

Full hand feeding of sheep – management

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Carefully consider the options available when coming into a drought. Keep in mind that the number of options available generally decreases as the drought progresses.

Making a decision about drought strategies will require assumptions to be made about drought length, stock prices and feed costs. Always use the best available information to support these assumptions and when new information becomes available use this to re-evaluate your current plan.

It is essential that a series of budgets be developed ranging from the best case to the worst case scenario so that the most cost effective strategy can be chosen. Keep in mind that under-estimating drought length will usually be a more costly mistake than an overestimate because of the different strategies that would be employed.

Stock culling priorities

Reducing sheep numbers is the simplest way of making the available feed go further. If you are forced to sell stock because of drought, there are provisions to allow income, for tax purposes, to be carried forward into the next financial year. Contact the Tax Office or your accountant for details.

As the drought progresses, it is probably worth keeping only the most productive sheep, that is, those that you anticipate will contribute greatest to cash flow following the drought.

Following is a list of priorities for the disposal of sheep:

- all unthrifty sheep and sheep in poor health including those with conformation faults (for example, poor mouths and feet, and damaged udders) diseased sheep and cull weaners;

- wethers and aged ewes;
- dry ewes;
- weaners;
- quality breeding stock.

Good-quality breeding ewes and rams are the most valuable sheep at the end of the drought. This group will need special care if breeding programs are to be maintained.

Making hard decisions and selling stock while they are in good condition minimises the difference between selling price and buy-in price after the drought.

Supplementary feeding

Feeding in dry spells will often start well before it is clear that drought has arrived. During these periods, stock are fed to supplement the pasture while still available.

The types and quantities of supplement will vary according to the current condition of the stock, the quantity and quality of pasture still available and the production target set for these animals.

It is clear, though, that efficient supplementation requires that the balance between energy and protein intake be maintained.

Efficient formulation of appropriate supplements can be done using the GrazFeed™ computer decision support tool developed by CSIRO. This can be accessed directly from Horizon Technology at www.hzn.com.au.

When to start feeding

Table 1 shows the minimum liveweight for various types of sheep (based on frame size) at which dry sheep should not be at risk. These

weights should ensure that sheep are maintained at a fat score of 1.

Note that if fat score 1 is set as the target, then the lightest, worst-conditioned animals in the mob may need to be separated and fed earlier than for the average.

Productive sheep (breeding ewes) should be maintained above these weights. Fat scores in the range of 2–3 (especially if sheep are pregnant or exposed to cold conditions) should be the minimum objective.

Start feeding when the sheep are at least 3–4 kg above the desired maintenance weight to allow for additional weight loss during grain introduction.

In practice, feeding is likely to have started as part of a supplementary feeding phase as the property moves towards drought, ensuring sheep weights are well above those indicated in Table 1.

If a long period of cold weather is anticipated, set target weights 5 kg heavier to allow a greater safety margin.

Table 1. Minimum liveweight for shorn adult sheep in drought

Animal Class	Minimum liveweight (kg)
South Australian merino, crossbreeds, British breeds (65 kg at 3 fat score)	50
Peppin-type merino and large frame fine wool merino (55 kg at 3 fat score)	40
Smaller framed fine and superfine wool merino (45 kg at 3 fat score)	35

NB. These minimum weights represent the weight of these animals in fat score 1.

Training sheep to feed

It is good practice to include in the mob some sheep that have been fed previously. This encourages the inexperienced sheep to feed. Untrained sheep are best educated in small paddocks.

Start by scattering a highly palatable fodder such as lucerne or clover hay to encourage sheep to start feeding. Holding sheep near to the feed may also be necessary.

Do not feed the sheep again until most of the hay is eaten. When the sheep are readily eating the hay, introduce a small quantity of grain (see

Table 1 in Primefact 346 *Full hand feeding of sheep – feeding management*).

