Proc. Aust. Soc. Anim. Prod. (1974) 10; 188

MEAT TRADE REQUIREMENTS IN BEEF AND SHEEPMEATS ON A NUMBER OF OVERSEAS MARKETS

D.B. MUIRHEAD*

Summary

A number of recent developments are described, together with specifications for chilled beef, frozen beef, mutton, lamb and offals and manufacturing beef and mutton for world markets. The requirements for the trade are briefly reviewed, as is the action taken by the Australian Meat Board and the meat trade to ensure that overseas buyers understand specifications.

I. INTRODUCTION

Meat trade specifications vary quite considerably from country to country and are also dependent upon the final end use of the product. Eating habits and cooking facilities vary between countries, as do the incomes and home storage facilities.

The veterinary regulations of importing countries sometimes dictate access to the market and some of the criteria in a specification.

There are, of course, wide variations in size and conformation within breeds, in the degree of fat and fat distribution, and size at mature age, although fortunately, the skeletal and muscular structure of cattle and sheep do not differ greatly regardless of country of origin.

Originally our trade was confined mainly to shipping frozen quarters of beef and whole carcases of lamb and mutton. Any further breakdown was carried out by the butcher in the shop or in the factory. This situation persisted until 1958 when a major change was quickly adopted by our meat industry and beef particularly was broken down into its primal cuts, boned out, wrapped in polyethylene and packaged in fibre-board cartons. The change to boneless cuts of beef is only just commencing in the Australian domestic trade.

The advantages that came with this major change were as follows:-

(a) A saving in freight on unwanted fat and bones, and a saving in cold storage space both in store and on the ship. Handling became more efficient.

(b) Blast freezer tunnels and plate freezers replaced refrigeration chambers. The temperature of the product could be brought down very much quicker.

(c) Polyethylene wrapping reduced the need for a fat cover over the muscle. Exposed muscles no longer became dark, nor were they subject to freezer burn.

(d) Individual cuts could be graded for sex, weight and degree of fat cover, and then sent to the highest-priced markets, thus enabling the exporter to diversify his markets.

---

* Director of Meat and Livestock Liaison Services, Australian Meat Board, Sydney.

(e) It enabled the buyer to buy only the cuts for which he had a particular demand, reduced retail wastage, labour needs, and refrigeration space requirements.

This boneless trade was commenced initially for the North American market, but quickly followed to other markets. The extra handling of the meat dictated higher standards of hygiene in the meat works. The next logical step may be for the meat to be broken down into consumer cuts at the point of production.

II. CHILLED TRADE

Prior to World War II, Australia shipped chilled hindquarters and crops of beef to the U.K. and spasmodically in the post-war period. This trade was seasonal and was almost entirely from Queensland. The length of the voyage necessitated the use of carbon dioxide to inhibit microbial growth.

The beef was pitched on Smithfield and other U.K. markets. Chilled beef in the quarter form arrived regularly from Argentine and to a lesser extent from other South American countries. Argentine had a distinct advantage in that shipping time was 20 to 30 days as compared with 50 to 70 days from Australia.

Chilled beef offered distinct advantages for the trade over frozen beef in that it sold at a higher price; it aged en route, and was soft cutting and therefore could be handled easily by the retail butcher.

Frozen beef had the disadvantages of having to be thawed slowly for cutting, suffered loss from drip, and the meat lost its "eye appeal" fairly quickly in the retail shop. The only disadvantage that chilled beef suffered was that it had to be moved into consumption within a few days of arrival.

In 1970, new technology and the relatively new market of Japan saw a recommencing of the chilled trade in the form of boneless primal cuts. This was made possible by the following:-

(a) High standards of hygiene in meat works.

(b) The earlier advent of shrink film vacuum packing.

(c) Adequate temperature control made possible by the use of container shipping.

Sixteen thousand tonnes of chilled beef was shipped to Japan in 1972 and it is confidently expected that 25/30,000 tonnes will be shipped in 1973 and this could increase to 50,000 tonnes in the near future.

One of the technical problems experienced in this new chilled trade was the "greening" of cuts. This problem was rapidly solved by the CSIRO Meat Research Laboratory at Cannon Hill. The presence of greening was found to be due to the presence of sulphmyoglobin caused by hydrogen sulphide producing bacteria growing at a high pH. Today, most carcases are tested for pH prior to packaging.

Exporters having tooled up for the Japanese trade are now also shipping to other markets, notably the United Kingdom, Sweden and Denmark. The Japanese market remains the most attractive in price and takes practically the whole carcase where other markets only take selected cuts. This was a major "breakthrough" for Australia as it overcame some of the difficulties of finding markets for our best grass-fed beef.

