



Signposts for Australian Agriculture



The Australian grains industry

- Grains cropping occupies an area of about 34 million hectares in the inland, eastern, southeastern and southwestern parts of the continent. Grains are often grown in conjunction with livestock.
- The principal winter crops are wheat, barley, oats, canola and lupins. The main summer crop is grain sorghum. Up to 25 different grain crops (not including rice) are grown in Australia in any one year.

GRAINS RESEARCH AND DEVELOPMENT CORPORATION AGROECOLOGICAL ZONES



Source: <http://www.grdc.com.au/uploads/documents/grall1.jpg>

Economic overview

Condition of industry assets

The productive capacity of the grains industry — in terms of both volume and value — is greater today than at any other time in its history. However, when considered in real terms (that is, adjusted for inflation), the productive capacity of the



CLOSE-UP OF BARLEY BY ARTHUR MOSTEAD. SOURCE: LAND & WATER AUSTRALIA.

Signposts for Australian Agriculture (Signposts) is a partnership between industry, government and research organisations. It provides access to economic, social and environmental data specific to an industry in order to inform policy development, strategic decision making and research priorities.

Signposts reports on the contributions of agricultural industries to ecologically sustainable development. It does this by examining how an industry's assets are changing over time and how the industry is affecting assets held by others. This factsheet provides a summary of key information extracted from the *Signposts for Australian Agriculture — The Australian grains industry* report, published by the National Land & Water Resources Audit, 2008.

The Audit provides data, information and nationwide assessments of Australia's land, water and biological resources to support sustainable development

industry has often struggled to maintain stable levels, let alone show real growth, in the face of declining terms of trade.

Impact of the industry on assets held by others

- From 2000–01 to 2006–07, the grains industry produced a yearly average of 35.5 million tonnes from 21.8 million hectares planted. In 2005–06, production was 41 million tonnes in total from 20.34 million hectares.
- From 1999–2000 to 2006–07, Australia produced 3.5% of the world wheat supply, but achieved overseas sales of almost 14% of world exports in volume terms. For coarse grains, the corresponding figures are 1% of world production and almost 5% of world exports.



FARMER ALLISON DAWSON GETTING A SOIL MOISTURE READING. NEAR ROCKHAMPTON, QLD. BY ARTHUR MOSTEAD. SOURCE: LAND & WATER AUSTRALIA.

Policy and management responses

- Farm business planning is an important business management practice. Twenty nine per cent of crop farmers have a business plan.
- At the national level, the Grains Council, GRDC and the Australian Government have worked together under the Pathways to Industry environmental management system,

and Sustainable Industries Initiatives programs to develop a national database on farming practices.

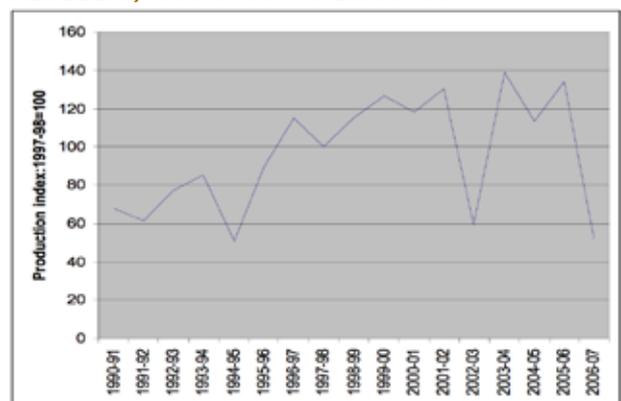
- The Farming Practices database links the farming practices of grain growers to the calculated environmental and productivity effects of these practices, against a benchmark of desired condition.

Environmental overview

Condition of industry assets

- The grains industry manages 2–4% of Australia’s land surface. Grains cropping occupies an area of about 21 million hectares and has been increasing in area over the past 20 years.
- Overall, 56% of cropped land in the GRDC agroecological zones has a nitrogen concentration greater than 0.2%, which is considered to be moderate to high as a measure of the nitrogen status of soils.
- An increase in nitrogen fertiliser application, coupled with the use of leguminous crops and pastures, has increased the environmental risk of soil acidification and nutrient runoff or leaching (especially in lighter textured soils), which may pollute streams and groundwater.
- Outside of reserves, at least 25% of the land in the grains zones supports native vegetation.
- A major concern with climate change is the possibility that it will increase the frequency and severity of droughts and that this could result in some current grain-growing areas becoming unviable.

FARM PRODUCTION INDEX FOR GRAINS AND OILSEEDS, 1990–91 TO 2006–07



Source: ABARE, Australian commodity statistics 2007, Canberra, December 2007.