A general policy of educating lambs to grain feeding prior to weaning (even in good years) will eliminate the often laborious and time-consuming task of starting sheep to feed.

Lambs who see their mothers eating from a grain trail will more readily adapt to hand feeding, even if some years pass before they are fed again.

Just 3–4 feeds with their mothers with the grains most likely to be fed at some time in the future will be sufficient.

Monitoring the feeding program

Woolly sheep often look in much better condition than they really are. The weight of animals alone ignores the fact that sheep can be heavy because of large frame size but may carry little in the way of fat reserves.

Manually assessing fat score helps to put the liveweight into the context of a fat score target. Changes in fat score and liveweight provide an objective method to determine the adequacy of existing feeding levels.

Feeding decisions based on fat scoring and liveweights will ensure more efficient use of feed.

Monitor a small portion of the mob on a regular basis. Fat scoring and weighing 50 sheep from a mob of 500 will be sufficient to find if there has been a change within the mob.

It is important that these sheep be identified and the same sheep assessed on each occasion. Refer to Primefact 302 *Fat scoring sheep and lambs*, for more information on the technique of fat scoring.

Pregnant ewes

Special attention needs to be given to the nutrition of pregnant ewes if mortalities are to be prevented.

To ensure adequate lamb birth weights and ewe mothering ability, pregnant ewes should be at least fat score 2 throughout pregnancy and preferably 3 score.

Although placental development takes place in the first three months of pregnancy, ewes will be adequately maintained with a ration suitable for a dry sheep of the same weight.

Growth of the foetal lamb accelerates during the final 6 weeks of pregnancy and the feeding rate needs to be increased accordingly.

The total increase in weight of the conceptus (including the foetus) during the last 6 weeks of pregnancy amounts to about 10 kg for ewes with a single lamb and more with twins.

Ewes need to increase their gross liveweight by this amount during the period if they are to maintain their own body condition.

Lamb birth weights of over 3.5 kg are needed to ensure good survival rates. Under-nutrition during late pregnancy reduces mothering instincts of ewes. In these circumstances, it is common to see ewes abandoning their lambs shortly after birth.

Splitting mobs into early and late lambers or according to twins and singles will enable more precise feeding and will potentially save on the cost of feed.

Lambing management

Good management in later pregnancy is still no guarantee of having live lambs at weaning. It is imperative that the increased feed requirements after lambing are also provided to enable good lactation and lamb survival.

The main causes of lamb deaths during drought are usually a combination of two or more of the following:

- mismothering
- starvation
- exposure
- delayed or difficult birth.

It is generally recommended that dry sheep be concentrated into smaller paddocks or feedlots for drought feeding; however the opposite is true for lambing. High stock densities can lead to mismothering.

A maximum stocking density of 18 ewes per hectare is a reasonable guide for a mixed mob containing single and twin-bearing ewes; and 10 ewes per hectare for twin bearers.

Select lambing paddocks well before lambing starts. Concentrating dry and pregnant stock onto smaller areas will allow lambing paddocks to be locked up early, which may save some pasture for lambing. At best this may avoid hand feeding during lambing so reducing the risk of excessive levels of mismothering.

Generally it is the less vigorous lambs which tend to be mismothered. Adequate feeding during the pre-lambing period can reduce this. Use self-feeders to reduce mismothering. Daily feeding also helps to

reduce the problem. Feeding in the early afternoon is the preferred time as it reduces the risk of mismothering.

Paddock selection and mob sizes are important factors influencing mismothering. Emphasis should be on small mobs in small paddocks, with paddocks free of dense or fallen timber and gullies

Ewes and lambs

After lambing, the dietary requirements for energy and protein increase dramatically. While grain alone is satisfactory for dry and pregnant animals, roughage is needed to ensure better milk production from ewes. It is wise to save your best quality hay for lactation.

Lamb survival and growth are improved if there is at least 20% good-quality hay in a grain-based diet.

