



# Signposts for Australian Agriculture



## The Australian wine industry

### Scale and distribution

In 2006, 168 791 ha of wine grape-bearing vines provided approximately 1.846 million tonnes of grapes to be processed. At this time, the wine-making sector comprised 2146 wine companies using about 1000 wine making facilities.

Wine Grape Growers Australia (WGGA) estimates that there are between 7000 and 7500 independent wine grape growers in Australia. There is substantial overlap between wine grape and wine production: between 20% and 25% of the wine grape crush is owned by wineries and many wine grape growers also own or have an interest in a winery.

Figure 1 shows the distribution of the wine industry across Australia as a map of the wine regions as defined under legislation.

The area of vine plantings, the production and value of wine grapes from those vines, the wine produced and the domestic and export sales of Australian wine have been summarised in Table 1.

The value of land planted to wine grapes in 2007 is estimated at about \$7 billion. The Australian Bureau of Agricultural and Resource Economics (ABARE) has estimated that in the 2006 financial year, Australia accounted for about 3.05% of world wine-grape production.

FIGURE 1 WINE REGIONS OF AUSTRALIA



Adapted from Australian Wine & Brandy Corporation (<http://www.wineaustralia.com>)

### Economic overview

#### Condition of industry assets

The Australian wine industry has grown substantially from 1995, but has experienced a period of oversupply in the last few years. However, wine-grape production has fallen due partly to drought and the lack of irrigation water, making supply and demand better balanced. These trends are shown in Figure 2.

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 wine industry report*, published by the National Land & Water Resources Audit, 2008.

## Impact of the industry on assets held by others

ABARE estimated that Australia is the world's sixth-largest wine producer and fourth-largest wine exporter. In the 2007 financial year, the value of exports of wine was more than that for dairy, about the same as that for wheat and wool, and substantially less than that for beef and veal.

The gross value of production of wine grapes is one indicator of the contribution to national income of the wine industry and a further indicator is the export sales of wine. These are shown in Figures 3 and 4, respectively.

The key economic issues relating to the contribution of the wine industry to ecologically sustainable development are the extent to which increasing industry wealth relies on:

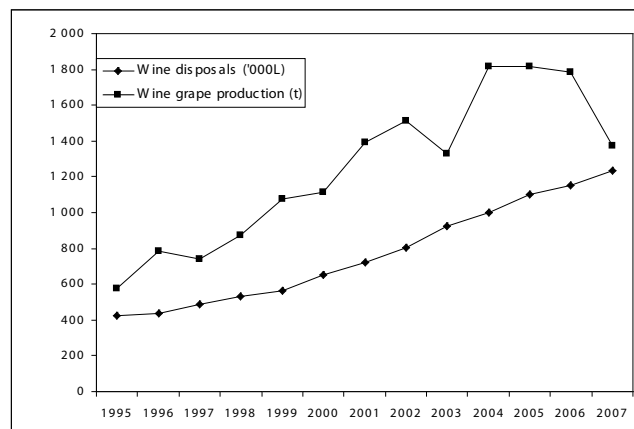
- the growth of exports
- productivity increases based on research and development, and innovation.

## Environmental overview

### Condition of industry assets

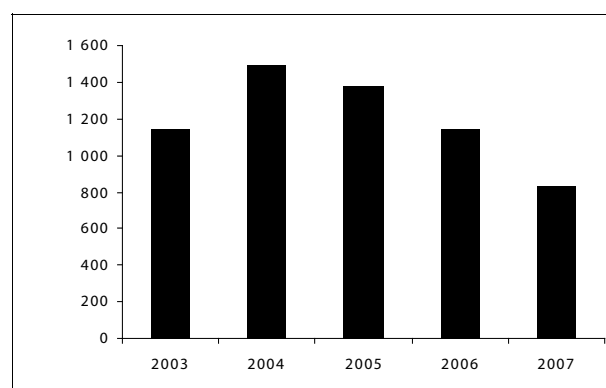
Industry environmental assets include the soil and genetic resources required for production of grapes, and the biota that affect production. Phosphorus and nitrogen in the soil supply about one-third and one-half, respectively, of vine requirements, leaving the remainder to be supplied by fertiliser application. Biota that affects grape production includes pests, weeds and disease that can degrade the value of industry assets.

