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Introduction

Until recently, New Zealand beef and lamb have been sold into existing markets at prices lower than those ruling in those markets. This has upset local producers and justifiably so.

The most important marketing rule when going into any country is to ensure that you don't upset the local producers, because it is impossible to win against them. They have government support and local consumer favouritism - again justifiably so. Local producers are not usually upset by better quality, but they are upset by undercutting price, especially when, as in all cases, they believe that they are efficient producers themselves. The result is that most northern hemisphere farmers believe that NZ farmers are heavily subsidised.

"How else can they get their produce up here so much cheaper than ours?" they ask.

The most important aspect of marketing is to sell the benefits, rather than just the product. Unfortunately, this has hardly been done.

New Zealand pasture fed meat has many advantages over the stall fed product. For example it is lower in sodium, and a vast number of people want food low in sodium. Unfortunately, they don't know that it is lower in salt, because they are not told.

The fat on NZ meat is not marbled right through the meat, so can be trimmed off.

NZ meat is grown in healthy, sun drenched clean conditions, in fresh air, grazing natural clean grass and clover pastures, and are not force fed.

Meat Vitamins and Minerals

One of the biggest growing businesses is the sale of vitamins and minerals, which used to be limited to chemists, but now covers considerable areas in supermarkets and the health food shops, which are springing up everywhere.

No one would question the swing to vitamins, minerals and health foods, but what are our marketers of meat (and milk) doing to take advantage of this. I haven't seen any advertisements or commercially written articles with the merits of meat.

Milk suffers the same lack of promotion, in New Zealand anyway. This very good advertisement came out of a British magazine.

The problem with the marketing of all our animal products is that they haven't really come out of the commodity, "you need it" mode.

Unfortunately, there is unlikely to be any change unless our co-operatives change to include at least two marketers and some consumers (women) on their boards.

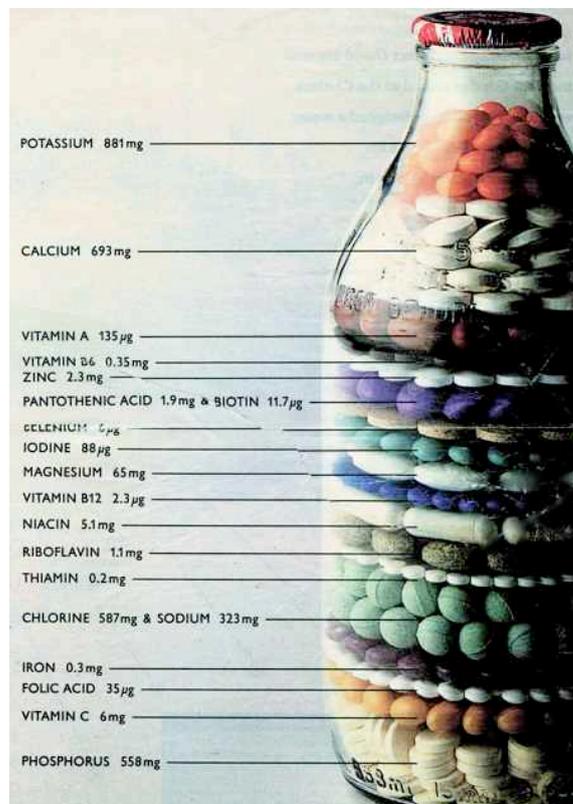
I suggest two marketers because there is nothing like competition, and, as a Group Marketing Manager, I have sat on a board with engineers, accountants and solicitors, and been unable to improve marketing philosophies because the others had no understanding or appreciation of the subject.

If someone asked me what New Zealand's biggest weakness was, I would say poor marketing, and many would agree. We have seen absolutely atrocious examples of marketing and we've seen colossal vacuums in this sphere. Many laymen have reported the same.

E.coli

Anything that lowers quality adversely affects sales. E-Coli does this. It can be spread by dogs.

Just as soil types affect the quality of wine, animal's diet can affect the quality of meat. Some North American cattle are finished on wheat or barley rather than corn. Is there a difference? One



rancher told me that barley makes for flavourful beef and warned that wheat can make beef tough. Another rancher said, "Corn is the worst. It results in the greatest lack of flavour in beef." And what about grass-fed beef? Raising a cow on grass alone is ecologically friendly. But does it taste good?

