farm policy

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farm policy

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AGRICULTURAL ECONOMICS CENTRE

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In Australia's otherwise-rational farming community, a number of irrationality gaps are seen—in the inefficiency of wool marketing, the glib assumptions of stud-ram theology, and particularly in the enigma of less than one-tenth of newly-responsible farm managers being formally educated to their task. Three sets of influences try to close the gaps—competition (ineffectual), political pressure (tending towards emotive ideologies) and farmers' representation (handicapped by an uncritical acceptance of "experts"). A solution is suggested.

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Irrationality gaps in agriculture

PROFESSOR J. DILLON has discovered the efficiency gap. He defines it as the gap between what is and what's possible in Australian agriculture. He says that, "an average farmer, through no fault of his own is at best only doing half the job he might be doing. Half the job, moreover, measured not in terms of what some back room scientist might see as technically feasible, but in terms of what a not insignificant number of farmers are already doing." And Professor Dillon postulates the size of the efficiency gap to be of the order of 50 percent.

I think that Professor Dillon's efficiency gap should be called the inefficiency gap and re-defined as the difference between what is and what's possible *on farms*. It is the difference between what all farmers —the top 10 per cent as well as the average and below average—are doing and what they could be doing. Part of this gap can be measured by comparing the high and low managerial performers.

There is another gap which overlaps the inefficiency gap. This is the irrationality gap. It is also the gap between what is being done and what could be done, between the achieved and the achievable. But irrationality gaps—there are many of them—are the possibilities of improvement within agriculture, *off farms*. Irrationality gaps are not confined to agriculture. They are found wherever there are people.

In this article I shall identify some of them in agriculture, ask whether narrowing or closing them is likely to yield an adequate payoff, and finally, point up one way by which they might be narrowed or closed.

WOOL MARKETING

Most of the Australian national clip is sold at auction. This method of sale has many serious disadvantages. These include the following:

1. It permits price instability to producer and user.
2. It permits interference in the free operation of the market by groups of buyers.
3. It prevents adequate control of the flow of various types of wool on to the market.
4. It does not ensure price equity between producers.
5. Payment to producers is delayed.
6. It requires that orders by buyers have to be lodged in distant countries.
7. It requires that payments by buyers have to be made long in advance of the sale of the final manufactured products.
8. It requires manufacturers to carry stocks to guard against delays in transport and against movements in price.
9. It cannot assure that purchases closely meet manufacturers' requirements.
10. It is an expensive method of buying. Buyers have to be paid for on lots on which they have been out-bid, as well as on the ones they have bought.

This list of disadvantages is part of "what is" in wool marketing. Another part is the needs of wool users. These are:

1. A reliable and smooth flowing supply of wool true to specification.
2. A stable price without resort to future markets or to juggling inventories of wool.
3. Least cost methods of obtaining, shifting and transforming raw wool from market place to the place of intake in the required form.

Another part of "what is", is the needs of wool producers. These are:

1. The highest and promptly paid net price consistent with successful competition with substitute fibres.
2. Prices that closely reflect manufacturers' requirements.
3. Least cost methods in all phases of getting and transforming wool from sheep to shop.
4. Research development and promotion to ensure continuing efforts in meeting these needs.

What is possible? It is possible, some would say necessary, to force the producer of synthetics to rely solely on his price and on the inherent characteristics of his fibres. For wool producers this means that the attractive marketing procedures of the synthetics manufacturers must be matched or bettered by wool marketing procedures. This is possible, I believe, only through a central marketing authority with powers of acquisition. Such an authority could:

1. Give maximum price stability.
2. Standardize the preparation and presentation of the national clip.
3. Sell to firm specification and firm price.
4. Control the volume of supply to the market in accord with manufacturers' needs.
5. Combat concentrations of buying power and negotiate with shipping companies.
6. Remove politics from promotion.

Whether there is likely to be an adequate payoff by narrowing or closing this irrationality gap between what is and what's possible in the marketing of wool is a question I cannot answer. But neither can wool farmers. Nor have they tried to find out.

STUD RAMS

Most wool growers buy their ram replacements from a stud in the belief that rams from that stud, at that price, are more likely to maintain or improve their flocks than are other rams at a lesser price. Another part of "what is" in the stud ram game is that farmers and so called professional stock advisers select stud rams for mating in stud and in commercial flocks solely by guessing their genetic potential.

It may be asked how well have they guessed? It has taken 30 years to improve the average yield of the national flock by 1 lb. And this modest achievement may be due to improved nutrition and to control of parasites. It may have nothing to do with genetic improvement.

What is possible? It has been demonstrated conclusively that genetic improvement of 2 percent per year cumulatively for at least 15 years is possible by most commercial flock owners. How to achieve this rate of genetic improvement without stud rams, is set out clearly by P. Walsh in Farm Policy, September 1966. The method is inexpensive.

If all wool men closed this irrationality gap the Australian wool clip at present prices would grow cumulatively by $10 million per year. It seems that this particular irrationality gap is worth closing.

AGRICULTURAL EDUCATION

My third irrationality gap is in education for farming. In Western Australia about 600 to 700 people assume full managerial responsibility of a farm each year. The institutional arrangements and the ways in which existing facilities are used make it possible for less than one tenth of this number to receive any formal training in any aspect of farm management. But it is possible to use the existing facilities, with differently qualified staff, to give all persons entering a career in farm management some formal training for it. A full statement about this particular irrationality gap is set out in the report, Manpower Training for Western Australian Agriculture by J. S. Nalson and H. P. Schapper.

CLOSING THE GAPS

I think I have successfully made the point that irrationality gaps exist in agriculture. Of course there are many more than the three presented here. It may be argued by farmers that even though they do exist, there is no cause for concern because there are influences at work constantly narrowing or closing them. Unfortunately the only influence that could do this does not yet exist. Before mentioning what it is I shall examine three major influences which do exist, though they are not particularly effective in my opinion in closing these sorts of irrationality gaps.

COMPETITION: Competition alone between manufacturers, between buyers, between selling organizations and between other commercial servicing organizations is thought by many persons to ensure continuous development of the best products and services to farmers. The whole infrastructure of agricultural marketing boards is testimony to the failure of competition alone to meet marketing needs. Further testimony of the same failure is the ineffectiveness of competition between woolbrokers to remove so many long-standing defects in wool marketing.

Competition is often more apparent than real. It is often ineffective because practices restrictive of competition are invoked to reduce it or to eliminate it. Perpetuation of irrationalities is thus assured. There was a time when farmers set up co-operatives to increase competition. I think those

days are over for reasons I shall not go into here.

POLITICS: A second force on which farmers may rely to minimize the width of irrationality gaps in agriculture is their political influence. Whereas it is well known that there is no constitutional or formal link between the Farmers Union and the Country Party or between the Pastoralists and Graziers Association and the Liberal Party, it is equally well known that like most other producer organizations, political pressures are used by these organizations.

How effective political pressures alone can be in minimizing these irrationality gaps largely depends on the political equilibrium at the time pressures are threatened or applied.

There is another sort of politics. It is the politics of the little ideologies. These little ideologies flared up over the proposed price reserve scheme for wool. It was regrettable that farmers' organizations generated so much political heat on this issue and generated so little factual light. Even now there is no research by farmers' organizations into wool marketing reform.

FARMER REPRESENTATION: A third force which farmers may think keeps irrationality gaps to a minimum is their own representation on executive committees in organizations serving agriculture, such as those concerned with research, education and marketing. The formal requirements of democracy demand farmer membership on many such committees. But their representation, valuable as it often is, cannot and does not do much about irrationality gaps. The reason is that despite their excellence as farmers, they nearly always are in a secondary position alongside the scientists and professional administrators who make up these various committees.

Farmers on such committees tend uncritically to adopt the point of view of the organizations which, though they may be concerned with agriculture, have a life and ethos of their own and to which the real needs of farmers often become secondary. Thus we have the situation of farmer members of these committees in effect condoning irrationality gaps.

SOLUTION

I see one solution. It is that farmers' organizations must permanently employ their own professional experts for themselves. Their basic task is to identify irrationality gaps and to brief farmers' leaders with relevant information and with the results of their gap-closing researches. Such information and research results have to be, and can be, at least equal to or, superior to those of the professionals in government departments and in private organisations. Farmers' cases are likely to be superior only if prepared by their own permanently employed professional experts.

The biggest irrationality gap of all is that farmers' organizations are not achieving this possibility. It requires a high level of education to recognize the limits to our own knowledge. It requires a high level of education and sophistication to employ professional personnel and to ensure that they continue to be productive in your service in the directions you want them to go as distinct from the directions they may want to go.

This great irrationality gap between what farmers collectively could be doing about the lesser irrationality gaps and what they are doing is the real challenge. I do not see it being narrowed much until farmers see their occupation as a profession for which university and agricultural college education is necessary for almost all of the next generation of farm business managers. Only then will the inefficiency gap and the irrationality gaps be narrowed and kept to a minimum.

Protein is the world's most urgently-needed nutrient, and high-protein legumes are used in fattening protein-producing animals. But there is also a trend towards upgrading and flavouring vegetable products and using them as "synthetic" meat. In line with this trend, a scope for new crops and farming techniques in the south-western corner of Australia is examined, with particular emphasis on the qualities of the Western Australian blue lupin.

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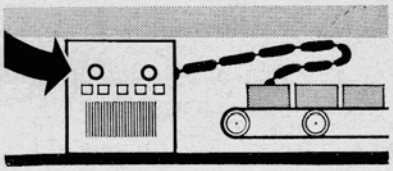


New crops and farming systems for South-Western Australia

MEATLESS sausages may soon be available in Britain, Perth's *Daily News* reported on March 20, 1967, in an AAP message. Substitutes—said to look, smell and taste like the real thing—will be mainly from soya beans and vegetable proteins, although traditional sausage-makers say that "no substitute will ever equal the genuine article".

Such developments as meatless sausages —as bizarre as the prospect may appear— are simply part of a coming change in international markets and prices which may demand the development of new crop types and new or modified farming systems for the present cereal-sheep areas of Western Australia. Long-term developments in the use of farm products and the technology of processing them could bring about progressive changes in farm product demand, and perhaps create demands for entirely new products. This is why alternatives should be sought to the existing system, although this has proved itself technically and economically efficient.

Developments in agricultural technology will modify the economics of producing different farm commodities, and one of the jobs of the agricultural research worker must be to attempt to perceive the basic trends which will result in market changes, and to examine possible changes in farming systems in response to them.

