

tips & tools

FEEDBASE & PASTURES



Looking after drought pastures

Droughts and dry seasons frequently affect southern Australia, resulting in forage shortages and subsequent pasture stress. Careful management during drought, can ensure that pastures survive, recover well and remain relatively weed free.

Tactics

Late autumn break

Continue summer tactics until there is sufficient rain to germinate plants and ensure survival into the growing season (a season break).

After the season break

Remove stock from pastures after they have been grazed down to 1,000kg DM/ha (kilograms of total dry plant matter per hectare). Use stock containment areas or sacrifice paddocks to defer grazing until most pastures have grown to at least 1,500kg DM/ha. Sacrifice paddocks contain low value or degraded pastures sacrificed to save priority paddocks from overgrazing by livestock.

Move animals frequently to protect new pasture from overgrazing.

In late winter, consider nitrogen fertiliser to promote extra growth, but only to highly moist, responsive paddocks (high fertility status and productive responsive species). Typical response time is 4–6 weeks and is about half the cost of grain feeding.

Dry conditions spring/early summer

Allow grasses to set seed by reducing grazing pressure or de-stocking. Plants use up surplus energy reserves when they try to complete their life cycle during heavy grazing. Plant losses are often greatest in seasons only slightly drier than normal. Rainfall can be sufficient for plant growth, but may not be enough to replenish energy reserves.

Summer/early autumn drought

Maintain pastures at 1,500–2,000kg DM/ha to ensure their energy reserves are built-up to survive through the

Key benefits

- Management when a break occurs can make a significant difference to subsequent pasture production.
- Management tactics can avoid potential problems with pasture survival, recovery and composition.

summer–autumn period. Preserve seed reserves of annual legume pastures (sub-clover and medic) by not overgrazing, as a sufficient seed bank will often allow them to thrive in bare-soil conditions after drought.

After the drought breaks

Continue feeding on a stock containment area or sacrifice paddock for 4–6 weeks to allow pasture to grow to 1,500kg DM/ha before grazing.

Management options

During extended dry conditions

Perennial species are likely to suffer considerable reductions in plant numbers. Phalaris (particularly Australian varieties) has outstanding drought survival, provides valuable feed and minimises soil erosion. It needs careful management where fertility is low and/or rainfall marginal. Cocksfoot and tall fescue are moderately tolerant of drought. Perennial ryegrass is least tolerant.

Annual grasses generally decline after a drought when heavy grazing through spring and summer reduces seed-set and when germination is reduced due to a lack of surface ground cover in autumn. Annual broadleaf weeds (capeweed, thistles, Paterson's curse and crow foot) are opportunistic colonisers, germinate in the bare ground and thrive on the reduced competition.

Reinvigorating pastures

Weeds may form a substantial proportion of a post-drought pasture and the available stockfeed so care needs

to be taken in any decision to control them. Rotational grazing to force animals to graze emerging weeds is a useful way to control them.

Insects such as cockchafers and red-legged earth mites are likely to cause problems to desirable pasture species when there is little else around for them to attack.

Soil nutrient status (P and N) can be relatively high due to the dry conditions and residual nutrients from past fertiliser applications. This often results in strong post-drought pasture growth.

Fodder crops can be sown to quickly provide forage while pastures recover (eg wheat sown in summer).

Resowing

Previously poor pastures/sacrifice paddocks – droughts provide an opportunity for sowing improved pastures, with ground usually bare, sward density reduced and stock numbers possibly lower. A wait of six weeks after the break may be necessary for weed germination and control.

Previously good pastures – even though some species will have declined during drought, pasture productivity will not necessarily fail, provided the pasture has not been overgrazed. Delaying a decision for up to two years may provide time to gauge the true impact and allow some species (such as perennial ryegrass) to thicken up from seed produced in the post-drought year.

Grazing

Pasture damage has been done by the time animals lose condition. Rotational grazing enables assessment of the forage-on-offer in the next grazing paddock. Rotational grazing of boxed mobs ensures some pasture rest, avoids patch grazing and helps control emerging weeds.

Feeding stock in containment areas (fenced areas used to hold stock while lot or supplementary feeding) or sacrifice paddocks prevents pasture damage.

Plant facts

Dry conditions cause slower pasture growth and therefore, plants are subjected to more frequent grazing, depleting their reserves and increasing death by starvation. Plant

losses are greatest when grazing stress combines with dry conditions, which severely tests plant persistence.

Severe drought conditions can induce complete plant dormancy as a natural mechanism to conserve energy. Improve plant survival by leaving stubble on plants to surround their growing points.

Perennial grasses rely on survival of existing plants, as re-establishment from seed is difficult, slow and often expensive. Legumes that die out in dry seasons tend to recover more easily from seed when rain falls.

Species facts

Perennial ryegrass survives dry summers via dormant tillers. False breaks stimulate dormant buds to grow. Grazing during this time is detrimental to new tillers and can kill them and the plant.

Cocksfoot is most susceptible to dry spring-summer periods. If grazed below 1,000kg DM/ha at this time the plant is weakened and can die.

Phalaris can maintain good plant density and regrowth potential during dry springs, provided pastures are not subjected to repeated heavy grazing (below 1,500kg DM/ha). Phalaris survives dry summers via dormant underground buds. False breaks can stimulate these buds and grazing this fresh growth often results in death of these buds. In the year following drought, allow phalaris to flower and set seed to ensure energy reserves in underground buds are replenished.

Tall fescue has high regrowth potential after drought, provided pasture has been maintained above 1,500kg DM/ha. Regrowth is reduced where grazing pressure has taken pastures to less than 1,000kg DM/ha.

Native grasses often survive drought by retaining a minimal leaf area. For larger native grasses, aim for 1,000kg DM/ha or more, while smaller tussock plants such as wallaby grasses can survive at 500kg DM/ha. Reduce grazing frequency to protect the leaf and increase individual plant survival. A seed bank will enable seedling establishment when adequate rainfall is received. Microlaena, in particular, is quick to respond to rain.

Acknowledgments

David Kemp, Charles Sturt University, Orange
Kathy Junor, editor

Further information

This *Tips & Tools* is one in a series on grazing management that provides best practice pasture management information. The *Towards sustainable grazing* booklet can be purchased from MLA. Other relevant *Tips & Tools* can be found at www.mla.com.au under Information Centre.

For further assistance, contact your local pasture or livestock advisor.



Level 1, 165 Walker Street
North Sydney NSW 2060
Ph: 02 9463 9333
Fax: 02 9463 9393
www.mla.com.au

Reprinted October 2006
ISBN: 1 74191 0668
© Meat & Livestock Australia
ABN 39 081 678 364