

# FINAL REPORT

ICN00012

## Direct negotiation of 3.2.2.13C Development of summer weed management packages using existing knowledge

### PROJECT DETAILS

PROJECT CODE: ICN00012

PROJECT TITLE: DIRECT NEGOTIATION OF 3.2.2.13C DEVELOPMENT OF SUMMER WEED MANAGEMENT PACKAGES USING EXISTING KNOWLEDGE

START DATE: 01.07.2012

END DATE: 30.06.2013

SUPERVISOR: JOHN CAMERON

ORGANISATION: INDEPENDENT CONSULTANTS AUSTRALIA NETWORK PTY LTD

CONTACT NAME: JOHN CAMERON

### Summary

This project developed a reference manual on summer fallow weed management for the southern and western grains regions. Included are a series of questions for readers to check their knowledge. A presentation has also been developed for use in grower and adviser workshops and training sessions. A key focus is to assist growers to evaluate the potential for risk management or subsequent crop yield impacts from action or inaction when managing weeds in summer fallow.

Several case studies based on grower adoption and research case studies were developed for the new manual. The manual is available as a download from the GRDC website and 500 copies have been delivered to Ground Cover Direct.

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## Conclusions

Summer fallow weed management is likely to provide a very high rate of return in all cropping environments in almost all years. In areas with less growing season rainfall (GSR), benefits will accrue mainly from additional stored soil water (SSW), while in areas with a higher growing seasonal rainfall, benefits are likely to be more derived from additional nitrogen (N) available to following crops.

## Recommendations

GRDC communications specialists should be encouraged to promote the manual in the periods: October 2014–February 2015, and again in October 2015–February 2016. Pathways should include general press releases as well as the inclusion of links to the resource via twitter and electronic newsletters. It should also be promoted on the GRDC website.

## Outcomes

Management of weeds in summer fallow is attracting increasing interest among southern and western growers. In seasons where GSR is limited, water conservation through weed management in the fallow period can substantially increase grain yield and the reliability of crop performance.

However, unlike the northern grain region where heavy soils have generally high plant available water holding capacity (PAWC), many of the southern and western soils are shallower or have a lower PAWC (i.e. smaller buckets). Also, most parts of the southern and western regions have historically less rainfall during summer months and are less reliant on stored rainfall for crop production than crops grown in much of the northern grains region.

Several studies have been conducted to evaluate the scale of benefits (or downsides) from managing weeds in the fallow in different growing areas within the southern and western regions.

Benefits from weed management in the fallow are many, however the biggest gains are from the combined effects of more soil water and N available for use by the following crop.

New grower case studies were developed to demonstrate the benefits and management features of managing summer fallow weeds in both the southern and western regions, within an integrated weed management (IWM) context.

The training materials are now integrated into the resource materials for the ICN00009 IWM training project, with 500 hard copies of the weed management package produced.

## **Achievements/Benefits**

A reference manual on the management of weeds in summer fallow was researched, written, reviewed and approved, and 500 copies published. The manual will benefit growers and advisers in the southern and western grains regions to make better use of summer rainfall for use by the following crop. The manual includes a series of case studies as well as questions and answers to aid self-directed learning. A presentation was developed for use in a training workshop environment. The project was originally targeted for completion on 30th June 2013. A project extension was granted and the final deliverables were delivered in May 2014.

## **Intellectual property summary**

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## **Additional information**

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