A commercial farming system must meet certain requirements:

1. There must be a profitable market for its products.
2. The system must be efficient in its use of capital, labour, farm equipment, transport and other services.

3. The system must be ecologically suited to the environment.
   (i) Crop plants, pasture plants, and animals must be individually adapted to the soils and climate of the area and to available techniques.
   (ii) The whole system must be conservative of the environment; the overall farm operations must, over the long term, improve or at least maintain at a high level resources of soil and soil fertility, water and farm improvements.

Given these requirements, no radical departures from present farming systems seem possible in South-Western Australia. On present indications, irrigation is out of the question; the water is not there, and almost certainly never will be at a cost to make irrigation economic. In the forseeable future, farming in Western Australia will continue to rely on natural rainfall, apart from certain intensive forms of production in the higher rainfall districts of the South-West and possibly in the North-West. And because Western Australian agriculture will remain largely dependent on export markets, it will have to retain its *extensive* mode of operations, with the attendant economies of scale which make it competitive in international markets.

There is only a very limited choice of new arable crops suitable for Western Australia. Other than the temperate cereals now being produced, very few crop types could be grown, except in summer, under irrigation. Most alternative crops are adapted to higher temperatures and to different winter day-lengths than prevail in Western Australia; these factors of their adaptation are fundamental, unlikely to be greatly alterable by breeding. However, one group of crops does appear to hold possibilities: the grain legumes, and there is a case for these on the grounds both of markets and the adaptation of certain types to South-Western Australian conditions.

GRAIN LEGUMES PROSPECTS

Because grain legumes have a high protein content, and protein is the nutrient most critically in short supply in the world today, market prospects seem bright. The shortage of protein will most likely intensify relative to other constituents of the human diet. With improved crop varieties and agronomic practices, the technology is becoming available to make possible a considerable increase in total world food production.

The actual and impending protein shortage is reflected in changing patterns of protein production and consumption. The poorer parts of the world have long depended directly on vegetable sources for their food protein. Prior conversion to animal protein—the feeding of vegetable to meat-producing animals—is too inefficient to be more than a luxury.

This trend, apparent also in wealthier communities, has two aspects—first, a change from extensive grazing to intensive animal husbandry as a main source of meat; second, a trend—impending but in general not yet realised—towards direct consumption of vegetable proteins in place of animal proteins.

As potential agricultural land becomes progressively alienated, existing agricultural land is used more extensively, and land values rise, extensive grazing is becoming relatively less economic for meat production. In terms of output per acre, the economic balance is tipping towards intensive methods, notably zero grazing. Better control of fodder utilization allows increased animal production from the fodder produced by each acre and, even more importantly, encourages raising of animals most efficient at converting vegetable products to meat—most notably, broiler chickens.

This trend has developed much further in areas such as the United States of

America and Western Europe than in Australia. In the United States, the broiler chicken production is so efficient relative to red meat production that chicken costs only about half as much as red meat and constitutes a sizable proportion of total meat consumption. In Australia, the ready availability of land has hitherto favoured extensive grazing, but with most suitable land now alienated and land values rising more intensive forms of meat production are becoming more competitive. The recent dramatic rise of the Australian broiler chicken industry and the emergence in some areas of lot feeding of cattle are evidence of this.

VEGETABLE PROTEINS

Direct use of vegetable protein for human consumption in wealthier countries has not been seen as a direct threat to meat consumption, but developments in technology could quickly change this. Protein extracts from vegetable sources can be processed into attractive food forms, for example, resembling milk, cheese, and even meat . . . despite what British sausage-makers claim to the contrary. In the United States it has been claimed that soybean protein can be processed into a product barely distinguishable from beef steak, and at half the cost. With improvements in the technology of artificial flavour and aromas, there is little doubt that such processes will be perfected, and it would be idle to pretend that the products will not undersell meat. There seems little doubt that in the near future synthetic "meats" will be available, that in both nutritional value and acceptability are fully equal to and cheaper than genuine meat products.

The analogy of margarine produced directly from vegetable oils is an exact one. As with margarine, most vegetable proteins have some nutritional shortcomings, notably in respect of the essential amino acids methionine and lysine. But supplementation with synthetic methionine is already cheap, while volume production will cut the cost of synthetic lysine to acceptable levels.

The future for high protein vegetable products—grain legumes and oil seed residues—is one of expanding markets and growing importance relative to other agricultural products. This is so whether they are used for direct human consumption or for intensive animal feeding.

From the long-term aspect of food exporting countries, high-protein vegetable products may prove economically more durable than cereals or even meat. Other things being equal, advanced countries, such as Japan and the industrialized countries of Western Europe, probably prefer to raise their own meats at home, using imported feeds where necessary. In the case of Western Europe, some capacity still exists for increased home production of cereal food grains. But attempts to become self-sufficient in vegetable proteins have had little success. Europe remains dependent on substantial imports of vegetable protein (now largely soya beans from the United States of America) for its home livestock industries; these imports are growing rapidly, and seem likely to continue to do so. Their indispensibility, short of revolutionary developments in the industrial production of synthetic protein, suggests that they are less likely than most foodstuffs to be affected by domestic market arrangements. Similarly in tropical countries vegetable proteins seem more likely to fill a need and find long-term markets than the cereal grains that now constitute their main food imports.

IMPLICATIONS FOR NEW SYSTEMS

Any changes envisaged are fairly long-term, taking place within the context of a rising world population; there is no suggestion that the grazing animal will be

entirely displaced. Rather, it is suggested that the needed *rise* in production of protein for human consumption will be in the form of vegetable protein rather than animal protein or, if as animal protein, at least in those forms which are produced from vegetable protein with the greatest technical efficiency, i.e. chicken and milk, rather than beef or lamb. Economics will probably dictate edible crops. But within any arable farming system there are always crop residues which only ruminant animals can effectively utilize while pasture leys may raise or maintain soil fertility for cropping beyond what can be achieved with fertilizers.

Improvements in Australian pastures and grazing techniques could maintain the competitive position of grazing relative to cropping for quite a long time yet. But it seems inevitable, even in Australia, that the free-grazing animal will decline to a subsidiary status: that of the scavenger of crop residues, or the denizen of waste land unsuitable for cropping as it has long been in the countries whose populations press more immediately on their food supplies. Whether this decline is complete or only partial will depend largely on the technical necessity of pasture leys in the rotation.

LEGUMES AS CROPS

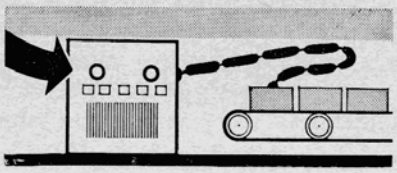
There are two ecological reasons why leguminous crops could have important agronomic advantages over non-legumes in parts of South-Western Australia: they are economical in their use of nitrogen, and they have advantages in areas of high winter rainfall.

Most of our soils are nitrogen-deficient. Many of our lighter soils, especially in medium-higher rainfall districts, are acutely so. And because nitrogen is so quickly leached out of them, even prolonged periods under pasture legumes do not raise their nitrogen status to high levels, or for more than short periods after the pasture is broken up. Being independent of soil nitrogen, nitrogen fertilizers are not needed with leguminous crops; indeed, the low soil nitrogen is an advantage because it reduces competition from non-leguminous weeds.

One may well object that nitrogen fertilizers are becoming cheaper and have already made cereal cropping economic on these soils. This is true, but there are limitations. First, with the establishment of a protected local nitrogen fertilizer industry, it cannot be anticipated that nitrogen fertilizers will become really cheap. Second, they cannot be used with full technical efficiency in the Western Australian environment. Sandy soils of low nutrient holding capacity, coupled with high winter rainfall, result in substantial losses by leaching of the applied nitrogen.

Crop legumes have their best chance of being economically competitive in districts of fairly high winter rainfall for another reason besides nitrogen economy. In broad terms, crop and pasture legumes are less efficient in their water use than cereals, although it may be possible to remedy this by breeding. Existing crop and pasture legumes produce rather less dry matter per unit water transpired than cereals (given that cereals have adequate nitrogen), and are less able to produce satisfactorily in areas where low rainfall is a major limiting factor to production. But where moisture is in surplus supply for most of the growing season, inefficiency in its use is not a limitation.

On these bases, crop legumes appear most likely to be competitive in areas of South-Western Australia receiving more than about 15 inches of rainfall annually. This area takes in the wetter third of the wheatbelt and all the medium and higher-rainfall districts suitable for cropping. Included is a substantial area receiving between about 20 and 30 inches, most of which is undoubtedly suited to cropping but for which a really well adapted crop is



not available. The exceptions, oats and possibly linseed, face uncertain returns, as does wool. So of all zones, this probably stands to benefit most in economic terms from the introduction of an adapted grain legume crop.

Several established grain legume species are reasonably well adapted to South-Western Australian conditions, notably peas, tick beans, and vetches. Their production has been limited owing to the hitherto small demand for legume grains and technical production problems, including nodulation difficulties and susceptibility to weeds and insect pests. But with a long-term rise in the demand for vegetable proteins and improvements in weed and insect control, the economics of their production could become more favourable.

But there is another group of legume species which holds much greater possibilities in South Western Australia: lupins, which only now are being domesticated as crop plants. Their use for cropping has largely been precluded by wild characteristics such as bitterness and toxicity, the irregular germination of their seeds, and the fast shattering of the pods of most types at maturity. Yet, because of their ability to grow well on poor soils, a high yielding ability, and the high protein content of their seeds (which are edible after the bitter alkaloids have been leached out), lupins have long been grown and eaten by poorer communities in Mediterranean countries.

The adaptation of certain lupins to the Western Australian soils and climate has been amply demonstrated, both under cultivation and as naturalized plants. It is particularly important that they are well adapted to poor soils and medium rainfall districts, where grain legumes could find their most useful place.

BREEDING OF CROP LUPINS

Sweet (alkaloid-free) varieties of lupins were first bred in Germany in the 1920's and 1930's. These included sweet varieties of the yellow lupin (*Lupinus luteus*), the white lupin (*L. albus*), and the narrow-leafed lupin (*L. angustifolius*), known in Australia as the New Zealand blue lupin. Soft-seeded varieties, capable of regular germination, were also obtained in all three species. Selection during the 1930's succeeded in isolating lines with non-shattering pods in *L. luteus* but not in *L. angustifolius*, and a substantial degree of non-shattering had been available in *L. albus* from early times. Selection for desired characteristics had to be done independently in each species, because cross-breeding among them is not possible.