**FIGURE 2 WINE GRAPE PRODUCTION AND WINE SALES (DISPOSALS) BY YEAR**



Source: Catalogue 1329.0 (ABS, various years)

**FIGURE 3 GROSS VALUE OF WINE GRAPE PRODUCTION (YEAR ENDING 30 JUNE)**



Source: Australian Bureau of Agricultural and Resource Economics (2007), Australian Commodities 14(4).

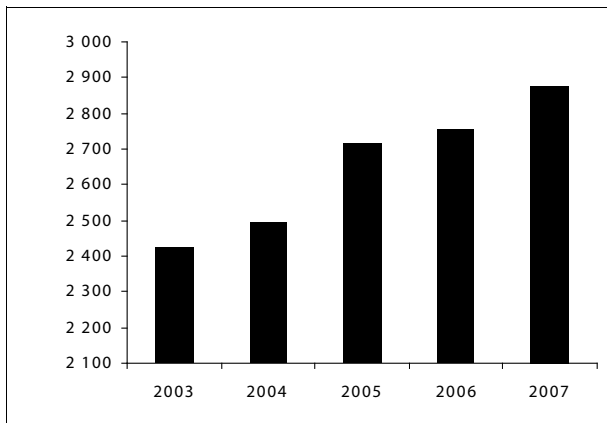
**TABLE 1 AUSTRALIAN WINE INDUSTRY — PLANTINGS, PRODUCTION AND SALES**

Year	Area of bearing vines (ha)	Grape production for wine (t)	Gross value of production, wine grapes (\$m)	Wine (beverage) production (ML)	Domestic sales (ML [\$m])	Exports (ML [\$m])	Total sales (ML [\$m])
2003	142 793	1 329 595	1143	1 037.6	402.5 (2097.9)	518.6 (2423.5)	921.1 (4521.4)
2004	150 561	1 816 556	1491	1 401.0	417.4 (1970.9)	584.4 (2494.0)	1001.8 (4464.9)
2005	153 204	1 818 426	1385	1 420.3	430.1 (2097.4)	669.7 (2715.3)	1099.8 (4812.7)
2006	158 167	1 781 668	1141	1 410.5	432.4 (1899.9)	722.0 (2756.5)	1154.4 (4656.4)
2007	163 951	1 370 690	828	955.0	449.2 (2004.9)	787.2 (2878.6)	1236.4 (4883.5)

ha = hectare; ML = megalitres; t = tonne

Source: Australian Bureau of Statistics catalogue no. 1329.0 (2007), except gross value of production, wine grapes, which was extracted from Australian Bureau of Agricultural and Resource Economics (2007), Australian Commodities 14(4).

**FIGURE 4 EXPORT SALES OF WINE FREE ON BOARD**



Source: Australian Bureau of Agricultural and Resource Economics (2007), Australian Commodities 14(4).

The grape industry has addressed pest, weed and disease management under integrated pest management (IPM). IPM provisions are now incorporated in almost all winery contracts for grape supply. This has resulted in major improvements in pest weed and disease management, resulting in substantial reductions in chemical use.

### Impact of the industry on assets held by others

Water use is a major ecologically sustainable development issue for the wine industry. Consequently, improved water use has been a focus for the industry. The most current example is the WFA's Australian Wine Industry Stewardship (AWIS). The first industry-wide AWIS 2007 vintage survey reported responses representing approximately 70% of the national grape crush. Selected responses regarding irrigation best management practices are shown in Table 2.

While the area under grape vines in South Australia represents 42.8% of the national area, it uses only 28.4% of the industry water. In contrast, the Victorian grape vine-growing area represents 23.3% of the national area, but consumes 44.7% of the amount of water extracted for grapes nationally. In New South Wales, the proportion of area under grapes and proportion of industry water consumption are roughly equivalent.

A major determinant of water consumption is the type of irrigation system used — drip or microspray systems are the most efficient in relation to evaporation and runoff losses.

Table 3 shows that South Australia has a higher percentage of area under drip or microspray — the most efficient system of

**TABLE 2 PERCENTAGE OF GROWERS USING BEST MANAGEMENT PRACTICE (BMP)**

Management practice	Growers using BMP (%)
Maintain ground cover in vineyard mid-row	83
Monitor soil moisture to schedule irrigation	69
Use drip irrigation	62
Use soil or petiole analysis to plan fertiliser applications	56
Participate in natural resource management information workshops	44

Source: Russell A (2007). AWIS results highlight key environmental issues. The Australian and New Zealand Grapegrower and Winemaker, October 2007, 11–13.

irrigation — than New South Wales or Victoria. However, these percentages are also likely to be influenced by the location of the vineyards in respect to rainfall and relative demand on irrigation supplies.

