



University of  
South Australia



Barbara Hardy  
Institute

Chris Saunders

## Research Profile

### Research Area Specialisation

Agricultural machinery research, development of machinery and effective technologies for agriculture to improve the operation, production and sustainability of farming.

### Contributing to a better and sustainable environment

Improved machinery and technology for farmers can increase their overall sustainability in terms of consistent crop yield (especially in marginal areas), enhanced crop quality and therefore financial sustainability. Improving crop production is important in times of a growing population and potential food shortages which can have important global impacts.

Improvements in technology through engineering can also help reduce soil erosion, soil compaction chemical usage and improve the farmer's wellbeing from improved working or operational practices.

### Research Abstract

Chris's research into mechanical weed seed destruction involves the study of mechanical methods to devitalise weed seeds at the time of harvest. Farmers in the grains industry need to use an integrated weed management approach to help combat the development of chemical resistance in certain weed species. Research into mechanical alternatives has been shown to provide an excellent non-chemical solution for use at the time of harvest. This provides an opportunity to reduce the numbers of weed seeds returned to the soil, therefore reducing the seed bank population.



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*Great Research  
into Sustainability*

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## People

- Our researchers are scientists, engineers and social scientists
- We work collaboratively on real-world issues
- Over 100 researchers and 130 research students

## Projects

- Multidisciplinary projects focused on sustainability
- We work in partnership with government, industry and academia
- Extensive testing and evaluation services and consultancy expertise
- Our work is underpinned by community participation and education

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## Research areas of interest

- Agricultural machinery technologies
  - Soil tillage for crop establishment
  - Crop harvesting and storage technologies
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## Barbara Hardy Institute

Being part of the Barbara Hardy Institute highlights the fact that agriculture is an important discipline that requires research into its sustainability. The world relies on food which is produced through agricultural practices and demands on this industry are increasing. Engineering plays a vital and important role in improving the sustainability of the sector.

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## Keywords to describe Chris's research

- Agriculture
- Engineering
- Tillage
- Harvesting



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*“Improving the machinery and technology needed by farmers will ultimately enhance their crop production systems for increased food quantity and quality.”*