Sweet, soft-seeded, non-shattering varieties of *L. luteus* and *L. albus*, and sweet, soft-seeded, but shattering varieties of *L. angustifolius* were introduced and tested in Western Australia between 1954 and 1958. This work resulted in release to Western Australian farmers of the varieties Weiko III (*L. luteus*) and Borre (*L. angustifolius*) in 1959. However, all introduced varieties have been found to have some limitations. Weiko III grows well in higher rainfall districts, but its seed yields are not particularly high, and like all sweet *L. luteus* types it is very susceptible to insect

pests. *L. albus* is very susceptible to fungal diseases, and is adapted only to more fertile soil types. Borre grows and yields well, but is not suitable for cropping because of its shattering pods and the fact that in appearance it cannot be distniguished from existing bitter types.

LUPIN BREEDING IN W.A.

Breeding of lupins in Western Australia, which started in 1960, has concentrated on overcoming the remaining shortcomings of *L. angustifolius* and on development of *L. digitatus* (the Western Australian blue lupin) as a crop plant. *L. digitatus* grows particularly well on poor sandy soils, but breeding has not been attempted.

1. *L. angustifolius*:

The programme with *L. angustifolius* has been very successful. The variety Uniwhite, released in 1967, combines sweetness and soft seeds with white flowers and seeds (allowing easy identification) and markedly reduced shattering of the pods. On the basis of results obtained recently, it is known that fully non-shattering pods can be attained. Genetic sources of early maturity have also been isolated. By about 1971, release is anticipated of a variety combining all the required characters of sweetness, soft-seededness, white flowers and seeds, complete non-shattering of the pods, and early maturity, suitable for wheat belt areas down to 14 or 15 inches annual rainfall or for later planting in higher rainfall districts.

Agronomically, *L. angustifolius* is perhaps the best suited of all lupin species to grain cropping. It is erect in its growth habit, well able to smother weeds, resistant to frost, and suffers less from insect attack than other lupin species. Its seed yielding capacity is high. It is adapted to a wide range of soil types, although not as well to very poor sands as *L. luteus* and *L. digitatus*.

The seed protein content is about 30 percent but the biological value of the protein—although average for a legume protein—is somewhat lower than that for other lupin species. The economics of its use for feeding non-ruminant animals against other lupins and high grade vegetable protein sources like soybeans could hinge on its likely lower production cost relative to the cost of amino acid supplementation. Such problems probably do not exist in ruminant nutrition, and perhaps only to a limited degree in the nutrition of larger non-ruminants.

It is particularly important that *L. angustifolius* can be adapted over a wide geographical range. Removal of the last barrier to its use as a grain crop will undoubtedly have much more than local significance.

2. *L. digitatus*:

Work with the Western Australian blue lupin is proceeding parallel to that with the New Zealand blue, but several years behind. Some of the characters needed to make it a crop plant—sweetness, non-shattering of the pods, earliness, or soft-seededness—was available at the beginning of the programme. Genetic factors for all but one of these characters are now available and their inheritance has been worked out. Crossbred breeding lines have been developed which combine sweetness, varying degrees of earliness, and very markedly reduced shattering of the pods. As with the New Zealand blue, we will be able to breed types with completely non-shattering pods.

It is too early to predict full success of the Western Australian blue lupin programme, because the gene for sweetness is an artificially-induced one. Genetic side effects of the mutagen treatments have not yet been entirely eliminated, although back-crossing and selection to that end appears to be progressing satisfactorily. Also, we have not succeeded in finding the last of the required characters—soft-

seededness. But there is reason to think that lack of soft-seededness will not be a disadvantage in all circumstances, and breeding is proceeding on the basis of hard-seeded lines.

The chief advantage of the Western Australian blue lupin lies in its ability to produce well on very poor, deep sands. It is susceptible to frost, and perhaps more so than the New Zealand blue to climbing cutworms in the green pod stage. A possible susceptibility of sweet lines to other insect pests has not yet been adequately documented. Seed protein content is 30-35 percent, and limited evidence available to date suggests that the nutritional value of the protein is quite high.

If sweet crop varieties of the Western Australian blue lupins are successfully developed, their use will complement rather than compete with that of the New Zealand blue lupin. The main use of the Western Australian blue will probably be on poorer sandy soils along the west coast and in the warmer northern agricultural districts, whereas the New Zealand blue should succeed on slightly better soils in all districts.

CROP LUPINS IN W.A. FARMING

Assuming that the varieties developed and the markets prove good enough to warrant extensive cultivation, crop lupins might fit into Western Australian farming systems with modifications and changes.

BETTER CLASS LIGHT LANDS: On better class light lands, such as will support sub clover a crop lupin would fit well into the existing rotation. Lupins would follow after one or two years of cereals, when soil nitrogen has been depleted. Where the lupin variety is not fully non-shedding, or where deliberate steps are taken to leave some seed at harvesting, volunteer crops could well be maintained for several years; they would require only top-dressing, harvesting at a suitable stage, and summer grazing of the stubble.

Inclusion of any crop legume into the rotation in this way would have several advantages. The crop itself is flexible in its uses. It can be grown as a grain crop for harvesting, or the standing crop can be used for summer grazing and fattening. Such a crop adds flexibility to the farming system by providing an alternative product with market prospects largely independent of those for cereals and wool. It would also lend itself to rapid mutual exchange with cereals or pasture, as indicated by short-term market prospects for the various farm products.

An important practical point with crop lupins is that they should dovetail well with normal cereal-sheep operations. All lupin operations can be done with standard farm machinery. The lupins would be ready for harvesting before wheat, so where wheat is the main crop there should be little or no clash at harvesting. Self-seeding, or dry-seeding where land has carried lupins before and seed inoculation is not required, is feasible because the plants can usually compete successfully with weeds; this would minimize any clash at seeding. The relative lack of competition between lupin and cereal operations at seeding and harvest would allow greater total crop areas per farm, should this be desirable economically With fully non-shedding varieties, which can be harvested at full maturity, there are no special problems of harvesting, bulk-handling or storage. The seed is not attacked by pea weevil. The consequence of all these factors is that large-scale lupin cropping could be introduced into the existing cereal-sheep farming system and into grain commerce with a minimum of disturbance or capitalisation.

POORER LIGHT LANDS: A more revolutionary possibility exists for the poorer light lands, especially if the programme to develop crop types of the

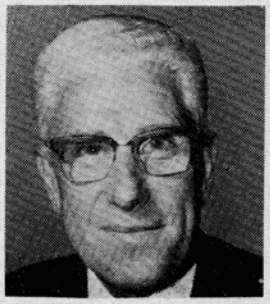
Western Australian blue lupin is successful.

The system envisaged for these soils would be based on lupins, probably with Western Australian serradella as the normal pasture legume, and perhaps with limited cereal cropping. In a typical rotation, cereals might follow a serradella pasture, but probably for one or at the most two years because of the rapid loss of nitrogen by leaching. Lupins would be planted on the cereal stubble. Successive cropping of lupins with self-generation could be achieved in several ways—with a semi-shedding variety by deliberately leaving some seed at harvesting; or, especially with a non-shedding, hard-seeded variety (i.e. of Western Australian blue) by a heavy initial planting of hard seeds, some of which would germinate each year for several years. If serradella is not already present as a volunteer among the lupins, some could be broadcast into the last lupin crop or into its stubble. Heavy grazing following the break of the season would then ensure elimination of the lupins and a return to normal serradella pasture.

Western Australian blue lupin is successful.

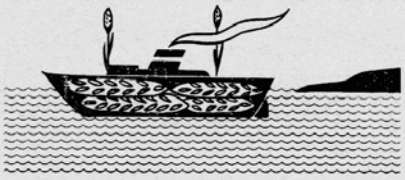
The system envisaged for these soils would be based on lupins, probably with Western Australian serradella as the normal pasture legume, and perhaps with limited cereal cropping. In a typical rotation, cereals might follow a serradella pasture, but probably for one or at the most two years because of the rapid loss of nitrogen by leaching. Lupins would be planted on the cereal stubble. Successive cropping of lupins with self-generation could be achieved in several ways—with a semi-shedding variety by deliberately leaving some seed at harvesting; or, especially with a non-shedding, hard-seeded variety (i.e. of Western Australian blue) by a heavy initial planting of hard seeds, some of which would germinate each year for several years. If serradella is not already present as a volunteer among the lupins, some could be broadcast into the last lupin crop or into its stubble. Heavy grazing following the break of the season would then ensure elimination of the lupins and a return to normal serradella pasture.

The world is not yet so hungry that it will eat anything, and Australian wheat-growers cannot assume that everything they grow will be bought, regardless of quality. However there is a slow but definite change in attitude—a trend towards segregation from F.A.Q. towards a more direct and adequate relationship of the many types of Australian wheat and the increasingly demanding and varied requirements of buyers and prospective buyers. Changes in both supply and demand are analysed.



A. R. CALLAGHAN

Chairman of the Australian Wheat Board. This article is based on an address to the Farmers' and Scientists' Conference, Perth, February 1967.



Changing overseas markets for wheat and their requirements

AUSTRALIAN wheat has been recognized as one of the best white wheats in the world for bread making, and especially for blending with the strong red wheats of Canada and the United States. The hard red spring wheats of Canada, with their high protein levels, remain in a category distinct from wheats of lower protein content produced in the major exporting countries which use wheat for bread. Of the white wheats of the world, Australian wheat has been renowned for its colour, its dryness, high yield and ease of milling. There still remains a special place for wheats possessing these characteristics. On the other hand, the milling and baking technology are modifying wheat quality requirements.

The broad significant changes in the pattern of the world's wheat trade are as follows:

1. Western Europe is now importing less than in the 1930's.
2. In the 1930's Asia, Africa and Eastern Europe, including the U.S.S.R. were net exporters of wheat; in the past three or four years all have been importers.
3. Asia is by far the largest net importer of wheat.
4. Latin America is barely self-sufficient.

The shrinkage of the market in Western Europe is very real for Australian F.A.Q. wheat. Already the European Economic Community (E.E.C.) is a net exporter of wheat, mainly due to the substantial increase in wheat production in France. A

market still persists for the hard wheats of Canada but Australia has virtually been eliminated from the E.E.C. market by the disadvantages of freight, high levies and increased local availability of soft white wheat; Great Britain's entry into the Common Market would aggravate this situation. Our main hope for some recovery in these markets lies in promoting our stronger wheat of the Prime Hard and Hard classes. Other European markets, especially Norway, still offer increasing trade, particularly for our better quality wheats.

