

# **Questionnaire - National assessment of weed spread prevention tools**

## **Summary**

There is clear indication that governments, industries and other organisations have a commitment to minimising weed spread. In general there was a high awareness of legislation and other tools used to minimise weed spread, but there wasn't one single approach or tool considered by the majority of respondents as either being 'not effective' or 'highly effective'. The common response for most questions was 'slightly effective' or 'don't know if effective'. Exceptions to this are legislation covering the deliberate spread of known weeds and State and National programs targeting specific weeds (e.g. Weeds of National Significance, serrated tussock management in Victoria, Siam weed management in Queensland).

## **Introduction**

The questionnaire was developed as a means of assessing the effectiveness of efforts to prevent the spread of weeds, in particular their seeds (and other propagules). Since objective data was not available it was deemed necessary to record and assess the opinions of people and organisations involved in weed management.

## **Survey methodology**

### **Questionnaire development**

An extensive literature search was undertaken to find and list the methods and tools used in Australia to minimise weed spread (Appendix 1 - Attachments 1 to 3). The initial attempts at developing the questionnaire involved listing all the methods and tools and asking participants to rate their effectiveness. Feedback from the overseeing group was that this method was too onerous. The questionnaire was then developed in conjunction with a social scientist, with experience in the area of surveying people on pest management, to ensure that:

- A greater proportion of people would answer the questions
- The questionnaire was appropriate for the target audience
- The questions would provide meaningful results and could be answered by people managing weeds under different statutes and using different tools.

### **Questionnaire design**

The questionnaire consisted of a cover sheet, recording each participant's organisation details, and a number of questions in the following categories:

- a. Legislation
- b. Approaches taken by the Commonwealth, States and Territories governments
- c. Tools used:
  - i. To prevent the sale or movement of contaminated products and materials

- ii. To prevent the movement of contaminated machinery and vehicles
- iii. To prevent the sale of weeds
- iv. To identify contaminated products and weed infestations
- v. Such as weed programs
- vi. Such as other weed prevention tools.

Participants were asked to rate each approach/tool against an effectiveness scale. The questions were further divided into States, Territories and, where necessary, Commonwealth. Participants could answer for any State, Territory or Commonwealth if they felt they had the knowledge. The last question invited participants to add any additional comments.

All responses received were treated confidentially.

### **Questionnaire distribution**

The questionnaire and covering letter (Appendix 1) were sent to 264 organisations involved in weed management including:

- Local, state and commonwealth governments
- Industry organisations
- Community/conservation groups
- Control boards
- Research groups
- Government committees
- Indigenous land managers

The letter emailed or sent to each organisation requested a person dealing with policy and strategies and a person dealing with the on ground operation complete the questionnaire.

### **Results**

The questionnaire was sent to 264 organisations, with 71 responses received, producing a response rate of 27%. The response rate is considered fair but the small sample size limits the type of analysis available. Simple tables and bar charts were produced and trends determined. Statistical analysis of the data to determine significance levels was not attempted.

### **Information on survey respondents**

The organisations that responded were grouped as shown in Table 1.

Table 1: The number of respondents by type of organisation.

<b>Organisation Type</b>	<b>Number of respondents</b>
Electricity	3
Environment management group	15
Exploration and Mining	3
Government Committee	1
Indigenous Organisation	1
Industry Association	3
Local Government	16

Mining - representative peak group	1
Plant Control Auth or Board	6
Primary Industry Organisation	2
Primary Industry Association	5
Research	2
State Government	12
Weed Control Contractor	1
<b>Total</b>	<b>71</b>

Local and State government was well represented, with no responses received from employees of the Australian Government.

Table 2 shows the area of interest for respondents, with the least number of respondents having a national focus.

Table 2: Area of interest for respondents

<b>Area of Interest</b>	<b>Number of Respondents</b>
Local	15
Regional	13
State	18
National	5
Regional, local	6
Regional, state	3
State, regional, local	5
Local, state, national	2
Local, regional, state, national	4
Total	71

The majority of respondents identified their role as policy, followed by on ground control (Table 3). Only one respondent was involved in research and three respondents involved in regulation. Project management role included a number of positions involved in project coordination.

Table 3: The role of respondents

<b>Role</b>	<b>Number of Respondents</b>
On ground control	13
Assist regional weed management Committee	1
Policy	22
Policy & on ground control	11
Policy & research	1
Policy and regulation	3
Project management	7
Total	58

## Organisations view to managing weed spread

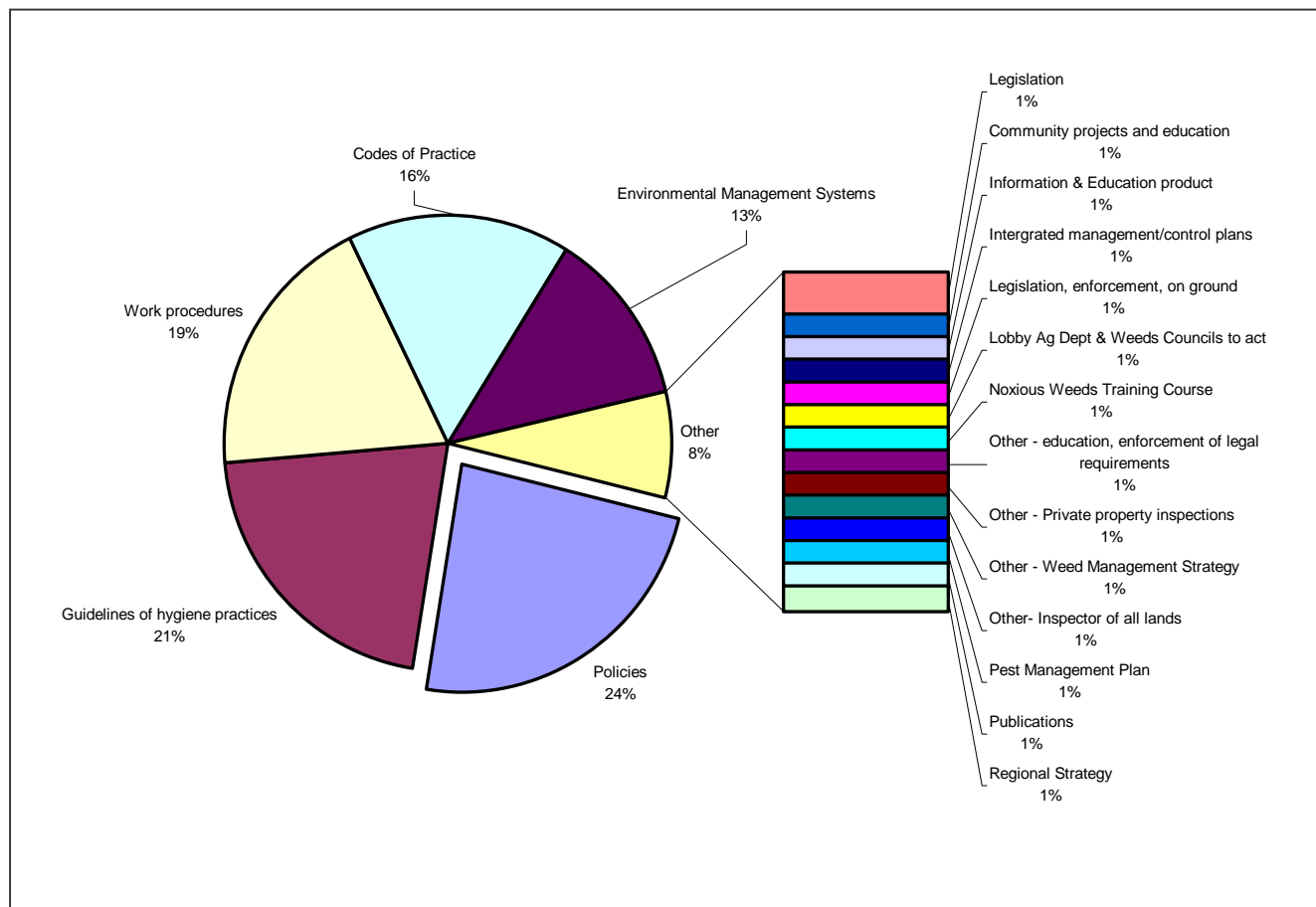
Organisations perceptions of their obligation in and commitment to preventing weed spread was assessed by the following questions:

- Does your organisation believe it has an obligation to prevent the spread of weeds?
- Is your organisation committed to prevent the spread of weeds?
- Does your organisation use any of the following to prevent the spread of weeds? (please tick):
  1. Policies
  2. Environment Management Systems
  3. Codes of practice
  4. Guidelines on hygiene practices aimed at preventing weed spread
  5. Work procedures
  6. Other (please describe)

A very positive result was achieved for all questions, with 90% of respondents answering true to question 1, 96% answering true to question 2 and 90% of organisations having processes and or documents aimed at addressing weed spread. The few respondents that answered false for the questions based their answer on purely legal interpretation of their obligations, although they did comment that the issue was important.

The most common tool used by organisations was policy, followed by guidelines on hygiene practices aimed at preventing weed spread (Figure 1).

Figure 1: Prevention tools used by organisations



## Assessment of mechanisms and tools

This section comprised the body of the questionnaire and asked specific questions to evaluate existing processes and tools to minimise weed spread. A respondent could answer the questions for any state, territory or nationally that they felt confident in responding to. In general more respondents evaluated the questions for Queensland and NSW compared to other States and Territories (Table 4).

Table 4: Responses for Legislation question 1a, as an example

The percentage responses by state or territory were similar throughout the questionnaire.

State or Territory	% Number of responses
ACT	7%
NSW	17%
NT	7%
QLD	24%
SA	14%
TAS	11%
VIC	9%
WA	11%

### 1. Legislation

Respondents were asked to evaluate the effectiveness of legislation within each State and Territory to:

- a. Prevent weeds being sold or purchased
- b. Prevent the deliberate spread of known weeds
- c. Prevent the unintentional spread of known weeds
- d. Prevent movement of agricultural products contaminated with known weeds and their seeds
- e. Prevent movement of landscaping products contaminated with known weeds and their seeds
- f. Prevent movement of machinery contaminated with known weeds and their seeds
- g. Ensure the safe storage or disposal of known weeds and any material contaminated with known weeds and their seeds

A common response for all questions was “didn’t know if effective” and “slightly effective”. Comments received indicated that these responses were due to the lack of objective information for respondents to base their answer on. The need for objective information to assess the effectiveness of processes and tools was a common comment throughout the questionnaire. The least common response ticked was ‘very effective’ for all questions, with ‘not effective’ or ‘unaware of legislation/doesn’t exist’ jockeying for second place.

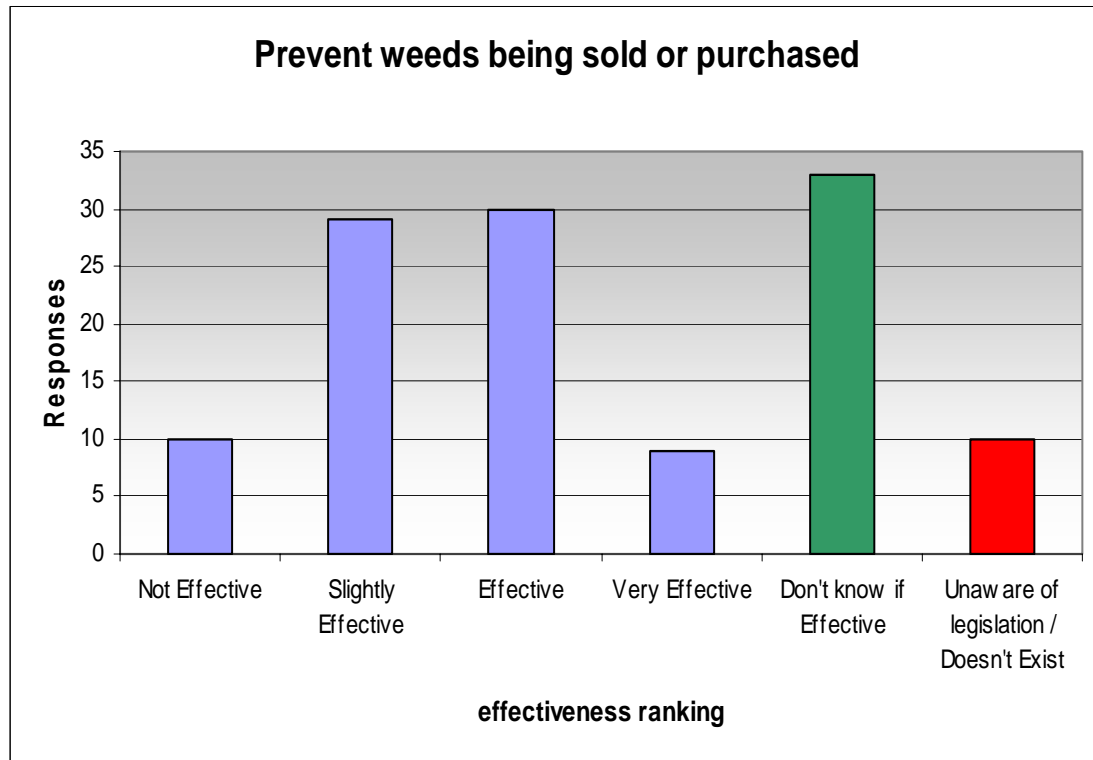
There was no obvious trend in the data with more positive responses for legislation dealing with preventing weeds being sold or purchased and preventing the deliberate spread of weeds than for the other categories.

