

Eight years of IWM smashes ryegrass seed banks by 98 per cent over 31 focus paddocks

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KEY MESSAGES

Growers have eroded their ryegrass seed banks from an average of 183 ryegrass/m² in 2001 to 4 ryegrass/m² in 2008 which equates to a 98 per cent reduction over eight years of weed management across 31 focus paddocks. The growers in the northern agricultural region of WA are demonstrating that it is possible to maintain a continuous crop regime while eroding the seed bank of resistant ryegrass using a combination of herbicides and integrated weed management practices. Generally speaking, when growers put their mind to it they are successful at managing the seed bank of resistant weeds.

AIMS

To improve communication of IWM practices between growers and to evaluate the effectiveness of 'real life' IWM practices.

METHOD

At the beginning of a five year, GRDC funded project, four small grower groups were formed to participate in IWM research and extension. These growers nominated a focus paddock that was monitored throughout this five year project. Ongoing funding from GRDC has allowed for these paddocks to continue to be monitored for an additional three years.

Over the past eight years, growers recorded their weed management and weeds were counted by technicians Glenn Adam and Trevor Bell each August to determine the number of surviving weeds. Growers were then interviewed individually to discuss the weed management of their focus paddock. A booklet documenting these paddocks along with the growers 'stories' was printed in 2006 and will be updated in 2009.

RESULTS

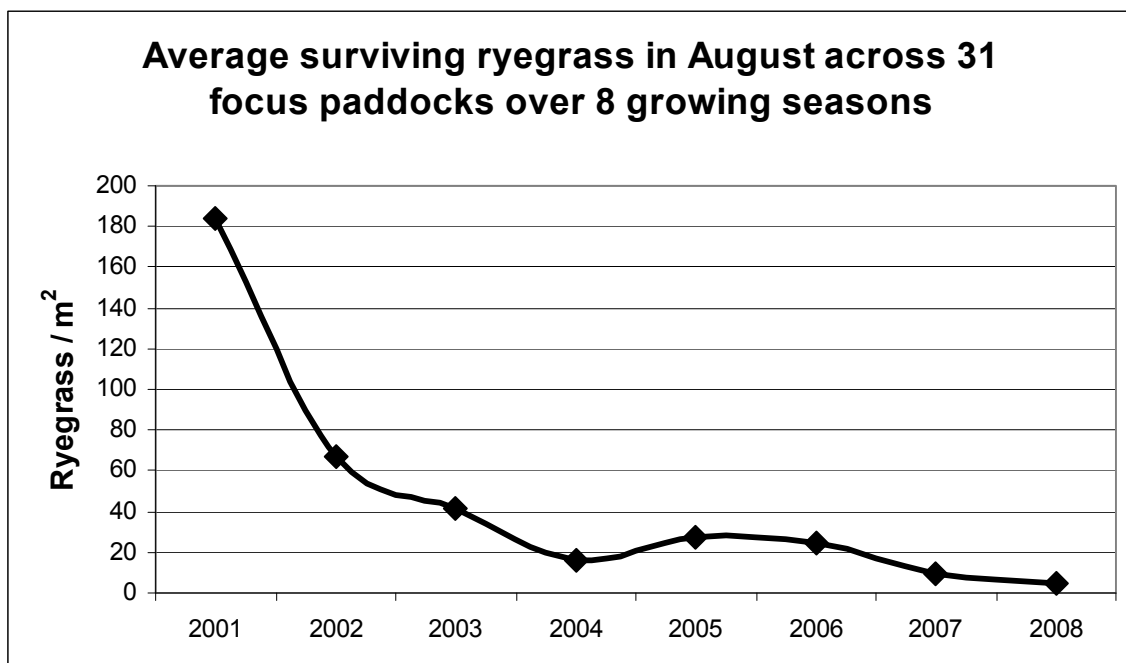


Figure 1 Average surviving ryegrass numbers across 31 focus paddocks counted each August.

On average, ryegrass numbers decreased by 98 per cent in the 31 focus paddocks over eight years of monitoring. Focus paddocks averaged 183 ryegrass/m² in 2001 and averaged 4 ryegrass/m² in 2008. Ryegrass numbers decreased in all of the focus paddocks monitored over the eight year time frame. Approximately half of the focus paddocks had 0 ryegrass/m² in August 2008.

CONCLUSION

These focus paddocks clearly demonstrate that growers who choose to target the seed bank of resistant weeds, in most cases, win the battle. The majority of these growers have now had the experience of facing the problem of resistant weed blow outs, making changes to their farming system and then observing the benefits of these changes. They have been there and done that! They accept that managing resistant weeds will be an ongoing priority and they are generally optimistic that they will succeed when future challenges arise.

The success stories of these focus paddocks are too numerous to mention here. Some of the common management 'themes' that led to this outstanding result include high levels of trifluralin use pre sowing of all crops, high cereal crop seeding rates, high rates of Clethodim (Select®) in broadleaf crops, weed seed management at harvest by windrow burning or chaff cart, sacrificing of crops/pastures in weed blow-out situations, and generally high levels of crop hygiene. Participating growers are currently being interviewed to document their 'stories' of how this level of weed management was achieved. These stories and individual focus paddock data will be updated and printed in a booklet for distribution by June 2009.

Most of these growers comment that eight to ten years ago resistant weed management was at the top of the list of things to worry about. They now comment that they believe that resistant weeds will always be a challenge but they have other challenges ahead that outweigh resistant weeds. Unfortunately human nature dictates that people must learn the hard way from their own experiences. Consequently, we still have many years ahead of growers experiencing the hardships of resistant weed management before they turn the corner and get on top of the problem. Ongoing communication throughout the state will be enhanced to assist growers who are at the early stages of resistant weed management.

Previous extension messages have largely focused on delaying the onset of herbicide resistance. This message may still be worthwhile for rare genes such as glyphosate resistance. However, in my opinion, these focus paddocks demonstrate the main priority of future extension should be managing resistant weeds rather than prevention.

Recent trends in the Northern Agricultural region of WA have seen two of the driest years on record (2006 and 2007) followed by a record grain harvest in 2008. The dry years led to as much as 80 per cent of the livestock leaving the region and many growers are commenting that they are reluctant to bring them back. Continuous cropping has become the norm, the majority of which has been wheat. Many paddocks were set up for wheat in 2008 after failed crops/fallowed paddocks in the dry years. Trifluralin use has increased and many growers now apply trifluralin to problem paddocks every year. New herbicides (some of novel mode of action) for the control of ryegrass and wild radish are now appearing on the Australian market as well as the growing of GM (Roundup Ready®) Canola. Wild radish resistance to group B and I herbicides has continued to increase in recent years and a range of new herbicides/breeds are being applied at additional cost to the grower.

KEY WORDS

annual ryegrass, wild radish, focus paddock, herbicide resistance

ACKNOWLEDGMENTS

Many thanks to Glenn Adam and Trevor Bell for collating the data, and counting many weeds. Many thanks also to the participating growers and to GRDC for financial support.

Project No.: DAW0123

Paper reviewed by: Andrew Blake