TRENDS IN WORLD TRADE

Russia last season had a record crop and this, in conjunction with the massive purchases from Canada contracted for the next three years, has enabled Russia to export wheat again this year. Some has been sold to the United Arab Republic, some given to India and other exports are likely to relieve shortages in Eastern Europe. It is expected that of this year's increased supplies, Russia will retain substantial quantities to replenish rundown stocks.

Australia exports fairly substantial quantities of wheat to African markets, the most important being South Africa, Rhodesia and Zambia. Here the demand is for wheat with the traditional characteristics of cleanliness and good qualities for direct bread making. Maintenance of these standards will afford continuing prospects from these markets.

To Australia, the growing demand in Asia is of extreme importance because of advantages in freight. New mills in Singapore, Hong Kong and Malaya are buying a high proportion of their wheat from Australia. Japanese and Chinese markets present some of the pattern of traditional wheat blending for bread making but are also specific in their requirements for noodles, both wet and dry. The demand for wheat by India and Pakistan is increasing. It is particularly important that the special requirements of these Asian markets should be critically examined from the point of view of the various qualities of Australian wheat available for them.

Latin America as a whole may well this year pass from being a net exporter to being a net importer. Recognizing this, the Australian Wheat Board has at present a mission visiting Brazil, Peru and Chile. The Board considered that as these countries were in the market for wheat, they should be more fully acquainted with the qualities and characteristics of the wheats we are able to offer at competitive prices, and that we, in turn, should be more fully acquainted with marketing and shipping prospects and facilities.

AUSTRALIAN SALES TO ASIA

By far the most significant development in Australian wheat marketing of recent years has been the large sales to the People's Republic of China. Since the first large contract in 1960, shipments against contracts up to the 30th November 1966 have amounted to 465.7 million bushels of wheat or wheat equivalent, and in the five years 1960/61 to 1964/65, China purchased 40 percent of our wheat exports. Late in 1963 Russia entered the market and shipments in the 1963/66 period of wheat or wheat equivalent totalled 105.5 million bushels. The last contract with Russia was for 22.4 million bushels in 1965, the last shipment being in February 1966.

Other market trends have, to a large extent, been overshadowed by these unusually large contracts, but some very decided and influential changes have occurred. They are revealed in Table 1. This shows pretty clearly the trends in our markets which conform, to a very large extent, with the general changes in the world pattern of trade. These trends are as follows:

1. The importance, in recent years, of our markets in China and Russia.
2. The declining relative importance of the United Kingdom and Western European markets.
3. The substantially increasing proportions of Australian wheat exports to the Middle East and Asian markets.

THE FLOUR TRADE

A change of major significance not disclosed in Table 1 has been the development of flour mills in regions to which we formerly exported large quantities of flour. Our particular types of wheat are meeting the specific needs of new mills in Singapore, Hong Kong and Malaya which grist flour not only for local needs but for export. We are at present supplying about 90 percent of the wheat needs to these mills and have a market for wheat greatly in excess of our former wheat equivalent of flour.

Just as these markets have paved the way for Australian wheat, so has the Philippines market opened up more to American wheat. Formerly the United States exported flour to the Philippines and they now look for wheat to produce the same quality characteristics. It is partly for this reason that our exports of wheat to the Philippines have not been very successful.

Indonesian flour purchases ceased with the economic collapse of that country in 1965. There are now some indications of a renewal of interest, if not directly with us, then indirectly through the mills of the Singapore, Hong Kong, Malaysian regions. Ceylon, one of the last strongholds of our flour trade, has plans for flour milling, but growing population and a continuing switch from rice to wheat consumption may keep their flour needs fairly high for some time.

The building of additional flour mills in developing countries will continue to influence the volume of world flour trade. In the past few years the E.E.C. countries, France, West Germany and Italy, with high subsidized production, have captured a share of the world flour trade and reduced Australian flour sales to many markets. In the light of these developments, it is obvious that wheat marketing trends are leading us into a new phase.

COMMERCIAL DEMAND

At this point of time the demand for wheat falls into two categories—commercial and concessional.

BREAD WHEATS. Bread and other wheat products represent a first step on the way to higher living standards. The affluent countries went through a long period

TABLE 1

AUSTRALIAN WHEAT EXPORTS

(percentages)

	1930/4	1935/9	1940/4	1945/9	1950/4	1955/9	1960/4	1965/6
United Kingdom	47	64	20	26	33	30	12	15
Western Europe	7	7	11	8	20	8	8	1
China	20	6	2				40	33
Asia	18	9	30	40	23	34	17	28
U.S.S.R.							10	3
New Zealand etc.	6	12	14	10	13	12	3	3
Africa			11	4	4	5	2	4
Middle East region	2		11	11	8	9	6	10
Other centrally planned economies						2	1	1

during which wheat products constituted their symbol of good living. They have passed this stage but there are many countries whose economic development has brought them, or is bringing them, to a stage in their living standards when wheat products are likely to remain for some time the staple constituents of their diet.

On the other hand, the more affluent countries, while they have entered the protein phase in their standards of living, are still substantial users of bread products. In 1890 the per capita consumption of wheat throughout the world was 2 bushels per annum; in 1950 it was 2.6 bushels and now it is 2.85 bushels. In 75 years this represents a gain of 40 percent in per capita use.

NOODLES. By far the greatest proportion of Australian F.A.Q. wheat sold to Japan, is used for noodle production. Noodles for a long while have accounted for about 43 percent of flour consumption. It is a reasonable assumption that a proportion of the Australian wheat exported to China is also used for noodles.

Australian F.A.Q., American Western Whites and domestic wheats contribute to the lower protein dry and wet noodles which require about nine percent protein. Chinese noodle flours, on the other hand, because of their protein content of about 10.5 and 11.5 percent are frequently made from blends of Manitoba and/or Hard Winters and F.A.Q.

Apart from continuing to supply wheat for noodle production, which represents a substantial market for us, the Australian Wheat Board is endeavouring to obtain a share in the market for bread wheats under the Japanese Staple Food Programme and considers that the prime Hard wheats of Queensland and Northern New South Wales could well find a place in the Japanese markets of the future. Here continuity of supply is all important.

Northern New South Wales and Southern Queensland represent a wheat growing region for which the plant breeder must aim to combine rust resistance, good quality with non-lodging and other characteristics contributing to high yield. This region is subject to a high degree of seasonal variability presenting wide variations in yields, and variable susceptibility to mottling of the grain.

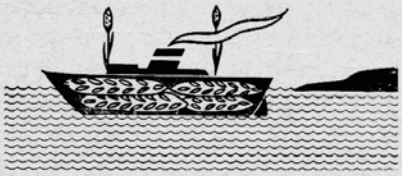
FEED WHEAT. The more affluent countries are increasing their protein intake and to meet this there has been a substantial increase in the world's coarse grain trade—notably to Europe and Japan. Wheat has been used, to a large extent, to increase bran for animal feeding in Japan and a recent development has been to seek off-grade wheat for the production of granulated wheat for feed use. Other markets are also interested in off-grade wheat but substitution of wheat for coarse grains in feeding programmes is not likely to make progress beyond the use of weather-damaged grain because of the higher cost of wheat.

If the so-called Feed Programme in Japan is varied, we contemplate providing off-grade wheat for animal feeding in Japan, offering F.A.Q.'s for noodle production and Prime Hard wheat from Queensland and Northern New South Wales for bread making, and exploring the possibilities of Western Australian and Victorian Soft wheat for biscuit flours. This exemplifies the degree of variation in a country's requirements and the need to know the characteristics of our own wheats when they are being offered for sale.

CHANGING PATTERN OF TRADE

In general terms the changing pattern of commercial wheat trade discloses:

1. A fairly static per capita demand from the economically developed, more industrialized countries of the world. In the more advanced, the per capita



consumption has declined, but there has been a steady world increase in per capita wheat consumption. In the more affluent regions, bread, biscuits and confectionery must be of the highest quality to compete with the abundance of alternative foods and for use as supplements to high protein diets. Bread wheats of the Canadian/Australian type blend are likely to continue to satisfy these needs, and soft, lower protein biscuit type wheats will continue to have a special place.

2. Wheat usage is growing in importance in other regions. Wheat and wheat products have become or are becoming the symbols of better nutrition and are increasing in popularity with the increased purchasing power of poorer communities. For instance:
   (i) A 28 percent increase in Japanese wheat demand over the next 10 years is predicted and this increase will be met exclusively by imports, because wheat production in Japan is declining as a result of deliberate discouragement.
   (ii) In India, wheat now accounts for 20 percent of the total cereals supplied as against 16 percent in 1955; a major shift in view of the population of 500 million.
   (iii) It is reasonable to suppose that bread and other wheat products are playing a similar role in the U.S.S.R. and could well be doing so in the People's Republic of China.
3. Other commercial markets are using wheat increasingly for purposes other than bread making; noodles in Japan and China; chapatti in India; pastas in other regions. These special requirements must be provided in the wheats we offer if we are to continue to share in the markets.

CONCESSIONAL DEMAND

Wheat is being supplied to many food deficit areas on a concessional basis to meet the lack of purchasing power of those in greatest need. It has figured largely in food aid programmes because of its availability and ease of distribution, and is likely to retain a preferred position.

By far the greater proportion of mankind is underfed; 60 percent are not getting enough food to supply what nutritionists regard as their minimum calorie needs. Relate this to the population growth which is highest where the hungry exist and a picture of either subsistence or substitution demand is presented. Many countries including Latin America, Africa and Asia are in this picture. Necessity is forcing traditional rice or mealy eaters on subsistence allowances to supplement with the more readily transportable and easily handled wheat. While rice is superior to maize, millet and sorghum and is the staple diet for a very large proportion of Asiatics, it is relatively dearer than wheat.

While there have been and remain problems associated with the change to wheat and wheat products, the needs are now so great in some regions that the hungry are likely to be less fastidious, and in assessing

future world wheat requirements, this factor should not be ignored.

Australia should not, however, fall into the simple trap of believing that the world, as a whole, will be so hungry that all we have to do is to produce wheat—volumes of if—without regard to quality. Such would be a false interpretation and a completely unacceptable precept to follow. The needs of the commercial markets are the ones which should attract our greatest attention, because the world will strive to bring about economic development in the lesser developed countries, in the knowledge that they, like others, will be able to trade commercially in due course, and quality factors will continue to exert a strong competitive influence.