### ***1a Prevent weeds being sold or purchased***

or Slightly Effective” ratings.

Comments associated with the effective ratings tended to be similar and included the need for declared lists to be extended and legislation to be enforced and communicated. These comments also were given as the main reasons why many respondents thought that legislation was not effective.

Figure 2. Prevent weeds being sold or purchased

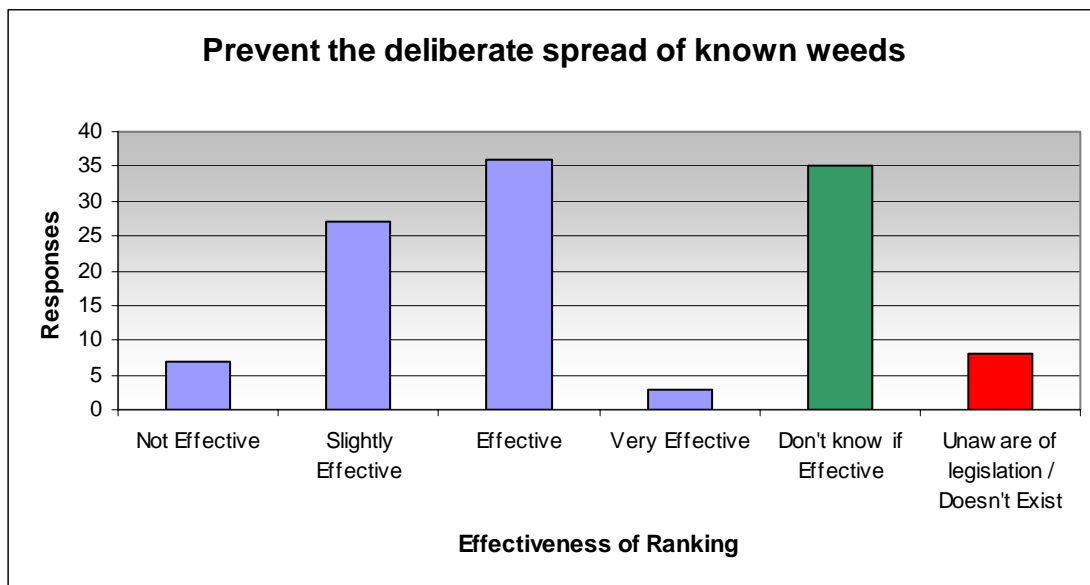


### ***1b Prevent the deliberate spread of known weeds***

The highest response for this question (31%) was that the existing legislation was effective, with NSW and Qld providing the greatest contribution. ACT and NT had the highest proportion in the “Don’t know if effective”. Vic had a high proportion in the slightly effective category. Tasmania recorded high values in the ‘effective’ and ‘don’t know if effective’ categories. The comments associated with the effectiveness rankings were predominately examples of what was effective and include: ‘Plant me instead program’ in NSW, Qld wash-down facilities and roadside spraying and Tasmania island border and declared weeds.

Comments associated with the other ratings were: the lack of resources and enforcement and also the NSW clause in their legislation “to knowingly spread” and the need for industry self-regulation.

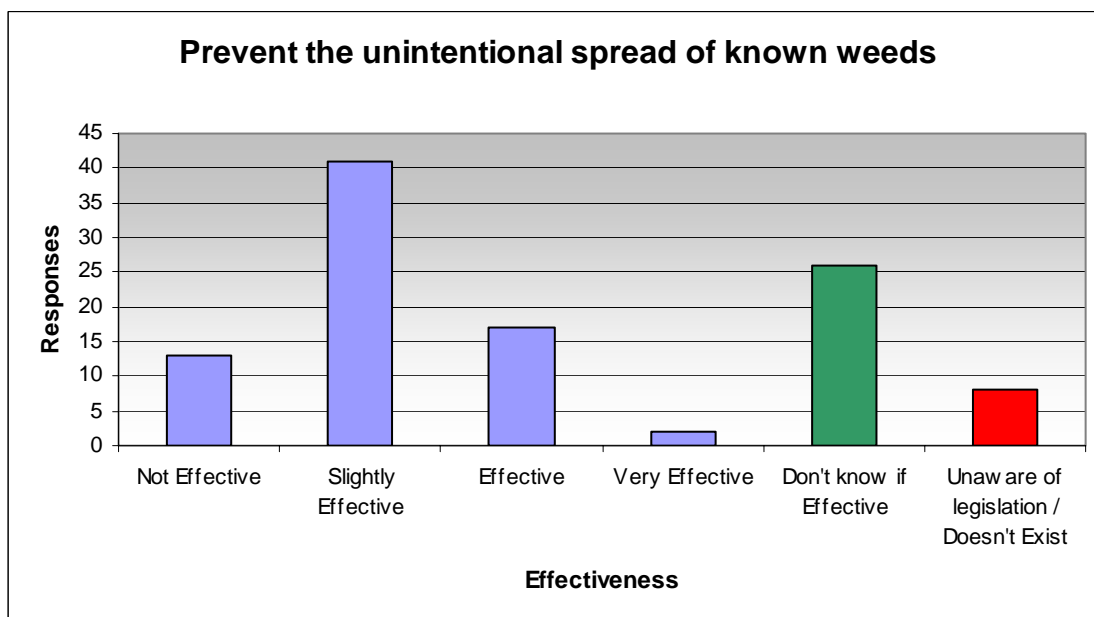
Figure 3. Prevent the deliberate spread of known weeds.



***1c Prevent the unintentional spread of known weeds***

The highest proportion of responses for all states was 'Slightly effective'. The highest response for the territories was 'Don't know if effective'. A common comment was that as it dealing with unintentional spread this by its nature was hard to prevent. Other comments included the need for existing legislation to be implemented, communicated and enforced.

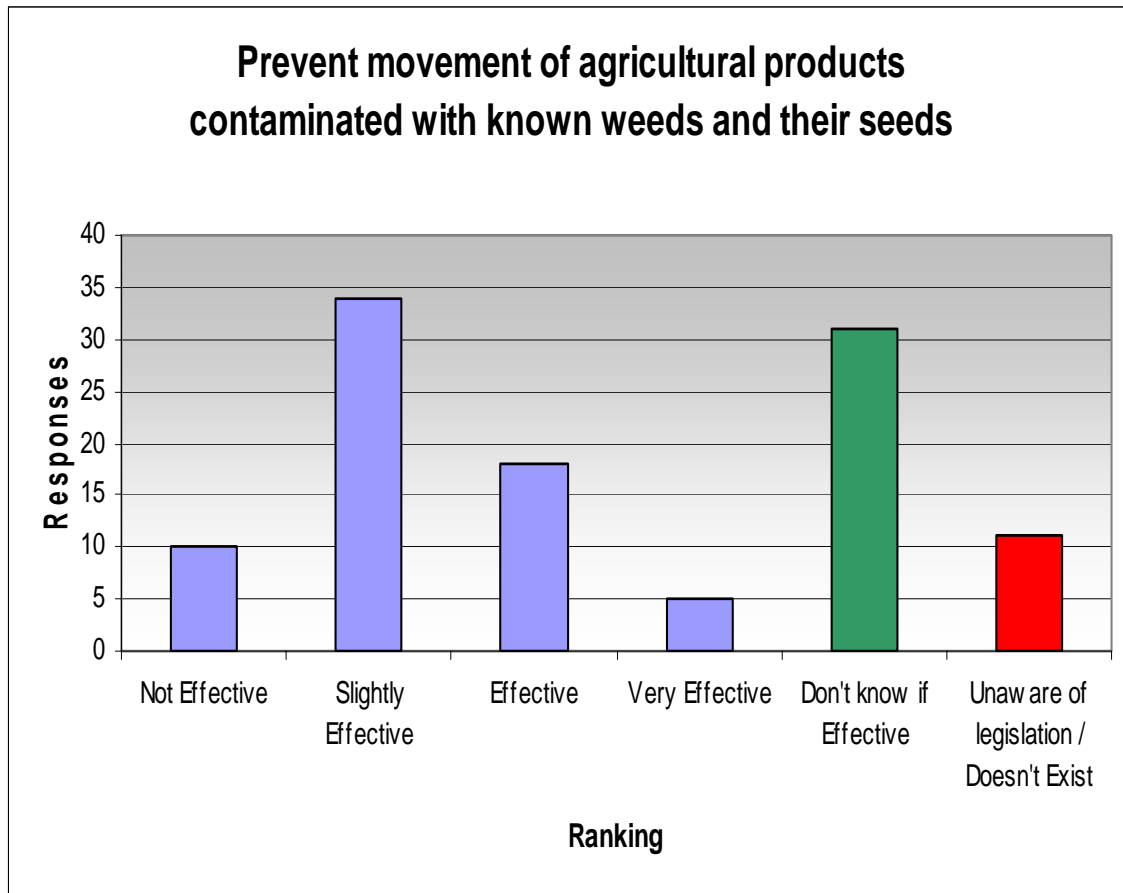
Figure 4. Prevent the unintentional spread of known weeds.



***1d Prevent movement of agricultural products contaminated with known weeds and their seeds***

The highest response (31%) for this question was that the existing legislation was slightly effective, this rating recording high values for all States. The second highest response was 'Don't know if effective'; recording high values for the Territories.

Figure 5. Prevent movement of agricultural products contaminated with known weeds and their seeds.

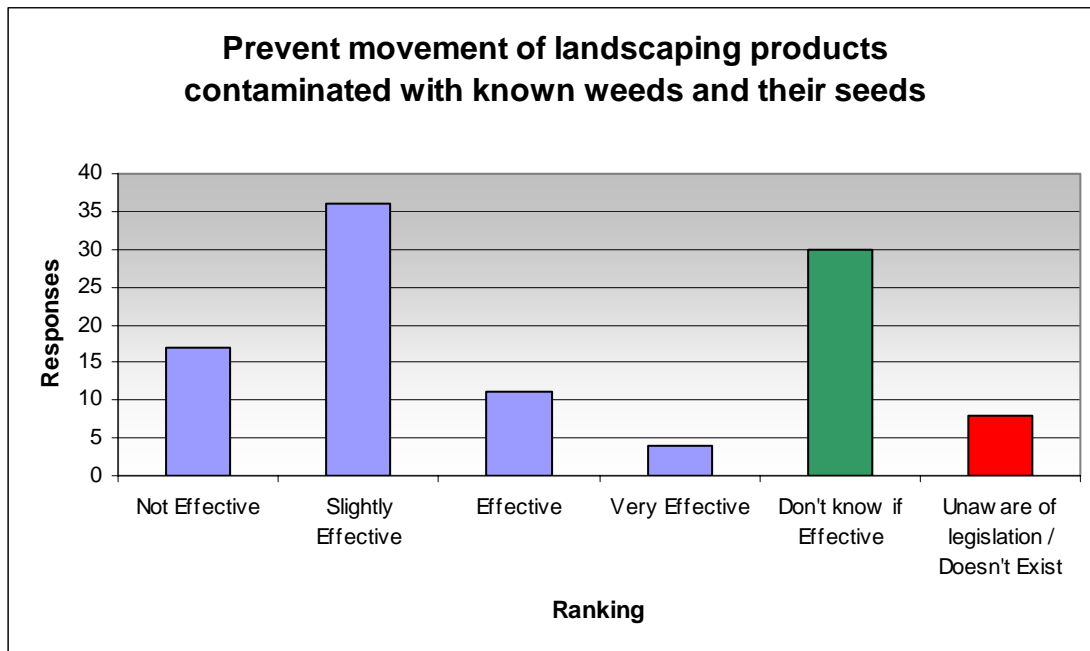


***1e Prevent movement of landscaping products contaminated with known weeds and their seeds***

The highest number of responses fell into 'Slightly effective' and it had the highest response rate for NSW, Qld, SA and Vic. The highest response rate for ACT, NT and Tas was 'Don't know if effective, with WA having equally high scores for 'Not effective', 'Slightly effective' and 'Don't know if effective'.

