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# Pricing Grain-fed Beef in Australia

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## **Abstract**

Based on an examination of factors affecting grain-fed beef prices in Australia, there is evidence that Australian market prices for grain-fed beef are not a true reflection of world prices for that product. Although no evidence was found of attempts to manipulate or otherwise distort market prices through collusion, exercising market power, or shifting profits out of Australia, the available price data suggest that Australian prices have been lower than they otherwise might have been. This report presents a brief overview of the structure of the Australian fed-beef industry and examines factors affecting the pricing of Australian fed-beef.

## **Keywords**

Agriculture, Livestock, Agricultural Economics

## **Disciplines**

Agricultural and Resource Economics | Agriculture

**PRICING GRAIN-FED BEEF IN AUSTRALIA**

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**CONTENTS**

Abstract .....	vii
The Australian Grain-fed Beef Industry .....	1
History .....	1
Recent Developments .....	1
Markets Served .....	2
Technical Characteristics .....	2
Pricing Grain-fed Beef .....	3
Marketing of Grain-fed Cattle .....	5
Foreign Investment .....	7
Concentration of Ownership .....	10
Conclusion .....	11
References .....	12
Appendices .....	14

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**TABLES**

1.	Appendix A: Australian Feedlot Capacity .....	14
2.	Appendix B: Markets Serviced by the Australian Feedlot Industry .....	15
3.	Appendix C: Australian Beef Exports to Japan .....	16
4.	Appendix D: Queensland Cattle Prices .....	21

### **Abstract**

Based on an examination of factors affecting grain-fed beef prices in Australia, there is evidence that Australian market prices for grain-fed beef are not a true reflection of world prices for that product. Although no evidence was found of attempts to manipulate or otherwise distort market prices through collusion, exercising market power, or shifting profits out of Australia, the available price data suggest that Australian prices have been lower than they otherwise might have been. This report presents a brief overview of the structure of the Australian fed-beef industry and examines factors affecting the pricing of Australian fed-beef.

## **PRICING GRAIN-FED BEEF IN AUSTRALIA**

### **The Australian Grain-fed Beef Industry**

#### **History**

The Australian feedlot industry began in the 1960s, primarily in Queensland and New South Wales (1). Initially, these feedlots were mainly "opportunity" feedlots designed for feeding steer calves during periods of drought. Some commercial feedlots were also established to feed cattle for the Japanese market. Approximately 30 of these feedlots had capacities in excess of 1,000 head.

In 1974, Australia's commercial feedlot industry virtually collapsed following the closure of the Japanese market, but by the late 1970s many feedlots had reopened following a recovery in cattle prices. In 1981, the number of cattle on feed in Australia had reached 120,000 head.

#### **Recent Developments**

During the 1980s, the feedlot industry expanded, largely because of increased demand from Japan and South Korea for grain-fed beef, and in part because of increased domestic demand. The phasing out of import quotas in Japan has led to significant growth in feedlot capacity in recent years, much of which has been supported by foreign investment.

In 1989, 580 feedlots were registered with the Authority for Uniform Specification of Meat and Livestock (AUS-MEAT), with a total simultaneous feeding capacity of approximately 480,000 head. Approximately 80 of these feedlots had individual capacities exceeding 1,000 head and accounted for about 77 percent of total Australian feedlot capacity.

An August 1992 survey of commercial feedlots by the Australian Lot Feeders Association (ALFA) indicated capacity for 504,000 head and a current population of 391,000 cattle on feed (Appendix A). Feedlot expansion plans have been slowed by environmental regulations that are perceived as being more stringent than U.S. regulations. Nevertheless, it was estimated that feedlot

capacity would expand by an additional 150,000 head by the end of 1993 (2).

Grain-fed cattle accounted for about 5 percent of Australian beef production in 1989 (3). Given recent expansion, that figure today stands at between 8 and 9 percent.