In the developing regions, and this is applying especially in Asia at the present time, higher purchasing power and greater urbanization is accompanied by increases in the use of wheat. Even supposing the workers in industry and development undertakings of the lesser developed regions of Latin America, Africa and Asia were to accept the convenience, ease and variety of a packed bread and bread products luncheon, then a wide new vista for wheat would be open. In point of fact, this, in some instances, is already taking place and is the spearhead for increased use of wheat in such communities.

The better the products so used the more acceptable and universal will become their use. It follows, that even in this area of concessional demand, qualities to meet requirements should not be overlooked.

WHEAT CLASSIFICATION SYSTEM

The Australian environment with its mild winters and dry harvesting conditions has proved eminently suitable for short-seasoned wheats, resulting in bright plump attractive dry wheat, free from weather damage and impurities. Red grained varieties would add seriously to the problems of segregation by increasing the number of grades without making any compensatory worth-while improvement.

The F.A.Q. Standard of Australian wheat has long been based on appearance, freedom from foreign seeds and bushel weight. The word 'quality' in the description is a misnomer for 'sample'. Although the term F.A.Q. in itself does not provide buyers with a proper marketing description, the F.A.Q. Standards set each year in each State are now affording buyers a fairly wide selection of Australian wheats. The State F.A.Q.'s are being recognized by overseas buyers as possessing different and definable qualities. The unqualified prefix 'F.A.Q.' when applied to the five different State standards is consequently causing some confusion.

In recent years it has become both profitable and practicable to segregate from the F.A.Q. the better quality baking wheats, particularly in Queensland, New South Wales and South Australia, which in itself may be said to have improved the general uniformity of our F.A.Q.'s This segregation is an important step forward in Australia's efforts to gain new markets but it has called for strong promotional efforts with overseas buyers who are still inclined to consider all Australian wheat as F.A.Q. The driving forces behind this segregation have been the availability of better quality wheats, the demand from overseas markets for such qualities, the practicability of separation in the modern bulk handling systems, and the greater financial return obtained for the growers for such wheat.

During 1966 the Board, in order to overcome difficulties in describing the different quality wheats to overseas buyers, found it expedient to examine the nomenclature of Australian Semi-hard and Premium wheat qualities. Commencing with the 1966/67 harvest, it was decided to amend the description of these grades to Hard and Prime Hard respectively.

These developments reveal a slow but decided evolutionary change in the classification of our wheats to meet production trends and marketing needs. At present there are 12 separate grades of wheat available from Australia including Hard wheats of higher protein content, F.A.Q. medium protein wheat and soft low protein wheat as follows:

Prime Hards (High Protein)

1. Queensland Prime Hard
2. N.S.W. Prime Hard

Hards (High Protein)

3. S.A. Hard
4. Victorian Hard

F.A.Q.'s (Medium Protein)

5. Queensland F.A.Q.
6. N.S.W. Northern F.A.Q.
7. N.S.W. Southern/Western F.A.Q.
8. Victorian F.A.Q.
9. South Australian F.A.Q.
10. Western Australian F.A.Q.

Soft (Low Protein)

11. Western Australian Soft
12. Victorian Soft

In those seasons when wheat below the F.A.Q. Standard is received, such wheat is stored and marketed separately as off-grade, and categorized as off-grade No. 1 or No. 2 according to the reason and extent of its failure to qualify as F.A.Q.

MARKET PREFERENCES

It has been evident over recent years that buyers are more discriminating and seeking from Australia not only the easily identifiable Prime Hard and Hard high protein wheats, but F.A.Q.'s possessing preferred qualities as well as low protein biscuit type wheats.

Traditionally the United Kingdom millers have used Australian wheat for blending and the demand is for F.A.Q.'s excluding Victorian. Some soft wheats for biscuit making are also in demand. Other European markets are interested in South Australian Hard, South Australian F.A.Q. and New South Wales F.A.Q.'s.

The Middle East markets are purchasing a full range of bread wheats with some countries showing a strong and growing interest in the Prime Hards, South Australian Hard and some preference for F.A.Q.'s of New South Wales, Queensland and South Australia. African buyers look for Prime Hards, Hards and also show some preference for certain F.A.Q.'s such as South Australian. The Asian markets, and especially those of our near North, are interested in a full range of our wheats from Prime Hards to Soft.

The fact that we can offer such a wide range of types to these markets gives us considerable scope for promoting our different qualities for specific uses.

CONCLUSIONS

Some important conclusions emerge which should influence the thinking and planning of wheat breeders and growers.

1. Wheat is being used in the world for a number of different reasons and it is fortunate that the types of wheat to meet bread making and all other needs are being produced in Australia.
2. We are producing first class wheats of Prime Hard and Hard classes which have qualities equal to any in the world for bread making, wheats in the F.A.Q. category possessing ideal attributes for blending, soft wheats for biscuit flours, as well as wheats of wider utility for noodles, chapatti and pastas.
3. Advances in milling and baking and the preparation of wheat for food, are

leading to increased discrimination in qualities to meet specific purposes.

4. To meet future marketing requirements and retain our competitive position, continued careful attention to flour quality factors as well as physical cleanliness and soundness is essential.
5. Although the world is short of food, food aid is already contributing substantially to world trade in wheat and may reach even greater proportions. It would be completely fallacious to neglect quality for quantity.
6. There has been a decided but steady evolutionary change in the classification and grading of our wheats on a quality and regional basis to meet production trends and marketing needs.
7. Our wheat breeders should continue to breed varieties capable of meeting the standards of quality exemplified in the present classes of regional types so that we can consolidate their reputation for meeting particular market requirements.
8. The characteristics of colour, dryness, high flour yield and ease of milling should continue to be preserved.
9. Wheat growers should remember that cleanliness, soundness and freedom from all forms of contamination will safeguard the good name of our wheat.
10. Given attention to all these factors affecting the marketability of our wheats, we can look forward with confidence to remaining in a position to compete successfully in supplying growing, specific world needs.

Directions are suggested for the much-needed shake-out of the Australian dairying industry, in which the butterfat producer has carried all the burdens and borne all the kicks. The scientist will be needed to help the industry shift emphasis from a butterfat economy to a solids economy. Apart from an aggressive search for new overseas markets, two growing outlets within Australia are envisaged—cheese, and new forms of milk. With vigorous promotion, both could satisfy new markets.

J. P. NORTON

Deputy Chairman of the Australian Dairy Produce Board. This article is based on an address to the Farmers' and Scientists' Conference, Perth, February 1967.

Markets for dairy products

LEADERS of the dairy industry are convinced that the future prosperity of the industry depends largely on the extent to which scientific knowledge can be applied to its problems. In 1957 they sought the approval of producers to strike a levy on production to encourage and coordinate research into all phases of the industry's activities. In the past year the Dairy Industry Research Committee allocated more than $800,000 to various research organisations throughout Australia. Much of the success achieved on overseas markets has been due to the efforts of research workers.

Before referring to new markets it is desirable to outline briefly the factors leading up to present marketing conditions. In the years preceding the Second World War the dairy industry had little difficulty in disposing of surplus production. This production, mainly in the form of butter and cheese, found a ready market in the United Kingdom. Fortunately, or perhaps unfortunately, it was a market that was not very quality conscious.

Just before the war there were indications that the United Kingdom market was nearing saturation and, as a result, traders began to discriminate and to look for quality. At this stage the industry in Australia was advised that the importation of the lower grades of butter would be progressively reduced. However the war intervened and it was not until the middle 1950's that surplus production again began to emerge as a problem.

In the meantime the industry had used the high returns from overseas sales to set up a stabilisation fund, to be used for the

benefit of the industry when overseas returns declined.

In the period immediately following the war Australia was one of the cheapest sources of raw material for dairy products. As a result, a number of international dairy companies set up factories in the more favoured dairying areas and proceeded to take advantage of the strong overseas demand for processed milk. They did not contribute to the stabilisation fund, were able to offer producers attractive prices; naturally this encouraged milk production.

Costs rose steeply during the early 1950's and these companies were soon costed out of their overseas markets. As a result they turned to butter and cheese which were being assisted by government subsidy.

Butter production increased rapidly from about 160,000 tons to nearly 200,000 tons per annum, and at the same time butter consumption in Australia steadily declined. By 1961 the situation had become serious and, in order to protect the stability of their market, the United Kingdom authorities introduced import quotas regulating the amount of butter which each country could sell on the London market, which at that time was the only free market in the world.

Then the United Kingdom Government expressed its intention to join the European Economic Community. This caused near panic in Australia and New Zealand, the two countries most dependent on the United Kingdom market. At this distance it was rather difficult to see how the United Kingdom and the European countries could possibly adjust their agricultural policies to a common level. But it was obvious that if they did, the plight of the dairy industries in Australia and New Zealand would be desperate. Consequently there was a rush to seek alternative markets and attention was turned to South East Asia.

ALTERNATIVE MARKETS

The kind of dairy products needed by various markets is largely influenced by economic conditions in the various countries. Where very low standards of living exist, the need is for proteins contained in milk solids. Where living standards are higher the demand is for fats. Where living standards are very high, as in the United States of America and in Australia, people are diet conscious and the demand for fats declines. Table 1 shows the relationship between national income per

TABLE 1

INCOME PER CAPITA AND CONSUMPTION OF DAIRY PRODUCTS IN SELECTED COUNTRIES, (1961)

Country	Income per capita (index)	Consumption in wholemilk equiv. (lb)	Butter	Cheese	Wholemilk	Sweet. condensed milk	Unsweet. condensed milk	Wholemilk powder, malted, ice-cream powders etc.
			%	%	%	%	%	%
Thailand	100	12	neg.	neg.	neg.	83	12	4
Philippines	125	36	3	3	3	19	58	14
Japan	500	48	25	6	54	—(6)—		8
United Kingdom	1,300	892	49	10	36	neg.	1	4
Australia	1,300	943	57	6.3	30.5*	0.7	1.7	4
Denmark	1,400	1,010	52	17	28.5	neg.	neg.	2.5
U.S.A.	2,600	600	27	13	47	neg.	5	7.5†

* Includes fluid milk sales for ice-cream making and cream etc.
† Includes estimate of ice-cream powder, yoghurt etc.

capita and the consumption of dairy products in various countries.