The comments generally were on the need for additional regulations and compliance activities.

Figure 6: Prevent movement of landscaping products contaminated with known weeds and their seeds.

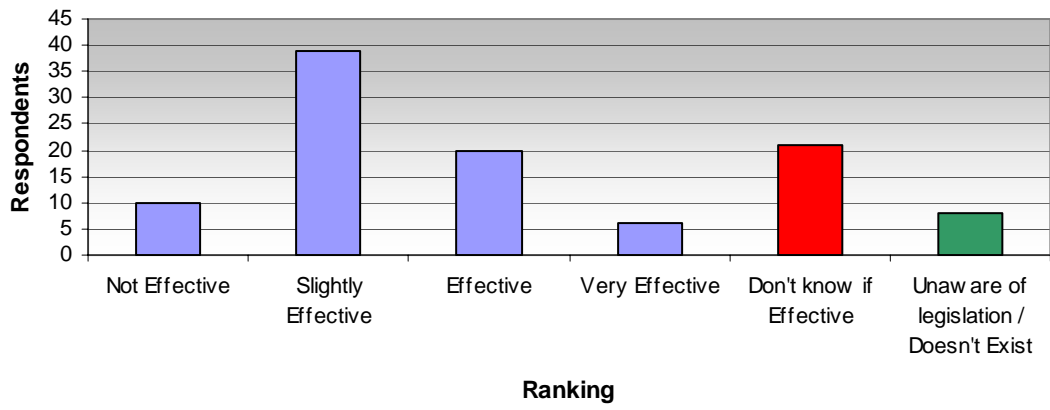


***If Prevent movement of machinery contaminated with known weeds and their seeds***

The highest proportion of responses for all States and Territories, except NSW and ACT was 'Slightly effective'. NSW highest response was in the 'Effective' rating and comments indicate that this is due to inspections at the Qld and NSW border. ACT highest values were recorded for 'Don't know if effective' and 'Slightly effective'. Additional comments provided examples of activities considered effective such as the Parkinsonia weed programs and border inspections. The other comments related to failings such as the need for awareness, enforcement, and inconsistency in application across industries.

Figure 7. Prevent movement of machinery contaminated with known weeds and their spread.

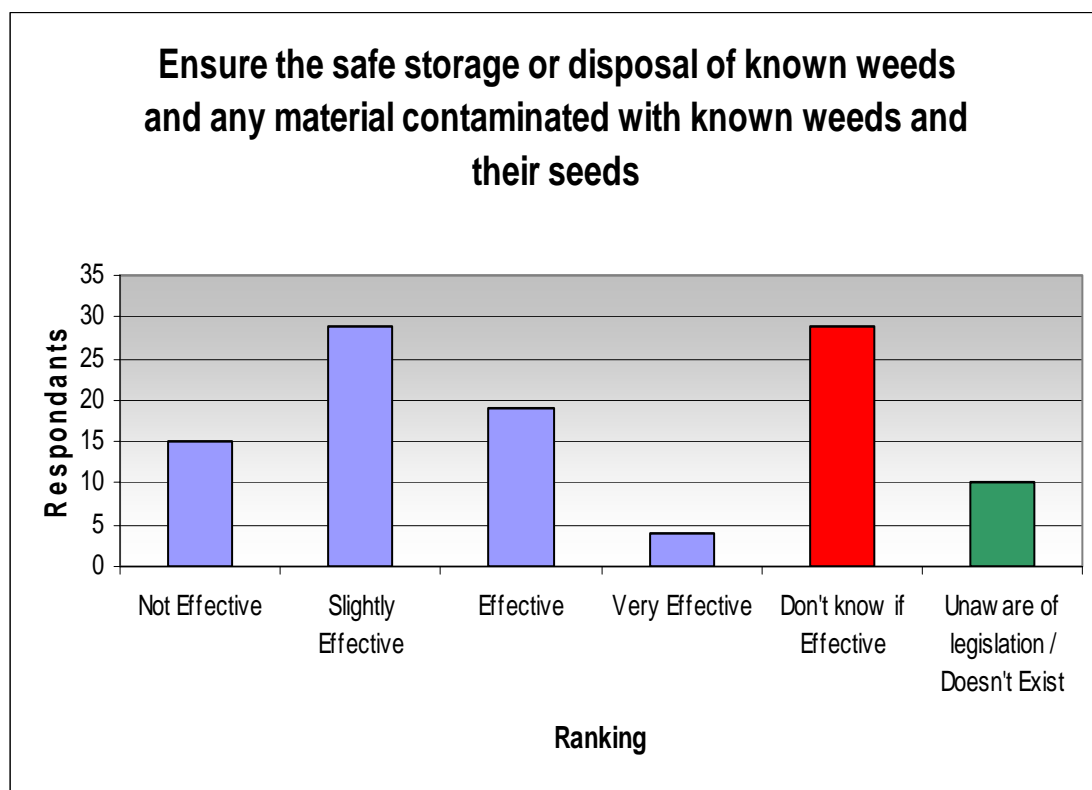
### Prevent movement of machinery contaminated with known weeds and their spread



***1g Ensure the safe storage or disposal of known weeds and any material contaminated with known weeds and their seeds***

Responses from all states and territories were fairly evenly split between ‘Slightly effective’ and ‘Don’t know if effective’. Except for NSW with the response fairly even between ‘Not effective’, ‘Effective’ and ‘Slightly effective’ and Vic with an even split between ‘Not effective’ and ‘Don’t know if effective’. Only a few comments were received for this question.

Figure 8. Ensure the safe storage or disposal of known weeds and any material contaminated with known weeds and their seeds.



**2. Approaches taken by the Commonwealth, States and Territories governments**

To ascertain how effective the approaches taken by the Commonwealth and individual state and territory governments, the following three questions were asked:

- a. Are the approaches taken by the Commonwealth, States and Territories governments effective in preventing the introduction of known weeds?
- b. Are the approaches taken by the Commonwealth, States and Territories governments effective in controlling the spread of weeds?
- c. Are the approaches taken by the Commonwealth, States and Territories governments effective in managing existing weeds?

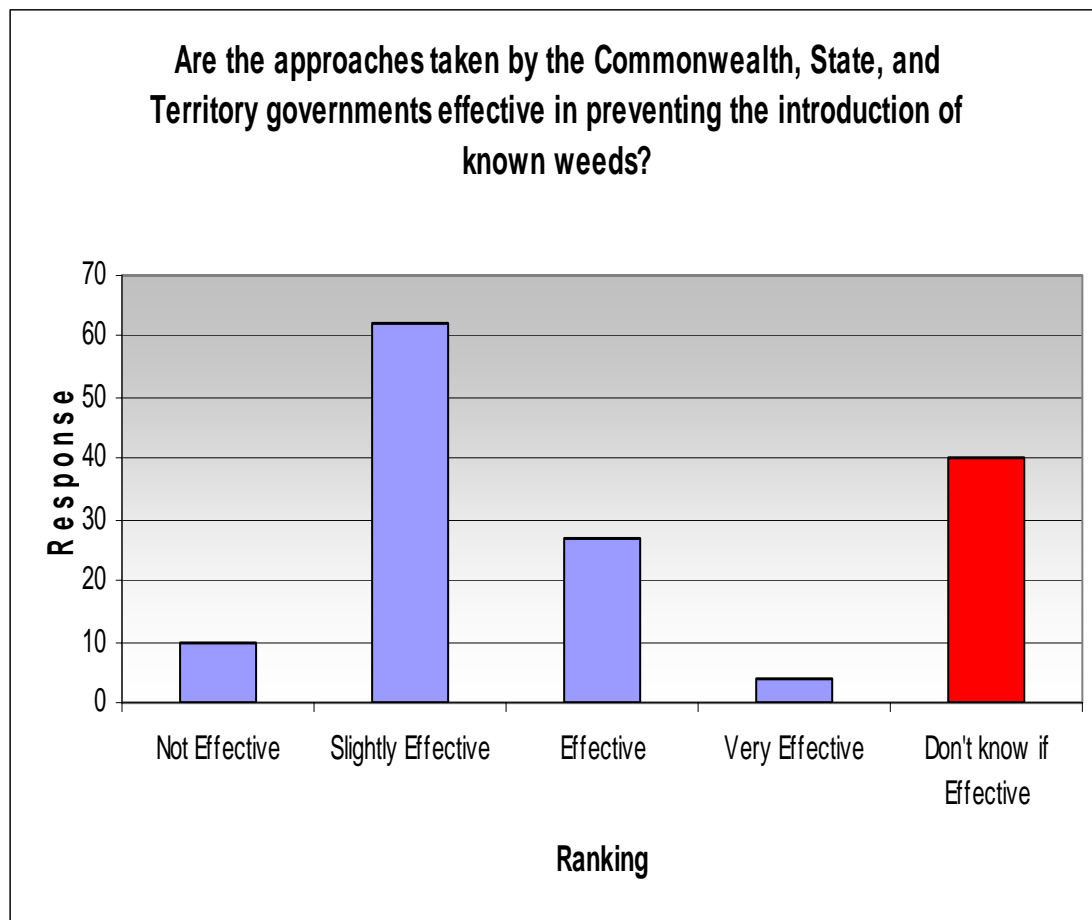
Responses to all three questions had a similar pattern; highest recorded ranking being ‘Slightly effective’ followed by ‘Don’t know if effective’ then ‘Effective’. The

lowest recorded ranking was 'Highly effective'. The need for more resources being the most frequent comment.

**2a Are the approaches taken by the Commonwealth, States and Territories governments effective in preventing the introduction of known weeds?**

All States had a high number of responses in the 'Slightly effective' category with the ACT and NT having a high number of responses in the 'Don't know if effective' category. The Commonwealth, Tas and WA also had a high number of responses in the 'Effective' category. The main comment received was that resources were insufficient and that the Commonwealth was letting too many species into Australia.

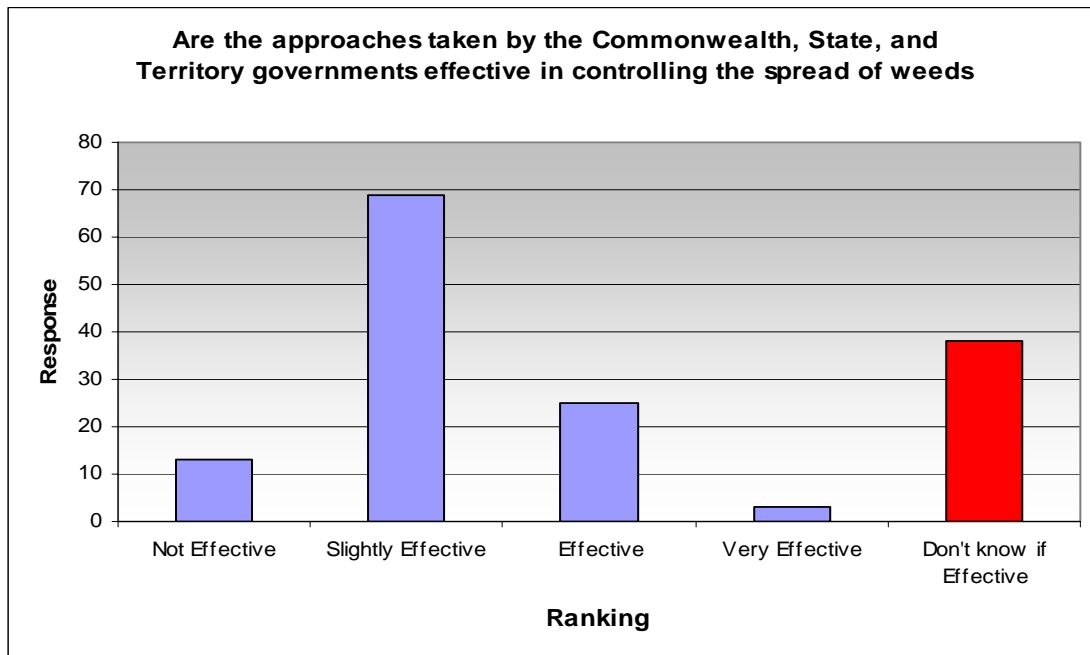
Figure 9. Are the approaches taken by the Commonwealth, State, and Territory governments effective in preventing the introduction of known weeds?



**2b Are the approaches taken by the Commonwealth, States and Territories governments effective in controlling the spread of weeds?**

The commonwealth and the States had the highest number of responses in the 'Slightly effective' category except for Tasmania. The ACT and NT had a high number of responses in the 'Don't know if effective' category. The responses for Tas was mixed with similar results for 'Slightly effective', 'Effective' and the 'Don't know if effective' category. The comments were limited and were based on the need to undertake more work and for more resources.

