

# How to sow a pasture

Ryegrass based pastures are the **most cost effective quality feed** for livestock in Western Australia as they are in other parts of Australia and the temperate grazing zones around the world. Ryegrasses either annual or perennial are the most widely adapted forage species option used in the world.

Irwin Hunter & Co through their contacts around Australia and numerous other countries have selected and trialled the most productive pasture forage grazing options for WA farmers and these can be found within our pasture guide.

To maximise the production from the genetic improvements plant breeders have made to the pasture species you will be sowing we have detailed below a series of steps that we consider will assist in successfully establishing a productive pasture. These steps are a guide only and may need to be modified according to your own on farm conditions.

## **Paddock Selection:**

Identify the appropriate paddocks for sowing as early as possible to give you the best chance to complete the necessary work prior to sowing. Paddocks you wish to bring into the pasture improvement program in 2005 are best identified in spring 2004 and spray topped to remove weeds and other undesirable plant material by stopping them from reseeding, or cut for hay, ensuring a lower weed population the following year.

## **Soil Test:**

Soil testing is one of the most important actions you need to take, identifying the pH levels and the nutrient status of Phosphorus, Potassium, Sulphur and other elements. Sampling should be to a minimum of 10cm to ensure you cover the potential root growing zone of the plant species you wish to sow. Where deeper rooted species, eg Lucerne are to be sown soil sampling should take this into consideration.

## **Identify the issues that may need addressing such as:**

- 1; does the paddock need levelling?
- 2; has the paddock been compacted by heavy machinery or stock?
- 3; what weeds are there that I need to spray or graze out now?
- 4; what cultivation do I need to do to achieve a good seed bed?
- 5; what soil nutrition issues do I need to address prior to sowing?
- 6; when do I want to sow?
- 7; what method of sowing will I use?

## **Develop the plan of action on a paddock by paddock basis from the answers to the issues you have identified:**

## **Suggested cultivation and sowing methods for two scenarios:**

### **Dry sowing prior to break:**

- Option 1; Hard graze or spray to remove any weeds and other undesirable plant material where spray topping has not been completed in the spring. Pasture seeds should only be sown to a depth adequate to achieve a cover of soil or good seed to soil contact.\* Ensure press wheels are used or Roll after sowing. (Slots where seed is placed need to be closed or covered to minimise moisture loss), or
- Option 2; Hard graze or spray to remove any weeds and other undesirable plant material. Cultivate to prepare a fine firm seedbed using harrows to consolidate prior to sowing, or roll with a rubber tyred or split ringed roller where seed bed is soft.
- 2a; Broadcasting via a combine seeder is the preferred option. Remove the tubes from the coulters or remove them completely allowing the seed to drop from the seed box. Harrow and rolling is a necessity to get good seed to soil contact. \*\* Broadcasting with a spinner is less accurate. Where different pasture species are mixed it is difficult to get an accurate coverage due to the different seed sizes and weights.
- 2b; Where sowing via a combine unit through the coulters, seeds should only be sown to a depth adequate to achieve a cover of soil or good seed to soil contact.\* Harrow and rolling after or during sowing is a necessity.\*\*
- 3a; Identify any emerging weeds early and take the appropriate action to remove.

### **Sowing after break:**

- Option 1; Spray to remove any weeds and other plant material. Pasture seeds should only be sown to a depth adequate to achieve a cover of soil or good seed to soil contact.\* Ensure press wheels are used or Roll after sowing. (Slots where seed is placed need to be closed or covered to minimise moisture loss), or
- Option 2; Hard graze or spray to remove any weeds and other undesirable plant material. Cultivate to prepare a fine firm seedbed using harrows to consolidate prior to sowing, or roll with a rubber tyred or split ringed roller where seed bed is soft.

The balance of the sowing operation can be completed as per the Dryland sowing options 2a; 2b and 3a.

- \* **Variations in sowing depth will have a significant effect on the early to mid season production of plant species, particularly legumes, losing valuable production through a significant part of the growing season. It is important to ensure a level seed bed with a consistent level of consolidation to avoid soft or hard areas. Refer to the accompanying photo for example on plant growth from a variation in sowing depth.**

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**Consolidation of the seed bed after sowing by harrow and rolling is very important on our lighter sandy soils in WA, to reduce the evaporation of soil moisture. Rolling also encourages the movement of moisture up the soil profile increasing the moisture around the root zone.**

**Early grazing management:**

- 1; Graze with light stock, (especially if wet), as soon as the plants cannot be removed when plucked by hand, (usually 8cm high). Late grazing will reduce new tiller development and reduce the light necessary to assist the establishment of clovers.
- 2; Rotationally graze ryegrass at the 2.5 to 3 leaf stage throughout the growing season or until the crop is shut up for silage or hay. Shutting up for hay or silage too early will significantly reduce the ME value as a disproportionate ratio of stem to leaf will result.

Grazing earlier than the 2.5 leaf stage may reduce plant growth rates as during the growth phase from the previous grazing to the full development of the 2<sup>nd</sup> leaf, there is a net decline in water soluble carbohydrates. Net accumulation occurs from the 2.5 leaf stage and the full development of the 3<sup>rd</sup> leaf. Grazing earlier than leaf stage 2.5 will not have allowed the plant to fully replenish the root reserves.

The time period between grazing rounds will vary according to climatic conditions and day length.

Notes: The grazing practise of set stocking over extended time periods has the potential to significantly reduce dry matter production, especially in ryegrass.

Where varieties like Roper and Camel perennial ryegrasses are used in dryland systems it is not advisable to take silage or hay in the first year.

Photo caption: Chris Lamrock, Valley Seeds Victoria in a pasture of Roper perennial ryegrass and Riverina sub clover. **Note the clean pasture achieved where the correct pasture sowing and management practises have been adopted.**