DEPARTMENT OF AGRICULTURE WESTERN AUSTRALIA
SUBMISSION TO THE PRODUCTIVITY COMMISSION

WESTERN AUSTRALIA'S PIG INDUSTRY

1. STRUCTURE OF THE WA PIG INDUSTRY

Official ABS census statistics showed the WA sow herd grew from around 31,000 sows in 1999 to 35,700 sows at June 2001. There were 361 holdings with sows giving an average herd size of 99. However, only 69 herds had >100 sows and these held 29,185 sows, or 82% of the total herd and the 13 herds >400 sows held 20,038 sows, or 56% of the total herd. In terms of scale, the structure was as follows:

No. of Holdings	Average No. Sows
190	8
102	50
56	163
13	1,541
361	99

Numbers remained relatively stable until in 2003 pig producers found it very difficult to trade profitably and some had to carefully consider their future in the industry. In June 2004 the WA Pork Producers Association (WAPPA) reported that the number of holdings had reduced to 355 and estimated the herd had declined to some 32,000 with 3,700 sows lost in the past six months. Two major firms, Westpork and Wandalup, contribute some 34% of the total current sow herd in the state, much of this through privately-owned contract grow-outs, with a further six producers contributing 28% making a combined contribution of eight major producers at 62%.

The number of producers is expected to continue to decline and then stabilise at about 200 within the next 5 years. It is estimated that 60% of the state's pigs are now produced from multi-site production systems in which independent producers operate under contract and concentrate on only part of the production chain. However, the number of people involved in pig production in WA does not vary greatly with changes in ownership or the degree of integration.

Future environmental concerns may limit the sustainable concentration of pigs to 1,000 standard pig units per 100 hectares unless there is considerable investment in nutrient management technologies. This is likely to slow the long-term trend, reflected nationally, for fewer herds and an increased concentration of sows in the hands of a small number of very large, often vertically integrated producers.

Production of slaughter pigs in 2003/04 was 674,419, up 24% on the 542,585 head in 2000/01. In volume terms production has increased by 23% from 36,782 tonnes of carcass to 45,190 but average carcass weights have declined slightly from 67.8 to 67.0 kg.

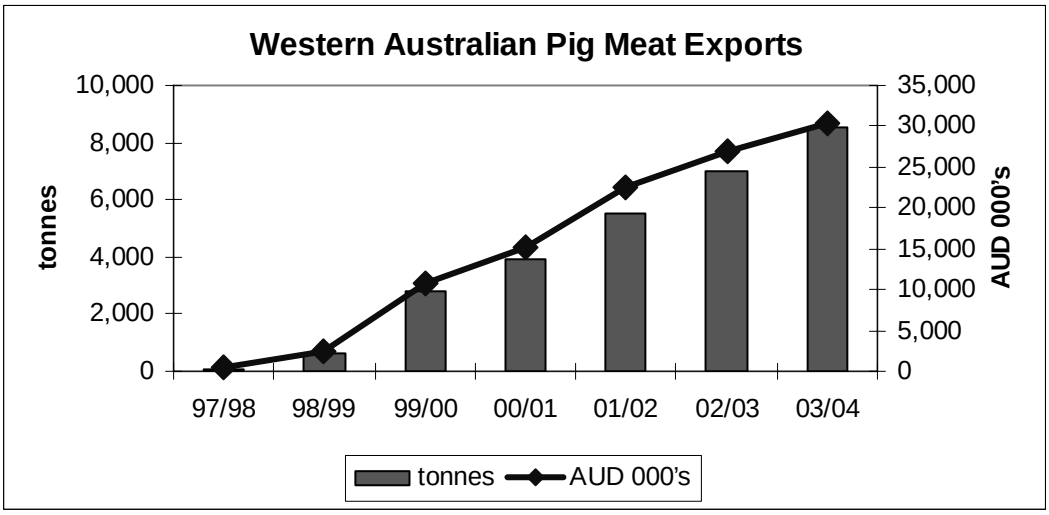
The Australian pig abattoir sector is very concentrated with the top twenty works killing 93% of all pigs nationally. In 2001 WA had two major pig abattoirs with Watsons killing 336,000 pigs (6,500/week) and Linley Valley, Perth Pork Centre (PPC) killing 135,000 pigs (2,600/week). Between them, these two works accounted for 87% of the state's kill. PPC currently kills some 95% of all the states pigs including contract kills for Watson's and D'Orsogna. Dardanup Butchers, Eastern Districts Abattoir and Pink Lake Abattoir slaughter pigs only for the domestic market while PPC is the only export accredited abattoir in WA.