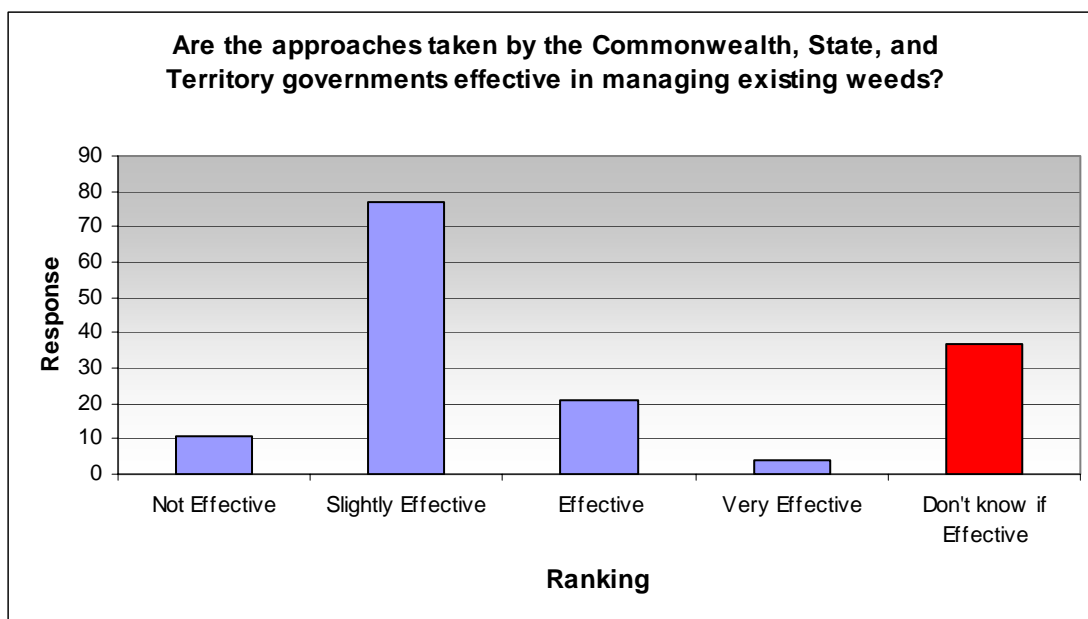
Figure 10. Are the approaches taken by the Commonwealth, State, and Territory governments effective in controlling the spread of weeds.



***2c Are the approaches taken by the Commonwealth, States and Territories governments effective in managing existing weeds?***

The States and the Commonwealth had the highest number of responses in the 'Slightly effective' category except for Tasmania. The ACT and NT had a high number of responses in the 'Don't know if effective' category. The responses for Tas was mixed with similar results for 'Slightly effective', 'Effective' and the 'Don't know if effective' category. The comments were mixed with no consistent theme.

Figure 11. Are the approaches taken by the Commonwealth, State, and Territory governments effective in managing existing of weeds.



### **3. Tools used to prevent the sale or movement of contaminated products and materials**

Participants were asked to rate the effectiveness of the following tools used to prevent the sale or movement of contaminated products and materials:

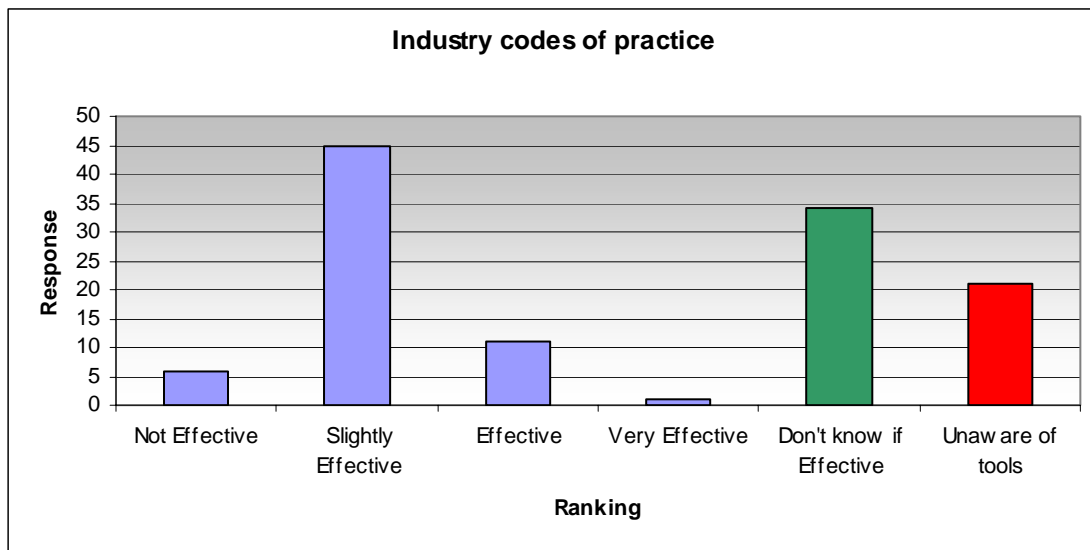
- a. Industry codes of practice
- b. Vendor declarations
- c. Management Plans
- d. Certification System
- e. Best Practice/Quality Assurance
- f. Provision of inspections services
- g. Education and awareness raising material

The majority of participants did not consider any of these tools effective. Many participants considered industry codes of practice, vendor declarations and education and awareness as slightly effective. The most common response for the other tools was 'Don't know if effective'. A high 'Effective' score was recorded for Qld in the Management Plans question and for SA in the Certification Systems question. A common thread through the comments was the need for resources and commitment for these tools to be effective.

#### ***3a. Industry codes of practice***

The most common category selected was 'Slightly effective' followed by 'Don't know if effective'. These two categories were the most selected for all States and Territories. The comments were generally on the limits of code of practices as they are not enforceable or not being enforced and they were based on self-regulation. Other comments were on the need to prevent contaminated goods leaving the farm as being the most effective form of prevention.

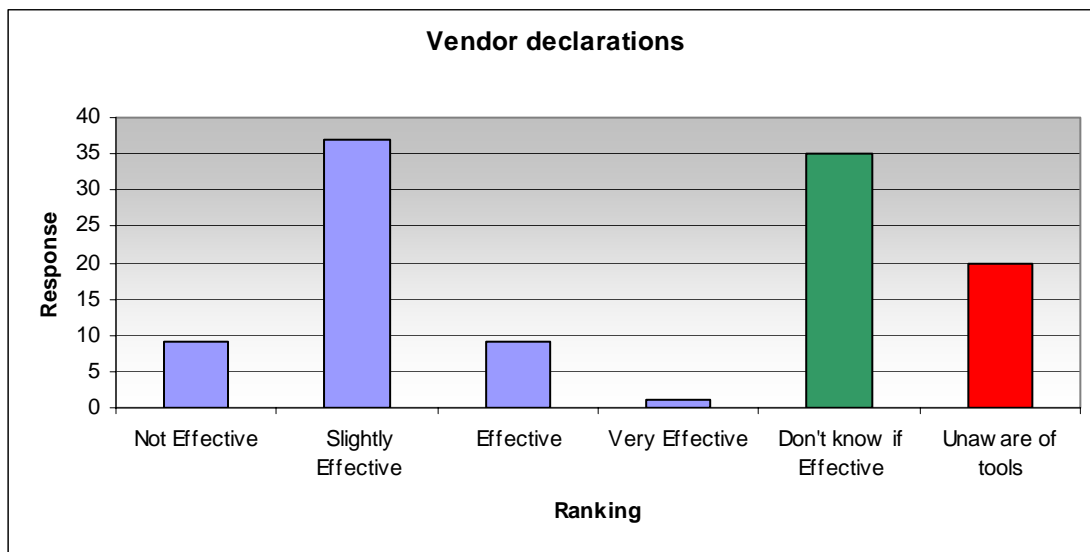
Figure 12. Industry codes of practice.



### ***3b. Vendor declarations***

The most common categories selected were 'Slightly effective' and 'Don't know if effective'. From the comments vendor declarations are not used in Vic or NT and only marginally used in other States and Territories. Other comments indicated that vendor declarations that are voluntary would only be slightly effective and to make vendor declarations effective they need to be enforced.

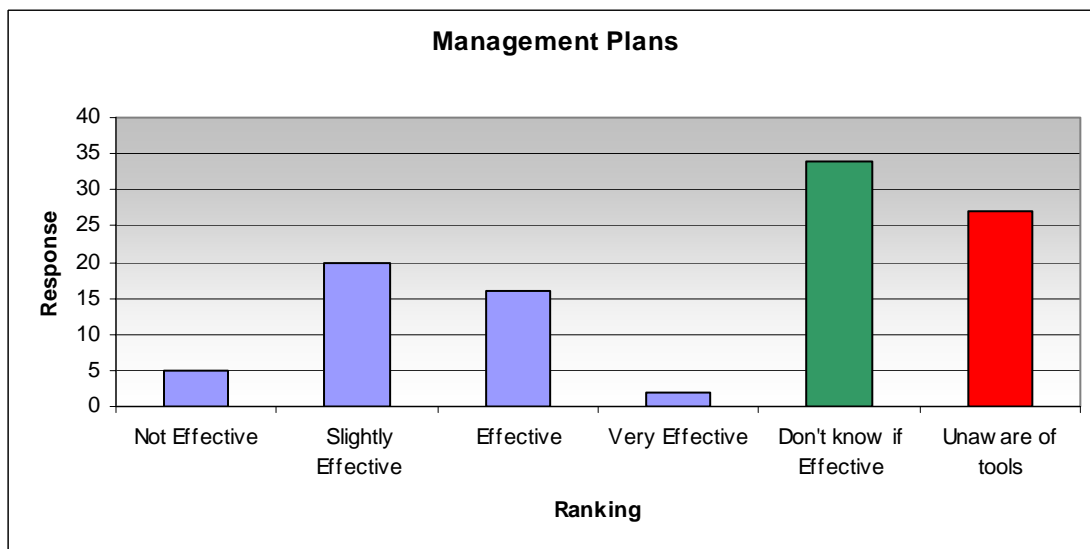
Figure 13. Vendor Declarations



### 3c. Management plans

The most common response for this question was 'Don't know if effective' and 'Unaware of tools'. The 'Effective' ranking was a common response for Queensland; the comments did not provide more specific information on what plans were effective.

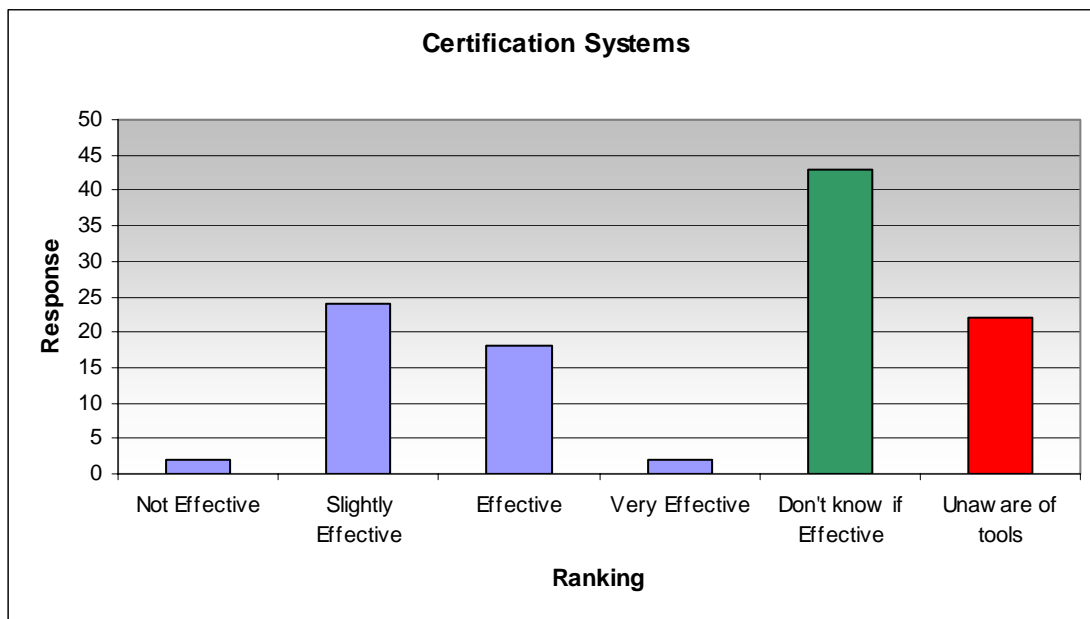
Figure 14. Management Plans



### 3d. Certification systems

The most common response to this question was 'Don't know if effective'. The exception was SA with over half of its respondents indicating that certification systems were 'Effective'. The comments were generally positive and in favour of certification systems.

