

A snapshot of growers' attitudes towards area-wide management of weeds

RESULTS FROM THE RIVERINA

Project team

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Executive Summary

INTRODUCTION

- ✳ Between July and September 2021, a phone survey was conducted with cropping land managers (hereon referred to as growers) from across three regions: Darling Downs, Queensland; Riverina, NSW; and Sunraysia, Victoria.
- ✳ This report provides a summary of the results of the phone survey from the Riverina region. For more information about the project, please contact: sgraham@uow.edu.au

METHODS

- ✳ Phone interviews were conducted with 218 growers from the Riverina
- ✳ The survey was developed by researchers at the University of Wollongong (named on the front cover) and administered by KG2 market research (www.kg2.com.au).
- ✳ The survey comprised of three types of questions: background information; attitudes towards weeds and their management; and current and likely participation in collaborative weed management practices.
- ✳ This document presents a brief summary of the findings of the survey. A detailed analysis of the data is not presented nor are conclusions drawn. Further analysis is currently underway.

RESULTS

FARM CHARACTERISTICS

- ✳ Over half of the growers (57%) identified as grain producers, 22% identified as grain and beef producers, and 21% identified as grain and sheep producers.
- ✳ On average, Riverina growers earn 60% of their income from cropping
- ✳ Twenty-four different crops were grown by survey respondents. The three most commonly grown crops were wheat (93%), canola (74%), and barley (68%).
- ✳ The average size of grower's properties, including leased and unused land, was 2,598 hectares.
- ✳ On average, Riverina growers spend 24% of their total farm costs on weed control

ATTITUDES TOWARDS WEEDS AND THEIR MANAGEMENT

- ✳ Riverina growers were most concerned about fleabane (84%) and ryegrass (90%).
- ✳ The four top concerns related to weed management were:
 - the financial cost (57% very concerned);
 - the presence of herbicide resistant weeds on their land (45% very concerned);
 - the spread of weeds from public land (43% very concerned); and
 - the presence of weeds on their land (34% very concerned).
- ✳ With respect to preferences for working independently and collaboratively on weed management, the four statements that elicited the highest levels of agreement were:
 - each land manager has a responsibility to the whole region to control weeds (40% strongly agreed);
 - weeds are everybody's problem (44% strongly agreed);



- controlling weeds is difficult (24% strongly agreed); and
 - weed management is more effective if land managers coordinate the timing of their weed control (23% strongly agreed)
- 🌱 The three benefits that growers commonly attributed to area-wide management were:
- increased awareness of new weeds in the area (97%);
 - increased awareness of herbicide resistant weeds in the area (94%); and
 - getting ahead of weed spread in the area (90%)
- 🌱 The four costs that growers were most likely to attribute to area-wide management were:
- too much time spent in meetings (70%);
 - limited options for organic growers (62%);
 - being restricted to using specific herbicides (60%); and
 - having to change spraying operations to accommodate neighbours (56%).

COLLABORATIVE WEED MANAGEMENT PRACTICES

- 🌱 18% of growers participate in weed management activities that involve other land managers.
- 🌱 With respect to managing weeds across boundaries, growers most frequently:
- manage weeds on public property (29% do this frequently or always); and
 - discuss weed management with neighbours (27% do this frequently or always)
- 🌱 With respect to intention to participate in collaborative weed management activities, growers indicated that they are most likely to:
- share crop information with neighbours to minimise risk of damage from spray drift (36% very likely); and
 - share information about weed management with other land managers (27% very likely).

CONCLUDING REMARKS

The results presented in this report indicate high levels of agreement among Riverina growers about the need for collaboration and the benefits that can come from working together on weeds. There are also common concerns about the costs of participating in area-wide management. Next, the project team will examine what factors explain whether growers participate in collaborative weed management activities. In the interim, these preliminary results provide a snapshot of what is important to growers across the Riverina cropping region in Australia, which need to be taken into account when designing and implementing area-wide weed management strategies.



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Introduction

Weeds are one of Australia's most persistent agricultural and environmental challenges. The mobility of weeds, use of biological controls and growing herbicide resistance mean that weed management is a landscape-scale problem that requires community-wide solutions.

The need for weed management to work effectively across property and institutional boundaries requires an understanding of the attitudes, intentions and weed management practices and of a land managers across whole regions. This research project aims to collect and analyse such social data.