Dorsogna, Del Basso Small Goods and Watsons are accredited pig meat processors and exporters.

2. PIG MEAT EXPORTS AND IMPORTS

WA has demonstrated a dramatic increase in exports over the past five years as shown in the chart below. The major export market is Singapore which accounted for 92% by volume of all exports in 2003/04. The development of low capital cost production systems capable of meeting the desired specifications of the Singaporean market has been a critical factor in export growth. This was supported by changes in the international trading environment and aggressive promotion and marketing by companies and industry organisations. The major product is fresh/chilled carcasses which contribute 96% of all products to this market, the balance being fresh chilled meat cuts and fresh/chilled bone-in hams and shoulders. New Zealand is the second largest importer (6%) sourcing mainly frozen carcasses.

WA's reliance on Singapore is of some concern given the possibility that Malaysia could rapidly regenerate its industry and exports to Singapore, if it is declared free of Nipah virus.



In 2000/01 WA exported 89 tonnes of mainly fresh/chilled pig meat to Japan but this trade was not sustained due to the exacting demands of this market. The Japanese market requires a carcass of much different specifications to anything produced in WA at present. In addition this market requires only certain cuts, not the whole carcase. This creates issues of supply and the need to find alternative markets for the other unwanted cuts that need to be addressed. However, the potential value of the Japanese market for export of product from WA makes the necessary development work worthwhile. WA's contribution to total exports from Australia has grown from 6.9% in 1999/00 to 16.4% in 2003/04.

Imports into WA are dominated by Canada and Denmark. Imports from Denmark (1,618 tonnes) more than doubled in 2003/04 but Canada was still the major supplier with 53% (1,846 tonnes). Canada supplies mostly boneless, frozen meat excluding leg, middle and shoulder cuts. Denmark supplies two major categories, frozen boneless middle cuts and other frozen boneless meat excluding leg and shoulder cuts. These products are processed into small-goods for the domestic market. The US has supplied very small quantities of pig meat to Australia but none to WA to date.

The Department considers that consumers should be able to identify the country of origin of pork contained in manufactured products. Recently the Transitional Standard for Country of Origin Labelling Requirements (Standard 1.1A.3) was introduced under the national Food Standards Code. The Standard covers labelling requirements for products including fish, fruit and vegetables, orange juice and fruit drinks. In the case of fruit drinks containing imported fruit ingredients, the label must identify the country of origin of the imported

ingredients or state that the drink was made from imported ingredients or from imported and local ingredients as the case requires.

3. POTENTIAL FOR GROWTH

Current estimates from market demand information are that pig meat exports from WA will continue to increase for the next five years provided:

1. There is significant new investment to provide capacity and competitive infrastructure to ensure adequate volumes of pig meat for the export market;
2. The pig meat produced consistently meets the quality standards required by existing and emerging export markets, and is accepted by consumers who are becoming more concerned about welfare and environmental issues;
3. The cost of production, processing and transportation is internationally competitive.

3.1 New investment

It is clear that major commercial interests have recognised the potential for rapid growth in the WA pig industry, and significant investment has taking place in production and processing facilities. PPC, owned by Craig Mostyn Pty Ltd, have upgraded their abattoir complex with "state of the art" technology and is killing in excess of 13,000 pigs/week. The complex has been designed and built to support future modular upgrades and additions which could increase the final capacity to 30,000 pigs/week. This would then be the largest pig abattoir in Australia. The new complex has full export accreditation for the Singaporean, Korean and Japanese markets.

4. Product Quality and Consumer Acceptance

4.1 Product Quality

In the last five years there have been major changes in product quality brought about by the demands of the export market and by a realisation amongst producers that eating quality is limiting consumption on the domestic market. WA producers are now much more aware of the importance of variables such as flavour, tenderness and juiciness in determining the eating quality of pork, and hence the acceptance and demand by consumers in both the export and domestic markets.