### Policy and management responses

The major industry initiative, sponsored by the WFA and overseen by Wine Industry National Environment Committee (WINEC), is AWIS, which started in 2005. An earlier initiative was a sustained program supported by government and industry to improve environmental management by the adoption of environmental management systems.

Practices to improve the industry's contribution to ecologically sustainable development include: irrigation management for improved water use efficiency; cover crop management; training for improved farm practices; improved management of plant nutrition; sustainable pest and disease management; precision viticulture; re-use of wastewater; group marketing; adoption of organic practices.



**DRIPPER IRRIGATION IN VINEYARD. SOURCE: SCHOLEFIELD ROBINSON HORTICULTURAL SERVICES.**

**TABLE 3 IRRIGATION OF GRAPEVINES — AREA AND SYSTEM USED (2007)**

	Total irrigated grapevines (ha)	Total water use (ML)	Spray, excluding microspray (ha [%])	Drip or microspray (ha [%])	Furrow or flood (ha [%])
South Australia	68 081	186 880	10 886 (16.0)	58 034 (85.2)	929 (1.4)
New South Wales	40 093	158 871	3149 (7.9)	29 241 (72.9)	8288 (20.7)
Victoria	34 262	164 165	10 386 (30.3)	21 567 (62.9)	3109 (9.1)
Other state/territory	14 965	26 833	218 (1.5)	14 655 (97.9)	165 (1.1)
Total	157 401	536 749	24 639 (15.7)	123 497 (78.5)	12 491 (7.9)

Source: ABS(2008)<sup>1</sup>

## Social overview

### Condition of industry assets

Industry social assets include the capacity of the workforce, and the capacity of industry organisations and networks to support the industry. The workforce capacity is to a large degree determined by the level of education and skills in grape growing and winemaking that its members possess. The industry actively encourages its members to pursue lifelong learning and provides a number of educational and vocational training opportunities. These include:

- WineSkills — a series of workshops that focus on practical advice on market, business and financial planning
- Australia: world class — an online education platform designed to provide information on key issues in relation to the making, marketing and enjoyment of wine
- vocational training — training for grape growers and winemakers offered by the National Wine and Grape Industry Centre (NWGIC).

The major wine industry organisations are the Winemakers' Federation of Australia (WFA) and Wine Grape Growers Australia (WGGA). The major statutory organisations are the Australian Wine and Brandy Corporation (AWBC) and the Grape and Wine Research and Development Corporation (GWRDC). A task force of the chairs of the four national organisations is currently reviewing the Australian wine industry's national organisational structure. It published a consultation paper (in October 2007), which describes the current structure and three possible approaches to change. There are also seven state associations and 88 regional industry organisations representing vignerons, winemakers and wine grape growers. Membership at all levels is encouraged.

### Impact of the industry on assets held by others

A major social contribution of the wine industry is to public health. This refers to the effect of the consumption of wine on the health of the community. Wine is considered to have both negative and positive impacts on consumer health, due to its inherent attributes.

The wine industry feels that this issue is a high priority and a specific policy has been developed by the WFA, and the Australian Wine Research Institute AWRI Technical Review has a specific section in each issue about wine and health.

The wine industry also contributes socially by providing employment. Table 4 summarises the results of the 2001 and 2006 censuses as they relate to wine industry employment (excluding casual and seasonal workers, and those who worked in wine and grape production as a second job).

The reduction in those employed in grape growing is consistent with reduced plantings in the past few years, but is partially offset by the employment growth in wine manufacturing.

**TABLE 4 EMPLOYMENT IN GRAPE GROWING AND WINE MANUFACTURING (2001 AND 2006)**

	2001 (% total agriculture)	2006	Change
Grape growing	15 629 (5.41%)	11 003	-29.6%
Wine manufacturing	14 480 (5.04%)	16 956	17.1%

Sources: ABS (2008)<sup>1</sup>

<sup>1</sup> ABS (Australian Bureau of Statistics) (2008). 1329.0 Australian Wine and Grape Industry, 2007, ABS, Canberra.