In mid-2021, cropping land managers, hereon referred to as growers, were surveyed as part of this social research project.

This report provides a summary of the preliminary results of the telephone survey for the Riverina. For more information about the project please contact: sgraham@uow.edu.au

Methods

Between July and September 2021, a telephone survey was conducted in the regions of Darling Downs (Queensland), Riverina (New South Wales) and Sunraysia (Victoria).

Questions were designed to collect information on:

- **Socio-economic characteristics and nature of farming operation.** This included age, gender, type of crops grown, property size, income from cropping systems, and percentage of income spent on weed control.
- **Attitudes towards weeds and their management.** This included weeds of concern, impact of weeds, herbicide resistance or spray-drift on their and others' land, attitudes towards collaboration with other land managers, techno-optimism, and the perceived benefits and costs associated with collaborating with other land managers on weed control.
- **Current and likely participation in collaborative weed management.** These questions covered the growers' participation in collaborative weed management activities, frequency of participation in a range of weed management activities, and likelihood of adopting a set of collaborative given weed management practices.

There were 218 participants from the Riverina. Each interview took on average 15 minutes to complete.

This document presents a snapshot of the findings of the survey for the Riverina. Further statistical analyses will be completed in the next stage of the project.

Socio-economic and farm characteristics

Most (95.4%) Riverina growers surveyed were male and just over three-fifths (63.7%) were between 45 and 64 years old.

On average, the size of grower's land, including leased and unused land was 2,598 hectares. About one-third (32%) of growers had properties that were 1000 hectares or smaller.



Farming operations were grouped into three categories: grain producer; grain and sheep producer; and grain and beef producer. Over half of the growers (57%) identified as grain producers, 22% identified as grain and beef producers, and 21% identified as grain and sheep producers.

On average, Riverina growers earn 60% income from cropping and spend 24% of their total farm costs on weed control.

Twenty-four different crops were grown by Riverina survey respondents. Figure 1 includes the top 18 crops, grown by at least 2% of growers. The three most commonly grown crops were wheat (93%), canola (74%), and barley (68%).