Some undigested grain reaches the colon, where it ferments causing acids to accumulate in the colon which increases the chance that some E. coli becomes acid resistant and then more easily affects humans. Feeding grass and clover pasture, or hay, in feedlots instead of so much or any grain, for a week prior to slaughter, can reduce the likelihood of acid-resistant E coli.

Animals on grain-based rations typical of commercial feedlots can have 1 million acid-resistant E coli per gram of manure. By comparison, cattle fed hay or pasture had only acid-sensitive E coli, and these bacteria can be destroyed by acid in the human stomach. There is always a chance that contaminated beef can reach supermarkets, It is important that consumers cook all meats thoroughly.

In Honolulu in 1997, the beef was not as good as ours. This is a frequent New Zealander complaint when they are in North America. It is accepted that people expect foods to taste like what they are accustomed to which can be a reason for the comment, however North Americans I've had meat with in New Zealand restaurants have always liked it and been surprised at the tenderness. I must admit that I know where in Hamilton to go to get good meat properly cooked. 'Memory Lane' (where you can choose your own and cook it yourself if so inclined) and 'Tables on the River' are two - BUT chefs change.

At one top Honolulu restaurant I asked for our beef to be well cooked with "no red", but it had still showed blood (Yuk). We didn't want E coli or similar, but we both got it for a day, we think from the "raw" meat. Auriel has a cast iron stomach, but her beef was redder. The cook and server (they used to be called "waiters"!) must have been colour blind, or thought they knew best, OR FEARED THAT LOSING THE RED, MEANT CREATING TOUGHNESS.

Human resistance to E coli can be built up as in India, and in USA to a degree after eating under-cooked meat for a long time.

Producing a perfect product is important. E. coli in beef has been in the USA news which reduces beef sales. Beef farmers must do all they can to avoid this. While this bacterium is common, the worst ones are dangerous and are claimed to be responsible for more than 20,000 infections and 200 deaths in the United States each year in the 1990s.

Two of the biggest on-farm causes are water troughs and feeds. E. coli persists for months in water trough sediments and may even multiply. Feed should be stored so they are kept free of bird and rodent contamination. Birds can carry bad E. coli and salmonella. Feeding bought feed should be managed so that all is used and new is not placed over old. Bacteria can grow to very high levels in some mixed feeds if they are left sitting for long. Top dairy farmers who feed grain, like it freshly crushed and fed within five days. Crushing grain opens it to oxidation as can be seen with peeled fruit. Interestingly, cut open or peeled organic apples take three times as long to reach the same brown colour as non-organic.

[Few tariffs in NZ](#)

We are the only country in the world that I know of where our farmers are subjected to dumping from subsidised countries and no tariffs are applied.

[Fantastic Future](#)

New Zealand has developed on the farmers back and farming will continue to carry the country.

Blaming all our woes on subsidies in our markets, import tariffs, and distance from markets is another example of our weak marketing. It is not up to New Zealand to tell other countries to remove subsidies. Surveys in the EU have shown that their public are happy to pay taxes to keep their farmers producing.

When one considers how many raw materials we have, such as meat, wool, dairy produce, coal, gas, timber, fish, vegetables, flowers, etc., one wonders how it is possible for New Zealand not to be doing a lot better than Japan, Korea, Taiwan, etc., which have almost no raw materials.

The other unfortunate aspect is that, despite adding value to many of our farm products, the farmers continue to get less. The classic example is that lambs exported live have returned more to the producer than those processed.

In marketing, there is absolutely no room for negativity, or for the word can't, but, going by many of the reports we read, one can only assume that most of our marketers don't know this. For example, over the years we have read that the Japanese don't like mutton, the Americans think our

lamb chops are too small, pasture fed beef doesn't fetch the prices of grain fed beef, etc.

We have heard these defensive statements dozens of times, but they all come from people who lack marketing skills and drive.

When marketing a product into a new market, like mutton into Japan, full instructions must go with the product. For example, "You don't steam it, which is the custom there, or it will smell everyone out of their small houses. You roast it in an oven or barbecue it. The scent then attracts people."

