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QUALITY IN RELATION TO THE MARKETING OF PRIMARY PRODUCTS AT HOME AND ABROAD

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The Problem of Defining Quality

In this talk I propose to take liberties with the term "quality" as applied to primary products. It is difficult to nail down the term when we are dealing with many rural products such as wheat for flour, or even beef. The wheat that produces the flour most suitable for biscuit making or for that matter chapattis, for example, may be different from that which produces the best flour for bread. Relatively high protein content may be a major criterion in regard to the latter and there is an additional factor—protein quality. (Nature or Character of protein may be a preferable term). In this case it is necessary to refer to the end-use before "quality factors" can be specifically defined.

Nor is the end-use in itself all that has to be considered. The processes through which the product has to go before end-use may have a distinct bearing on quality factors sought in the product in its unprocessed condition. For instance there may be a more exacting demand in respect of quality factors in relation to flour which is being converted to bread by mechanised techniques as compared to those involving dominantly hand techniques.

Finally, of course, there may be a difference in the particular demand, the standards or tastes of nationalities or groups of people. If, for example, Australians are prepared to agree that the general quality or the quality of our bread on average is good, then the concept of quality must be somewhat flexible or, other things are far from being equal if we are to reconcile the average protein content of the wheat used in making our flour with that used in Canada, the United States, Western Germany or even the United Kingdom.

If we choose to consider the product as it is when on the hoof, then quality as related to the meat the consumer eats is also very complex. The broad features of conformation and finish in the animal to be slaughtered for human consumption embrace a number of quality factors such as dressing percentage, the relationship, as a percentage, of whole-sale cuts to the carcase, the proportion of lean meat, fat and bone, of the carcase, the degree of marbling and the appearance and desirability of meat on the butcher's hook. Quality finally to the consumer, depending on the specific end-use, is related to particular characteristics of flesh involving muscular fibre, fat, their relative distribution, and also the fluid content. Usually these are closely related to taste, palatability, tenderness, and digestibility.

But once again the factor of quality is more difficult to define in accordance with the techniques of food preparation of particular nations or national groups. In Italy, for example, where much ravioli is consumed, what the consumer will want differs from in America where steaks and rib and sirloin are more consistently in demand.

Complex as is the problem of defining quality the decision on which quality should be aimed at by producers individually or collectively is one involving many considerations. It may happen that either or both internal and external arrangements are not so organised as to provide the premiums that would make the attainment of higher quality production payable. This is something which has to be borne in mind when considering wheat quality. It is also relevant in relation to beef and fat lamb production.

The marketing authority responsible for marketing the product abroad is confronted at times with very critical problems. It is not easy to decide which part or parts of the international market to aim at as long-term policy. Once again, the nature of the present overseas demand for wheat and the complexities of international patterns of trade, provide an excellent illustration. With beef complex issues are also involved. Are there too many obstacles or impediments confronting us in an attempt to match Argentinian beef on the British market? Is it technologically practicable for us to produce the quality of meat that would stand up to the long transport haul involved and still meet consumer preference in the United Kingdom market? Would it pay or could it be made to pay for us to change our quality?¹

The Need for Quality Consciousness

Complex and difficult as is the problem, nevertheless we cannot afford to ignore it. I believe the time has arrived when we must be more quality conscious in Australia both in regard to internal and to external markets. We need to look at this quality problem from all angles.

The future of two great Australian industries is at stake in respect of quality in relation to the requirements of the international market. The one is wheat, the other beef. In a highly competitive situation, and with technological developments in the milling and baking industry having taken and still taking place, we are endeavouring to hold our own with a heterogeneous product, the average composition of which varies between regions and between States and from season to season. The circumstances of today's trade and utilisation call for a reasonably homogeneous product, with dependable, defined quality characteristics. There is not a single broad market calling for a particular set of such quality characteristics, but rather is there a number of submarkets calling for different quality characteristics. With our present production and marketing system we are not competitive in all of these submarkets. It is a moot question how strongly competitive we are in any of them, with our highly variable heterogeneous product.

¹ A recent note in *The Pastoral Review and Grazier's Record*, Vol. LXVI, No. II (November, 1956) is of some relevance in this regard. "The Meat Control Board and technicians of the [South African] Department of Agriculture had done a great deal to encourage the production of beef of super and prime quality, and they had attained more than a fair measure of success, but only to find that South African consumers evidently preferred cheap meat and would not pay for meat of a high quality", said Dr. Bosna. "As a result the Meat Board had to buy the high-quality beef or cold storage and may have to export some of it".