Some commercial feedlots are used for custom feeding, an arrangement that transfers risk from the feedlot operator to the owner of the cattle. About 10 percent of cattle on feed are now being custom fed.

### **Markets Served**

The Australian feedlot industry has shown increasing dependence on export markets, with almost 70 percent of the cattle on feed in May 1992 intended for Japanese and South Korean markets (Appendix B). An increasing proportion of Australia's beef exports to Japan and South Korea is comprised of grain-fed beef (Appendix C). Grain-fed exports as a percentage of total beef exports to Japan have increased from less than 4 percent in 1988 to 26 percent in 1991. Recent figures show grain-fed beef accounting for 28 percent of total beef exports to Japan, with 39,661 metric tons shipped from January 1992 through August 1992 (4).

### **Technical Characteristics**

Australian grain-fed cattle are predominantly British or European breeds such as Angus, Hereford, Murray Grey, and their crosses. Murray Grey and Angus can produce satisfactory marbling and desirable maturity weights and thus can compete with Japanese domestic beef.

Australian feedlot rations are based primarily on sorghum and barley, which together account for more than 60 percent of total feed consumption. Other ingredients include wheat, oats, corn, cottonseed, and molasses. The main sources of roughage are sorghum silage, lucerne hay, cotton seed hulls, and citrus pulp. Australian feedlots typically have significant on-site grain storage (5).

In January 1987, AUS-MEAT introduced purple branding of carcasses to identify animals fed in a registered feedlot for at least 70 days. Because the domestic market requires a younger, leaner



animal with no marbling, cattle for the domestic market are placed on feed at an earlier age than are export cattle, fed for 70 to 100 days, and slaughtered at liveweights not greater than 440 kg. Animals slaughtered at over two years old are discounted on the domestic market.

Cattle for the Japanese market are usually fed for 100 days or more to achieve carcass weights of 280 to 380 kg with white fat and moderate marbling. Cattle for the higher-quality end of the Japanese market may be fed for up to 300 days to achieve higher marbling scores at liveweights of around 700 kg. According to one industry consultant, the bulk of the grain-fed beef exported to Japan is from Hereford cattle fed for 130 to 150 days, whereas most of the more highly marbled beef is from Angus cattle fed for 180 days (6). Cattle for the South Korean market are usually fed for 100 days or more to achieve carcass weights of 225 to 340 kg with slight marbling.

#### **Pricing Grain-fed Beef**

Grain-fed beef prices seem to closely follow those of grass-fed beef, with grass-fed beef prices effectively acting as a floor for grain-fed beef prices. The average premium for grain-fed beef (compared with grass-fed beef) has been approximately Aus. 11¢/kg carcass weight. Data on prices are contained in Appendix D.

An article in *The Land*, a weekly agricultural journal, quoted a market analyst who claimed that Australian beef was selling into the Japanese market at less than two-thirds the price of U.S. beef and that that was a major reason why Australian cattle prices were not higher (7). The article quoted statistics for August 1992 showing that U.S. beef was landing in Japan at Aus.\$8.60/kg compared with Australian beef at Aus.\$5.30/kg. The analyst asserted that the discount was based on the way the two countries marketed their product: "Because of our dependence on exports - and exports to Japan in particular - Australia is essentially a buyers' market, whereas the United States for Japanese importers is a sellers' market."

The Australian Meat and Livestock Corporation (AMLC) rejected these claims, saying that

Australia's exports were predominantly full sets and included a substantial component of frozen grass-fed beef for manufacturing. Because U.S. exports were predominantly container-loads of selected cuts, the AMLC argued that a comparison of overall prices was meaningless.

However, data from the September 1992 issue of the *AMLC Meat and Livestock Review* show that, in July 1992, 65 percent of U.S. exports to Japan consisted of frozen beef, whereas only 38 percent of Australian exports to Japan were frozen. Furthermore, in August 1992, 40 percent of Australia's chilled beef exports were grain-fed beef. Given that at least one Australian company, Australia Meat Holdings (AMH), is now in a position to supply selected grain-fed cuts to the Japanese market, it would seem that the overall product mix exported by the two countries is becoming more similar in terms of quality (8).