At a field day I ran in Japan in 1982, Surge Miyawaki, the Japanese importer/distributor for 14 NZ companies provided barbecued New Zealand mutton, the quality of which was an absolute disgrace, but the fifty Japanese farmers and business people moved their chopsticks faster than ever as they gobbled up every scrap, and said to me, "This must be a delicacy in New Zealand," and couldn't believe that it was almost a staple diet, like their rice.

Compared to American lamb chops, ours are small, partly because their lambs don't become mutton sometimes until they are mothers several times over.

Americans love big chunks of meat, and lots of it, so our lamb chops in restaurants should be listed on the menu as "A dozen young delicious ovine chops" and should be cooked only slightly and quickly, not into the rocks some of our New Zealand restaurants serve. Americans like their meat tender and still bleeding.

Why "Ovine"? Because the only lambs North Americans associate with are their pet woolly lamb they had as a child.

Auburn University in America promoted pasture feeding of beef cattle, and the sale of pasture fed beef, because they are in a pasture growing area, rather than a grain area. In the true American style, they had housewives do palatability and tender trials on grain fed and pasture fed beef.

Many preferred the pasture fed beef, and none complained about it being tough.

Our best beef grows faster on our clover and perennial ryegrass pastures and smaller paddocks, does less walking, and is more tasty and tender, so why aren't we doing these same comparisons around the world, and promoting the benefits of tasty, tender, clover fed prime beef from sun drenched New Zealand.

Our steaks could also be marketed as low fat, low salt, high protein, CLA and vitamin, naturally fed steak.

Marketing begins with producing quality and making a profit.

Profiting

The most profitable beef farming is breeding top bulls of the best breeds required in your area. You might think that all can't do this, and you're right, but I don't care about, all, or the average farmers, I care about you. If you do go into pedigrees start small with the very best. See [Animals Breeds Breeding ID > Breeding](#).

Depending on the farm or ranch, the second most profitable can be "once-bred heifers". This entails rearing well grown heifers to first calvers in early spring, weaning their calves early, then finishing them for slaughter or selling them for others to finish before the age when they are down graded. With this system you can run more stock because you are not carrying cows over winter for their next calf. Running more would give you more calves each year to keep. You would have to buy in some weaners or heifers because you'd be selling twice as many first calvers as you'd have heifer calves to keep.

When buying, keep in mind that dairy crosses produce more milk so can rear better calves and you can use hybrid vigour twice by mating the heifers to Continental breeds such as Limousine, which have small calves and cross well, even with Jerseys. I have nothing against Jerseys, but they are furthest removed from the beef breeds. They have consistently tender meat, possibly because they are tamer so less stressed by anything different such as transport, before slaughter when in a strange place, and when they smell blood, which can make animals tense and so have tough meat. Comparative trials in New Zealand found that Jersey cross Limousine steers grew well, however, not as fast as large breeds, but had good tender meat, possibly because the quite placid Jersey nature reduced stress prior to slaughter.

Grazing small (young) animals is more profitable than grazing large animals because their maintenance is lower, they damage less soil and pasture and are easier to handle, however if all animals are very young you can get internal parasite problems. Older animals tolerate internal

parasites better because they have built up resistance so can be used to clean up paddocks by grazing them short to remove long clumps and let the sun in.

A 300 kg live weight bull growing at 1 kg live weight a day requires 1.3% or 4 kg of DM a day for maintenance, plus 3.8 kg totalling 7.8 kg while

The beef industry knows that their sales are dropping while chicken and pork are increasing, but they are doing little about researching why. One reason is lack of consistency. Allan Nation told me that one in four US feedlot animals is tough. Are the tough ones those which are more stressed. Every effort should be made to farm animals in a calm way. Stressed animals grow more slowly and have more dark meat which doesn't keep as well. See Marketing.

Grading should be on tenderness rather than looks. Taste and lack of fat in or around the meat are important. Some people avoid fat at all costs and some don't like the grease left in the mouth. It should not be on the way out requirements such as looks and grain in the rumen in North America.

Some claim that it is the fat that gives taste and flavour - they haven't tasted young beef reared on perennial ryegrass and clover pastures and then home-killed.