The demand in the South East Asian countries was mainly for non-fat proteins. These countries were already being supplied from various parts of the world but the Australian Dairy Produce Board used a new method of approach. Climatic conditions prevent these countries from developing a dairy industry, but the process of recombining the fats-solids of milk enable them to develop the processing and packing of their milk requirements.

The Australian Dairy Produce Board in conjunction with local interests established plants in the Philippines, Thailand and Singapore. These plants are now operating successfully and supplying a substantial percentage of the local requirements. In the current year they are expected to use approximately 5,000 tons of butter oil and 15,000 tons of non-fat powder.

More than $5 million for the building, equipping and operation of the South East Asian plants came from the stabilisation fund, set up by the industry in post-war years. Without the fund these projects would not have been established.

The Japanese market is a new market. The eating habits of the Japanese people have changed radically in recent years and there is growing demand for all dairy products. Australia's share of the Japanese cheese market increased from 300 tons in 1961 to 6,000 tons in 1966, and the anticipated amount for the current year is 8,000 tons. Total butter imports into Japan during 1966 rose to 9,100 tons, of which Australia supplied 3,600 tons; this demand is likely to continue.

The Philippines are also developing a substantial demand for Australian cheese. More than 2,000 tons was supplied to this market during the past year. Peru is becoming a substantial customer for Australian butter, taking more than 2,000 tons annually.

In all, in the past year Australia exported dairy products to the value of $104 million to more than 90 countries. The total production of manufactured dairy products in Australia for the past year was: butter 205,000 tons, processed milk 200,000 tons, cheese 58,000 tons, butter oil 7,000 tons. The total value of these products was $450 million.

MARKETING OF DAIRY PRODUCTS

Australia has one particular disability in the marketing of dairy products that is not common to most other countries. The industry on the marketing side is divided into three more or less watertight compartments; liquid milk, processed milks and manufactured products.

In the U.K. for instance, more than 80 percent of the total milk produced is sold as liquid milk. Butter and cheese are therefore in the nature of by-products. Every producer receives a share of each according to the percentage of the total sold in each category.

In Australia only about 22 percent of total production is sold as liquid milk. Marketing is under State's control and is centred around the capital cities. The price of milk varies from city to city but the return to producers is approximately double the return for butterfat. Any surplus quantities of milk from this section are passed on to the manufacturers for processing and marketing.

The liquid milk section of the industry does not contribute in any way to the various funds set up for the assistance and protection of the industry as a whole.

For many years the international companies that came into the industry in the early post-war years virtually controlled the production and marketing of processed milks. It is only in recent years that they

contributed in some small way to industry funds.

Finally it is the butterfat producer who carries all the burdens and takes all the kicks. More than 40 percent of the butter and cheese produced is sold on export markets in open competition, mainly against exports subsidised by the governments of exporting countries. The loss on exports in this country is carried by the producers. This is reflected in the nett return to producers over the past 12 years.

Out of his depleted returns the butterfat producer provides levies for promotion both for inside Australia and overseas markets; levies for research which benefits the whole of the industry; levies for administration and for the equalisation of returns from local and overseas realisations.

OUTLOOK FOR THE FUTURE

Although the manufacturing section is saddled with the responsibility of finding markets for all surplus production it is freely recognised that the marketing of liquid milk offers the greatest opportunities to develop 'new' markets within our own country. Milk is a basic food catering for an old market but by product differentiation, imagination and keen marketing many new markets could be created. Special milk, non-fat milk, low calorie milk, protein fortified milk, flavoured milk, table cream, yoghurt, and the new long-life milk, all provide opportunities for the disposal of milk in the most profitable market.

Of manufactured products cheese lends itself most readily to promotion and the creation of *new* markets. It has been promoted vigorously by the Dairy Board both in Australia and overseas and it is significant that although production for the current year is the highest yet (an estimated 63,000 tons), it will still not be sufficient to satisfy the known demand. The consumption of cheese in Australia has risen from 26,000 tons in 1955-56 to an anticipated 38,000 tons in the current year. This includes about 4,000 tons of fancy cheeses imported from other countries.

New overseas markets will need increasing quantities of non-fat products: this will require a shift in the industry from a butterfat economy to a solids economy. It will not be easy because all our efforts in the past have been directed towards increasing the production of fat.

Because of a world shortage of non-fat powder in recent years the price of this product increased from around $180 per ton to as high as $290 per ton. This has been reflected in the returns of those factories which have been in a position to take full advantage of the situation: that is the factories having access to large quantities of milk in relatively small areas. Milk is bulky and transport costs are high, and even when returns are high it is uneconomic to cart small quantities over long distances.

There is a tremendous amount of reorganisation to be done by the dairy industry if it is to continue to meet the challenge of living and expanding in the high cost structure of the Australian economy. The industry needs all the assistance it can get from the scientist if it is to live within that structure and at the same time supply some of the vital foods that are so badly needed in many parts of the world, and thus continuing to earn export income for Australia.

The proposals—and reasonings behind them—of the case for wool acquisition and appraisement pools are spelled out as they were when first formally put forward. They conclude that wool is in a desperate situation in the present context, but "there could be in the future a very much better market for wool than we at present even dream of". This is a strident call for a new and active, developing and aggressive marketing organisation for the nation's top product.

B. G. L. KILLEN

Grazier - Businessman, New South Wales. This article is based on a Resolution and Address first presented to a meeting of woolgrowers at Moree, January 1967.

The case for an acquisition appraisement pool

with sales at auction, utilizing brokers' facilities

IT is absolutely imperative that Australian woolgrowers act to set up as soon as possible, an Australian Wool Marketing Commission or Authority in order to have a body established, *actually in being*, which can be investigating, planning and implementing the urgently needed improvements required for our outdated and inadequate wool marketing system. Unfortunately neither the Australian Wool Board nor its marketing committee have been able to achieve this status and power.

In the present circumstances, the Acquisition Appraisement Pool outlined is the all round best, strongest and safest marketing plan which we can adopt and which should gain wide acceptance from most sections of the trade. In addition, it has some very substantial and useful improvements to bring about in the handling and presentation of the Australian wool clip.

Woolgrowers are guilty of a grave lack of awareness, judgment and initiative if we don't move now to call on our own organisations, on the Australian Wool Board and the Federal Government to act as promptly as is possible to set up the Commission and charge it with the final responsibility of settling the detailed investigations and negotiations, making final plans and setting up the stage rapidly and completely for the operation of an Appraisement Pool for all wool produced in Australia.

The background to my thinking is that any realistic, impartial appreciation of wool's situation in the world textile fibre trade must inevitably lead to grave con-

cern at the ominous trend of wool prices over the past 20 years. These have fallen significantly and substantially since 1952, or since 1947 even if, as must sensibly be done, the real value or purchasing power of the money is taken as the criterion or yardstick. In 1955/56, the average price for greasy wool in Australia was 51.22c per pound. In 1956/57, it was 66.38c per pound and in 1957/58 it was 52.04c per pound. In the six months ending December 1966 it was 49.18c per pound. Today it is running at about 48c per pound. This is all the more disquieting because, due to the drought, wool production in Australia during the 1965/66 season is estimated to have been 1,640 million pounds greasy, comprising 1,492 million pounds of shorn wool, 24 million pounds dead and fellmongered wool and 124 million pounds of wool exported on skins. This total being 8 percent less than the 1,784 million pounds recorded in 1964/65, the greatest reduction having occurred in shorn wool.

THE PRESENT POSITION

Australia produces about 29 percent of the world's wool; 37 percent of the world's apparel wool; 53 percent of the world's merino wool and 21 percent of the world's crossbred wool. So in the area of good quality apparel wool, Australia occupies a predominant position in wool entering the world textile trade. In fact, the world production of wool was down by one to two percent and this would be a greater percentage of wool entering the good quality apparel fibre trade. The position is that, although supplies of wool and particularly of good quality merino wool entering the world trade are lower, prices have still fallen over the past five or six months. This is particularly perturbing when considered against the generally fairly prosperous position of most of the world's wool consuming countries. There have been cold winters in Europe and North America, a war in Vietnam which no doubt assisted the United States to increase its consumption of wool slightly over part of the past 18 months, and I am satisfied that the very good I.W.S. Wool Mark promotion campaign and its other product development and promotional measures have really assisted the demand for wool.

We are also faced with a situation wherein the productive capacity of wool's main competitors, the non-cellulosic type of man-made fibres—terylene and others—has reached the point of oversupply of their market and many mills are reducing production because of competition with each other, wool, cotton and other fibres. Wool's fibre competitors, both the synthetics and cotton, are getting more efficient and more competitive with their selling methods. We must watch them and better them, I believe, if we are to have a reasonable chance of being part of a profitable wool industry in Australia.

I want to correct what I believe is a serious misapprehension in the minds of a lot of people, and many woolgrowers in Australia, and that is that the only thing that affects them, that woolgrowers can do anything about, is their costs of production and efficiency. Everybody knows that cost of production is of tremendous importance, and the achievement of maximum productivity and efficiency is important. But I grow wool for profit, and profit is the difference between cost of production and selling price. Therefore, it is only simple commonsense to do whatever we can to improve both. It's no good growing wool efficiently and cheaply if the selling price is still below cost of production. If we make a clear, cool and impartial judgment of the Australian Wool Marketing system and methods, we would decide that it was far from being the ideal system, to say the least. If a group of management experts were just at this time commencing a vast wool industry in Australia and had investigated the various marketing methods available for them to

adopt, their conclusion would be that they would set up a different system to that which we have today. We are not in that position and we do have a large background of capital investment, experience, knowledge, trade connections and established methods built up over many years which together form a most important distributive asset for our wool. One which can be improved not cast aside. This system is outmoded and not nearly as efficient as it could be, or should be. It can be greatly improved. I know that this may not be absolutely easy but I'm also satisfied it is certainly not really hard and I believe that all the evidence available points to the fact that for all the woolgrowers—120,000-odd of them in Australia —and all the other sections of the trade as well, an infinitely better situation would have been achieved if all the wool in Australia could be transferred from the wool growers to one entity which can be a firm holder able more properly to present the whole clip for sale and organise its disposal efficiently.