Our beef industry is already in difficulties on account of the increasing availability of a much higher quality product from other countries including the Argentine, our strongest competitor in our traditional market. There is little hope of improvement and every chance of further deterioration in the longer term unless we are able to deal more objectively with the complex quality problem.

Let us look inside Australia and contrast ourselves with the United States, the country where the pressure of competition has produced an acute quality consciousness on the part of producers, buying agents, wholesalers, retailers, restaurateurs and the consuming public. This covers a wide array of products, beef, pigmeats, sheepmeats, dairy products, bread, fruit, green vegetables, eggs and even the humble potato, which indeed has quite an identity in the United States.

In Australia, although we have the notable exception of wool as an example of what the pressure of pure competition can achieve or can cause to be achieved through the price mechanism, our primary products on the whole are marketed with limited attention to grading and quality. The classes and grades of wool are many and varied as you all know, and no-one in Australia would deny the need for and the benefits derived from classing at the farm or station. Few would deny the need for and advantages of an acute quality consciousness within the industry at all stages and particularly at the production end.

Grading Meat in the U.S.A. and the Effect on the Structure of the Industry

Let us now look at the beef industry and the contrast with the United States. In Australia the consumer is adequately guarded in respect of diseased carcasses through an efficient inspection service. But the carcass or part of it on the hook or the block or the cuts of meat in the window may have come from an old fattened dairy cow or an eighteen months old steer. The average housewife seldom has much choice and if she did would not know how to use it anyway. As a result the rump steak or the roast sirloin she buys might turn out to be tough or it may be juicy and tender on the odd occasion.

There are exceptions of course. In Brisbane, for example, where there is price control of meat, cuts are labelled first and second quality. But by no stretch of the imagination is there anything approaching the United States in respect of grading and the reliability of grading and, in my view, until there is, the producers of the higher quality beef in Australia will not reliably receive the premium they deserve, or in many cases need, to produce it.

Unless we have a marketing system which provides the quality premiums to the producer that the consumer is willing to pay, then the rate of production of high quality beef will be determined by producers' interest and pride and fortuitous circumstances of environment. This will not achieve the development of the kind of meat industry that will enable us to hold our own in world markets.

Comparatively few meat consumers can differentiate between the various grades of meat, or even some cuts of meat for that matter, and there does appear to be a strong case for some uniform system of

selling meat throughout the principal areas of consumption to the likely advantage—at least in the long run—of the consumer, the producer, wholesalers and retailers and others interested in the welfare of the industry.

In the United States, an example of the choice that is available to the customer is illustrated by the following schedule from a particular retail outlet.²

Cut	Blue Ribbon (i.e., Choice and Good) Properly Aged	Red Ribbon (i.e., Commercial)	Utility
	Cents per lb.	Cents per lb.	Cents per lb.
Club Steak	95	69	49
Porterhouse Steak... ..	99	73	49
Sirloin Steak, Bone In	69	39
Top Sirloin Steak, Bone's	122	89	...
Sirloin Tip Steak, Bone's	99	79	59
Top Round Steak, Bone's	93	69	59
Blade Pot Roast	51	39	29
Arm Pot Roast	57	45	33
Pot Roast, Boneless	65	53	39
Cube Steaks, Boneless	114	...	89

Throughout the United States there are eight official grades. Six of these—Prime, Choice, Good, Standard, Commercial and Utility—may be found in retail stores (not all necessarily available in one store). The other two—Cutter and Canner—are ordinarily used in processed meat products and are rarely, if ever, found in retail stores.³ The four top grades are produced only from young animals. It is probable that at least 80 per cent of the beef sold in Australia would not be above Commercial under the U.S. grading system.

The big thing in the United States is that the consumer can rely on the classification. The grading service is made available by the Federal Department of Agriculture for a fee which is not high. The graders are highly qualified and experienced. The beef is stamped in such a way as to be transmitted to the various cuts. The service is very widely used. There is uniformity, as a "single standard" was adopted in 1939.

The Federal beef grading and stamping service was started in 1927.⁴ Since then, of course, there have been major developments within the meat industry and the distributing system. Importantly, however, the

² *Marketing Margins for Beef*, USDA, December, 1953.

³ *Ibid.*

⁴ The introduction to a publication issued by the U.S. Department of Agriculture in 1940 (*Federal Beef Grading*, Misc. Pub. No. 39) illustrates some of the philosophy behind the development of beef grading:

"Some commodities, such as automobiles, are bought on the basis of 'price class'. From experience, people who buy these articles have learned to recognise, in general, the quality they may expect from the price paid.