Until recently our meat industry claimed that what happened after animals left the farm made no difference to tenderness and said the problems occurred on the farm. At a beef seminar in New Zealand in November 1997, the Australian Meat Quality Co-operative Research Centre people reported (the comments below in brackets are mine):

- Little could be achieved with breeding for tenderness. (Wrong. Naturally tame quiet animals don't get as stressed and have more tender meat. Jerseys are an example.)

- When stress was minimised between the farm and slaughter, tenderness was consistently better.

- After getting to 200 kg, growing beef animals were kept short of feed for eight months, they later compensated rapidly when well fed, by growing at 1 kg/day. (Lots of wild animals do this after every winter.) When the beef animals were slaughtered they were only 5% lighter, but had substantially more subcutaneous and intramuscular fat than those fed evenly over the period. (This laying on fat factor has been known for a while and is a reason people should not over-do dieting, because the body then thinks that to protect against the next drought, fat should be laid on once food is available again. Animals which have been thin will eat more for a long time afterwards. The body is a wonderful adjuster and compensator.)

- There is a strong genetic relationship between yield and fat marbling, with animals which marbled well having below average meat yield. (Some grow fat or meat.)

- Marbling has only a minor effect on tenderness, but may improve the tolerance of beef to cooking abuse. Marbling is fat. Koby beef in Japan fetches very high prices because of its taste and tenderness. Its fat content is 25% while most beef is about 8%. Koby beef is extremely expensive so not much is eaten. The Japanese eat a low fat diet.

Fat tastes nice - to most people, but not to all who don't want it, or dislike the grease left in the mouth.

Their summary was that, provided beef animals grow constantly and meet weight by age requirements, any toughness is unlikely to come from the animal.

End of report.

Cooking beef

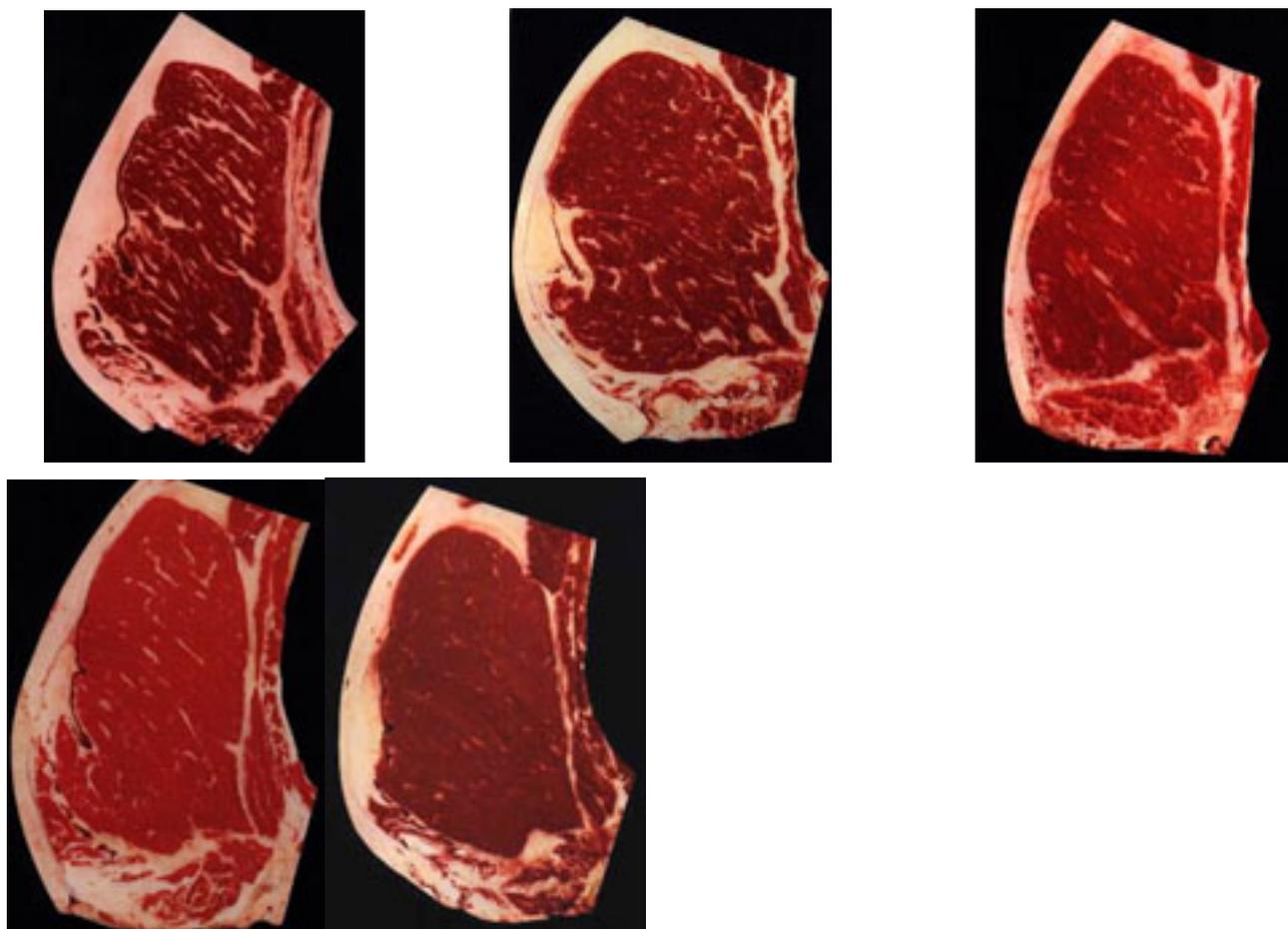
A simple way of cooking lamb racks is to make sure that any thick layer of fat on the back has been removed (as shown in the photo), by either the butcher or the cook, then sprinkle salt on the backs of the racks (the smooth side) and roast them on a rack in the oven, at a temperature of 180 C in a fan assisted oven, for 20 minutes, then turn them over and cook for another 20 minutes. This gives well-cooked meat. If you prefer it pinker (less well cooked), reduce the time, down to a minimum of 15 minutes each side for rare meat, but lamb is best well cooked and is tender, so there is no fear of becoming tough. With pasture-fed meat, it's important to not overcook it. To keep it moist and tender you might need a good meat thermometer.