Very little improvement can be made in the existing circumstances. It is extremely difficult setting about any significant improvement in our selling or handling methods under the present situation where our hands are tied because of the impossibility of getting 120,000 owners to act as one. If the Australian clip approaches 5 million bales, brokers and buyers facilities are overtaxed in order to handle it in anything like an efficient manner. We must face the fact that wool prices at present just don't encourage any further substantial investment by brokers in improving the handling facilities. From a return on capital point of view, most brokers and buyers seem to feel now that they can employ their available funds in more profitable avenues. They seem to be at a point where, if the Australian clip were to increase much above 5 million bales, facilities would be so taxed that handling efficiency would actually diminish. One result of the present wool price structure and our existing wool handling methods is that the classing standard and presentation of the clip is falling and this is, in fact, having the effect of turning some of our good customers away to other competitive fibres. Cotton, as well as man-made fibres, has been increasing its efficiency and the quality of its product presented to the processors.

CHIEF OBJECTS

To set up an Australian Acquisition Appraisement Pool to:—

1. Organise the acquisition and orderly disposal of the Australian wool clip with the capacity to regulate the flow of types to suit the market demand and to be a firm holder of wool able to ensure that every lot achieves fair market value on the day.
2. To assure the grower that his wool will be presented in the most saleable type and lot size; will not risk being sacrificed on a day when orders for its particular type are filled or at a time of obviously temporary low demand; and that it will achieve the average price for its type over a six monthly pool period.
3. Streamline handling by greatly reducing the number of lots to be shown, stored and valued, thus cheapening brokers' and buyers' costs both of which must inevitably be passed back to be borne by the grower.
4. Improve and standardise the classing and presentation of the wool clip so as to make it more attractive to the trade.
5. Assist the introduction of modern techniques for scientific measurement, description and processing of wool in order to more fully compete with other fibres.

To establish an Australian Wool Marketing Commission able to investigate, plan

and execute the improvements and innovations urgently needed in the future to make wool more fully competitive in the world textile fibre markets, and eventually to be in a position to achieve the better prices which could be possible for a large proportion of Australian wool types. Further, to find ways to give increased confidence in wool to textile processors.

DETAILS OF OPERATION

The Australian Wool Board and the Federal Government to set up as soon as efficiently possible an Acquisition Appraisement Pool utilizing brokers' facilities for all Australian wool and to be operated on the following suggested lines:—

1. An Australian Wool Marketing Commission to be established under the direction of the Minister for Primary Industry and the Australian Wool Board to acquire and dispose of all wool produced in Australia.
2. The Commission to plan, organise and conduct the operations of an Acquisition Appraisement Pool utilizing brokers' facilities.
3. Wool to be consigned by the grower in the normal way to the wool broker or re-packing house of his choice who continues to represent the grower as his agent and whose facilities are utilized as at present.
4. Upon arrival at the Wool Store, wool to be weighed in and then to become the property of the Commission. As soon as practicable, an Australian standard system of core testing for yield to be established and wool to be core tested immediately prior to being weighed in.
5. Wool to be inspected and, if found to be satisfactorily classed, appraised and classified into types by the Commission's appraisers with the grower being represented by the Brokers' appraisers. Unsatisfactorily classed wool to be re-classed at the grower's expense. Specialty lines may be sold separately if deemed desirable. All other wool then to be placed in store in bulk lines and offered at auction in lot sizes designed to suit the requirements of all buyers.
6. The grower to receive an initial payment of 60 percent of the estimated value of his wool within seven days of delivery into store. A further payment of 20 percent should be made within five months, and a final balance payment made within a further five months based on the actual clean yield value of the grower's wool in each respective type over the pool period. Two six monthly pools to be operated during selling season.
7. Financial backing for the purpose of (6) would need to be arranged by the Commission and the Federal Government. Based on wool production figures for 1965-66, plus an estimated increase, and on current market values, bridging finance fluctuating from a peak credit of $87 million to a maximum debit of $130 million for a pool initially commencing in the month of January, and $87 million in credit fluctuating to a maximum debit of $176 million for a pool initially commencing in July. It should be possible to arrange this finance through normal sources which at present provide the major portion of it.
8. Auction sales of wool to be preserved while ever there appears to be a need or desire by the trade for them. The Commission to decide and regulate the quantities of each type to be submitted at every sale and to place reserves on every type at its discretion, based on its assessment of the market position at the time. In the early stages of operation, the Commission should operate conservatively, moving only step by step to known

THE CASE FOR AN ACQUISITION APPRAISEMENT POOL—*continued*

and assured positions, and should not envisage the withholding by either spread of types or passing in at wool sales of over 10 percent of the Australian wool clip in any normal circumstances. Every effort should be made to dispose satisfactorily of any passed in wools outside the auction system.

9. For the purposes of (8), the Commission would need to have ready access to funds to the extent of $98 million.

10. The Commission would negotiate mutually satisfactory Warehousing and Commission charges with the wool selling brokers and re-packing houses.

11. Administrative and operational costs of the Pool should be defrayed by transferring the revenue from the Australian Wool Board's Wool Stores to the Commission. It would also be desirable to transfer the operation of the Australian Wool Testing Authority and the Wool Statistical Service to the Commission.

12. The Commission would aim to assist and where possible to improve the important distributive functions of the wool merchants and merchant processors.

13. The Commission should work closely with the Australian Wool Board and the International Wool Secretariat and, after gaining experience and knowledge, aim to improve marketing methods still further by:—

    (i) Making sales of suitable free-selling bulk types at quoted prices based on auction values. Auctions being retained while ever desired by any section of the trade.

    (ii) Negotiating contracts for the supply, over a forward period, of specified types of wool for delivery at stipulated times.

    (iii) Co-operating with I.W.S. by concluding forward contracts for the supply of quantities of wool made contingent upon the expenditure of an agreed sum on a joint promotional campaign for the end product.

    (iv) Arranging both short and long term credit sales with approved purchasers, perhaps on a country to country basis, or to a manufacturer of synthetic fabrics for blending into his product.

    (v) Holding stocks of types in common demand at key points overseas in order to offer spot delivery. It may be desirable to have a proportion of these stocks partially processed at least to the tops stage, in order to compete more fully with synthetics by offering a product of known specifications ready for immediate delivery. Stocks could be processed either in Australia or overseas on a fee or commission basis at the discretion of the Commission.

    (vi) Utilizing the promotion facilities of I.W.S. to move difficult to sell lines, e.g. burry types at times, when this is advised by market research consultants.

(vii) Eventually competing more strongly with synthetics by securing captive outlets for wool products by taking over some textile manufacturing firms. (At least enough to provide demonstrations of wool's qualities in actual garments offered for sale).

(viii) Developing into a complete, integrated, active marketing organization for wool; planning, coordinating and conducting promotion, pricing, product development and research.

COMMENTS

The proposals provide for all wool produced in Australia to be brought into the Pool including dead and fellmongered wools and wool exported on skins. It may be a matter for further consideration by the Board and the Government to decide whether wool used on skins in Australia should be brought within the ambit of the proposed Pool.

The facilities already provided and belonging to the brokers and re-packing houses should be utilized for the purposes of the Pool. They represent a very substantial and useful capital investment which is already in existence and working, and their presence saves the expenditure on other facilities which would be only extra and duplicating them. Utilizing brokers' facilities fits in extremely well with the proposed mode of operation of the Pool. Their stores are almost wherever they are needed now.

Every grower should be clear that costs incurred by brokers or woolbuyers must inevitably be passed back to be borne solely by him. Because brokers must recover their costs to survive, and any cost incurred by a woolbuyer in handling, buying, transporting or anything else to do with the wool, must be deducted from the price which he is prepared to pay for it, this then is so much less that the grower gets for his wool. Investigations have confirmed that the brokers generally are extremely aware and concerned with the high and rising costs of handling wool through the wool stores. We growers have just seen the rise from $1.85 to approximately $2.40 in warehousing charges and the brokers told us that this charge doesn't nearly cover the actual cost of handling the wool through their stores but that a portion of it must be absorbed in their commission charges. We believe that the brokers will be supporters of these proposals with enthusiasm because they should result in a very substantial decrease in handling costs of the wool in the wool stores. An exceptionally high cost in the wool store is the setting out of bales on the show floor for inspection by buyers. The bales have to be brought up from the stack in the store below and a very considerable amount of work is involved in setting out a clip on the show floor. This work requires a lot of labour and supervision and is becoming more costly all the time.

A confidential report from a leading Sydney woolbroker states that brokers find that the cost of showing a bale as against the other costs related to receiving, storing, etc., is of the order of eight to one. Figures show that it costs $3.30 to set a bale out on the show floor, as against 20c for keeping it in the stack in the store. Other figures show that it cost 70c to keep a bale in the store and that this covered all the attendant costs of receiving, lotting and so on, against a cost of over $5.00 to put it on the show floor for display.

These figures illustrate the great savings that are possible if we don't have to put so many show bales on the floor. The National Council of Woolselling Brokers shows that of all the bales in the Australian wool clip of 4,509,726 bales of first-hand wool received into brokers' stores in 1965/66, in the vicinity of 55 percent were

in fact displayed. This figure varies from centre to centre, overall in Sydney it is about 49 percent to 50 percent, in Brisbane running about 43 percent to 44 percent and the highest in the post-Easter period at Geelong where 69 percent of all wool received has to be put out on the show floor.

SIZE OF LOTS

Figures from the Wool Statistical Service Analysis, show that in the year 1962/63 one bale lots alone totalled 33.2 percent of all lots offered. They only represented 8 percent of the total clip in quantity and at the same time possibly not more than 5 percent of its total value. It should be quite plain that if we can reduce the number of lots to be offered to buyers there should be a real cost saving to brokers and therefore to growers.

Under the wool selling regulations up to a lot of 4 bales, the minimum to be shown is three. General practice, however, and for reasons of keeping the lot together and not having to sort one bale out of the stack later on, is normally to show all four of the four bale lots. For five to 15 bales, two or possibly more are normally shown; 16 to 30 bales, three must be shown; 31 to 50 bales, four must be shown; 51 to 65 bales, five must be shown; 66 to 80 bales, six must be shown and 81 to 100, seven must be shown. For over 100 bales, 8 percent must be shown.

It is timewasting, costly and regrettable that, in spite of the reasonable provisions of the regulations, we have the seemingly crazy situation that over 55 percent of all the bales offered through brokers' stores in Australia are set out on the show floor. Now, there is only one way to get away from this high cost of small lots and that is by pooling or some other form of acquisition and it is obvious that this can only be done when the wool is placed in the hands of one seller. In this case we've suggested the Commission.

