Vulpia in pastures

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As I travel around at the moment inspecting perennial pasture, one annual grass weed that is often present is Vulpia – also known as Silver grass or Rat's tail fescue. Admittedly, there are other grass weeds which I could also describe as being a problem, including Bent grass, Barley grass and Yorkshire fog. However, I am more concerned about Vulpia in our perennial based pastures for a number of reasons.

About Vulpia

Vulpia (Vulpia spp.) is an introduced cool season annual grass. There are 5 species described in NSW. It germinates in the autumn and early winter, producing green leaf during winter and into spring. As conditions start to warm up and dry out, it rapidly hays off, often presenting a mass of straw coloured material over summer.

It can produce up to a million seeds per m² and stands can be as thick as 1,000 to 8,000 plants per m² – even higher in high rainfall areas. Time of flowering and seeding can be variable, however estimated time from flowering to seeding can be as little as 18 days.

Vulpia is not a ‘new’ pasture weed

In the 1940’s, it was listed as a weed in establishing new pastures. Where it is a problem is that it is highly competitive in newly established pastures. It readily competes for moisture, nutrients and light and there is discussion about its possible allopatic effects.

The awned seeds can also potentially cause an increase in vegetable matter in wool and the plant can be a host to serious cereal diseases. There are many research papers that describe the economic loss associated with this weed.

Is it digestible for stock?

This annual grass is similar to many grass species in that it can be quite digestible while it is short and green, although there is not much bulk to it.

It can often provide a green pick under our Red grass or Summer native pastures that have frosted off.

While short and green, it often produces limited quantities of feed in months when our livestock require it. However, once the plant reaches maturity, it loses its digestibility and is far less attractive to livestock than other plant species.

Researchers Dellow et al. (2002), when investigating NSW tablelands pastures, found that Vulpia and other annual grasses could comprise an average of 26% of the total biomass.

It is important to be able to identify Vulpia seedlings as they can often be confused with annual ryegrass and toad rush. Some management techniques require graziers to be able to identify the difference. LLS has more information on identification at the seedling stage which I can send to graziers on request.

Control methods

The specific control method chosen will vary according to landscape, enterprise, business goals and current pasture species. In pasture situations,
some of these control strategies are long-term and may require planning ahead. Graziers can consider four principles to manage Vulpia.

1. Reduce weed germination
2. Remove and/or Reduce the weed
3. Reduce seed set
4. Encourage competition from desirable species.

When I am discussing an infestation with a producer and planning a control programme, I need to consider several factors. These include the density and extent of the weed compared to the current ‘good’ or useful species. We would also talk about the potential loss in production if the current infestation is not controlled. The need to protect any investment already made in the paddock including the capital invested in ground preparation, herbicides, liming or sowing pasture is also important. The control options available, including the timing and priority of implementation, need to be discussed. There are a number of control management options available and a short list can be found in Table 1.

**Management example**

For example in a two-year old newly sown perennial pasture with a good stand of fescue and cocksfoot, sub clover and white clover, with a Vulpia infestation around 10%, I might suggest using a combination of management that might include grazing management.

*A key management tactic should be to maintain and promote optimum pasture mass from late summer to early autumn.*

This can be difficult in central tablelands and slopes areas coming out of a hot dry summer, but will help decrease the germination of Vulpia which proliferates on bare ground.

Having strong, competitive ‘bulked’ up pastures with adequate pasture mass and groundcover is very important at Vulpia germination time.

Research suggests a minimum of 1500 kg DM/ha and greater than 80% groundcover will help suppress seedling germination. However, excessive residue, especially if it is Vulpia, can lead to a decrease in the germination of the favourable species. Excessive bulky material may also suppress clover germination.

We are lucky in the Central Tablelands as there has been a lot of local relevant research done on Vulpia.

At this time of the year, we can talk about the use of winter cleaning and spray topping techniques that can strategically lower the population.

Many producers also use fodder conservation as a management tool. If you are preparing to sow a pasture in autumn next year it is time to assess your potential paddocks. Many producers may require a two year lead time in paddocks with a high population of Vulpia.

I often see Vulpia in a pasture and ask the question why is it here? Was it the season at germination, the competitive nature of the existing pasture, soil fertility decline or previous grazing management or a combination of factors?

*This month is a great time to assess your pastures and consider what is happening with them so as to enhance your forward planning.*

**More information**

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