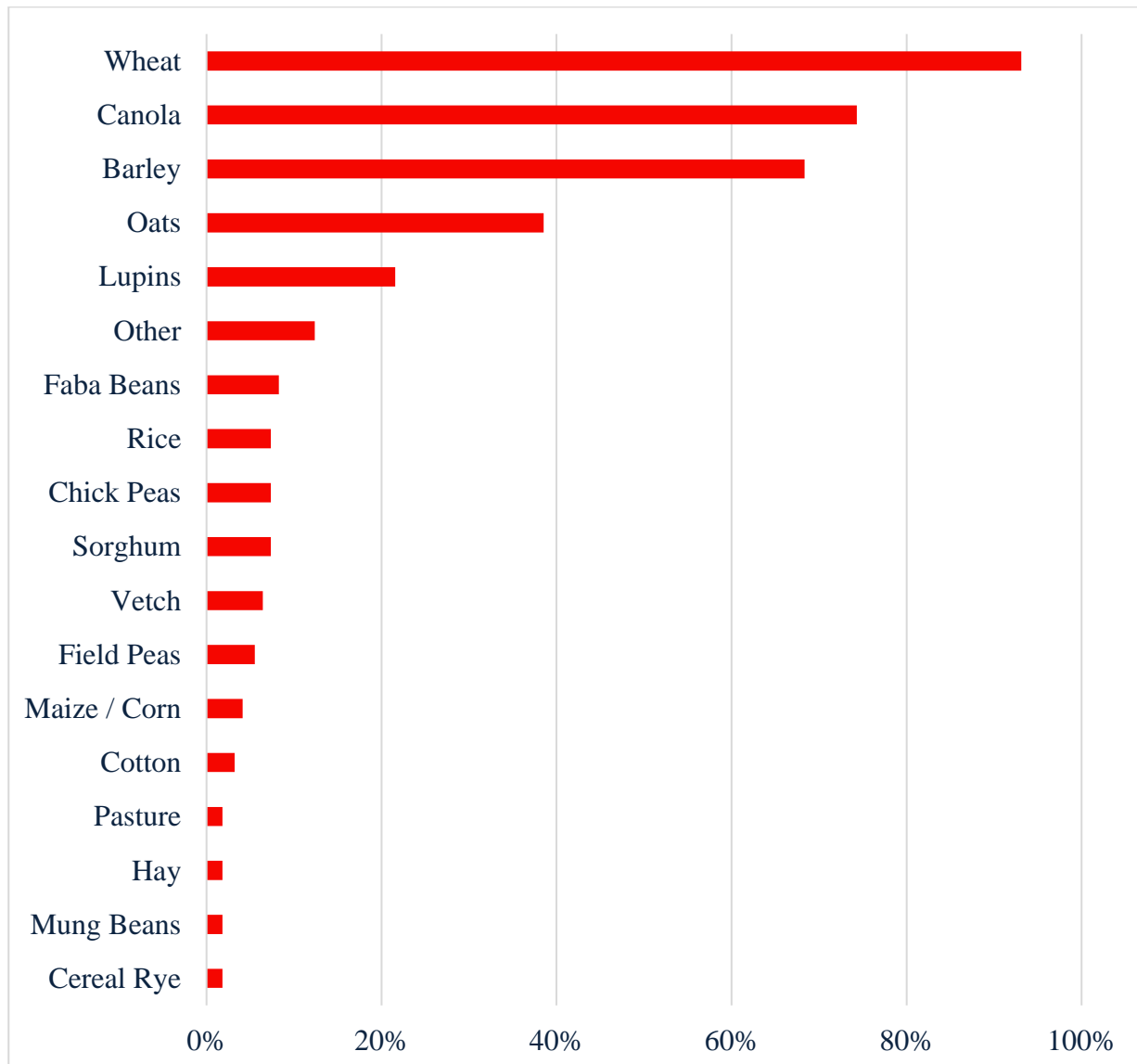


Figure 1. Crops grown by at least 2% of Riverina survey respondents.

Attitudes towards weeds and their management

Growers were asked if they were concerned about 10 specific weeds (Figure 2). Among Riverina survey respondents, ryegrass (90%) and fleabane (84%) were of most concern.