I would rather eat the low fat one. Toxins such as mercury and cadmium (a heavy metal) are stored in old animals' fat. Our bodies need **good** fats for our brain. Read Brain in Human health.

The fat flavour-craze is no different to the craze for sugar and sweets and high salt levels in food, all of which are bad for one's health.

A new tenderness test developed by scientists at the US Meat Animal Research Center (MARC) is being marketed by Frontier Beef Systems, LLC (FBS, Lafayette CO). Meat scientists have known for

years that Calpain, a naturally occurring enzyme, plays a major role in beef tenderness by weakening muscle fibres, thus increasing tenderness during the post-mortem aging process. After a decade of gene discovery research and thorough validation, the Calpain marker is ready for release to the beef industry.



MARC geneticists have identified two SNPs (Single Nucleotide Polymorphisms) for Calpain. Research results have shown differences of about one pound of Warner-Bratzler shear (WBS) force between animals carrying zero or two copies of the favourable alleles (genes) for just one of the Calpain SNPs. Just recently, the National Beef Cattle Evaluation Consortium evaluated both Calpain SNPs and found a difference of nearly 1.8 pounds of WBS force between the least and most favourable genotypes in Simmental- and Angus-cross fed cattle.

Frontier Beef Systems offered a special introductory price of \$25 per test in December 31, 2003. According to Dr. Jim Gibb, FBS General Manager, "Providing a powerful, yet low-cost tenderness test to the beef industry has been one of our goals since we founded Frontier Beef Systems two years ago. We are very pleased to have this opportunity."

The name of the test is [TenderGENE](#).

Scientists prove what the best farmers know

Now that scientists have proved things that some farmers have known for I suppose a hundred years (that home killed meat is more tender - and tastier), I hope something will be done about the loading and transporting and cleaner, quieter transport and slaughter facilities. Animals hate the smell of strangers of the same species and the smell of blood of their own species. Slaughter houses have these and make little effort to control noise with rubber stops on gates, animal smell with chloride of lime, etc.

Why is home-kill tastier? No stress and they seldom get maize or wheat.