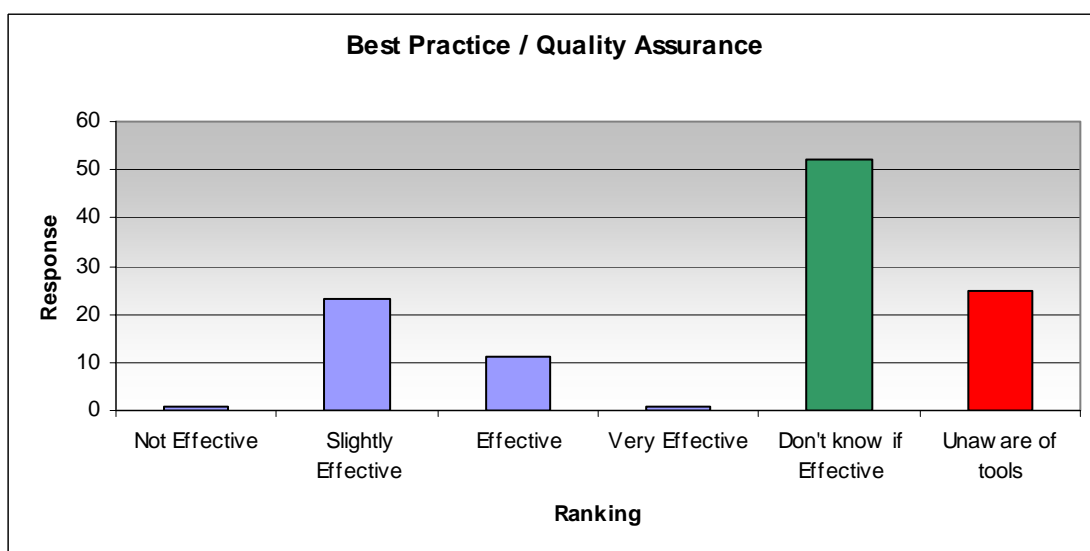
Figure 15. Certification Systems



**3e. Best practice/quality assurance**

The most common response to this question for all States, and Territories was 'Don't know if effective'. The comments included two examples of what was seen as effective or could be effective: GRT and Parthenium manuals and Weednet.

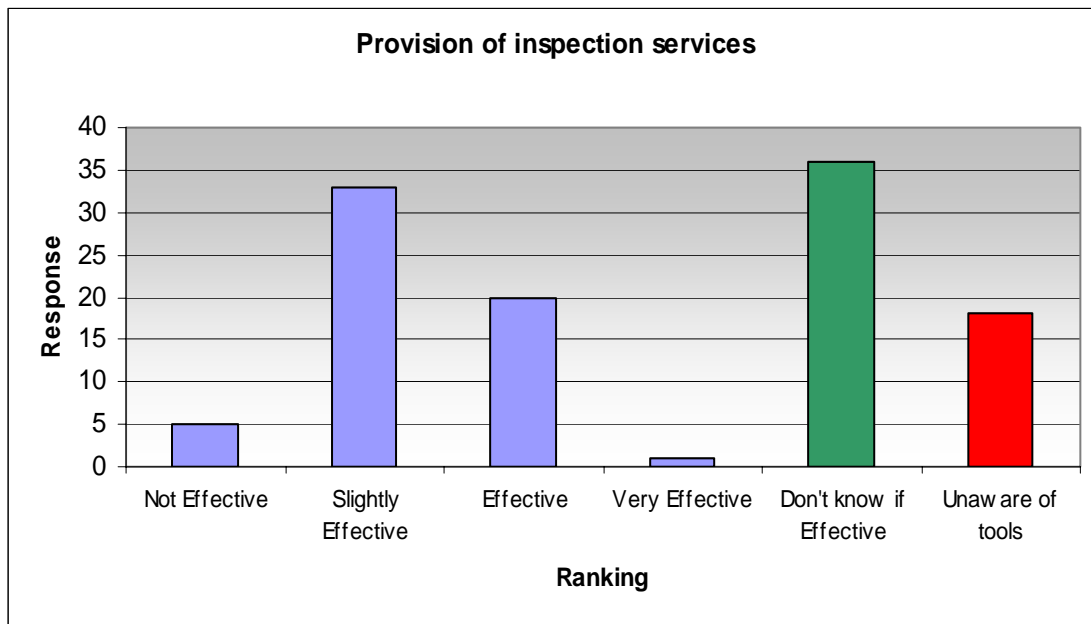
Figure 16. Best Practice/Quality Assurance



**3f. Provision of inspections services**

The most common response was 'Don't know if effective' followed closely by 'Slightly effective'. The comments received were generally in favour of inspection services but only if they were adequately resourced and universally applied.

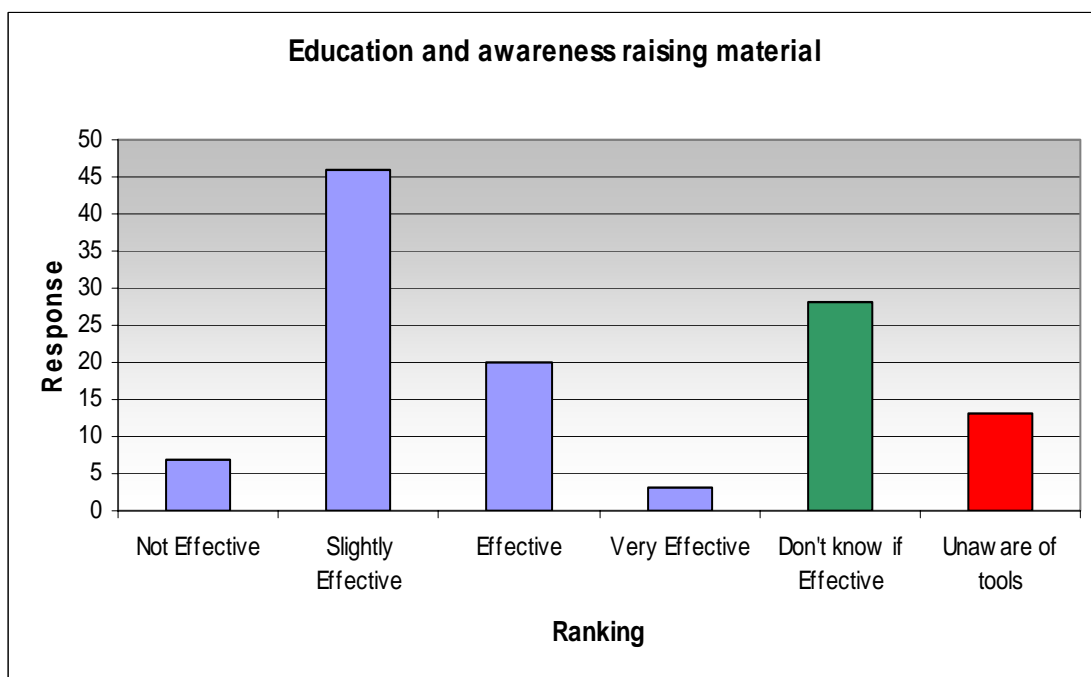
Figure 17. Provision of inspection services



**3g. Education and awareness raising material**

The most common response was 'Slightly effective'. ACT, NT and Tas had high values for 'Don't know if effective' and NSW and Qld also recorded high values for 'Effective'. Comments indicate that there were two major views to this tool; highly necessary or of only minimal value as only speaking to the converted.

Figure 18. Education and awareness raising material



#### 4. Tools used to prevent the movement of contaminated vehicles

Participants were asked to rate the effectiveness of the following tools used to prevent the movement of contaminated vehicles:

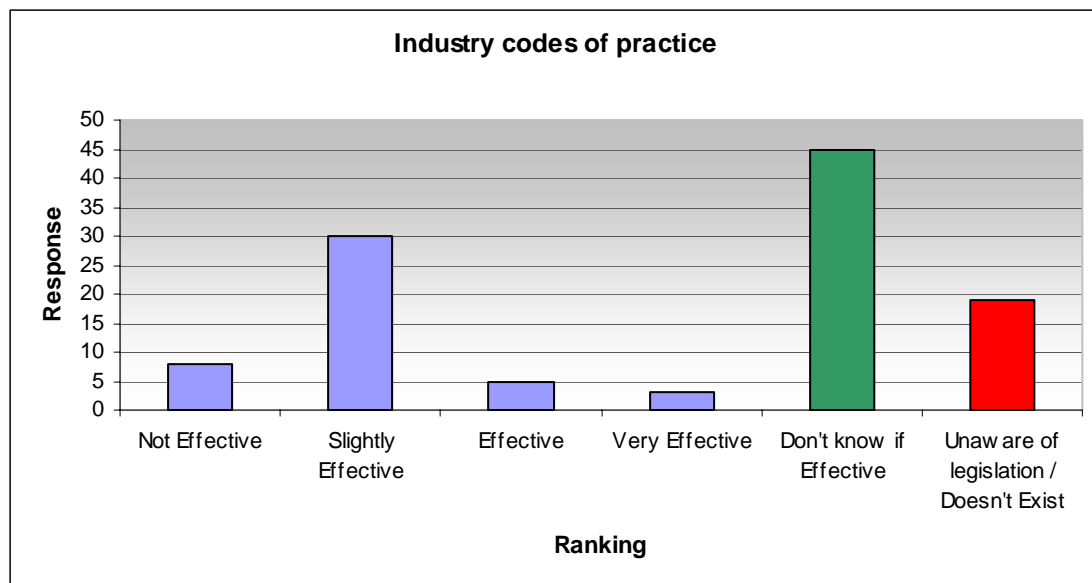
- a) Industry Codes of Practice
- b) Environmental Management Systems/Industry Standards
- c) Management Plans, protocols, procedures and guidelines
- d) Vendor declarations
- e) Product development & machinery design
- f) Provision of inspections services
- g) Education and awareness raising material
- h) Construction of wash down facilities for vehicles, trucks and other machinery

The most common response to the ratings of all tools was “Don’t know if effective”, except for ‘education and awareness raising material’ which scored highly in the ‘Slightly effective’ category. At a finer scale responses from NSW, Qld, Vic and Tas were generally in favour of all the tools but the comments indicated that commitment is needed to make them effective. Wash-down facilities, product development and machinery design, and management plans received good responses with comments on product development indicated that this was only a favourable concept which would require funding to make it happen.

##### 4a. Industry codes of practice

The most common response for all States and Territories was ‘Don’t know if effective’, except for Qld and WA where it was ‘Slightly effective’. The comments were that codes were or could be effective if there was commitment.

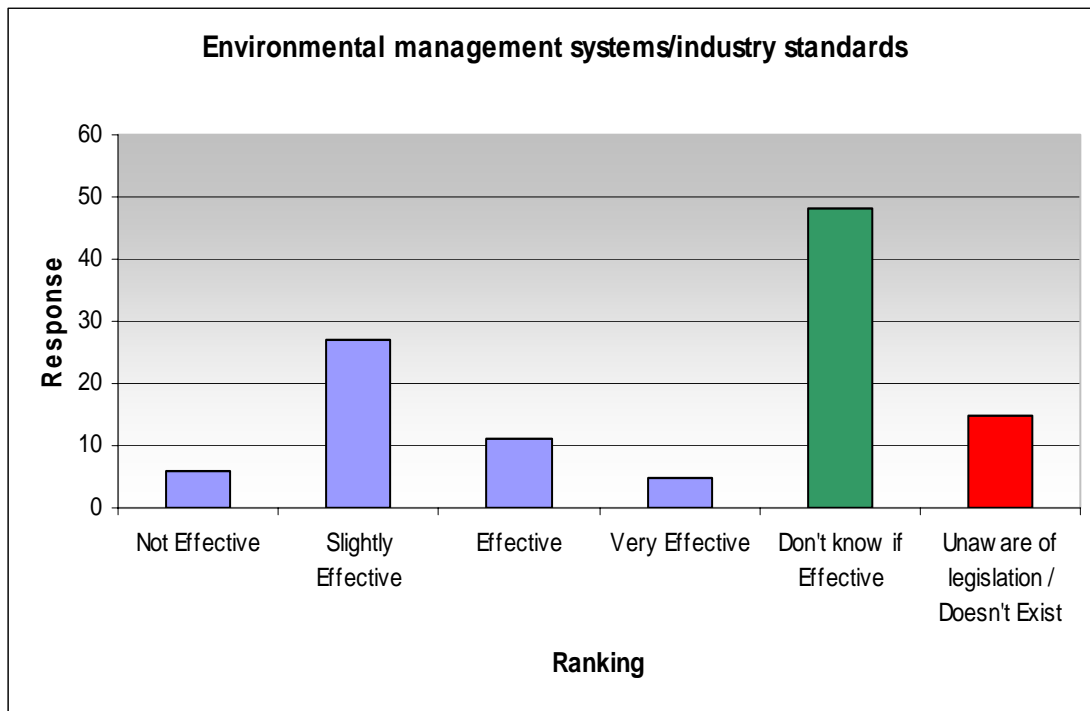
Figure 19. Industry codes of practice.