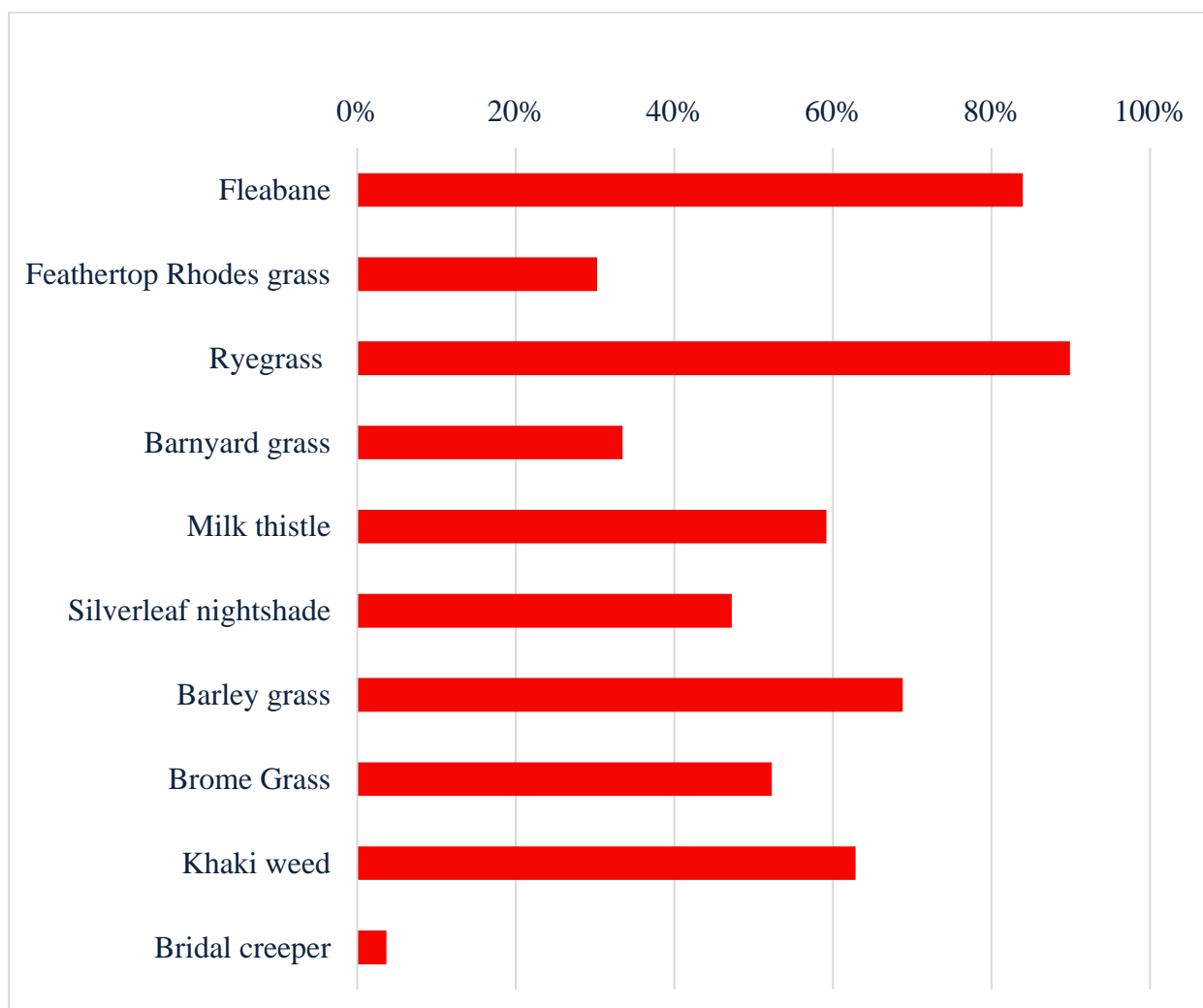


Figure 2. Proportion of Riverina growers who were concerned about each of the 10 weeds.

WEED MANAGEMENT CONCERNS

Growers were asked to rate their level of concern regarding 11 weed management issues (Figure 3). The four statements that elicited the highest levels of concern were the financial cost of weed management (88% were concerned or very concerned), the presence of weeds on their land (81% concerned or very concerned), the presence of herbicide resistant weeds on their land (72% concerned or very concerned), and the spread of weeds from public land (71% concerned or very concerned).