An example of a change in production systems to increase eating quality is the widespread adoption of immuno-castration as a technique to reduce the incidence of boar taint. This has been embraced more widely in WA than in any other part of Australia as a result of education programs with producers, processors, butchers and retailers about the benefits of the strategy.

The opportunities in the Singapore market have focussed attention on the importance of minimising the fat content of the belly region, a cut that has little importance on the domestic market. Innovative research conducted by the Department of Agriculture has developed prediction equations that are currently being tested as a way of better selecting those carcasses suited to this important market.

The uptake of the APIQ program by WA producers has been excellent and the vast majority of pigs slaughtered in this state are now produced under this quality assurance scheme. However, there is little or no differentiation at the market place on the basis of whether a herd is quality assured or not. Given the relatively high costs of implementing and maintaining the scheme by small producers, the lack of any price differentiation is one common reason given by producers not to embrace the scheme. There are also questions asked about whether the pork that is being imported into Australia has been produced under similar quality assurance standards as that produced locally.

4.2 Animal Welfare Issues

The pig industry is already under scrutiny from animal welfare groups and this is sure to increase over time. The common practice of housing dry sows in individual stalls is a particularly sensitive issue. Several European countries have already introduced legislation which bans the construction of new sow stalls, and requires the phasing out of existing ones over the next few years. Other aspects of intensive pig production systems are also under pressure on welfare grounds.

Multi-site production systems based on housing growing pigs in groups on deep-litter straw may have welfare advantages over conventional systems, but animal welfare is about more than straw bedding. The design and management of group housing systems will impact on physiological, behavioural and health indicators and there is a need for careful evaluation before improved welfare can be claimed.

Deep-litter straw housing systems are being developed for dry sows and are being promoted as welfare-friendly. While some success has been achieved further research and development is required before deep-litter sow housing systems become widely accepted as a viable alternative to individual stalls. A review of the national code of practice for animal welfare by industry, animal welfare organisations and government is currently trying to find consensus on the issue of the use of dry sow stalls. The new code is anticipated to be presented to the Primary Industry Ministerial Council in 2005. The pig industry can anticipate increased costs of infrastructure and staff training to cope with changes in the revised code. There may be modest productivity increases to balance these costs.

4.3 Bio-security Issues

The Department and industry have worked together for a number of years on developing a Pig Bio-security Plan for the pig industry in Western Australia. The StockGuard (Pigs) committee carried out a bio-security risk assessment to develop this plan which sets out the strategies required to manage the bio-security risks in the industry. Subsequently a Pig Bio-security Consultative Group was established, involving industry stakeholders, to oversee the management of these risks in the pig industry.

The Australian pig industry operates in a global environment. The increase in movement of people and items to and from other countries provide an ever present risk of introducing an exotic disease into Australia. As with other livestock industries, pig producers face increasing challenges to ensure high standards of individual farm bio-security are maintained.

The Department of Agriculture considers the recent Import Risk Analysis carried out by Bio-security Australia in relation to pig meat to be a sound, scientific assessment. The international border component of the risk to WA is managed by AQIS through implementation of the conditions of importation established by Bio-security Australia. The post border component between WA and other states is managed by the industry in partnership with the Department of Agriculture.

4.4 Environmental Issues

The traditional environmental issues associated with pig production in WA are odour, the contamination of ground and surface waters, and in the case of poorly run outdoor operations, erosion and land degradation. For conventional production systems the technology is available to minimise these impacts in well-run operations. However the move to alternative housing has created an urgent need for research to identify and control any environmental threats which may be associated with these new production systems.

One area of concern is finding an acceptable method of disposing of used straw bedding. Composting the straw and then spreading it on broad-acre or horticultural land is an alternative but the nature of pig waste, which is high in some elements such as copper and zinc, provides some unique challenges.

4.5 Use of Antibiotics

Intensive pig production often requires therapeutic and prophylactic use of antibiotics to counter enteric and respiratory diseases and maximise profitability. Globally, the threat of antibiotic resistance in the public health sector is driving changes to availability of antibiotics to all agricultural sectors, but particularly to the intensive animal industries. Australia's national management strategy for the minimization of antibiotic resistance has already reduced antibiotic availability to the pig industry. With the implementation of the further restrictions planned and "phasing out" of some antibiotics, the pig industry will need to investigate alternative strategies (such as vaccination, probiotics, management etc) or become less efficient.

