Managing pastures to manage weeds

Barney Milne, The Rural Centre Agronomy Group, Molong

INTRODUCTION

Pastures are the backbone of agriculture, they produce the milk, meat and fibres to feed and clothe Australia, and they provide valuable exports to the world. In cropping rotations, pastures provide valuable additions to the soil in organic matter, and importantly, nitrogen. Weed control is essential to remove any plant that will impair, or reduce the production and sustainability of pastures. Grazing management must be part of the overall strategy in conjunction with sufficient fertiliser, and weed control to ensure strong, productive pastures.

WEEDS

Broadleaf weeds can reduce the amount of desirable pasture dry matter, but usually mature without causing the same effect on the pasture as grasses.

Broadleaf weeds, and/or seeds can be contaminants of wool, and cause health problems in animals. Weed seeds, and other parts of broadleaf weeds, such as spines of thistles and burrs, can injure people who handle the animals.

Annual grasses such as barley grass, vulpia and ryegrass can, in time out compete sown improved pasture species. Animals will not readily eat these grasses after they commence production of tillers and seed heads, unless they are forced, which can result in the loss of production of meat and fibre.

Because annual grasses are not readily eaten, and can be very prolific, they can over-shadow the slower growing legumes, particularly in autumn and spring. Once the annual uncontrolled grasses grow over the legumes they can severely suppress their growth, and can severely affect the ability of sub clover to produce seed.

Grazing animals, particularly sheep, have a preference for legumes, and will probably accelerate the demise of the legume portion of the pasture. Phalaris, cocksfoot, and other desirable grasses will gradually disappear due to this preferential grazing and the effect of weeds.

PASTURE MANAGEMENT

Pastures must be constantly monitored for weeds, the botanical composition of pastures should be assessed to determine the effects of weeds, and whether some chemical control is required.

If herbicides are to be used, then the proper approach to the application must be considered. That is, what is the program for each paddock, are they to remain a pasture or will they become part of a crop rotation.

The weeds to be controlled, and herbicides that will be used, must be in accordance with good management practice. The rates of herbicides applied to pastures can vary in strength, allowing for a somewhat gentle approach in some situations, or a more robust approach can be taken if a more detailed control is required, or warranted.

The use of fertiliser and grazing management is essential when undertaking herbicide weed control in pastures. Trial work indicates that super phosphate is best applied at, or around the time of herbicide application to ensure that the pasture has every chance to fully recover from the effects of the herbicide.

HERBICIDES

The commonly used herbicides for broadleaf weed control in established pastures containing clovers are, MCPA amine and 2, 4-D amine. These can be mixed with paraquat to give control of barley grass and ryegrass, and in mixture with simazine for control of vulpia. The herbicides, 2,4-D amine and MCPA amine (preferred herbicide) can be applied alone, or as a combination of two, or three of the above herbicides.

The rate of each herbicide can be adjusted to give the desired level of control of the weeds. The rate of each herbicide applied will also determine the level of effect on the pasture.

RESULTS OF PASTURE CLEANING

Trial results show that a dramatic change in pasture composition can take place if the correct herbicide, or a mixture of herbicides, and rates of application are used in accordance with the weed population. Time of application can vary, depending on the weeds, or comply with the grazing program set out for each paddock.

In a trial at Cumnock (1998), barley grass infestations were reduced from 10t/ha in untreated plots down to 0.19t/ha, sub clover was increased from 0.51t/ha up to 4.97t/ha, and phalaris was increased from 0.13t/ha up to 2.31t/ha. The barley grass, sub clover and phalaris results are a mean of the six treatments containing MCPA amine, simazine and paraquat at various levels.

At Gumble (1998) similar results were obtained where the problem was annual ryegrass. The level of annual ryegrass was reduced from 14t/ha to 0.98t/ha, sub clover was increased from 0.43t/ha up to 3.2t/ha, and phalaris was increased from 1.5t/ha up to 4.9t/ha. The annual rye

grass, sub clover and phalaris results are a means of the three treatment containing MCPA amine, simazine and paraquat.

CONCLUSION

Before undertaking weed control in pastures using the mixtures described in the results the landholder needs to have a property plan to determine which paddock requires attention, what level of control, or chemical refurbishment is to be undertaken.

Paddocks that are subjected to 2,4-D amine or MCPA amine will require a rest period of up to six weeks to allow the clovers to fully recover. Paddocks sprayed with mixtures of simazine and paraquat may need a rest period of up to at least eight weeks, or more, depending on climatic conditions.

If landholders are unable to properly assess their own pastures, or cannot identify weeds, they should have an experienced person carry out the assessment. Sub clover and perennial grass pastures should last indefinitely, providing they are properly managed in respect to grazing, applications of fertiliser and weed control.

The sustainability of pastures is the responsibility of the landholder, it is their management practices that will ultimately determine the longevity of their pastures.