mla MEAT & LIVESTOCK AUSTRALIA

tips&tools

FEEDBASE & PASTURES

LPI 678

Managing annual grasses to boost pasture production

Silver grass or rat tail fescue (*Vulpia*), barley grass (*Hordeum*) and brome grass (*Bromus*) are problem annual grasses of significance in southern Australia. While they provide valuable autumn and winter feed, their palatability and nutrition declines rapidly in spring, reducing pasture productivity. In addition, their seed causes vegetable fault in wool and damage to the hide, eyes and mouth of livestock. These recommendations are applicable to annual grasses in perennial grass-based pastures.

Key benefits

- Apply grazing management tactics in perennial dominant pastures by season to reduce problem annual grasses.
- Consider the characteristics of annual grasses when implementing grazing management tactics.

Tactics for target paddocks

Autumn

Maintain pastures above 1,500kg DM/ha (kilograms of total dry plant matter per hectare) and morer than 80% groundcover to reduce the germination of annual grass weeds. Apply fertiliser and possibly lime, according to soil tests to boost the vigour of desirable perennial species.

Winter

Defer grazing (no stock) or reduce stocking pressure to decrease tillering of annual grasses and encourage more erect growth. Fewer tillers mean fewer seed heads per plant, thereby reducing potential seed-set, particularly for barley grass. More upright erect growth enhances susceptibility to grazing.

Spring

If annual grasses dominate the paddock use short-term, high-density grazing to remove developing seed heads, reduce seed-set and encourage increased flowering and seed production in legumes. In phalaris dominant pastures use caution when imposing short-term, high-density grazing as this may result in reduce basal area in some varieties (see Tips and Tools on phalaris).

In some seasons such as a wet spring, a second phase of short-term, high-density grazing may be required. Defer grazing for 2–3 weeks before starting this tactic. Take care with high density grazing to ensure that livestock don't damage the more desirable perennial grasses.

Use spray-topping or make silage as alternative methods to reduce annual grasses seeding.

Defer grazing for 10–12 weeks to allow desirable perennial grasses to become dominant and set seed.

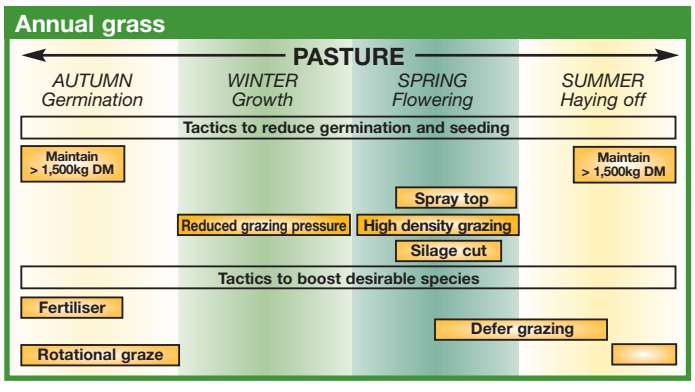
If spray-topping defer grazing for 2–3 weeks before spraying to coordinate the 'heading' of annual grasses.

Summer

Graze conservatively to maintain pastures above 1,500kg DM/ha, and greater than 80% ground cover by autumn. This helps suppress the germination and establishment of annual grass weed seedlings.

Management tips

Reduce seed production of annual grasses by using combinations of herbicides, grazing management and mechanical control methods such as making silage.



Reduce germination by maintaining a vigorous and competitive pasture with greater than 1,500kg DM/ha and more than 80% groundcover, especially in autumn. Haymaking can spread the annual grass seeds and encourage infestation.

As a starting point, pastures need to contain a minimum percentage of desirable species (such as more than 20% perennial grasses and 20% legumes) to compete with and eventually replace the weed. Pasture improvement tactics such as light rotational grazing, fertiliser and deferred grazing are required to achieve weed replacement.

Severely degraded pastures with few desirable species may need to be completely re-sown.

Herbicide-based control tactics including spray-topping and winter cleaning must always be used in conjunction with other management inputs or annual weed grasses will quickly regain dominance. Spray-topping or silage can reduce clover production in the short-term.

Legumes can be encouraged by increased pasture utilisation once annual grasses have been reduced to an acceptable level and ground cover of perennial grasses has been increased.

Grazing management

Care needs to be taken with high density grazing to prevent damage of desirable perennial grasses by stock. The high density grazing required for removal of annual grass seed heads in spring may not be possible in large paddocks. Reduce paddock size through subdivision or use spray-topping or cut silage as alternative techniques.

Avoid overgrazing as it creates gaps in pasture cover that allows water, nutrients and light for annual grasses to germinate and establish.

Some annual grass weed control methods such as winter cleaning can reduce feed availability, as the annual grasses often contribute a significant portion of the pasture feed, particularly in winter. Only apply winter cleaning in paddocks with a good base of desirable species and the potential for rapid recovery.

Acknowledgments

Jeff Burton, CRC for Australian Weed Management, Orange; Peter Dowling, NSW Agriculture; Kathy Junor, editor

Plant facts

Annual grasses include silver grass, barley grass and brome grasses. The features of annual grassy weeds include:

- Low palatability to livestock in spring and summer
- Enormous seed production, for example, silver grass produces up to 500,000 seeds/m^2
- Seeds can remain viable in the soil for at least three years
- Seeds cause vegetable fault and damage to the hide, eyes and mouth of livestock
- Grasses are opportunistic and very competitive and can dominate poorly managed pastures that lack competitive perennial grasses
- Tolerate shallow and low fertility soils (particularly silver grass), and thrive on fertile soils that lack competition from perennials
- Depend on seed-set for next year's growth, so management should aim to reduce seed production, reduce conditions that favour germination and provide strong competition from perennial pasture species in autumn
- Mainly germinate in autumn, but can also capitalise on favourable conditions and bare ground at other times of the year
- Are valuable forage plants during autumn and winter, producing nutritious feed
- Flowering occurs rapidly in spring resulting in the plant becoming less palatable and nutritious to grazing livestock

Glossary

Target paddock: A paddock selected for dedicated weed control tactics over 1–2 years.

kg DM/ha: Kilograms of total dry plant matter per hectare.

Defer grazing: No stock grazing in paddock.

High density grazing: Short term grazing (1–7 days) with high numbers of stock aiming at quick removal of dry matter.

Further information

For further assistance, contact your local pasture or livestock advisor or go to www.mla.com.au/publications to search for other MLA publications on grazing and pasture management.

MEAT & LIVESTOCK AUSTRALIA

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

Reprinted February 2007 ISBN: 1 74036 881 9