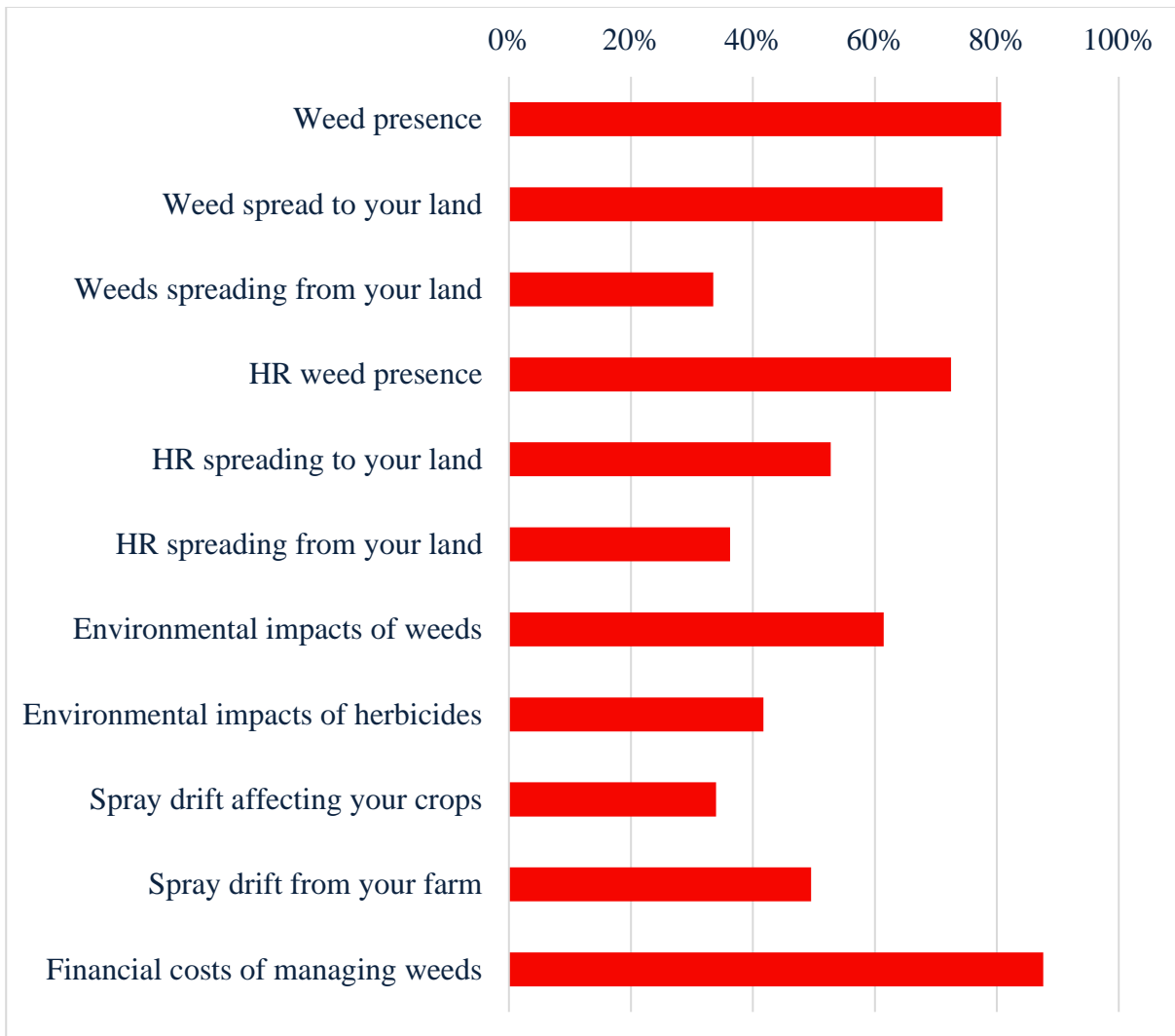


Figure 3. Proportion of growers who were concerned or very concerned about 11 weed management issues.

PREFERENCES AND OPINIONS ABOUT WEED MANAGEMENT

Growers were asked to indicate the extent to which they agreed with 13 statements about weed management, indicating their preferences and opinions about working independently (Figure 4) and collaboratively on weed management (Figure 5).

The four statements that elicited the highest levels of agreement were: weeds are everybody’s problem (95% agreed or strongly agreed); each land manager has a responsibility to the whole region to control weeds (94% agreed or strongly agreed); controlling weeds is difficult (86% agreed or strongly agreed); and effective control of weeds requires land managers to work together (83% agreed strongly agreed).



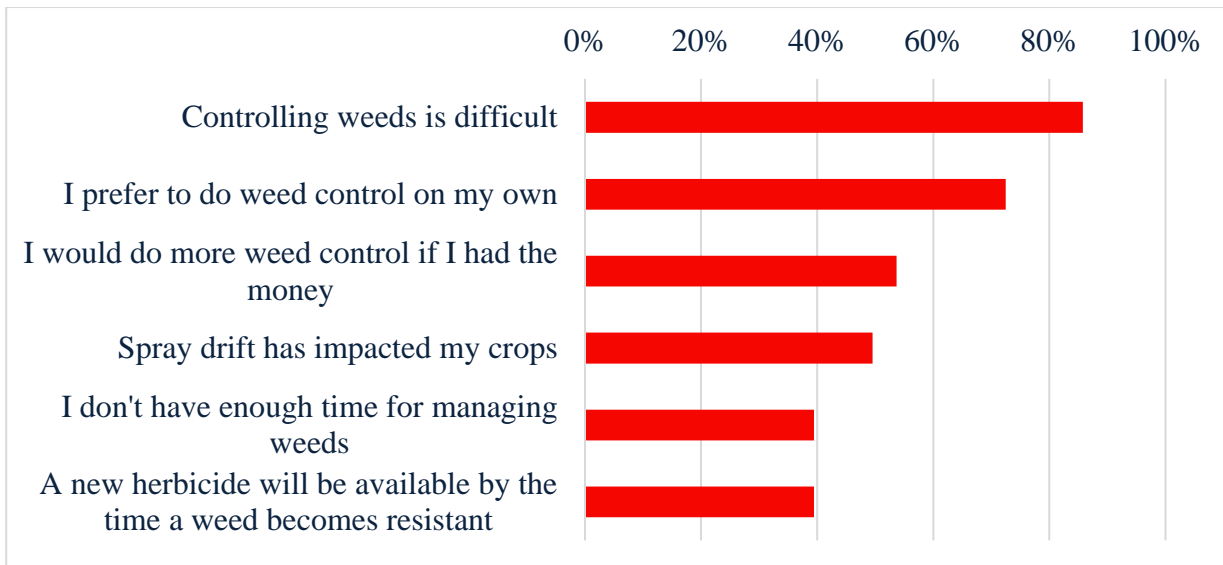


Figure 4. Proportion of growers who agreed or strongly agreed with 6 statements about weed management.