I write for the Stockman Grass Farmer in USA, which is bought by some New Zealanders. Some accused me of giving secrets away, but if the world eats more beef because it is consistently tender, it will be good for all beef farmers.

In 1983 I took two Texans to an ordinary restaurant in Hamilton, NZ for steak. They were

surprised when they weren't given a serrated knife - I told them they wouldn't need one. After a few mouthfuls they started arguing with me that it must be feedlot beef to be so tender, juicy and delicious. I and the chef assured them that it was not. They then claimed that they had been cheated in their US education, and felt quite annoyed. To rub a bit of salt in, I reminded them that the New Zealand beef they had just eaten had less fat and less salt than theirs (pasture is usually low in sodium so is pasture meat), so they'd live a bit longer.

The Meat Industry Research of New Zealand (MIRINZ) cooked the meat from a correctly slaughtered old Holstein/Friesian cull cow for a meat packers directors' dinner. The farmer directors raved over its tenderness and were guessing which beef breed it was before being told. MIRINZ has shown that any breed of animal of the same sex and age can be treated before and at slaughter so that no one can tell the difference in tenderness. Even feedlot beef can be made tough or tender, depending on the treatment at and after slaughter. One in four animals from US feedlots are reported to be tough.

For sheep I feel that the safest and most humane method of slaughter is a throat cut, either using the halal method or the kosher method. Currently I catch the sheep and set them on the ground on their sides and then the butcher slits the throat once they have calmed down and their heart stops racing. If the sheep gets too upset we stop. We also never do less than 2 at a time so they have a buddy during their final night is without hay. When we are down to the last 2, I catch one and hand it to the butcher, then I catch the other and hold it so it won't get upset. The butcher does the throat on the first and immediately does the second so it isn't waiting too long. We also never let the sheep see the other sheep being killed and we move the actual killing location a bit so they are not directly in the blood from the last one. I am hoping to try to build a kosher slaughter cradle like those that Temple Grandin developed as I think that would be better than putting them on their sides. Shooting them in the head is dangerous to the shooter IMO due to the stronger skulls of sheep and the potential for ricochets. If you are close enough to get a clean shot on the skull, you are within range of an error in aim or a deflected bullet. I've never seen a stunning device that is mobile and usable on a farm and I will no longer take animals to a slaughterhouse for slaughter. In my book it has to be on-farm to be humane. The stress of transport for off-farm slaughter makes the meat taste horrible and is cruel to the animal.

USA Beef

From Slate magazine

Angus is currently the most popular among North American ranchers. This is partly due to economics—Angus cattle mature quickly and put on weight well—but also because Angus beef is reliably marbled and tender, however, not all well-marbled steaks come from Angus cows. Grain-feeding techniques have become so effective that even dairy cattle (such as Holsteins) can achieve a grade of Prime, according to Cattle-Fax, a cattle-marketing information service, 17 percent of American beef comes from dairy cattle.

Does a Prime steak from a dairy cow taste as good as a Prime steak from an Angus cow? Every rancher, meat packer, and butcher I spoke with told me an Angus steak would taste better, but good luck telling the two apart at the supermarket.

Hormones

Almost all feedlot cattle are injected with growth hormones to help them gain muscle mass. Critics complain that doing so merely causes cows to retain water and produces bland meat. Consumer surveys show that people prefer to eat meat that has not had hormones.

Grass-fed Beef

Some studies have shown that grass-fed beef is lower in saturated fat and higher in omega-3 fatty acids, making it healthier than regular beef.

The knock against it: Consistency, or lack thereof. One grass-fed rancher I spoke to refused to send me any steak for this article because, he said, it sometimes tastes like salmon. Restaurants and supermarkets don't like grass-fed beef because like all slow food, grass-fed beef producers can't guarantee consistency—it won't look and taste exactly the same every time you buy it. Grass-fed beef also has a reputation for being tough. That is in USA, where they are correct because most of their grass is rough tough grass and no clovers, and the beef is older than ours and walked a lot further. Some there have recently grown ryegrass and white clover pastures which produce more tender meat.

In New Zealand ALL beef and lamb are 100% pasture (mostly perennial ryegrass and white

clover) fed. There is only one feedlot in NZ which is in Canterbury and 50% owned by the Japanese for their market.