##### 4b. Environmental management systems/industry standards

The most common response for all States and Territories was ‘Don’t know if effective’, except for Qld where it was ‘Slightly effective’. The main comments received were: commitment is required to ensure effectiveness and that the resources industry already effectively utilise this approach.

Figure 20. Environmental management systems/industry standards

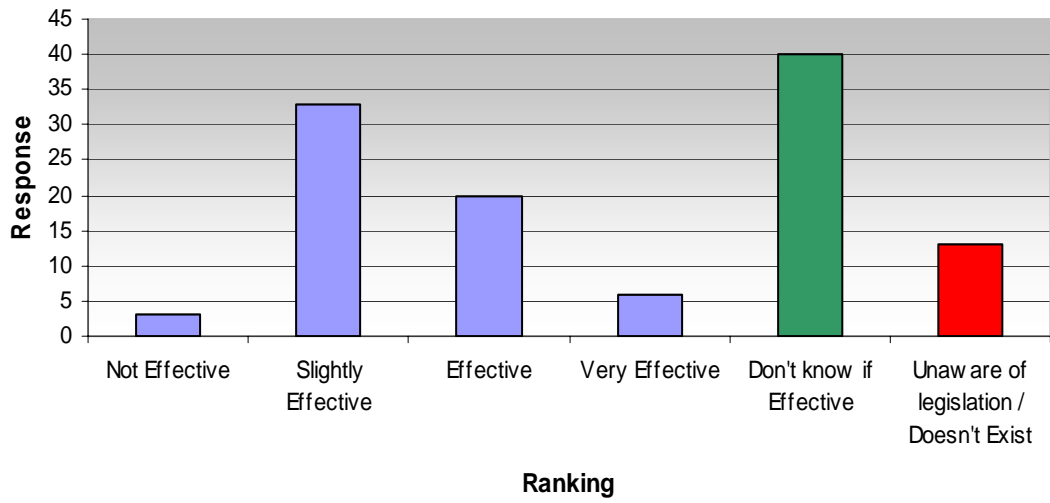


***4c. Management plans, protocols, procedures and guidelines***

There was a more positive response to this question than for the previous questions, although the greatest response overall was “Don’t know if effective”; there were more responses in the effective categories for NSW, Qld and WA. The comments received indicated that this is a good approach if adopted and that the informed industries/organisations already use this approach.

Figure 21. Management Plans, protocols, procedures and guidelines

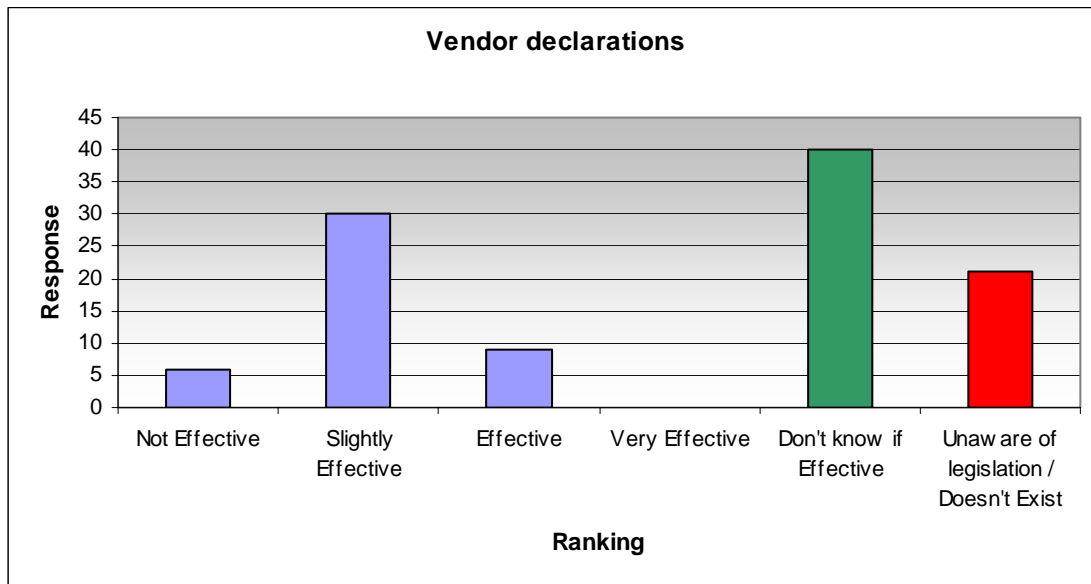
### Management Plans, protocols, procedures and guidelines



#### 4d. Vendor declarations

The most common response for all States and Territories was ‘Don’t know if effective’, except for Qld where it was ‘Slightly effective’. The comments indicated that this approach was under utilised and had potential in combating spread.

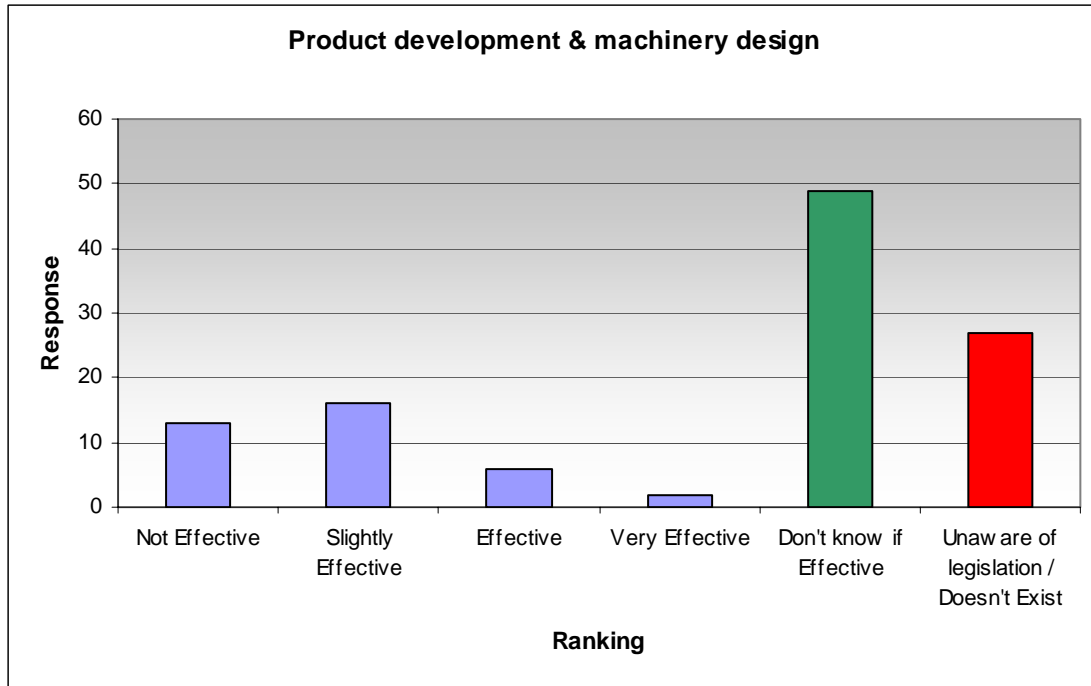
Figure 22. Vendor Declarations



#### 4e. Product development & machinery design

This question received the highest number of records in the “Don’t know if effective” category, for any question in this section. It was the most common response for all states and territories. The majority of comments were that it was something that was needed but would require funding.

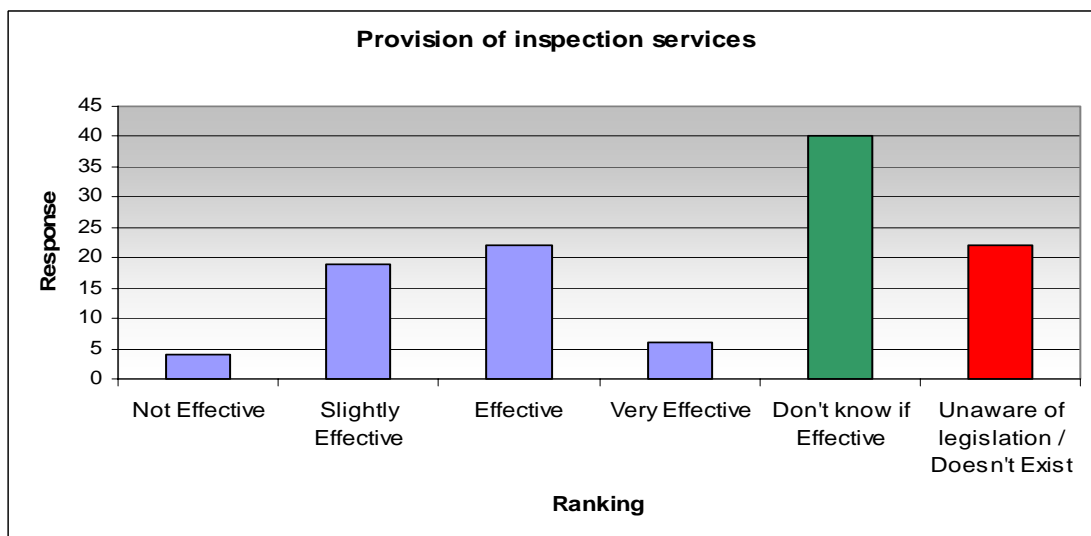
Figure 23. Product development and machinery design.



**4f. Provision of inspections services**

The most common response to this question for all states and territories was “Don’t know if effective”, with the exception of NSW and WA which had higher or equal number of responses in the ‘Effective’ category. This question, compared to other questions in this section, also had a higher number of responses in the ‘Effective’ category than the ‘Slightly effective’ category. These responses came from NSW, WA and Tasmania; states that have border quarantine.

Figure 24. Provision of inspection services.

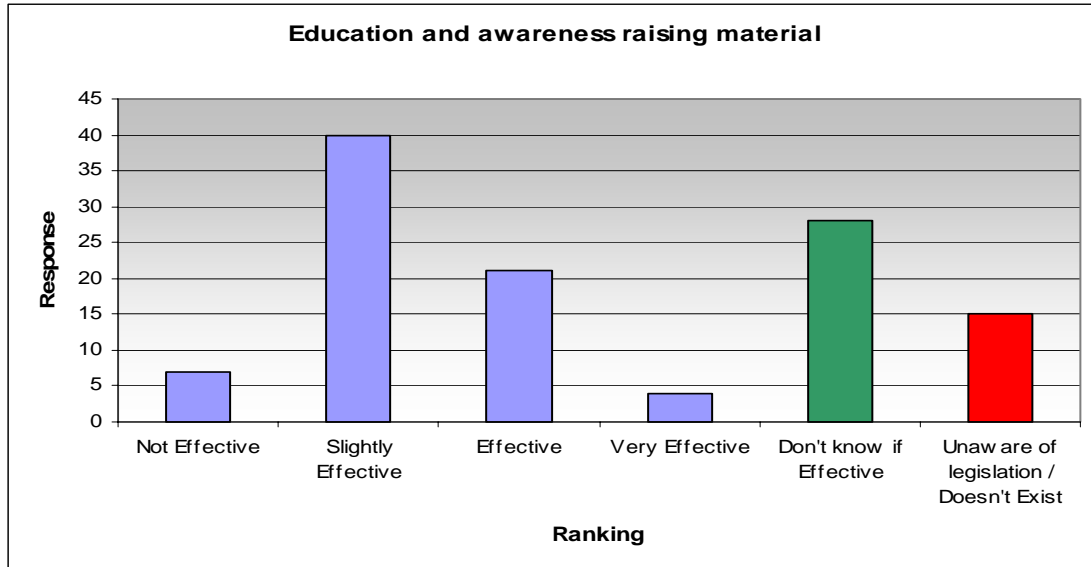


**4g. Education and awareness raising material**

The most common response to this question for all states and territories was “Slightly effective”, with the exception of ACT, NT and Tas. which had higher or equal

number of responses in the 'Don't know if effective' category. The 'Effective' category also recorded a sizeable component of responses especially for ACT, SA and Qld.