Silage can also be used as a roughage source. Silage is used successfully for all classes of sheep, and for a broad range of production levels.

Unfortunately, silage is seldom economic to transport due to the high moisture content. Chop length of silage is important as sheep intake of silage will be reduced significantly if chop length is too long. Use precision chop harvesting equipment when making silage for sheep.

If oat grain is the chosen feed, its high fibre content is likely to be sufficient without additional hay. However oats are often below 10% crude protein and it is important that diets for lactating ewes contain at least 12% crude protein.

Maintain lamb growth rates above 100 g a day for lambs from smaller framed ewes and 150 g a day for large-frame types to improve survival rates.

The nutritional requirements for lactating ewes are described in Table 1 of Primefact 347 *Full hand feeding of sheep – quantities*.

Mismothering of lambs during drought feeding is a serious problem. (See the section above, 'Lambing management'.)

Weaning

Lambs should be fed grain and hay supplements while they are still on their mothers. If lambs are not 'trained', it will take up to 3 weeks to bring weaners onto adequate quantities of hay or grain; during that time, substantial weight loss and deaths may occur.

Weaners require high quality rations but have relatively low intake. Weaning lambs early can

achieve more efficient use of limited feed resources.

Early weaning will also maintain higher ewe condition, increasing conception rates at the next joining.

Lambs can be weaned successfully if they are a minimum of 8 kg and are at least 8 weeks of age.

Weaners

Weaners' weight gain should be enough to achieve 20–25 kg by 6 months of age depending on frame size.

Once weaners reach this weight it is acceptable to reduce feeding rates to maintain this weight but a modest weight gain is preferable.

Incorporate roughage into weaner diets early in the post-weaning phase. Use high-quality hay comprising at least 20% of the ration.

Young sheep have a higher need for protein than older dry ewes and wethers.

Consider finishing prime lamb weaners through a feedlot. A realistic budget is the first step in this process as it may be more profitable to sell the lambs as stores and retain valuable feed supplies for other stock.

Shearing

There is no need to change the time of shearing during a drought, although it may be advantageous to shear cull sheep before selling.

If forced to shear twice in one financial year due to drought, tax provisions exist to allow this income to be carried forward into the next financial year. Contact the Tax Office or your accountant for details.

When shearing, take into consideration how long the sheep will be without feed. Minimise stress associated with shearing especially for pregnant ewes.

Sheep need more feed after shearing; and more frequent feeding may be required. If extra feed is needed, good quality hay is the best alternative as it avoids digestive upsets.

Make provision for shelter after shearing. Off-shears losses during drought can be severe. Provide shelter as all sheep are at risk from exposure.

Shelter sheds, sheep coats and sheltered paddocks are all options to reduce the risk. A well-sheltered paddock provides protection from the high risk winds.

The ideal paddock has a north or north-easterly slope with no exposed hills, and timbered to reduce the wind speed. Sheep are less affected by chill with increased wool growth. The effect of chill is minimal once wool length is 3 cm.

Shy feeders

A variable proportion of sheep and lambs will not adapt to drought feeding. The proportion depends on age, previous feeding history, ration, feeding frequency and mob size, but up to 10% is not uncommon.

Remove and feed shy feeders separately.

Treated in this way some of the shy feeders will eventually eat the ration. Those that don't can be fed with good-quality hay or pasture (if available) or sold.

When the drought breaks

Often the heaviest sheep losses are sustained during the period immediately following drought-breaking rain.

Prolonged wet conditions turn sheep off their feed and grain being fed on the ground may largely be wasted. Also as soon as the first green pick emerges, sheep will often chase this and go off their ration. It is essential that sheep be kept confined to the restricted feeding areas until adequate pasture is available. At that point, allow increasing grazing time each day until full grazing is provided after 6–7 days.

Allowing immediate full grazing can lead to digestive disorders.

Further information

The NSW Department of Primary Industries website has a wealth of information available at www.dpi.nsw.gov.au/drought

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