Sell your animals in the paddock to a stock agent because -

1. You can say “No”, which is hard to do at a sale when one would have to pay the cartage back home and later back to the sale again.
2. Contented full animals in a paddock looked better than carted ones in a sale pen, so fetch more.
3. Stock buyers would sometimes need animals to fill orders so would pay more. In the days of repeated abattoir strikes in New Zealand (pre the 90’s), bonuses were sometimes obtained.
4. Animals were carted (shipped in US) once only to slaughter, not to sale and then to slaughter, so were less stressed.
5. Buyers got to know that they could rely on a consistent quality of animal so, paid more.
6. Buyers can choose which they buy, whereas at sales they have to buy all in a pen.

Promoting Beef

The pig and poultry industries promote the health and financial benefits of buying their meats, the beef industry generally doesn’t. Meanwhile Australian figures show that poultry meat consumption has increased from 1.3 kg per person per year in 1965 to about 25 kg in 1994, during which time beef consumption has dropped.

As well as promotion through fast food outlets and their low fat claims, the price of chicken has decreased relative to beef, so what should one expect sales to do.

The relative costs, breeding and production efficiencies of producing poultry and pig meat may have peaked, especially if the pressure to close battery housing raises costs, whereas the improved use of pasture can increase returns and reduce the cost of producing each kilogramme of beef.

The breeding and feeding of improved fat free cattle is lagging dreadfully, when compared with poultry and pigs. Why? Because beef farming has been too easy. People who choose beef farming usually do so because they want an easy life, and that’s fine. It is their prerogative, and very nice too, but in the increasingly competitive world it is not commercially sustainable. But the ways out of the downward spiral are there, and are easy compared with the uncontrollable pig and poultry aspects being put forward in the name of animal rights.

The poultry industry has bred a good broiler in just a few decades, only partly thanks to the shorter generation cycle, mostly thanks to good selection by weight gains and feed conversion rates. When one looks at pigs and poultry they are much more even than a typical beef herd. Some of the mongrels being fattened for beef are a disgrace.

To improve beef production all that breeders and growers have to do is apply what the pig and poultry industries have done with selection, breeding and good feeding. It will take longer, especially because for a hundred years many have bred from show winning animals.

To improve feed conversion the beef weight gains must be measured on a per animal as well as a per hectare basis. Most in New Zealand weigh their beef on a regular basis, and computers can make the selection by per animal production, and the per hectare yields of beef easy. Both are necessary if comparing animal weight gains between mobs and years, because even if the stocking rate has not changed, the weather, fertilising, etc., may have. See Computers-Templates-Weight Gains.

Selecting for weight gain doesn’t breed a leaner carcass; breeding, continuous reasonable growth, adequate protein and zinc can do. However, selection for leaner meat without marbling (and promoting free range meat), and tenderness throughout without gristle, are what has to be bred for, but unless handling for a day or more prior to slaughter is without stress, tenderness will not be achieved.

The beef industry knows that their sales are dropping while chicken and pork are increasing, but are doing little about researching why. One reason is lack of consistency. Allan Nation, the US Stockman Grass Farmer editor, told me that one in four US feedlot animals is tough. Are the tough ones those which are more stressed. Every effort should be made to farm animals in a calm way. Stressed animals grow more slowly and have more dark meat which doesn’t keep as well.

To achieve sales, the most convenient for cooking and most healthy for consuming must be provided and promoted as such.

Breed is important because dressed (slaughtered) meat competitions are won by some breeds, not others. The Japanese Wagyu (pronounced Wah Gue) and their first crosses can produce marbled meat

off pasture. Wagyu x Saler steers with only 27 days grain feeding (US\$39 worth) won the 1993 Western National Fed Beef Contest at Denver stock show against all comers. Winners are usually fed for 150 or more days. In an Australian trial British type steers fed grain for 28 days gave a significant increase in marbling, while tropical species took two to three times as long to achieve the same amount. This doesn't mean I favour marbling, but until consumers have been taught that yellow fat and no marbling are best and that "Grass fed is Best" to quote Jo Robinson (read her book), marbling will be sought in Northern Hemisphere markets.