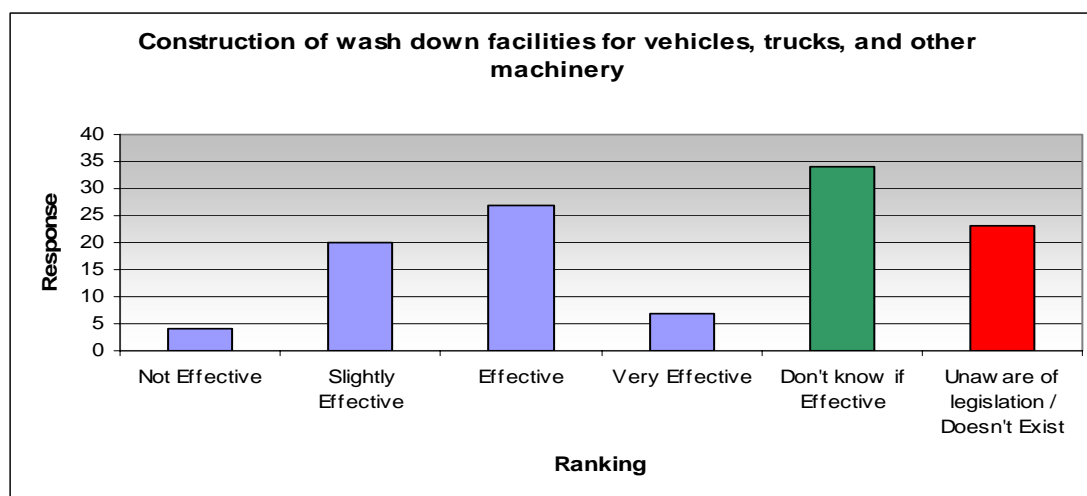
Figure 25. Education and awareness raising material



#### 4h. Construction of wash-down facilities for vehicles, trucks and other machinery

The response to this question followed no obvious trends. The responses from Queensland were predominately in the effective categories and it was the only state or territory to record a value (29% of responses) in the 'Very effective' category. NSW, Tas and Vic also had high numbers of responses in the 'Slightly effective' or 'Effective' categories with the responses from ACT, NT, SA in the 'Don't know if effective' or 'Unaware of legislation/Doesn't exist' categories. The comments favoured the use of wash-down facilities and the need to build new ones.

Figure 26. Construction of wash down facilities for vehicles, trucks, and other machinery.

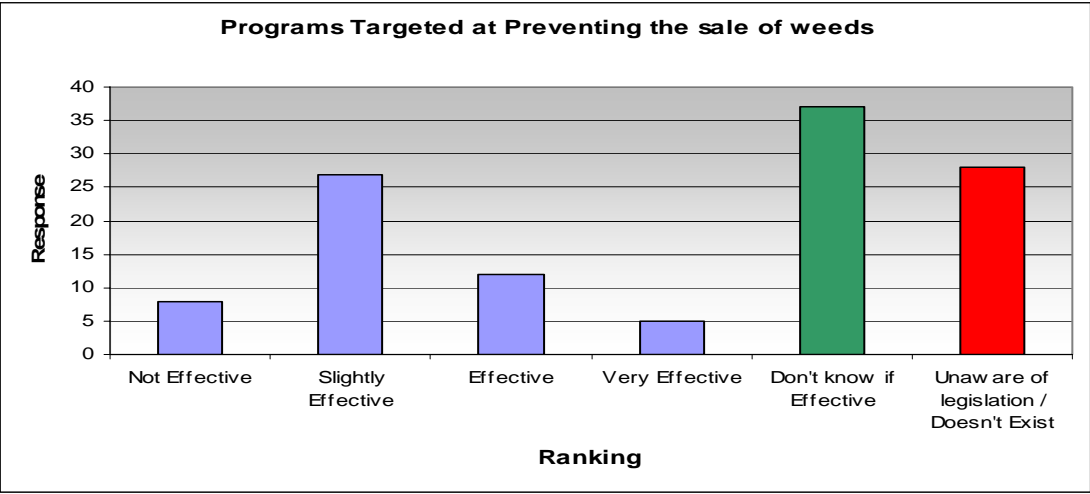


#### 5. Tools used to prevent the sale of weeds

Participants were asked to rate the effectiveness of any programs targeted at preventing the sale of weeds (*e.g. NSW Bushland Friendly Nursery Scheme, Garden Plants Under the Spotlight Program – developed by the horticultural industry, Weed CRC and Govt agencies*).

The most frequent response was 'Don't know if effective' followed by 'Unaware of legislation/Doesn't exist' and 'Slightly effective'. The states with high values in one of the effectiveness categories were NSW, Vic and WA. Comments indicated that many of the present programs could be more effective if they were better resourced and had legislation to provide some disincentive for selling weedy species.

Figure 27. Programs targeted at preventing the sale of weeds.

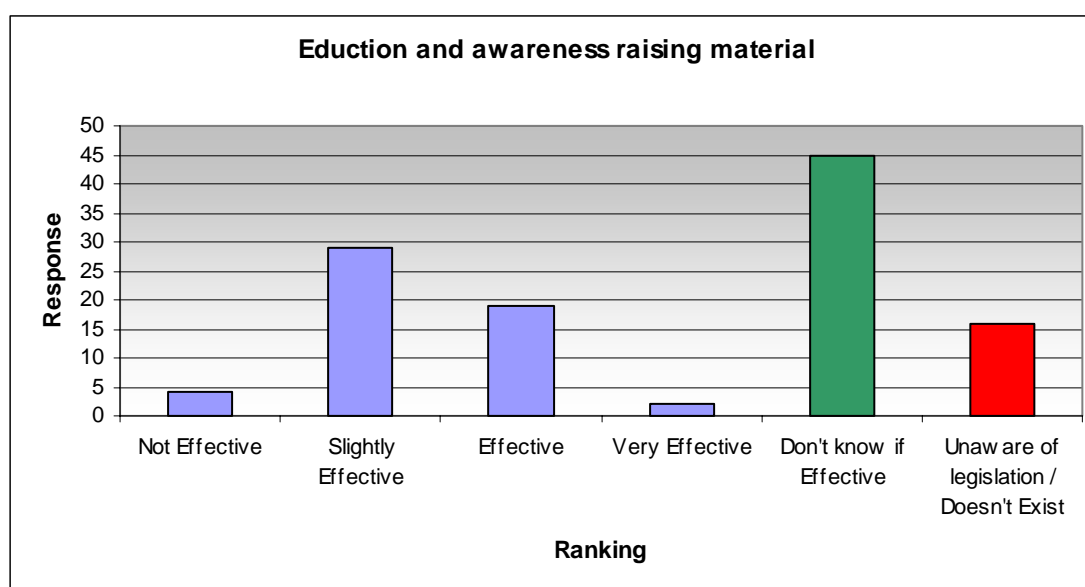


## 6. Tools used to identify contaminated products and weed infestations

Participants were asked to rate the effectiveness of education and awareness raising material used to identify contaminated products and weed infestations (*e.g. Tas Rural Industries – Farm Hygiene Brochure, Vic Landcare Notes, Qld Kill the Weeds – Stop the Seeds Advertising Campaign*).

The most common response to this question for all states and territories was ‘Don’t know if effective’ with the exception of NSW, Qld and WA which had higher or equal number of responses in the “Slightly effective” category. Only a few comments were given, which indicated that material was available but not getting to a widespread audience. *The response to this question was disappointing as a range of material has been developed to help identify weed infestations, although respondents may have focussed on material to help identify contaminated products.*

Figure 28. Education and awareness raising material.



## 7. Weed programs

Participants were asked to rate the effectiveness of the following weed programs:

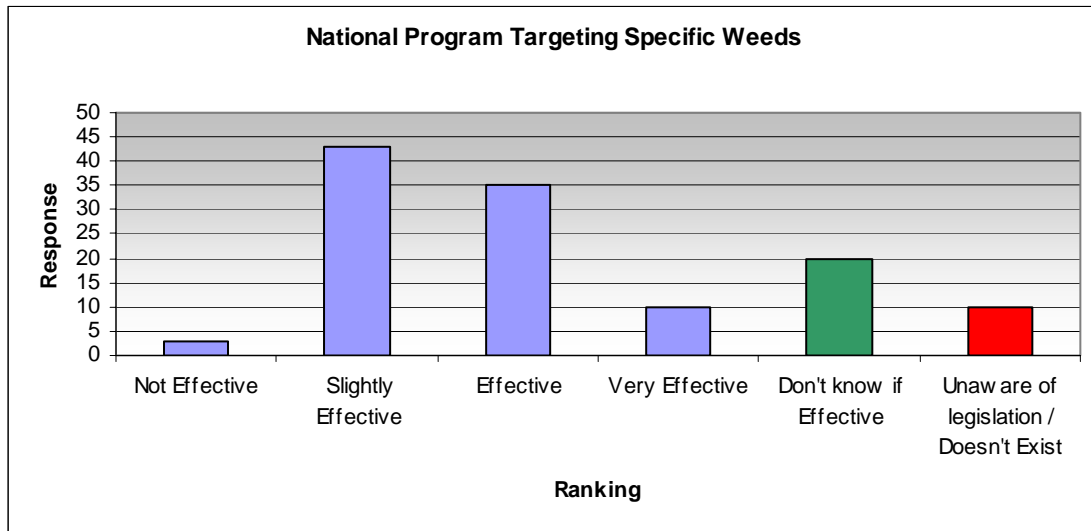
- National programs targeting specific weeds (*e.g. Weeds of National Significance strategies, best management practices manual & on ground projects*)
- State programs targeting specific weeds (*e.g. Vic Serrated Tussock Program*)
- Research into identifying and prioritising potential weeds
- Early detection programs (*e.g. National Exotic Plant Pest Hotline, Tas & Vic weed alert networks*)

### 7a. National programs targeting specific weeds

*This question received the most positive response than other questions, with a far lower number of recordings in the “Don’t know if effective’ category.*

The most common response to this question was ‘Slightly effective’ followed by ‘Effective’. The responses to this question differ from the general trend in the relatively low number of recordings in the ‘Don’t know if effective’. This question also received a large number of comments to the effect that this approach is effective but needs ongoing commitment.

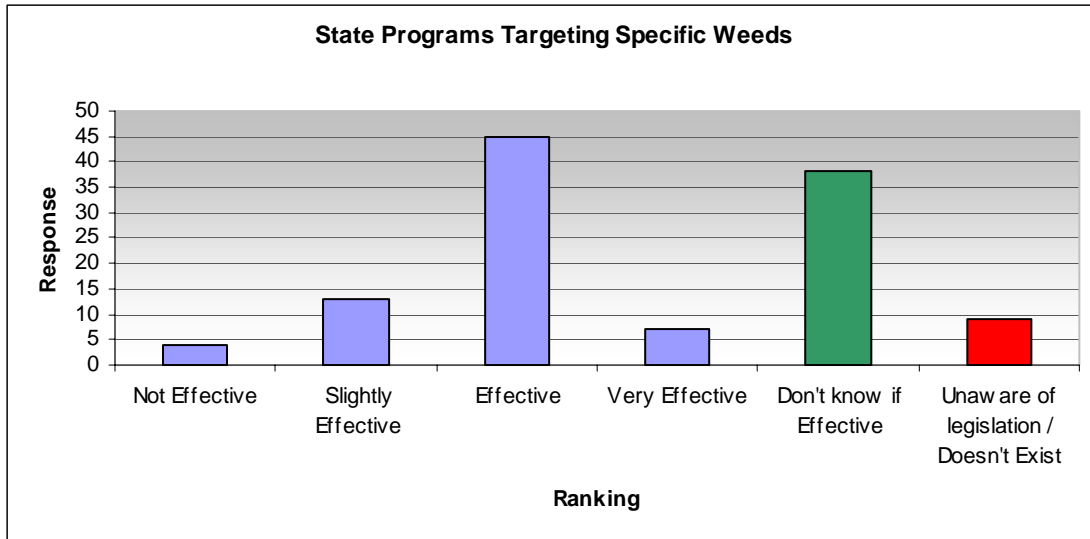
Figure 29. National program targeting specific weeds.



**7b. State programs targeting specific weeds**

The most common response from NSW, Qld and SA was that State programs were effective. The other states and territories most common response was either ‘Don’t know if effective’ or split between this and one of the effective categories. The comments indicated that some programs were very effective and others less so. The programs identified as effective or very effective were parthenium, branch broom rape, skeleton weed, Siam weed, miconia and serrated tussock.