"But price is not a dependable guide to quality when buying beef or other farm products. To the inexperienced buyer, most beef looks alike, although there is great variation in quality. That is why an increasing quantity of beef is being graded and stamped—to help wholesalers, retailers, and housekeepers to select beef with confidence. And consumer preferences are reflected back, through wholesale and retail prices, to the livestock market and to producers."

producer gets his premium for quality, one determined under competition, and the consumer gets the quality and consistency of quality he or she wants. Significant is the fact that of all beef slaughtered, including bulls and cutter and canner qualities, 43 per cent was choice or prime grade by the year 1951-52. The beef producing industry has responded to the requirements of a highly competitive market, in which the consumer has complete knowledge of the quality characteristic of the product she buys.

In regard to lamb and mutton there is also a contrast between the United States and Australia. Mutton and lamb may be stamped in Australia but there are wide differences in quality of lamb and mutton carcasses and there are no methods of buying to ensure her of the quality she wants except the appearance and the goodwill or co-operation the butcher can extend.

As in regard to beef, lamb and mutton are sold in the U.S.A. by uniform grades which have definite specifications understood by all parties, producer, meatworks and consumer.

A similar story could be told in regard to pigmeats. This particular industry appears to be somewhat in the doldrums in Australia, and of course one would have to look more widely than at the absence of an effective grading system and comparable marketing organisations and competitive pressure as exists in the United States to provide the precise reasons why there is not available to the Australian housewife the wide range of qualities of pigmeats at as relatively low prices as in the U.S.A.

The Difficult Problem in Australia

The question might well be raised as to whether it really matters from the point of view of the Australian economy that this state of affairs exists, that we, by comparison with the United States, have a somewhat primitive approach to the problem of grading. There are no doubts in my own mind that a far greater consciousness of quality and the development of what is necessary to ensure an adequate premium for better quality production would have a big influence on the expansion of the industry generally in Australia and it would contribute to the solution of what might become a serious export problem. We need to get out of the position where exports are available seasonally only and are dominantly in the heavy aged category. Much of southern Queensland and southern Australia is suitable for the production, on an extensive scale, of the younger, lighter, quickly matured type of animal, the cuts from which are in demand generally to-day in so many countries including the United Kingdom.

The quality of the animal at slaughter is all important whether for the chilled or the frozen trade. The following summary of research conducted recently is highly significant. "The palatability of chilled, frozen and fast frozen beef has been compared. Taste panels were unable to detect any significant difference in the effect of treatments

upon meat flavour, juiciness and tenderness. It appears that if meat is initially of the highest quality, frozen beef is as palatable as chilled beef.”⁵

I don't propose to divert here to a discussion of “chilled” and “frozen” meat in export markets—a highly technical subject—beyond stating that if the “drip” or thawing out problem could be solved we would not be bothered by the problem of distance from markets and the challenge of those who are in a better position to develop the “chilled” trade. The important thing in the competition for future markets is that the quality of the animal at slaughter is of paramount importance. In the Argentine, a country far behind us in the capacity for technological advance at the production end, such severe grading standards are applied in regard to export meat that very high quality is assured in respect of what goes abroad. They are, therefore, able to penetrate deeply the markets in which we have to compete. I do not suggest that Australia should develop a system which ensures that the best goes abroad and anything goes for the home market. I do suggest, however, that there could and should be developments which ensure a higher quality product for both the home and the export market.⁶ This naturally implies the necessary incentive or reward for the production of the

⁵ For further elaboration see *Proceedings of Conference on Beef Export Industry*, Brisbane, March 1955, convened by CSIRO.

⁶ These views are not inconsistent with those expressed by departmental authorities in Queensland. See Annual Report of the Department of Agriculture and Stock, 1955-56. Some relevant extracts are: “Of extreme importance is the fact that during recent years the Australian consumer also has sought the type of beef that is obtained from the younger animal. In all parts of the Commonwealth, the sale of yearling beef has increased during the last 10-15 years. This does not seem to have received the same publicity as has the required quality of export beef, but it is nevertheless true. It would therefore appear unwise to continue with a set-up in the industry that results in the great bulk of the output being not sought after by either the local or overseas consumer. This presents fewer problems in southern Queensland, where good fattening areas are available and are being developed, but required major reorganisation in North Queensland.”

“Some graziers in southern Queensland are well aware of the need for changes and are already producing high quality young steers, suitable for the city or overseas trade, on crops and improved pastures. There are indications that quite large areas exist in southern and central Queensland where this type of husbandry can be developed along profitable lines. The examination of this type of fattening by the Cattle Husbandry Branch is being given high priority and the portable weighbridges being supplied to field staff in the areas concerned are proving a useful means of checking on results obtained. Present indications are that high quality meat suitable for interstate or export trade can be produced in southern Queensland. It has been stated that if the export trade is to be developed and maintained, there should be chilled beef available for export throughout the year. This means smaller surplus production over local requirements in all months of the year, rather than a large surplus during a few months of the year. The cattle industry might, therefore, well pay more attention to the Australian trade”.