Figure 5. Proportion of growers who agreed or strongly agreed with seven statements about collaborative weed management.



BENEFITS OF AREA-WIDE MANAGEMENT OF WEEDS

Growers were asked to indicate which benefits they believed would come from managing weeds with other land managers (Figure 6), i.e. the benefits of area-wide management of weeds.

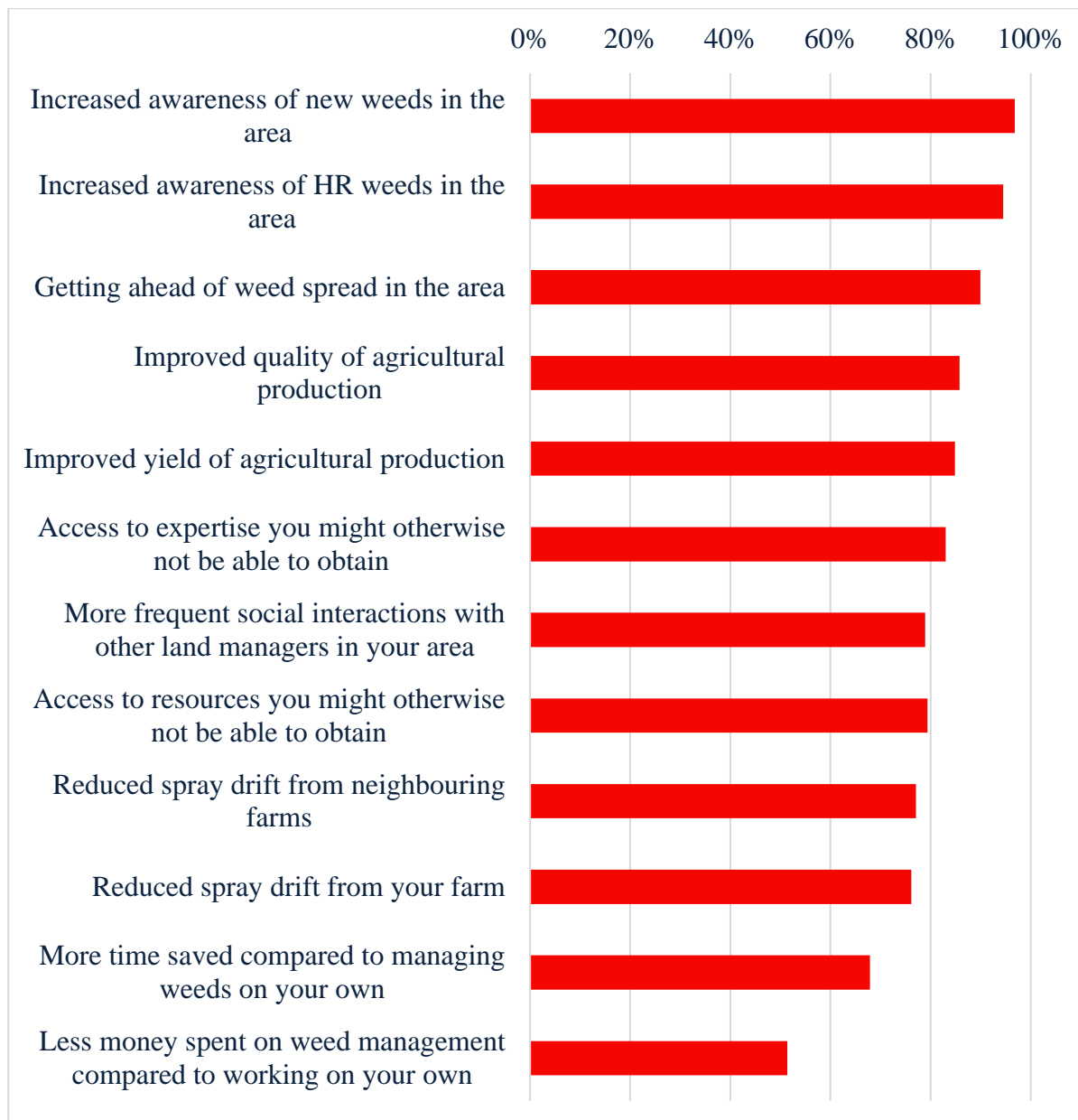


Figure 6. Proportion of growers who agreed that each benefit would arise from managing weeds with other land managers.