While a global ban on antibiotics and additives is not imminent there will be increasing pressure to reduce their use through market signals. Already there are opportunities in Japan for quality pork grown with minimal use of antibiotics and additives, and this trend can be expected elsewhere.

Data released in the USA claims that banning growth promotant antibiotics would increase the cost of production in the US herd by $US4.50-5.00 per pig. Even though the health status of the WA herd is better than the US on average, and the use of antibiotics is less, it is clear that banning antibiotics would have a significant impact on WA producers.

Clearly cost of production will rise unless cost-competitive alternatives to antibiotics can be found, and this should be a priority area for research and development. Any such research needs to take into account the impact of different production systems, many of which are unique to Australia, and the interaction between factors such as length of lactation and composition of creep and weaner feeds.

5. International Competitiveness

For a typical pig herd in WA the cost of feed will make up between 60 and 70% of the total cost of production, and as such is the obvious target for reducing costs. Labour at between 10 and 15% is the next major component.

The cost of production will vary considerably between different herds for a number of reasons and it is difficult to determine a value for a typical WA herd. However, to demonstrate the impact that the fluctuation in cost of feed has had in recent years, calculations have been made using the AUSPIG simulation model and figures derived and adapted from PigStats. An increase in the average cost of feed of $10 per tonne increases the cost of production by approximately $0.05 / kg carcass weight (head-off, 68% dressing percentage).

Impact of cost of feed and productivity on cost of production ($/carcase kg)

Year	2000/01	2001/02	2002/03	2003/04
Average Feed Cost ($/T)	260	290	340	300
Pigs sold/sow/year				
17.7	2.19	2.31	2.57	2.36
19.4	2.10	2.22	2.49	2.27
21.1	2.04	2.17	2.44	2.22
22.9	2.01	2.14	2.41	2.19
24.8	2.00	2.12	2.28	2.17

N.B. No change has been made to the cost of other inputs for each of the years in the above chart, and no allowance has been made for return on capital.

The above simulations also attempt to demonstrate the impact on cost of production of changes in productivity. While some WA herds are producing close to or above 24 pigs sold/sow/year, many others would be at the lower end of the scale for various reasons.

Many producers, especially those that operate mixed farming operations, would not have a clear understanding of their cost of production, either because they cannot separate out the costs for the various enterprises or do not see this as a priority. This is despite an initiative of the grants provided under the NPIDG to work with producers to improve their skills in this area.

Pig Type and Cost of Production Comparison (AUD April 2004)								
USA ($0.75)			**Canada** ($1.00)			**WA**		
LWT		**DWT**	**LWT**		**DWT**	**LWT**		**DWT**
118kg		94kg (80%)	113kg		90kg (80%)	99kg		67.5kg (68%)
$/head	**$/kg lwt**	**$/kg dwt**	**$/head**	**$/kg lwt**	**$/kg dwt**	**$/head**	**$/kg lwt**	**$/kg dwt**
$154.89	$1.32	$1.65	$139.47	$1.23	$1.55	$134.64	$1.36	$2.00
Feed Cost % of Total			**Feed Cost % of Total**			**Feed Cost % of Total**		
59%			58%			65%		

Sources: USA: www.econ.iastate.edu/faculty/lawrence/EstRet/FA04
Canada: www.gov.mb.ca/agriculture/financial/farm2004/cac27s01
WA: Department of Agriculture WA estimates

5.1 Feed Sources and Costs

Well managed Australian pig operations are regarded as comparable with the Europeans in cost of production but the USA and Canada enjoy an advantage (as shown above) due to the ready availability of low-cost feed ingredients such as corn and soya beans which are grown specifically for animal consumption in the domestic market. The dependence of the Australian pig industry on cereal grains, which are grown primarily as export crops for human consumption, makes the industry vulnerable to price fluctuations driven by international demand for cereals. In this context events such as drought, either in Australia or another cereal-exporting country, or changes in the global trading environment for grains can have major impacts on the cost of production of pigs in Australia and the profitability of the sector.

A threat looming for the WA pig industry is the very real possibility that the use of animal by-products such as meat meal, blood meal, bone meal and fish meal may be banned in pig diets following human health concerns over BSE (Mad Cow Disease). These products are not only valuable protein sources in their own right but they contain essential amino acids which are not plentiful in lupins, the major source of vegetable protein used in pig diets in WA. They are also cheap sources of calcium and phosphorus which would need to be added in some other, likely more expensive form, if animal by-products are excluded from pig diets.