“The introduction of national grading standards common to all States and for export would do much to stabilise the industry and develop the Australian trade. The effect of increased exports on the national economy is appreciated, but an industry integrated with a sound local trade is considered to be in a stronger position to develop increased production than—as is the case in Queensland—one integrated largely with the export trade”.

higher quality animal, which in many cases involves more costly techniques of production. Our technological capacity for producing increased quantities of beef of high quality is great indeed. However, the potential is not so much in the outback areas, the Channel Country and so forth, but is in the near coastal areas of Queensland, the great brigalow belt of Queensland and New South Wales and the zones of the South being developed to improved pastures. This is where the future really lies. We could move rapidly towards intensive techniques with high quality quickly matured cattle, with the present centres of export beef production becoming progressively the sources of store rather than fat cattle. The more we can overcome the institutional barriers, the transport problems, and the like, the better will be the long term outlook for our beef industry.

The Wheat Quality Problem

The wheat quality problem of Australia is a very interesting and contentious one. The f.a.q. marketing system which has for so long been used in Australia has been under fire. Quality as related to wheat is not easy to define. There tends to be much emphasis on quantity and quality of protein in the grain, but there are a number of other factors relating to milling or baking quality, which have to be taken into account. In Canada, protein content is not the criterion. Wheat is graded on the basis of shape, size and colour of the grain relating absence of broken or shrunken grain and extraneous matter. This does not mean that protein content and quality is not important in Canada. The fact is that conditions in the wheat growing belt of Canada are favourable for production of high protein wheat of a type yielding flour with baking strength and furthermore they make for a relatively high degree of homogeneity. This provides a contrast with Australia.

The big questions facing us are:—

- (i) Would the average net return for Australian wheat be higher if a great measure of segregation were practised in marketing policy?
- (ii) Would we be able to expand the volume of our sales if we were in a position to offer wheats of different or more consistent quality characteristics than we now have available?
- (iii) Are we producing a type of wheat which is particularly vulnerable to competition from domestic production in importing countries or which is affected more than others by the general surplus position?

I feel that there is enough evidence available to answer questions (ii) and (iii) with a categorical "yes".

The answer to question (i) is not easy. It involves a wide range of considerations, some technological, some in the field of practical economics. In Western Australia a theory has been propounded which suggests that, where nitrogen is limiting in the soil, the attainment of higher quality, involving higher protein content of the grain, may be at the expense of yield. I do not think, however, in the fertile soils

of Queensland that the attainment of higher quality need be at the expense of yield. The same might well apply to other areas and conditions in Australia. The real potential for higher quality and higher yield in the areas of southern Australia that have had several years under subterranean clover-based pastures has yet to be realised.

The critical question that needs to be answered is whether we could get a sufficiently higher aggregate price for the wheat crop to offset the costs involved in a greater degree of segregation and grading than is now practised. One thing is certain—we cannot continue to act like the ostrich if our future capacity to compete more effectively and more widely is dependent upon our ability to make available some or much wheat of different quality and with consistency year to year than is now being achieved under our present f.a.q. system. We have already learned from recent experience in trading negotiations with the United Kingdom and Japan that we could market more wheat than we are now doing (provided shipping facilities are not limiting) if we had more strong wheat of relatively high protein content and high baking quality.

Looking into recent trends in the international market and in production policies of various countries, the following significant facts emerge:

1. Major importing countries such as West Germany, the United Kingdom, Japan and South Africa, are producing in increasing quantities, wheat at home which is in general soft, and requires hard high protein wheat for blending to produce high quality bread.
2. France has entered the export field in recent years with relatively soft, low quality wheat.
3. The Argentine has recaptured a big share of the world market. Some of this is of the quality that can be blended in the grist without lowering the average protein content and quality.

We can conclude that we are not in a strong position if we remain a "residual" supplier of a wheat which has to be blended with higher quality to produce the loaf that the consumer demands in the most important markets available.

The time is long overdue for a complete review of our marketing system. It is not just enough to recommend as an aim of plant breeders, agronomists and farmers, a general improvement in average quality and protein content of our wheat. The problems of variability and heterogeneity would still be with us. We must assess in what regions of Australia and under what conditions we could produce wheat for the international market of the protein content and baking quality to meet the most exacting consumer requirements without depending on the uplift provided by wheat from such countries as Canada.