Beef traded under this new technology is now commencing to move into the domestic trade, particularly in higher class restaurants and hotels.

The Australian Meat Board does not permit chilled beef to go to the U.S.A. In this market we already have more than 50% share of total beef imports. The principal product is manufacturing type beef for the grinding and processing trades. Chilled beef would compete directly with U.S.A. produced feedlot beef and would almost certainly result in restrictive' legislation of some type.

Chilled Specifications

The top quality segment of the Japanese chilled trade can only be satisfied from cattle that have been on feed for 180 days or more. The buyer is looking for white fat, marbling, bright red beef from heavy-weight cattle, dressed weights as high as 360 kg, a selvage of fat of 12 mm, or fractionally more. This type of beef competes with the Japanese home-produced Wagyu beef and goes mainly to the high class restaurants and hotel trade. This type represents only a small percentage of our chilled beef shipments.

The second type of chilled beef is derived from good quality steer cattle having been a shorter period in the feedlot or finished on crop or pasture, at a lighter weight of say 270-340 kg. Marbling is desirable but is not expected, and the selvage of fat should be less than 12 mm. This quality is sold in the supermarkets and retail outlets.

The second type of chilled beef derived mainly from cattle finished on good pastures is the basic requirement for our other chilled markets.

III. BEEF - PRIMAL CUTS

The types of cut are fairly standard in the international meat trade. Specifications vary according to the degree of external fat and to whether glands are retained or removed. Additionally, a number of our export buyers require these cuts to be weight ranged, e.g. tenderloins under 1.26 kg, 1.26-2.25 kg, 2.25-2.70 kg, 2.70 kg upwards. Demand tends to vary seasonally and not all markets take full range of either hindquarter or forequarter cuts.

The demand for grilling cuts, e.g. rump, striploin, cube roll, is usually greater in the summer months. In Europe the demand for all cuts is for less fat than in the United Kingdom.

In France generally, demand is for heavier weight lean cuts. Topside and silverside are approximately the same price in the United Kingdom. Silverside is a very much lower price in France.

In Sweden our trade is for topsides completely defatted, in the rump the eye of meat only, and for the knuckle and not the thick flank, striploin again completely defatted, and for the tenderloin and cube roll.

The defatting of topsides, striploins and special rump cut increases the price to the buyer.

Japan takes the traditional cuts either in the U.S.A. or the U.K. specifications, but is more tolerant of fat and the market is showing a preference towards cuts derived from the heavier weight carcases; yellow fat is not liked in Japan.

Whilst beef is graded somewhat subjectively for quality at the present time, a system of classification of beef is under investigation designed to permit more accurate description of the carcase in objective terms.

IV. LAMB AND MUTTON

Lamb is sold in its three grades. 1st and 2nd quality are weight ranged in the following manner:-

Cypher	Wt
D's	9 to 12.5 kg
2's	13 to 16 kg
8's	16.5 to 19 kg
4's	19.5 kg upwards

while third quality is divided into weight ranges of 9 to 13 kg and 13 kg upwards.

Lamb is sold either as full carcases or cuts bone-in or boneless. The main trade has been with the United Kingdom and is for full carcase. The lighter weights, i.e. up to 17 kg, are used in the retail trade, and the heavier weights in the catering trade. Different regions of the U.K. have distinct weight and grade demand preferences.

Much of the lamb is cut in the traditional markets such as Smithfield, prior to disposal, although there is a trend, particularly from New Zealand, towards importation of bone-in cuts. Where lamb is cut it is mainly put up as bone-in legs, loins, racks, square cut shoulders. There are a number of different specifications for legs. They can be sold as chump-on, chump-off, shank-on or shank-off, bone-in or boneless.

The U.S.A. and Canadian trade is almost entirely for lamb cuts. There is also a demand in the U.S.A. for boneless lamb which is generally used in baby food.

Mutton is graded for sex and quality into the following weight ranges:-

Cypher	Wt
6	under 18 kg
1	18.5 to 22 kg
7	22.5 to 25.5 kg
3	26 to 29 kg
9	29.5 to 32.5 kg
5	33 kg and over

For table quality mutton the Middle East is the major market. Tonnages of frozen product are not as yet large, but, there is a sale of approximately 1 million live sheep a year to this area. Mutton for&his

area has to be Mohammedan killed and most of it goes in carcase form, the exception being for cuts for some of the smaller gulf markets such as Bahrain and Kuwait. It is of interest to note that the Australian Meat Board arranged for a technician to work in a major supermarket in Tehran to instruct in the western style of cutting.

