 of pregnancy B = day 150 to term

Low= 8.5MJ ME Medium = 10 High = 11.5

Feed quality	Easy		Steep		Feedlot	
	A	**B**	**A**	**B**	**A**	**B**
Low	8.4	8.9	10.4	10.9	7.6	8.1
Medium	6.9	7.3	8.6	9.0	6.2	6.6
High	5.7	6.1	7.2	7.6	5.2	5.5

Values in kg DM/cow/d are the average for each whole period and adjusted for trampling losses. Add 15% for adult bulls.

Source: Australian Feeding Standards (1994)

Feed tables serve as a guide to estimate feed requirements of stock. For more accurate figures, Beef + Lamb New Zealand recommend you use the FeedSmart app—**www.feedsmart.co.nz**.

STOCK

Prioritise feed demand and supply. Feed demand is reduced by selling stock, with early decisions often proving less costly. The main advantages of improving cashflow and reducing feed demand need to be weighed up against the disadvantages of reducing capital stock. Animal welfare is also important, plus a lack of feed or water makes animals more susceptible to other disorders, i.e. worms.

Decision dates and setting priorities are critical, e.g. if it doesn't rain by the 20th, sell R2 cattle. A suggested priority for de-stocking:

1. Prime animals
2. Store stock, including calves and lambs
3. Capital stock, e.g. cows and ewes
4. Cattle versus sheep—cattle generally trade easier than sheep during these times

Longer term, reducing body condition scoring to maximise feed supply can be considered but requires careful monitoring. Another option is to delay mating, although the long term effect on lamb production needs to be taken into account. A combination of these options might best suit your business.

LAND MANAGEMENT

Review the adequacy of water supply and shaded areas for stock. If in an area often affected by extended dry periods, increasing shaded areas should be included in the long term management plan. Dry periods, and/or their effects, can span more than one season, i.e. an autumn drought can seriously impact on the following lamb crop. You may need to sacrifice paddocks to avoid over-grazing and reduce the impact on the following year's pasture production.

Soil structure, fertility, and therefore stability, are at risk as moisture levels reduce. Soil loss can also occur with reduced organic matter and increased exposure to wind. Consider re-balancing soil nutrients.

The effects of the dry are felt even after it's started raining, particularly if the rain is short-lived and insubstantial. It pays to stay vigilant long after the rain clouds re-appear.

FURTHER SUPPORT AND INFORMATION

General enquiries:
B+LNZ Extension Manager: 027 489 7343
Federated Farmers: 0800 376 844
Rural Support Trust: 0800 787 254

Weather forecasts:
MetService: www.metservice.com,
3 and 5 day Rain Radar
WeatherWatch: www.weatherwatch.co.nz
NIWA: www.niwa.co.nz

Animal welfare issues:
Ministry for Primary Industries: 0800 00 83 33
New Zealand Veterinary Association: 04 471 0484

Financial assistance:
Work and Income: 0800 559 009

Counselling:
Lifeline: 0800 543 354
Depression helpline: 0800 111 757

Don't forget your local farm suppliers, vets, consultants and bankers are also useful contacts. They have the best local knowledge and ideas to try and help you through these tough times.

B+LNZ RESOURCES

There are fantastic resources to help with your decisions - from Business Planning and Feed Management, through to Livestock health & welfare.

Visit: www.knowledgehub.co.nz

Pasture Growth Forecaster
https://pasture.farmax.co.nz/pasture/BeefLambNZ

OTHER RESOURCES

Scandrett Rural feed budget
farmingsheep.co.nz/wp-content/uploads/2010/12/Scandrett-Rural-Ltd-Feed-Budget-Spreadsheet-pdf.pdf

FeedSmart
www.feedsmart.co.nz

ANZ cash flow forecaster
bizhub.anz.co.nz/resources/cash-flow-forecast-calculator.aspx?title=bntoolsandcalculators

Beef + Lamb New Zealand also runs Delivery Ready Workshops relevant to managing an extreme dry period. These include: Feed Budgeting, Body Condition Scoring, Land and Environment Planning. Contact your region's Extension Manager or call 0800 233 352 for information.

First published March 2014.