In the same article, the AMLC claimed that Australian high-quality, chilled, grain-fed beef cuts were selling at or above prices paid for similar quality U.S. Choice cuts in the Tokyo wholesale market. A 1990 discussion paper by the Australian Bureau of Agricultural and Resource Economics (ABARE) (9) provided data on the differential between Japanese wholesale prices and estimated landed prices for selected Australian grass-fed and U.S. grain-fed beef cuts. The data showed that Australian landed prices were considerably lower than landed prices for U.S. cuts, but that there was a substantially greater markup between landed price and wholesale price for the Australian cuts. Because the premium for grain-fed beef (over grass-fed beef) in Australia is only about 5 percent (see Appendix D), it could be inferred that Australian grain-fed cuts were subject to substantially greater markups than their U.S. counterparts if, in fact, they wholesaled for the same price as the U.S. product.

Queensland saleyard prices for grain-fed steers peaked in the week ending July 24, 1992 at approximately Aus. 144¢/kg liveweight (10). During the same week, U.S. producers received approximately U.S.\$73/cwt at the terminal market in Omaha, which, given the exchange rate of U.S.

\$0.745/Aus.\$1, was equivalent to Aus. 215¢/kg (11). Thus, both the United States and Canada would seem to be heavily subsidizing their fed-beef industries if Australian prices were used to represent world prices. Because quality differences may make this direct price comparison invalid, it is nevertheless possible that the price discrepancy between Australian and U.S. beef imports by Japan may *not* be entirely attributable to product mix or quality aspects.

### Marketing of Grain-fed Cattle

Marketing of grain-fed cattle in Australia is characterized by a high degree of vertical coordination between producers and processors. This coordination occurs in two forms:

- Integration, whereby the processor owns the feedlot or places cattle on feed in a custom feedlot.
- Processor/producer supply contracts, whereby cattle are forward-sold to the abattoir, perhaps even before being placed on feed.

Although there are no available statistics on Australian methods of selling grain-fed cattle, these two marketing techniques likely account for the majority of grain-fed cattle, given what we know of the structure and size of the industry. For example, AMH, of which ConAgra controls 50 percent, owns four feedlots with a combined capacity of approximately 70,000 head and supplies approximately 90 percent of its grain-fed kill. Nippon Meat Packers own Australia's largest feedlot in Texas, Queensland. Its current capacity is 30,000 head and there are plans to expand to 45,000 head. Nippon currently supplies about 80 percent of its grain-fed kill from this feedlot and from cattle it owns in two custom feedlots. Nippon acquires the other 20 percent direct from producers on an Australian dollars per kilogram dressed weight basis (12).

It seems that only a small percentage of grain-fed slaughter cattle go through the saleyard system. Data for 1991 indicate that approximately 32,000 cattle described as grain-fed were sold in Queensland saleyards during that year (10). Because commercial feedlot capacity in Queensland was

approximately 175,000 head in 1991 (13), these sales probably account for less than 10 percent of 1991 feedlot production.

Another possible method for selling grain-fed beef is the use of Computer-Aided Livestock Marketing (CALM) (14). This service was launched in 1987 and essentially provides an electronic saleyard auction for buying and selling cattle, sheep, and pigs on the basis of objective description, while the livestock remain on the property of the seller. Buyers can bid from anywhere in Australia, and the auctions are conducted anonymously; no bidder knows the identity of any other bidder. For slaughter cattle, one of the system's key features is feedback to producers regarding the quality of their product.

Although the CALM system has the potential to boost competition in regions serviced by few local buyers, it accounts for only 3 to 6 percent of total livestock sales. Most of the grain-fed cattle sold through CALM are those that the owner was unable to forward-sell, or perhaps chose to gamble with. Furthermore, for finished cattle, it is likely that CALM bidders will be local buyers because of the stress and bruising losses associated with transporting slaughter-ready cattle.

