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Forage Crops

Fact Sheet series for the Small Rural Landholder

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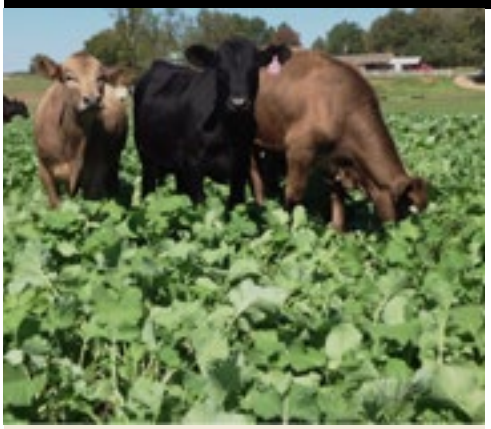

Beef cattle grazing brassica

The Issue

The challenge of any grazing enterprise is to meet the nutritional needs of all livestock so they achieve their optimum growth and production rates throughout the year.

Growing feed in the spring is normally straight forward enough with adequate moisture available and warmer temperatures.

However, there are other 'feed gaps' throughout the year when it is either too cold or too dry for a typical pasture to produce sufficient feed for our animals.

Implementing a forage cropping system on your farm can help manage the risk of seasonal feed gaps and stabilise animal production targets.

Introduction

Forage (or fodder) crops have the potential to strategically fill seasonal feed gaps in livestock grazing systems. They can help to reduce reliance on hay and silage for supplementary feeding.

Some of these crops may also be grown specifically to make hay or silage for fodder conservation when pasture availability is low.

The forage crops referred to in this note will normally be more successful in those areas of Victoria suited to perennial pastures, i.e. regions with a reliable expectation of annual rainfall greater than 500mm, or, with access to irrigation water during the summer months.

Forage Crops and Pasture Renovation

There are many smaller farms where the quality of pasture species has deteriorated over time due to:

1. Overgrazing;
2. Undergrazing;
3. Dominance of weed species; and
4. Poor soil fertility and health.

What does this mean?

If you have decided to undertake pasture improvement in these paddocks, it makes a lot of sense to include some forage crops, as part of the preparation required, before sowing down to a new mixed perennial pasture.

This will allow the necessary time to improve soil health and reduce weed competition, effectively 'cleaning up' and preparing the paddock for a new pasture. Common undesirable weeds to target in this process include broadleaf species such as flatweed, capeweed and erodium or grasses such as sweet vernal, fog grass and bent grass.

Soil health

The first step is to establish both the nutritional and biological status of the soil as a basis for sound decision making. The test results can be interpreted for you by a qualified agronomist. Usually your seed merchant will offer this service if you are sourcing your seeds from them. They may also be able to help with the soil sampling process, as a poorly collected sample can give very misleading test results.

If lime is required, then applying it, prior to some soil disturbance, will produce a quicker response than would occur from applying lime to a pasture without any follow-up cultivation.

Winter Forage Crops

A typical program over a twelve-month period could include:

1. Winter cereal crop
2. Summer forage crop
3. Autumn sowing to permanent pasture.

Oats, barley, wheat and triticale can all make forage crops but oats is the most common cereal crop used in the first stage of this process.

Crop management

There are a number of forage oat varieties bred specifically for this purpose. They vary widely from early and mid, through to late in the season maturity.

If there are early autumn rains it may be worthwhile sowing an oat variety which will produce a good volume of feed for grazing livestock in the winter months. It then can be closed up in August in time to recover and produce enough growth to be harvested for silage or hay.

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Forage Crops

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Key management considerations

- *To maximise growth into the winter it may be necessary to use a phosphate fertiliser, which includes nitrogen, to help extend growth when the soil temperature is falling.*
- *If autumn rains are late it delays sowing and reduces grazing potential. In this case the crop may be best left ungrazed and kept for silage in October.*
- *One advantage of sowing a winter oat crop is that it allows the use of a selective broadleaf herbicide. This helps reduce the population of weeds such as capeweed and flat weed, before sowing the new pasture the following season.*
- *If grazed down too heavily the plants may not produce enough new leaf growth prior to 'running to head' (seed production).*
- *Rotational grazing strategies will ensure sufficient leaf coverage remains which is important for the plant growth recovery.*

Australian Government | National Landcare Programme

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For general information contact:

Western Port Catchment Landcare Network
info@wpcln.org.au
www.wpcln.org.au

Mowing oat fodder crop

Once the oats have been cut for silage, paddock preparation can be undertaken to plant a forage crop that will provide high quality feed for grazing, through the summer months.

Paddock preparation may include use of a broad-spectrum herbicide prior to sowing the summer crop to reduce weed competition. The summer forage crop also needs to be planted as soon as the silage is off the paddock and when there is sufficient spring soil moisture for the crop to germinate.

Timing is critical here because if sowing of the summer forage crop is left too late the plants may not have sufficient time to establish a strong deep root system.

Summer Forage crop - options

There is a diverse selection of possible grazing forage crops, which can be sown in spring for use in summer. These include:

- Millet;
- Brassicas;
- Sorghum; and
- Chicory.

Grazing tips

In a good season summer forage crops will establish quickly in the warm and moist soil. They potentially provide livestock with a source of protein for growth, at a time of the year when pastures may have limited growth potential due to high summer temperatures or reduced soil moisture.

Millet and sorghum have the ability to produce the greatest quantity of feed compared to the brassicas and chicory, which produce less but do have higher digestibility.

Summer forage crops are capable of being grazed several times over the season. However, they need to be grazed rotationally, and not too heavily, so there is sufficient leaf coverage for the plants to recover quickly.

Plant recovery is best achieved by either strip grazing for short periods only, or, leaving stock in a dense forage crop for a set amount of hours per day. These strategies restrict the grazing pressure whilst enabling adequate feed access to meet daily animal production requirements.

Conclusions

- The success of any forage crop will be down to a number of variables and, in particular, seasonal conditions;
- Paying attention to the Bureau of Meteorology seasonal outlook is valuable. For example: The failed spring rains of 2015, followed by the late autumn break of 2016, was predicted as a high probability of poor conditions for successful forage crops;
- All forage crops have preferred soil and climatic conditions for optimum growth; and
- It is important to have an informative conversation with your seed supplier to select the appropriate crop and variety for your farm requirements and soil conditions.

Boer goats grazing millet