One thing is certain, the more strong, high quality, high protein wheat of the type that can be produced fairly generally in Queensland and parts of northern New South Wales, the better, since there is a market in and above what we can now claim with the general run of f.a.q. wheat from Australia.

On the score of technological capacity to move in these directions, my own opinion is that our capacity is great indeed. We know that two important things are involved, the first being the genetical make-up of the particular variety and the second the soil and climatic environment in which the inherent qualities are provided the opportunity of expression. In respect of the former of these, we should have faith in our plant breeders. In regard to the second, there are two great opportunities available for future exploitation: the one I have discussed previously, the great brigalow belt of Queensland,⁷ and North-west New South Wales; the other, of course, is in the cropping "wake" of the great improved pasture movement that has developed rapidly in the past decade.

Some Other Considerations

So far I have devoted most of my time to meat and wheat. The quality problem of both these industries is a national one much wider than the interests of the farming community. Some of our smaller industries might well be considered in the interests of particular farming groups and consumers.

The potato industry—the marketing of the product contrasts again sharply with the United States. The development of the Maine system of marketing potatoes would be worthy of study. However, it is only one example of what has evolved under the pressure of competition in marketing in the United States. Its origins go back to the time when amongst other things the publicity given to the Idaho potato and the resultant intrusion into markets in distant States of the United States threatened the economic position of the Maine industry.

There were several elements in the improvement of the Maine potato industry. Amongst the most important, however, was an effective grading system, supported by branding and packaging techniques. The Maine Department of Agriculture enforced standards as related to exports. Marketing research involving an analysis of what the consumer really wants has been a not unimportant part of the programme. A basic concept in the publicity campaign has been that it is no good publicising unless you deliver the goods.

As I have already said, the potato has a real identity in the United States. The upper class as available to the consumer, is a **cleaned**, even-sized, comparatively large, highly palatable potato, packaged conveniently to suit the convenience of the majority of housewives. (This decision has followed well-planned surveys of what the consumer really wants).

As a reflection of whether the producer thinks he has gained through organisation and control of the industry is the fact that, in a referendum held in the State of Maine in 1948, 93 per cent of those voting approved

⁷ At the Queensland Bread Manufacturers' Convention held in Queensland in October of last year contributions by Professor L. H. Teakle and Mr. E. F. Bond, of the Bread Research Institute, revealed a potential of 78,000,000 bushels from 3 to 4 million acres of brigalow country as yet unused for grain growing.

the regulation of marketing. It is important to recognise that the vote was not a question of mere regulation, but all that went with it, grading, branding, margins for higher quality, publicity, effective promotion and the like.

I do not propose to cover all industries which might do well to look more objectively in to the subject of quality in relation to improving market outlook. The dairy industry is one example in particular where some improvement in consumption might well follow an objective study. I refer, particularly but not exclusively, to the cheese industry. Cheese is an excellent example. The level of imports at a time when import licensing was not quite so severe as it now is, is a real challenge to our local industry. There is also the big question as to whether, given a study of the market outlets available abroad and an adaptation of our techniques in respect of qualities to meet consumer requirements, we could greatly improve the outlook for the dairy industry.

It may well be that the protected nature of our home market for primary products, and the long period of bulk sales of products during the war and the post-war period, have tended to delay attention by all interested parties, including producers and marketing organisations, to the all important question of quality as related to consumer demand in the highly competitive markets that have emerged.

DISCUSSION

C. H. DEFRIES—*Queensland Department of Agriculture and Stock*

Dr. Strong's paper has pointed to some of the basic issues relating to quality in commodities such as wheat, butter and meat. There is a note of urgency of something needing to be done and it is of significance too that the local market has been stressed. The commodities dealt with do not exhaust the list. We can think in similar terms of eggs, fruits and coarse grains, for instance, all of which require attention in regard to quality.

In order to open this discussion on what is a very contentious subject, I would like to crystallise out, if I may, one particular feature of the quality situation which is of considerable importance to a proper and adequate understanding of all the complexities involved in it.

We are only now beginning to tackle this problem child of quality—and that in a somewhat tentative way. The point I want to make about this is that the whole question of quality is made much more difficult because of the variation which exists in the level of maturity of different phases of our farm industries and in the industries themselves.

Thus on the farm we all too frequently find that the general level of management ability and practice is low in relation to the finer points of quality production. Attention has been given to the size and weight of the pumpkin rather than its flavour and texture. Farmers as a class have not even begun to think in terms of management. No one, in fact, has ever told them that they should. There are changes now and of course it will be one of our tasks to help forward a greater awareness of management needs.