If we assume that 10 percent of Australian beef production is grain-fed and that 16 percent of grain-fed cattle are sold on the open market, then only 1.6 percent of Australian production could be used as the basis for a world price. Total Australian beef production in 1990 was 1.68 million metric tons (15), of which 1.6 percent is 26,880 metric tons. Even if these marketings were distributed evenly throughout the year, it would only amount to 2,240 metric tons per month. At this level of liquidity, individual business deals could have large impacts on market prices. For comparison, the largest U.S. beef packer, IBP, currently produces approximately 224,000 metric tons, or one hundred times this amount, in an average month.

### **Foreign Investment**

The Australian grain-fed beef industry has been criticized on the grounds that significant

Japanese investment is resulting in vertically integrated operations that are repatriating profits out of Australia and depressing local cattle prices. Industry officials have responded by claiming that the extent of foreign investment has been overstated. An ALFA/AMLC survey in February 1991 concluded that 76 percent of feedlot capacity was 100 percent Australian-owned and that only 17 percent of capacity had over 50 percent Japanese equity. While these figures may be accurate, they may also disguise the effective extent and impact of Japanese investment.

Foreign investment levels were examined in a 1989 report by the Australian Meat and Livestock Industry Policy Council (AMLIPC) (16). This report indicated that one area of concern was the relatively high proportion of exports to Japan moving through Japanese-owned companies in Australia. This system could restrict Australian marketing opportunities in Japan to a small number of Australian exporting companies doing business with a small number of Japanese end-users.

The AMLIPC report indicated that 23 percent of 1988 exports to Japan came from Japanese-owned abattoirs and that 58 percent of exports were handled by Japanese companies. The report suggests that existing and planned Japanese investment in 1988 could accommodate 165,000 head of cattle, equivalent to 66,000 metric tons of product suitable for the Japanese market. (Details of foreign ownership of feedlots were included in a confidential addendum to the report). Australian exports of grain-fed beef to Japan are estimated at 60,000 metric tons for 1992. *Thus, it may be possible for grain-fed beef exports to Japan to originate almost entirely from Japanese-owned feedlot/beef-processing facilities in Australia.*

Here are some examples of Japanese investment in Australian beef feedlot/processing enterprises:

- Nippon Meat                      Feedlot at Texas, Queensland with capacity for 30,000 head. Nippon custom-feeds approximately 10,000 head at any one time.

Meatplant at Oakey, Queensland with capacity for 500 head per day.

Three smaller meatplants in Queensland.

- Itoham                      New feedlot at Rockdale with capacity for 20,000 head.  
Abattoir under construction.
- Manno Chikusan              Feedlot at Culcairn with capacity of at least 500 head.
- Mitsubishi                      Abattoir at Macksville, New South Wales.

The AMLIPC report also mentions allegations of international profit shifting (IPS) by some Australian subsidiaries to their parent companies but notes that there is no hard evidence to back these allegations. The report points out that one adverse effect of IPS would be the possible domination by such companies of prices offered to Australian livestock producers.

In support of the allegations of IPS, the report states that "it was recently reported that Japan's Fair Trade Commission ... claimed that for some three to four years there had been collusion among Japan's licensed beef importers to fix each other's market share ... and so manipulate prices. If this proved to be true, a strong inference could be drawn that there had been similar collusion among the Japanese trading houses in Australia when buying from Australian meat processors."

Japan's beef import tariff is paid on the landed value of beef, inclusive of transportation costs and profit, if any. Given the nature of intracompany transfers, it would be unreasonable to expect Japanese parent companies to include the full profit margin in the Australian price. The intracompany transfer cost for beef would therefore be a poor representation of world price.

