Best management practices for dryland cropping systems: great brome and fumitory.

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Introduction

Great brome (*Bromus diandrus*) and fumitory (*Fumaria* spp.) are weeds of increasing concern to landholders in the Murrumbidgee catchment. A major constraint to the implementation of best management practices for control of these weeds is a lack of information reaching landholders. The Murrumbidgee Catchment Management Authority (Murrumbidgee CMA) project titled Best Management Practices for Dryland Cropping Systems aims to address this issue by collating and packaging existing information on the biology and management of these weeds into user-friendly documents. Best management practice (BMP) guides for great brome and fumitory are now available.

Methods

A needs analysis was conducted to identify and rank weed species that are of concern to landholders within the Murrumbidgee catchment. This process involved holding a series of meetings comprised of landholders and agribusiness staff. From the results, two weeds of importance were selected based on the current level of understanding and how much information is already available for these weeds. A review of current literature was then undertaken and information on the two weeds selected was collated and packaged into BMP guides.

Results

The two weed species selected were great brome and fumitory. Great brome has recently become an increasing problem for landholders in the Murrumbidgee catchment and it is often overlooked with weed management programs focusing on other weed species. Fumitory can be difficult to manage with misidentification of the individual species being a major problem.

Discussion

The new BMP guides include information essential for the effective control of great brome and fumitory. Topics covered include origin and introduction, distribution, identification, biology, ecology and management options.

Key points in the great brome guide are:

- Great brome is widely distributed across southern Australia and it can cause large crop yield losses, contaminate wool and injure livestock.
- Great brome is an increasing problem in the Murrumbidgee catchment and it should not be overlooked.
- Several herbicides are now available for the post-emergent control of great brome in wheat with the most effective being the Clearfield system.
- The great brome weed management program should be used to achieve two consecutive years of weed control to deplete the weed seed-bank.

Key points in the fumitory guide are:

- Fumitory is a widespread and successful weed found across the Murrumbidgee catchment.
- Correct identification of the individual species is essential for effective control.
- Spread can be prevented by ensuring introduced crop and pasture seed is not contaminated with fumitory seed.
- Strategic tillage operations can be used to deplete the fumitory seed-bank.

Conclusions

The BMP guides are an up-to-date and user friendly management tool that can assist landholders to achieve effective control of great brome and fumitory by filling gaps in information. The process of identifying specific knowledge gaps ensures relevant information is extended to landholders and can be used to improve management of other weed species.

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