Australian Pork Limited indicates that a ban on feeding of all animal products to pigs would decrease profitability by $60 per sow or 10%. If there was also a ban on the use of renderings and the compulsory incineration of all abattoir waste, as is the case in some European countries, then annual profit for an Australian piggery would decrease by 30%. It was concluded that the impact on cost of production of a ban on feeding animal products to

pigs would have the greatest impact in WA because of the dependence of WA producers on lupin-based diets. Victoria and Northern NSW would be least affected.

5.2 Labour

The limitation of available skilled labour is a major impediment to growth and sustainability. Although labour is a major component of the cost of production reducing the total cost of labour is not an option for most piggeries. A better strategy maybe to increase the reward for labour, with a view to attracting a better skilled workforce, thus increasing productivity per unit.

A key issue is that the pig industry is not considered by young people as a long term career prospect, and rates of pay are significantly less than what they may achieve in, for example, the mining industry. Priority areas for training include handling of stock on farm, during transport and pre-slaughter to optimise pork quality and safeguard animal welfare.

The major reason some producers experience a high turnover rate of staff is because of the relatively poor working conditions. Educating owners and senior management about the basic working conditions required to maintain staff is an area of priority, although this to a large extent depends on the industry being profitable.

5.3 Carcass Weights and Quality

Based on data collected by Hassall and Associates (1995) Australia lags behind the rest of the world in the efficiency and effectiveness of the pig processing sector.

	AUSTRALIA	USA	NETHERLANDS
Abattoir ($/kg carcass)	0.19	0.11	0.16
Boning/Cutting ($/kg carcass)	0.42	0.17	0.26
Pigs killed/person/hour	5.4	6.5	8.7
Pigs boned/cut/person/hour	1.7	3.3	3.7

There is little reason to expect that productivity of the Australian processing sector has improved markedly since this data was generated.

A major issue contributing to the higher costs in Australia are low carcass weights, especially in comparison to the USA. Further differentiation of products and innovative branding strategies could also enhance demand in increasingly discerning world markets.

6. GOVERNMENT ROLE IN THE WA PIG INDUSTRY

There is a prima facie case for the WA government to invest in the development of the pig industry because of the potential for the industry to grow rapidly and impact on the government's economic development objectives, particularly employment and investment in regional areas.

Growth of the pig industry in developed countries is beginning to slow primarily because of environmental concerns. WA has the space and resources to cater for a major expansion in the industry but to avoid the problems experienced in some other countries, it is important that there is guidance provided for new operations.

The intended outcome of the Department's activities for the pig industry has been stated as:

"Increased long term net return for WA for producers, processors and exporters through efficient and sustainable production of high quality pork which meets market requirements enabled by production strategies for export and domestic markets that optimise feeding, housing, waste and product quality issues".

7. CONCLUSIONS AND RECOMMENDATIONS

The WA pig industry has the resources to expand and be a major supplier of pork on the global market while adopting modern and sustainable technology. However, given the present economic environment there is a lack of confidence in the industry and unless this changes the industry could well stagnate.

It is recommended that:

1. Additional funding be made available for export market development
2. A review be conducted of the outcomes from projects funded under the NPIDG program
3. Exceptional Circumstances support be available for pig farmers in times of high feed prices due to severe drought
4. Increased attention and funding be given to training at all levels within the industry
5. Consultation with industry and community be undertaken to develop a balanced view on issues relating to animal welfare, and to direct increased R&D funding to areas of high priority
6. Funding towards the development of strategies that will overcome the need to use antibiotics on a large scale be provided
7. Continued support be given for the development of alliances
8. An evaluation be undertaken on the production and use of alternative feed sources and feed additives that will reduce the cost of production and/or improve animal performance and product quality
9. Producers, processors and retailers adopt heavy carcass weights (females or castrates) as the industry standard
10. Improved measures of carcass and meat quality, and further development to value add to fresh pork for domestic (retail and foodservice sectors) and export markets, be undertaken
11. Efforts be continued to refine housing systems to allow better control of the pig's environment without a major increase in capital costs.
12. Methods be assessed and implemented to allow consumers to identify the country of origin of pork