#### **Concentration of Ownership**

The issue of concentration of abattoir ownership was addressed in a 1990 report by the Cattle Council of Australia (17). Apparently there was concern about the potential for meat processors in some regions to exercise market power and thus depress prices received by cattle producers. Because

there are limited transportation options for finished cattle because of losses associated with bruising and stress, producers of finished cattle are more exposed to the abuse of market power.

The report concluded that there was little cause for concern regarding competition for finished cattle in either New South Wales or southern Queensland, the areas with the bulk of the feedlot industry. However, the report did not deal with grain-fed cattle in particular. In fact, the report noted that the trend toward greater specialization and vertical integration in export plants could reduce competition for particular classes of finished cattle in some regions: "... for example, the plan of Nippon to eventually service all stock from its feedlots will effectively remove the Oakey works as an outlet for local producers of steers for the Japanese market."

In fact, it seems that the southern Queensland market for grain-fed export cattle is dominated to a large extent by two companies: Nippon and AMH. AMH accounts for 35 percent of Australian exports to Japan (grain-fed and grass-fed), and with 70,000 cattle on feed at one time, AMH can supply about 90 percent of its grain-fed kill (8). A representative from one of these firms who prefers to remain anonymous claimed that apart from Nippon and AMH there were not many other buyers for grain-fed beef in that part of the country. On the other hand, the local agricultural journal featured some advertising by abattoirs seeking export type cattle (18).

### **Conclusion**

Most of those involved in the Australian beef industry would stress the fact that they receive little or no protection (the latest estimate is 2 percent, consisting of research and development and some drought assistance [19]) and are completely exposed to factors affecting supply and demand on world markets. Nevertheless, foreign (Japanese) investment levels, ownership concentration levels, and thin markets cast doubt on the validity of Australian prices for grain-fed beef as a true reflection of world prices.

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**Appendix A: Australian Feedlot Capacity (August 1992)**

<b>State</b>	<b>Capacity</b>	<b>Numbers on Feed</b>
NSW	162,350	131,700
Queensland	244,000	207,400
Victoria	43,400	27,100
WA	25,000	-
Other	30,000	25,000
<b>TOTAL</b>	<b>504,750</b>	<b>391,200</b>

Source: Australian Lot Feeder Association (ALFA)

**Appendix B: Markets Serviced by the Australian Feedlot Industry**

<b>Market</b>	<b>Quarter Ended February 1991 (percentage)</b>	<b>Quarter Ended May 1992 (percentage)</b>
Domestic	36	27
Japan	53	58
Korea	6	10
Other	5	5
<b>TOTAL</b>	<b>100</b>	<b>100</b>

Source: Australian Lot Feeder Association/Australian Meat & Livestock Corporation feedlot surveys, February 1991 and May 1992

**Appendix C: Australian Beef Exports to Japan  
(Metric tons shipped weight)**

<b>Year</b>	<b>Grain-fed</b>		<b>Grass-fed</b>	
1988	5,211	3.8%	130,708	96.2%
1989	23,168	13.1%	153,284	86.9%
1990	33,843	16.9%	166,192	83.1%
1991	48,095	26.2%	135,303	73.8%
1992 (Jan-Aug)	39,661	28.1%	101,612	71.9%

Source: Australian Meat & Livestock Corporation

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Source: Australian Meat & Livestock Corporation

**Appendix D: Queensland Cattle Prices (1991)**  
Aus. ¢/Kg. Carcass Weight

<b>Month</b>	<b>Grain-fed</b>	<b>Grass-fed</b>
Jan	247.00	234.00
Feb	251.25	229.25
Mar	250.25	235.25
Apr	236.50	228.50
May	241.25	219.75
Jun	247.75	230.50
Jul	230.60	224.80
Aug	213.75	212.00
Sep	211.00	204.00
Oct	231.25	223.75
Nov	241.00	230.75
Dec	237.00	234.50
<b>Average</b>	<b>236.55</b>	<b>225.59</b>

Source: Australian Meat & Livestock Corporation