A PRACTITIONER'S PERSPECTIVE OF WEED MANAGEMENT IN PASTURE SYSTEMS

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Summary This paper discusses weed management problems on a mixed sheep/cattle grazing property in Central Victoria. It is suggested that weeds can be categorized as either 'easy' or 'hard' to control. For both categories constant vigilance and an 'Integrated Pest Management' approach is required for success but some of the 'hard' weeds pose an increasing threat to the financial viability of the property.

'OAK VALLEY'

I manage a 840 ha grazing property at Longwood near Seymour in North Central Victoria. 'Oak Valley' is in the granite foothills of the Strathbogie Ranges with an average annual rainfall of 700 millimetres. We run merino sheep and a crossbred beef herd on improved pastures of phalaris, cocksfoot and subterranean clover. Both *Pinus radiata* and a range of hardwoods are also being planted in our increasingly important Farm Forestry enterprise. I also spend some time off-farm, contract boom spraying for both pasture establishment and general weed control, mostly Paterson's curse (*Echium plantagineum* L.). My wife and I have a half share in 40 ha of short rotation hardwoods for pulp which we planted (by hand) in 1994 at Myrtleford. We also have established an Advanced Tree nursery at Benalla.

Controlling weeds in this wide range of enterprises, which all have different but very important requirements for weed management, continues to be a challenge.

As a farmer I think that any discussion on weeds requires them to be categorized according to their threat or importance to the grazing industry or, on a local level, their threat to the farm I manage.

I divide weeds into two groups:

1. The 'easy' ones
2. The 'hard' ones

The 'easy' weeds These are plants that we understand and know how to manage. Some of them have very undesirable characteristics and we will probably have to live with them forever.

Some, more vigorous species, require grazing management, some require herbicides, some improved pastures and others manual control, (I carry a small hoe on my motorcycle) or a combination of these. Capeweed (*Arctotheca calendula* (L.) Levyns), erodium (*Erodium* spp.) and onion grass (*Romulea rosea* (L.) Ecklon) are examples of 'easy' weeds on 'Oak Valley'.

The 'hard' weeds These are plants that pose a real financial risk to our grazing business and are also an environmental risk. I believe that the best land managers in our district are viable, long term, farmers and weeds such as Paterson's curse, heliotrope (*Heliotropium europeum* L.) and bent grass (*Agrostis castellana*), among others, pose a real threat to our long term viability. We aim to control these three and any others in the 'hard' category. Not all our neighbours attach the same degree of importance to the 'hard' weeds as we do and this difference in attitude makes their control much harder.

Most farmers dislike weeds to varying degrees and I think the main problem in the grazing industry is the 'varying degrees' part of this statement. The properties around us at Longwood are increasingly being subdivided and ownership is changing. The different interests and expertise of these new land managers have increased the problem of weed control. If you know nothing about Paterson's curse then you are unlikely to take any action when a few pretty blue flowers appear in the spring amongst a sea of yellow flowers.

Capeweed is endemic in our district and nobody gets very excited about it so why worry about a few blue flowers. If you are a new landholder how would you know that capeweed is an 'easy' weed, but the pretty blue flowers will turn into hundreds of seeds, some of which may not germinate for ten years.

The best way to deal with the 'hard' weeds is not to have them on your property and preferably not on your neighbours either. The disease footrot in sheep is almost regarded as a social disease, and owners of such sheep as second class citizens!

Yet it seems to be OK to have a 'bit of Paterson's curse' or a 'patch of heliotrope'. To me the difference is that footrot can be controlled in one or two years of hard work or you could sell the infected sheep to slaughter. With Paterson's curse once the plants have set seed it is a ten year sentence of hard labour and vigilance, and it is an offence to sell it.

Once established on steep or rocky country Paterson's curse is extremely difficult and expensive to control. Although farmers have available several herbicides that are effective on the plant, they may have to be

applied more than once a year because of prolonged germination. In difficult country you may have to apply the herbicide with an aircraft.

A heavy infestation of Paterson's curse in difficult country can halve its carrying capacity and this has meant that some farmers have given up trying to control the weed or are simply trying to confine the area of infestation. This is very hard to achieve.

The plant flowers nearly all year and thrives among the rocks in the higher parts of infested paddocks. These areas are often sheep camps, which are bare in the late summer, and the heavy seed that can pass through the sheep is washed as far as the water travels after a thunderstorm or heavy rain.

Integrated Pest Management This is the best way to control pest plants and to me this means understanding the plant and using any or all forms of control that are cost effective.

On 'Oak Valley' we go to great lengths to limit our exposure to the 'hard' weeds. We continually visit our few patches of Paterson's curse and heliotrope and remove any plants before they set seed.

We have bent grass in one paddock that was introduced in contaminated pasture seed that we are trying to control by hand spraying – I think we may win! We will certainly never buy pasture seed from that company again! Wheat has been purchased and fed during the drought of 1982 and 1984 and we have gone to some trouble to ensure that the grain was as 'clean' as possible. Most of the grain has been fed in feed lot situations and the resultant weed introductions have been easy to eliminate. In 1982 we introduced a small amount of Paterson's curse which has been controlled and in 1994 I found only one foreign plant of amsinckia which was easily found and destroyed.

I have been at 'Oak Valley' since 1972 and up to this time we have been winning the war against 'hard' weeds. We now have three neighbours with Paterson's curse which is out of their control, and above 'Oak Valley'. One of the properties failed to sell at auction recently, one is under lease and the owner of the other after trying to control the plant with herbicides from fixed wing aircraft once a year for several years seems to have given up. The battle for us will become much more difficult!

Improving soil fertility The statement that 'the best herbicide is fertilizer' is true for many of these weeds of poor pasture. By manipulating the plant nutrients to suit our desired pasture plants we can hold out weeds such as onion grass, bent grass, sorrel (*Rumex acetosella* L.), erodium, cat's ear (*Hypochoeris* spp.), silver grass (*Vulpia* spp.), fog grass (*Holcus lanatus* L.) and others.

In the year of pasture establishment we may need herbicides to give us a 'window of opportunity' to establish our preferred pasture species, but the secret to keeping weeds out is a healthy, vigorous, well grazed pasture, and it is this pasture that gives us the best livestock production and financial gain. Weeds of high fertility such as capeweed can be easily and cheaply manipulated out of a pasture with low rates of MCPA and increased short term grazing pressure.

The technique of 'spray topping' pasture in the spring to control the seed set of annual grasses has proved to be a useful tool in the year prior to pasture establishment and also to reduce grass seed contaminating the wool of sheep or injuring the eyes of lambs.

A similar technique is used on bent grass to prevent seedhead emergence and, combined with heavy grazing and adequate fertilizer, it is a very cost effect form of control. It will be interesting to see if other plants can be manipulated in this way in the future.

Ian Elder, the owner of 'Oak Valley', has a highly developed 'weed ethic' and fortunately so do I. This has enabled us to deal with, or at least understand, the weed problems we face and so far I believe we have been successful.