CENTRE PIVOT NEAR YEA, VICTORIA. SOURCE: LAND & WATER AUSTRALIA.

Impact of the industry on assets held by others

- Grain production was severely affected by the droughts of 1994–05, 2002–03 and 2006–07. In 2004–05 1.16 million megalitres of water (9.5% of the total agricultural water consumption) were consumed for irrigated grain crops (excluding rice). Reduced general security of water allocations in recent years have led to increased efforts to improve the water use efficiency of grain crops.

CURRENT WATER USE EFFICIENCIES FOR GRAIN PRODUCTION

Agroecological zone	Area of grain crop, 2001 (million hectares)	Average water use efficiency
NSW Central	1.460	0.73
NSW Northeast–Qld Southeast	2.388	0.45
NSW Northwest–Qld Southwest	1.240	0.40
NSW/Vic Slopes	1.867	0.59
Qld Central	0.590	0.39
SA Midnorth–Lower, Yorke, Eyre	1.841	0.60
SA/Vic Bordertown–Wimmera	1.602	0.60
SA/Vic Mallee	2.613	0.58
Vic High Rainfall	0.196	0.58
WA Central	3.611	0.54
WA Eastern	1.172	0.53
WA Mallee and Sandplain	0.792	0.55
WA Northern	1.730	0.50
Total	21.102	Simple average 0.53

Source: Beeston G, Stephens D, Nunweek M, Walcott J and Ranatunga K (2005). GRDC Strategic Planning for Investment based on Agro-ecological Zones, final Report to GRDC, June 2005, Bureau of Rural Sciences, Canberra.

Policy and management responses

- Making the best use of water stored in the soil, as well as that falling as rainfall, in order to maximise grain yields is important.
- Erosion was initially exacerbated by farming practices that relied on soil cultivation. More recently, cropping systems and practices oriented towards protecting the land resource have increased crop yields and reduced soil erosion.
- Implementation of farming systems that focus on conservation tillage and stubble management.

Social overview

Key industry bodies:

- Grains Research and Development Corporation (GRDC)
- Grains Council of Australia (GCA)

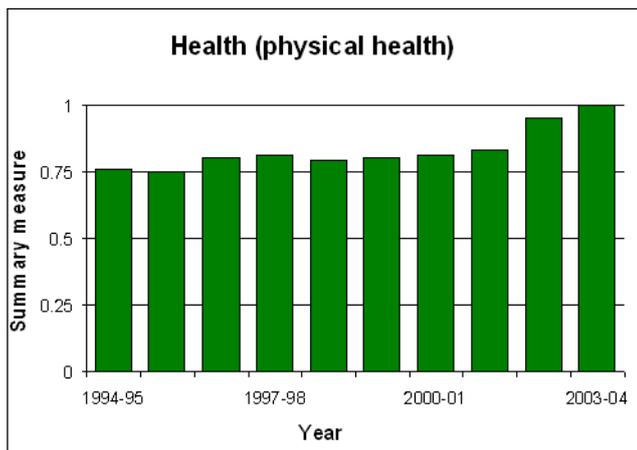


CLOSE-UP VIEW OF WHEAT CROP NEARBY CAPELLA, CENTRAL QLD. BY ARTHUR MOSTEAD. SOURCE: LAND & WATER AUSTRALIA.

Impact of the industry on assets held by others

- Analysis demonstrates that more people are employed in the grains industry than in any other agricultural sector.
- The most direct impact of the industry on the physical health of individuals is through injuries on farms. However, occupational injuries are at their lowest level to date.
- Anecdotal evidence suggests that, especially in times of drought, and coupled with low commodity prices, levels of depression among farmers and their families have risen.

SUMMARY MEASURE FOR PHYSICAL HEALTH



Source: The NOHSC Online Statistics Interactive National Workers' Compensation Statistics Database, <http://www.nohsc.gov.au/work/statistics>

¹ GRDC (Grains Research and Development Corporation) and GCA (Grains Council of Australia)(2004) Towards a Single Vision for the Australian Grains Industry 2005-2025, Canberra.

Policy and management responses

- The industry's Single Vision strategy (GRDC and GCA 2004)¹ has a goal of 'creating more sustainable rural and regional communities'. Similarly, the mission statement of the Department of Agriculture, Fisheries and Forestry has an objective of 'greater national wealth and stronger rural and regional communities'.
- The industry has an active program to increase knowledge and skills of its workforce and fosters industry leadership by supporting the Australian Rural Leadership program.



STUBBLE FOR ORGANIC MATTER. NEAR WOORABINDA, QLD. BY ARTHUR MOSTEAD. SOURCE: LAND & WATER AUSTRALIA.

PRODUCT NUMBER: PN21918