PASTURE MANAGEMENT

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Introduction

The objective in better pasture management is to achieve a dense medic dominant pasture. This benefits both the livestock and cereal enterprise through improved fodder and cereal quantity and quality.

Establishment Year

To assist in making a decision on whether to sow medic into a cereal stubble assess the potential medic density.

1. Choose a number of random sites within the stubble paddock to be used for pasture taking into account different soil types.

2. Make or find, round or square metal receptacles, without bottoms, with an internal area approximately $0.1m^2$ (1 square foot) and 30 cm (1 foot) high. They must be strong enough to be pushed into the soil about 10 cm. Push or hammer into the soil at selected sites, 2 or 3 at each site to give a representative sample.

3. Thoroughly wet the soil inside the metal receptacle towards the end of March, early April. Soil must be kept wet for at least 4 days which may mean a daily watering on the sandier soils.

4. Count emerged medic plant numbers after one week. Counts for 0.1 m^2 multiplied by 10 equals the number of plants/m^2. Weed numbers can also be assessed. Current high mouse numbers in many cereal stubbles means daily checking for emergence as they will tend to eat seedlings.

5. Less than 20 medic plants/m^2 means sowing is necessary to increase medic density. 20 - 100 medic plants/m^2 requires grazing and weed control management to maximise production. More than 100 medic plants/m^2 provides a productive pasture component.

Establishment

Varieties:

* Mogul and Paraggio, barrel medic are recommended for the central and southern Mallee and the northern Wimmera.

* Parabinga barrel medic is recommended for the heavier soils of the central and northern Mallee.

* Harbinger AR, strand medic, is recommended for the light sandier soils of the Mallee.

* A mixture of Paraggio and Harbinger AR can provide benefits by covering a range of soil types within a paddock, two maturity times which may profit from different seasonal conditions and different seed persistence characteristics more flexible to changing rotations.

Sowing Rates

Each kilogram/ha of medic seed sown will establish between 10 - 15 plants/m^2, depending on seasonal conditions and seed size. Sowing at 8 kg/ha results in approximately 100 plants/m^2 which is a plant density which will provide some weed competition, the potential to maximise medic seed yield and some worthwhile livestock fodder. Establishment at lower densities will reduce benefits in the year of sowing.

Sowing Method

Reduce high levels of cereal straw with either livestock or mechanical destruction.

Sow in late April, wet or dry if no major weed problems expected. If a major weed problem is expected wait for a germination, and spray with Glyphosate or Sprayseed.

Cover medic seed with a minimum amount of soil at a depth of 1 - 2 mm. A light discing or a prickle chain are two options which can achieve this. Because of current high mouse numbers, burial is doubly important.

Treat seed with an insecticide for Red Legged Earthmite control. This may have limited value if sown dry and a seasonal break is delayed. Be prepared to spray after germination for RLEM if required.

Grass Management for Cereal Disease Control

Control of annual grasses is better in the winter of the first year of a pasture phase to minimise cereal disease carryover and maximise medic production and seed yields. However, if grass densities are very low (less than 20/m^2) grass control may be delayed until year two.

It is important to apply herbicides (selective and knockdowns) early in the growing season to maximise the effect of the disease break.

Application rates of Glyphosate applied in July (early in the growing season) are recommended at registered pasture topping rates.

Pasture topping during spring with Gramoxone or Glyphosate may severely limit the productivity and seed set of medics.

Paraggio is more tolerant of Glyphosate than Parabinga or Harbinger AR.

Grazing Management

Restrict grass weeds by heavy early (autumn/winter) grazing.

Restrict grazing during flowering and seed set to allow maximum seed resources to be available for future regeneration.

Control broad leafed weed with spray grazing techniques if necessary.

Regeneration Year

Establishment

Cover seed pods in late March, early April, with a prickle chain or light discing. This will enhance germination and protect seed from grazing sheep and mice.

Control insect infestations with insecticide - Red Legged Earthmite and Sitona Weevil are the most important pests.

Grass Management for Control of Cereal Diseases

Similar requirements to year one with control important early in the growing season.

Pasture topping at grass seed set in the spring is the final chemical grass control option to reduce grass plant densities in the following cereal phase. However, it may severely limit the seed set of the medics.

Grazing Management

Control broad leafed seed with spray graze techniques if required.

Graze heavily to obtain highest productivity and grass weed control.

Other Considerations

Rotations

High numbers of regenerating medic plants are required to achieve maximum benefits. Adequate soil resources of seed can only be maintained by allowing seed set in at least two years out of four. This would normally mean delaying cultivation until November or later, on at least a portion of the proposed cereal area. To be

successful this would require some grass control on the medic pasture, or better grazing management.

Fallowing/Tillage

Deep tillage with, for example, a disc plough can cause the deep burial of medic seed. This does not allow seed softening and future emergence and therefore the seed is lost.

Undersowing in Cereal Crop

This can be satisfactory if all management decisions taken, in relation to the cereal crop, are compatible with the undersown medic, ie. herbicides, insect control and cereal seed rate.

Sowing into Prepared Seedbed

This can achieve the required benefits. The disadvantages are the increased investment in land preparation and the unsuitability of the cultivated soil for early grazing.

Fertiliser requirements

Deficiencies in phosphorous, sulphur or zinc may limit pasture production. Fertiliser requirements should be applied in the previous cereal crop.

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REMEMBER: BCDS Field Day - 14 September