Your breeding and production targets should be set. For example if top quality, top priced meat is to be bred for, then plan accordingly. In the 80's the price of ordinary beef in Japan was three times higher than in beef growing countries, but the market is being swamped, so prices for ordinary beef is dropping, while that for specialised top quality beef it is not.

In most countries there are some people who buy top shelf, top quality products, irrespective of price. To achieve a high standard of living, beef producers must aim for these markets, not the mass market where all meats are sold in bulk on price.

There is a rapid swing to free-range naturally grown beef. In USA there are farmers in Hawaii (Rick Habein), Mississippi (Bob Meucci), Virginia (Joel Salatin), and many more who can't produce enough pasture fed, hormone-free beef. They are earning up to double the normal by having their beef cut for customers.

Many beef breeds have been bred for looks, i.e., straight back, good looking head, etc., rather than for fast growth and quality tender beef. Milk yield has sometimes been forgotten so when a beef cross Holstein cow rears a beef calf under good grazing conditions it can wean it 13 kg (29 lb) heavier. If feed is insufficient the gain might be only 3 kg (6.6 lb).

Marketing Red Meats

For red meat farming to be viable it is imperative that farmers produce a good product and promote it. I believe this can be partly achieved by -

- Breeding for consistent lean tender beef (sheep meat doesn't seem to vary as much, possibly because they are more even in their breeding and less excitable (stressed) than cattle). Compared with the poultry and pig industries the beef have done little. All pedigree beef breeders think they have bred up the "perfect" animal, but have they? Compare the irregular beef cuts with the consistency of poultry and pig meats. Look at the average beef fattening operation and few animals are the same. Pigs and broiler chickens are more similar than peas in a pod. I realise that the requirements for beef animals to cope with cold, hot, wet and dry conditions mean different breeds are necessary.

- Farmers and transporter operators handling animals in the best possible way. This means moving them slowly and quietly, not mixing mobs, keeping them cool in summer and sheltered from cold drafts on transporters in winter. Also animals should not be transported for long periods. A maximum of one hour would be ideal.

- Abattoirs kept clean. Animals don't like the smell of strange animals' manure and hate the smell of their own species' blood. Those selling blood and bone fertilisers found out that spreading the cattle product on cattle farms caused some cattle to get so upset that they ran around and crashed through fences. They changed to sheep by-products for cattle farms and had no trouble.

- Animals not be mixed with others and should be slaughtered soon after arrival - once they have been watered and have settled down, and then should be handled quietly.

- Meat treated to ensure tenderness.

- Correct and adequate promotion. The University of Wisconsin in Madison has identified cancer inhibiting substances in beef, milk and cheese. What more does the beef industry need to get it cracking? They also found that steers fed extra vitamin E produced steaks that stayed fresh looking for up to five days longer in the supermarket. Research indicated that adding vitamin E slowed the browning that occurred in cut beef, preserving the bright red colour that consumers prefer. Analysis of the meat showed no changes in flavour, and no harmful bacterial growth. This may not be necessary with pasture fed animals which get ample vitamin E. However, many pastures are low in selenium, which is synergistic with vitamin E, so low Se means vitamin E is not being absorbed as much. How many producers in any country try to apply the above knowledge?

The higher rate of good CLA in pasture fed beef (and milk) is well known by producers, but not by consumers because our marketers have not told them nor promoted the benefits.

- Promoting more as done by Coca-Cola. Their outlets are plastered with Coke signs, their

bottles are well marked so stand out and every summer they have good adverts, no wonder so much is drunk (none by me, I prefer juices).

- Using the best bulls. Culling cows that produce low quality will make little progress because heritability of carcass traits are not high and only half the genes come from the dam. Faster genetic progress in a herd can be made by using a perfect sire.

Some industrious countries buy New Zealand meat and grind, spice and repack it in tins, and sell it at a 300% gross profit. Why don't we? Import restrictions should be covered by our trade agreements. 90% of what comes into New Zealand is ready for retail sale.

Farmers buy retail and sell wholesale, so decent profiting is impossible. In USA the selling of meat retail is increasing by selling shares of a live animal to the customer who pays the farmer and picks up the meat up and pays the butcher for the processing. Be careful, avoid doing anything wrong and discuss your situation with your insurer.

Good luck, spelt WORK.