The three benefits that Riverina growers were most likely to attribute to area-wide management of weeds were increased awareness of new weeds in the area (97%), increased awareness of herbicide resistant weeds in the area (94%) and getting ahead of weed spread in the area (90%). Growers were least likely to believe that working with other land managers on weeds would reduce money spent on weed control (51%).



COSTS OF AREA-WIDE MANAGEMENT OF WEEDS

Growers were asked to indicate which costs they believed would come from managing weeds with other land managers (Figure 7), i.e. the costs of area-wide management of weeds.

The four costs that growers were most likely to attribute to area-wide management of weeds were too much time spent in meetings (70%), limited options for organic growers (62%), being restricted to using specific herbicides (60%), and having to change spraying operations to accommodate neighbours (56%). Growers were least likely to believe that others knowing sensitive information about their farming operations would be a cost of area-wide management of weeds (27%).

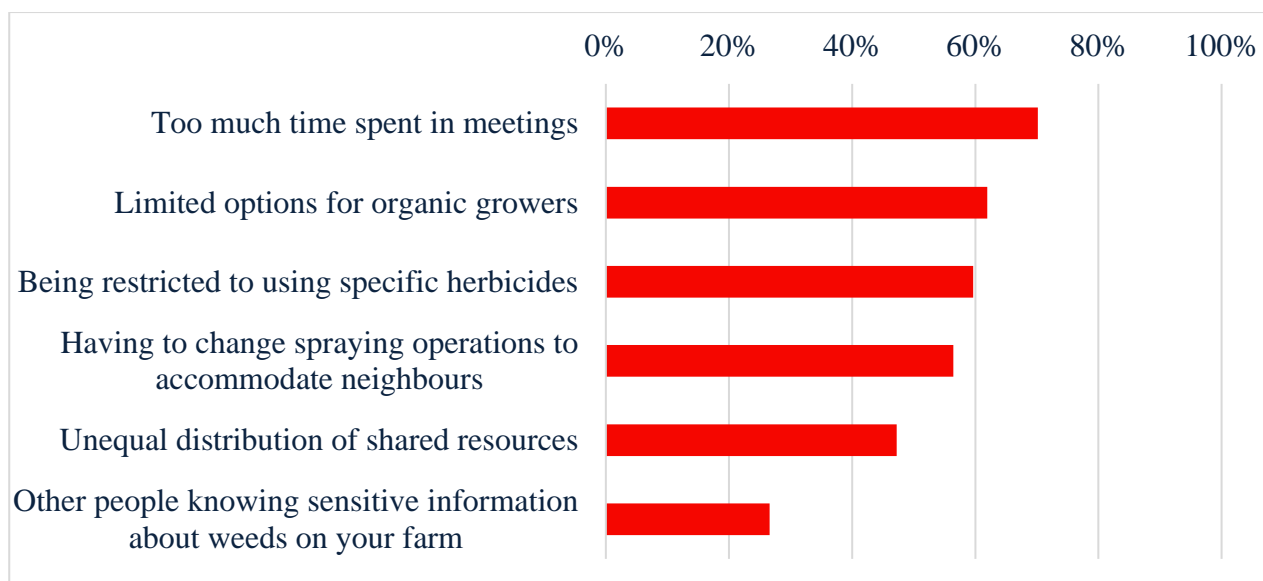


Figure 7. Proportion of growers who agreed that each cost would arise from managing weeds with other land managers.

Collaborative weed management practices

Growers were asked whether they are aware of land managers working together in their area on weeds and whether they participate in any such activities. Almost two-fifths (39%) of growers indicated that they believe that area-wide management of weeds occurs in their area but only 18% of growers participate in weed management activities that involve other land managers.

AREA-WIDE WEED MANAGEMENT PRACTICES

Given that there are diverse weed management practices that could be considered to constitute area-wide weed management, growers were asked to indicate the frequency with which they participate in six collaborative weed management practices (Figure 8).

Growers were most frequently get advice from an agronomist about weed management, with 61% of growers always doing so.



With respect to activities that involve other land managers, growers most frequently manage weeds on public property (29% do this frequently or always) and discuss weed management with neighbours (27% do this frequently or always).