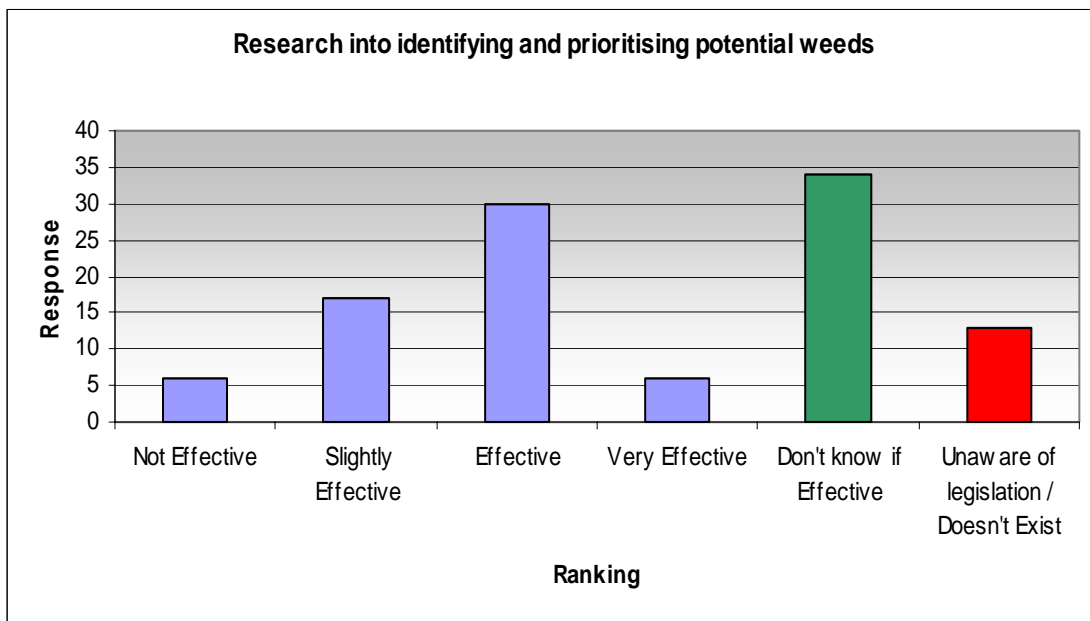
Figure 30. State programs targeting specific weeds.



**7c. Research into identifying and prioritising potential weeds**

The response to this question was mixed with respondents from NSW, Qld and Vic tending to have higher scores in one of the effective categories. The comments reflected the mixed response with comments providing contradictory views on the effectiveness of states and territory existing priority lists. Other comments indicated that a more rapid assessment is required as only weeds that have become a major pest have been identified not those with a major potential to become weeds.

Figure 31. Research into identifying and prioritising potential weeds.

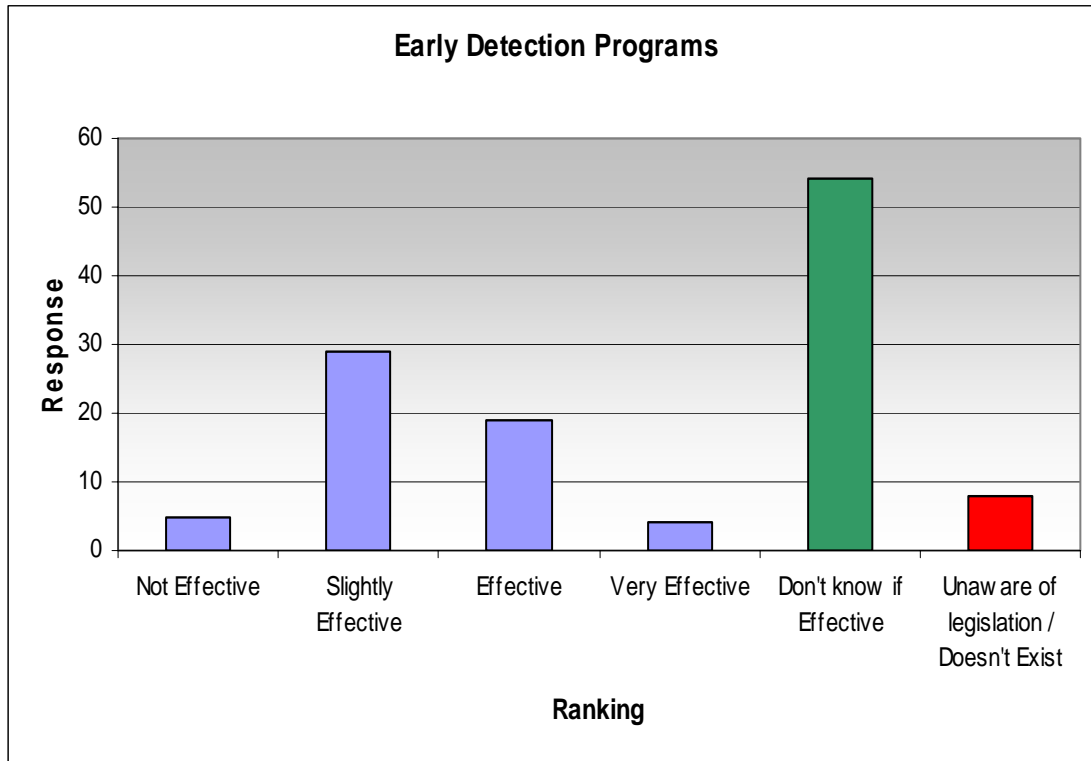


**7d. Early detection programs**

The results indicate that most respondents were aware of early detection programs and either did not know if they were effective or thought they were effective to some

degree. The comments tended to be negative with the success of programs due to the commitment of a single person and that lack of overall commitment and resources limiting the effectiveness of other programs.

Figure 32. Early detection programs



## **Additional Comments**

Participants were asked to provide any comments on the management of weed spread within Australia. Thirty-seven respondents provided comments. The type of comments received were similar irrespective of the position or role of the respondent. Comments were divided into two groups: those that stated issues and those that provided solutions.

## **Discussion**

There were more respondents from New South Wales and Queensland and this appears to have biased the results with respondents from these States more likely to select the slightly effective category for most questions. ACT and NT respondents were more likely to select don't know if effective category, with the responses from the remaining States variable.

### Organisations view to managing weed spread

The results from the survey indicate that almost all respondents' organisations (96%) believed they had an obligation to prevent the spread of weeds and were committed to prevent weed spread. Ninety percent of organisations had prepared documentation (policies and procedures) aimed at addressing weed spread. The high percentage of respondents answering positively to these questions probably reflects a bias in the organisations responding to the survey: only those organisations already committed to weed management would take the time to complete the survey.

### Legislative requirements

The results indicate that only a small proportion of respondents (<10%) were unaware of legislative requirements. Considering the questionnaire was targeted at organisations managing weed spread, this proportion may be considered too high. Less than 10% of respondents considered legislation as very effective (<10%). In general, the proportion that considered any of the legislation as not effective was around 10%, except for the questions on movement of contaminated landscaping products and safe disposal of known weeds where the proportion went up to and beyond 15%.

A common response for all questions was don't know if effective (22% to 35% of respondents). Comments indicate that there is no evaluation of legislation or other tools in any state or territory so it was difficult to provide answers to the questions. The other most common response was slightly effective (20% to 40%), although legislation questions on preventing weeds being sold and preventing the deliberate spread of known weeds had a high proportion (30%-35%) of in the effective category. Comments indicate that existing legislation could be effective if the resources were allocated for its implementation, communication and enforcement. Some gaps in

existing legislation were noted, including the need for vendor declarations on supplying of products and selling of land and better system of listing species allowed into the nation, state or territory.

### Approaches to managing weed spread

National and individual State approaches to manage weed spread were generally considered as only slightly effective and no type (e.g. quarantine versus planning) was identified as effective. This could be due to limited discussion, at the State and National levels, on the approaches available and the benefits or costs of each approach. The main comment received for all questions was the need for dedicated and adequate resources to implement any approach and the difficulty in assessing approaches. This indicates that the respondents found it difficult to answer the questions when lack of effectiveness may be due to a lack of resources and not the approach itself. Other major comments included the inadequacy of the Commonwealth system to assess plant introductions (AQIS prohibited list), and the effectiveness of coordinated activities such as the Weeds of National Significance program and the Serrated Tussock program in Victoria. The respondents from ACT and NT tended to not know what their territories approach were.

### Prevent sale or movement

Participants were asked to rate the effectiveness of a number of tools used to prevent the sale or movement of contaminated products and materials. The majority of participants did not consider any of these tools as effective, although they did consider industry codes of practice, vendor declarations, management plans and education and awareness raising material as slightly effective. The most common response to certification systems, best practice/quality assurance and provision of inspection services was don't know if effective. The exceptions were a high effective score recorded for Queensland in the response to management plans, and for South Australia in the certification system question. The need for adequate resources to implement these tools was a common comment.

Participants were asked to rate the effectiveness of tools used to prevent the movement of contaminated vehicles (such as industry codes of practice, vendor declarations and inspection services). The most common response to all questions was don't know if effective (35%-45%), except for education and awareness raising question which had a higher proportion in the slightly effective category. At a finer scale, responses from New South Wales, Queensland, Victoria and Tasmania were generally in favour of all the tools but the comments indicated that commitment and resources is required to make them effective. For example, comments to the industry standards question, that the resources industry already effectively utilise environmental management systems to minimise weed spread. Other tools identified as effective were wash down facilities in Queensland, inspection services in Western Australia, Tasmania and New South Wales, and in general management plans, procedures etc. Product development and machinery design also received good feedback indicating that in theory it appeared useful, but at this stage it is only a favourable concept requiring development.

The effectiveness of programs aimed at preventing the sale of weeds were seen as slight, with most respondents selecting don't know if effective. Comments indicate that many of the present programs could be more effective if they were better resourced and had legislation (and compliance) to provide a disincentive for selling weeds. A similar response was given for education and awareness material used to

identify contaminated products and weed infestations. A few comments indicated that though this material is developed it is not available to a wide audience.

## National & State Weed Programs

National programs targeting specific weeds had the lowest proportion of respondents selecting don't know if effective, indicating that of all tools the outcomes of national projects are most widely known. The most common responses were slightly effective and effective with a large number of comments on the need for ongoing commitment to enable these programs to be effective in the long-term.

The question on the effectiveness of State programs received the highest effective rating (45%) of all questions, followed by don't know if effective. The programs identified as effective or very effective were Parthenium, Branch Broomrape, Skeleton Weed, Siam Weed, Miconia and Serrated Tussock. Their effectiveness could be due to the programs receiving dedicated and adequate resources.

The effectiveness of research into identifying and prioritising potential weeds was generally seen as either effective or people didn't know if effective. The comments provided a contradictory range of views on the effectiveness of existing priority lists.

The majority of respondents could not assess the effectiveness of early detection programs. The comments tended to be negative with the success of programs due to the commitment of a single person.

## Issues and solutions

The most common issues identified by respondents were:

1. Inadequate enforcement of existing legislation, with additional comments on governments relying on individuals and companies to do the right thing;
2. Inadequate funding provided to manage the spread of weeds including a lack of resources to enforce existing legislation, undertake control activities, for other non-government organisations to undertake control activities; and
3. Inadequate recognition of the threat and impacts of weeds to industry, the environment and social values.

Other comments were received on:

- The lack of data to determine the effectiveness of prevention activities and the difficulty to show the benefits of early weed intervention;
- The lack of coordination between the States and Territories to manage weed spread and respond to new weed threats;
- The ineffectiveness of the AQIS permitted list to prevent the importation of known weeds and plants with a high potential to be weeds; and
- The increase mobility of people and the need to target education and awareness material.

The most common solution given was to have a consistent approach to weed spread management across all States and Territories and at all levels of government, this was closely followed by developing and maintaining a capacity to detect and eradicate new infestations. Another major theme was the need for practical non-legislative tools to be developed and resourced such as:

- Local and regional strategies
- Wash-down facility construction and maintenance

- Community based squads of people to control weeds in their area
- Industry work practices that minimise weed spread
- Promotion of 'good-neighbour' policy
- Advertising campaigns

Other solutions include the control of grain and fodder used as stock food or mulch, resources to implement legislation and to tackle high priority weeds, and promote people's common-law rights.

## **Conclusion**

The results from the questionnaire show that there is a commitment by government, industry and other organisations to prevent weed spread, but that, in general, the tools used are considered as only slightly effective or not obviously effective: a common response being 'don't know if effective'. Exceptions to this are legislation covering the deliberate spread of known weeds and State and National programs targeting specific weeds (e.g. Weeds of National Significance, serrated tussock management in Victoria, Siam weed management in Queensland). There was no approach, legislation or tool that was considered by the majority of respondents as being not effective. This was true when data was analysed for individual states and territories.

There was general concern from respondents about the difficulty of determining the effectiveness of tools and that ineffectiveness is attributed to lack of resources in adequately implementing these tools. For example, many respondents commented that existing legislation would be more effective if there were resources for its implementation, communication and enforcement. The lack of commitment and resources was a consistent thread in the comments for all questions.

Comments also indicated a dichotomy in the respondents' views; those that promoted an increased legislative approach (with emphasis on enforcement) and those that promoted non-legislative approaches such as developing codes of practice with industry. A few comments promoted a combination of both measures, such as the selling of weeds through nurseries based on existing extension programs but with legislative underpinning.