The United Kingdom also is an important market for mutton legs, both bone-in and boneless. These are mainly used in the contract catering trade such as school luncheons, hospitals, industrial canteens.

Malta is a smaller market for mutton legs. They particularly demand very lean legs under 2.25 kg weight. It is of interest also to note that our trade in mutton legs has moved up considerably in Belgium and Holland during the last two years.

Other spasmodic markets for mutton in recent years have been U.S.S.R. 40,000 tonnes in 1971/72 and 13,000 tonnes to Rumania in 1971/72 and 6,000 tonnes to Chile and Peru in 1972/73.

V. OFFALS OR FANCY MEATS

Offals are an important segment of the Australian export meat trade. In 1972/73 52,000 tonnes were exported. The United Kingdom has been the major market, followed by Japan and Europe. Here again, there are a number of specifications, particularly for such items as tongues and tripes. There is a trend in recent years towards marketing these in smaller packages.

In the United Kingdom the trade in tongues is for a short cut tongue, bulk packed which all goes to canning. In the rest of our markets, notably Japan, Sweden and France, tongues are individually wrapped and go to the retail trade. Sheep and lamb brains are either individually wrapped or cut packed in plastic trays and mainly go to France. Ox tails are individually wrapped where they need to be for the retail trade, or bulk packed where they go to the soup manufacturer. Tripe has always been a difficult item because of the variety of specifications. More recently, Japan has emerged as a major market for tripe, taking, a special cut from it known as the "mountain chain'. This is sold in the raw or green state.

VI. MANUFACTURING MEATS - BEEF, MUTTON AND PORK

Manufacturing meats are usually derived from older animals after they have completed their breeding or fibre-producing life. The resultant carcases are generally in the 3rd quality grades.

The principal characteristics looked for in manufacturing beef are darkness in colour and absence of fat. In the case of bull beef, trade is looking for the binding quality required in specialty dry sausage products. In the main, manufacturing beef is required to have a high water holding and fat binding capacity.

In the mid sixties, mutton was recognized in the U.S.A. as a useful and cheaper source of manufacturing meat. The major problem had been the objection to mutton flavour. However, when lean mutton was incorporated into such item as the "hot dog", trained panels of tasters could not detect it. It is used in both the U.S.A. and Canada as a blend with manufacturing beef. There are difficulties in producing mutton to satisfy the stringent U.S.A. hygiene requirements.

In the United Kingdom, mutton has had a gradual acceptance as a manufacturing meat, used as a blend, but is also used in traditional dishes such as Irish Stew.

Specifications for manufacturing beef and mutton revolve around the measurements of lean, either visual or by chemical analysis. The visual lean requirements are 90% for U.S.A., 85% for the U.K., and 95-97% for the trade in most of the European countries.

VII. WHAT DOES THE MEAT BOARD AND THE MEAT TRADE DO TO ENSURE THAT THE AUSTRALIAN EXPORTER AND THE OVERSEAS IMPORTER UNDERSTAND THE SPECIFICATIONS

In the 1960s the Australian Meat Board commenced producing foreign language publications.

The first serious attempt was the booklet called "An Introduction to Australian Meat Exports". The English version was quickly followed by German, French, Italian, Greek and Japanese. This is now superseded by the "Handbook of Australian Meat". This is the best book of its type available in the world today and is the work of a joint committee of Board staff and exporters. Each cut is numbered, giving a brief description and then the points requiring specifications by the buyer set out. Additionally, there is a diagram and a photograph of most of the cuts. Most of the problems related to international marketing arise from buyer and seller not understanding each other or very loosely worded specifications. Today, most of the international trade operates by telex. The advantage of specification numbers are obvious.

Quite apart from the publication of material, displays and demonstrations of Australian meat in overseas countries have been a regular feature of Meat Board activity.

I personally have been associated with such displays in Western and Eastern Europe which are either held in the market place, in fairs, or arranged at special centres to which meat trade guests and potential buyers are invited.

This has been the major feature of the work of our representative in the development of the Japanese market and also a feature of the work from our Tehran office in the Middle East.

In a number of countries, cooking and tasting demonstrations have been arranged. This method of demonstration has been particularly useful in Rumania, Middle East and in Chile and Peru, and will probably be used more extensively in the future. In all of this work the Board works closely with the Australian meat exporters.

Representatives of the major meat companies regularly visit their important overseas markets to have first-hand contact with their buyers and to update their company's knowledge of trade requirements. There is also regular flow of overseas buyers to Australia, not only to see at first-hand our methods of production, but to demonstrate particular requirements. Many Australian exporters also produce attractive brochures setting out details of their company's production.