Growers least frequently receive external support for weed management (65% never), work on weed management with government staff (45% never) or work with neighbours to manage weeds (39% never).

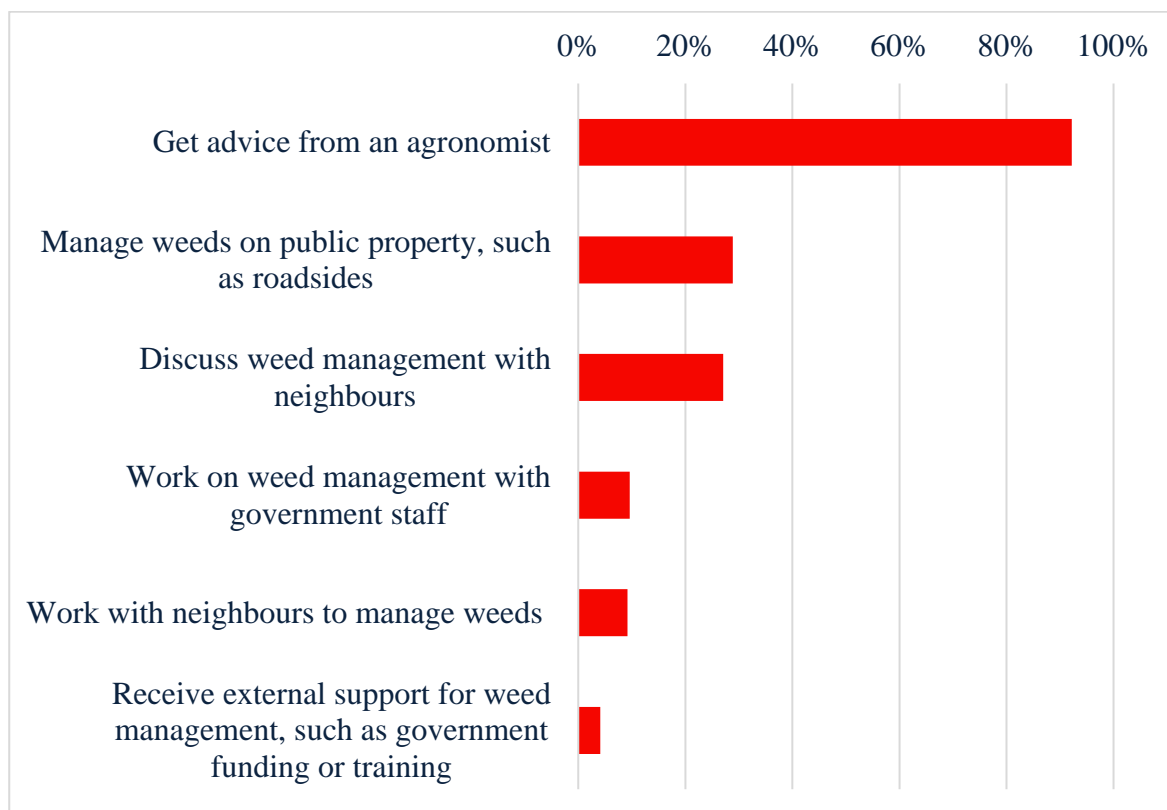


Figure 8. Proportion of growers who frequently or always participate in six collaborative weed management practices.

LIKELIHOOD OF PARTICIPATING IN AWM IN FUTURE

A question was included in the survey to understand the extent to which growers may be willing to participate in nine collaborative weed management practices in future (Figure 9).

Growers indicated that they are most likely to share crop information with neighbours to minimise risk of damage from spray drift (36% very likely) and share information about weed management with other land managers (27% very likely).

Growers indicated that they would be least likely to collectively finance weed management activities with other land managers (80% unlikely or very unlikely), apply for external support to manage weeds (58% unlikely or very unlikely) or share equipment with other land managers (60% unlikely or very unlikely).





Figure 9. Proportion of growers who would be likely or very likely to participate in nine collaborative weed management practices in future.

Concluding remarks

The results presented in this report indicate high levels of agreement among growers about the need for collaboration and the benefits that can come from working together on weeds. There are also common concerns about the costs of participating in area-wide management. Next, the project team will examine what factors explain whether growers participate in collaborative weed management activities. In the interim, these preliminary results provide a snapshot of what is important to growers in the Riverina region of Australia, which need to be taken into account when designing and implementing area-wide weed management strategies.