Extensive inquiries among buyers and among some of the leading chief wool valuers in Sydney, Perth, Brisbane and Melbourne show that excepting for specialty wools or any minute proportion of other lines, the smallest lot offered should comprise ten bales as a minimum number. Everyone agreed that 50 bales would normally be the largest lot size that could be offered without eliminating perhaps some competition for it. Some of the more experienced chief wool valuers have suggested that the smallest lot should be 20 bales. In any case it is apparent that if the smallest lot to be made is ten bales there is an enormous reduction in the number of bales which must be handled on to the show floor with a consequent handling cost saving of great magnitude to both brokers and buyers.

Also from the confidential report produced by a leading brokers' committee we learn that wool buyers costs per lot bought, varied between $6.31 and over $10.00 per lot. These costs illustrate the importance of acting to eliminate all unnecessary lots as quickly as possible. We cannot afford this ridiculous wasteful loss any longer.

It will be advantageous, not only to the growers in the Pool but to the trade in general if an Australian standard system of core testing for yield can be established, and for the wool to be core tested immediately prior to being weighed in. Core testing is becoming more and more accepted in the wool trade, and desired and used by it; 8 percent of the Australian clip is tested in Australia by the Australian Wool Testing Authority. In addition, a further amount is done by private firms and a considerable amount by mills overseas. Woolcombers Ltd., reputed to be the largest firm of top makers in the world, is core testing bales most extensively before the wool passes through the cards and in fact they accept the core test

almost universally in their operations and don't as a rule, go to the expense of accounting for the wool through the cards and combs at all. It has been suggested that over 50 percent of the Australian wool clip is now being core tested.

The Australian Wool Testing Authority charges 40c each for core testing large lots of 200 bales or more as part of its set scale of charges. If the quantity done by an owner over a period is in excess of $20,000, a 20 percent rebate is allowed. However it appears reasonable that with a very large number of bales being core tested on arrival into store, considerable economies of scale would be possible and the cost would reduce to a very low figure. One estimate was that it could be 10c a bale or lower.

One obvious advantage of the proposed Appraisement Pool will be that it will eliminate the need for many growers to "stretch" their classing in an endeavour to make a five bale lot. This should have an immediate beneficial effect on classing standards. Some buyers think this need to make five bale lots is responsible for much badly classed wool. It is quite apparent also that it is neither fair nor reasonable to expect brokers to be responsible for the standards of their client's classing. Any wool valuer will admit that it is an extremely delicate matter to tell a grower who has quite possibly classed the clip himself that it is badly classed. It is recognised as a quick way for a broker to lose a client.

CLASSING STANDARDS

An Appraisement Pool Commission will be able to exercise a much greater degree of control over classing standards as well as presentation of the clip. The broker's appraiser is right there on the spot acting as the grower's agent and representative at all material times when his wool is being dealt with.

The chief wool valuers with whom these proposals have been discussed agreed that it is a good idea for the appraiser, when first appraising the wool after receival into store, to decide the lots within the types into which they are being classified to suit the anticipated requirements of the buyers. Even though there are 1,945 types for Australian wool to be classed into, it would still be desirable to keep like lots together even within a type; considerations as to keeping separate the various kinds of vegetable matter, whether clover burr, or seed, for example, should suit the buyers very well. Where large numbers of bales of a particular type were built up within a store it should be possible to have a few big lots of, say, 50 bales, to suit the requirements of the buyers for that lot size and go down to lots of say ten bales to suit the requirements of buyers for smaller lots and in this way a really optimum presentation of the clip should be achieved. This will be a tremendous advantage over the present unsatisfactory system. The presentation of the bulk classed lines done by re-packing houses seem to suit the trade very well and only the stipulated minimum number of bales is normally placed on the show floor for inspection from these lines, though occasionally additional bales to the minimum required are shown if considered necessary.

One very senior chief wool valuer has pointed out that at the end of World War II a very large amount of AWRC wool was in store and was released for sale in its types over a period of the next four years and appeared to meet very favourable response from buyers. This is a very important fact to note since it is strong evidence that buyers can be happy with Australian Wool as classified and typed by appraisers.

In clause (6) is set out the suggested way in which the Appraisement Pool would make payment for the wool to the grower. This method should be acceptable

to most wool growers. The grower gets 60 percent of the estimated value of his wool within seven days of delivery into store and this is much quicker than he receives proceeds now, and he gets them at a time when he usually really needs money at the conclusion of the expensive shearing operation.

It should suit most growers to get a further 20 percent payment within five months and a final balance payment within 10 months just when he will require more money to commence his shearing operations. It should be possible for a grower to borrow against the 40 percent of his proceeds which would be available to him when due for payment by the Pool in the normal way he obtains finance now.

The suggested method of payment achieves a nice balance of interest in as much that neither the Pool nor the grower will receive a significant interest advantage as the interest balances out assuming it takes the Pool three months to receive payment of proceeds for the sale of the wool it has received into store. This is agreed to be a fairly reasonable period to average overall for present Australian conditions. Possibly an Appraisement Pool when it settles down may achieve a more rapid disposal than in the present circumstances.

The manner in which payments to growers by the Pool will be financed will be a matter of negotiation between the Commission and Wool Brokers' Banks and the other normal sources which are financing the bulk of this operation in the present circumstances. This should be no trouble to satisfactorily negotiate since it comes within the ambit of ordinary bridging finance. This financial backing should be left separate from funds which it is proposed to use to regulate the supply of types to the market and the placing of reserves designed to ensure that each lot makes its fair market value on the day as is dealt with in (8).

It is intended to preserve the auction sales for wool while ever there appears to be a need or desire by a significant section of the trade for them. Eventually we believe that it may be the most desirable position for sales of wool to be being made at auction at the same time as other deliveries of wool are being made by bulk stocks to users who prefer to operate that way. This aspect may never occur as it will be at the discretion of the Commission. There are other instances of private sales being made concurrently with auctions. This happens with other conditions similar to wool such as cotton, minerals and livestock.

WOOL PASSED IN

We gave a great deal of thought in deciding that the maximum amount of wool to be held out of the market, whether by regulation of quantities of types of wool being offered at auction or by passing in where lots did not make the reserve, should be firmly limited to a maximum of 10 percent of the Australian wool clip in normal circumstances. Ten percent of the Australian wool clip is a maximum which can be held safely without the possibility of exerting an unduly depressing influence on the wool market. If you go above that amount you run a risk of depressing the market. This arrangement appears to be far superior to the proposed operation of the Board's proposed Reserve Price Scheme, particularly since the Commission can exert a considerable degree of control over the supply of wool to the market. This ability to spread the supply of types to the market is a really important benefit to growers. Although the grower now has the right to pass in his wool, it is a rather empty right since most growers are not in a position to exercise it. They need the money; and the wool brokers in many cases want them to have it. It will be a real benefit to the Pool and hence the growers also, if the Pool is able to place

firm reserves on each type to enable it to avoid the minor irregularities of demand which occur in almost every wool sale for certain types. It is well known that demand often is temporarily depressed for certain lots at the last sale of the last day of a series. This occurs particularly in Brisbane where this day is often referred to as "Black Thursday".

The capacity to prevent a series of burry wools choking the market at a particular time should be a considerable advantage to a large number of growers if this can be achieved. The proposals for the Board's Reserve Price Scheme would have been infinitely stronger if they had included a provision to enable bought-in wools to be disposed of outside the auction system. It is well worthwhile taking the time to explain that it might, on some occasions, be possible to dispose of a quantity of bought-in wool to a buyer who normally did not buy in the Australian wool market, or possibly any other wool market, such as some foreign Government buying wool for some particular diversified or even novel or new use. This could even be an African or Asian nation buying wool for Western-type clothing, etc.

Another possible sale would be to some large manufacturer of either cotton or synthetic fibres for inclusion with his fibre as a blend. It should be possible in some cases to find a sale of this kind and the IWS promotion facilities could be utilised for this purpose. Perhaps later this type of sale could be fostered by giving credit terms.

There would be an obvious advantage in disposing of this wool outside the auction system, as it would mean that it would not have to be selling back through the auction at a time when the wools normally coming forward at that time were being sold. In this case, it would be adding to supply and nothing having been done to affect demand, therefore diminishing price. We decided to keep the funds for enabling the spread of types and the elimination of undue irregularities separate from the purely bridging finance of the Pool devoted to making payment to the growers for their wool. These funds should be called the Wool Market Regulating Funds.

There is a very good case in all the circumstances for growers to submit to the Federal Government that it should be prepared to arrange finance for this fund in the same way as it was prepared to arrange finance for the Australian Wool Board Reserve Price Scheme. It should be noted that the request is for only $98 million—much less than the $160 million which the Government was prepared to make available initially, to say nothing of the fact that the Government was prepared to give an unlimited guarantee to supporting the Reserve Price Scheme.

COSTS OF OPERATION

With regard to (10), it would be a matter of final negotiation between the Commission and the Wool Selling brokers and repacking houses as to just what would be reasonable Warehouse and Commission charges to cover the operations which were being performed. We estimate that administrative and operational costs of operating the Pool should be in the vicinity of 13c per bale. This equates with the cost of the New Zealand Wool Commission for the operating costs of their appraisers and staff for the New Zealand Scheme. The cost would depend to some extent on the degree of the final number of organisers appointed and how far it was thought that the appraising could be substantially left to the broker's appraisers and merely checked by the Commission's appraisers.

The exact cost could be anywhere between 5c and 20c per bale. It would be sensible for the Commission to take over the operation of the Australian Wool Board's Wool Stores administration and

also the Wool Statistical Service and the Australian Wool Testing Authority. Their functions should come under the auspices of the Wool Committee. The Wool Statistical Service currently employs approximately 20 appraisers on its staff for statistical purposes, whose work would tie in with that of the Commission's appraisers, to a considerable extent. This would defray portion of the cost of the Wool Statistical Service of some $333,000 last year The operations of the Australian Wool Testing Authority seem to balance out roughly over the past few years. The anticipated clip this year is in the vicinity of 4,700,000 bales, but taking a 5 million bale clip and a Pool administration cost of 13c, this comes to a cost of $650,000 which is substantially less than the profit made on the Board's Wool Stores in the year ended 30th June 1966, which appears to be $841,000.

With regard to (12) it was most unfortunate that reports have occurred in the Press that we anticipate opposition to these proposals from wool merchants. Merchants should welcome these proposals since they will make a great contribution to reducing their costs and improving the presentation of the wool clip.

The distributive and financing functions of the wool merchants and merchant processors are important. Their selling operations and their trade connections are most useful to wool and we would stand to lose an important section of our market if we were foolish enough peremptorily to do without them. We could run the risk of losing a substantial section of our trade connection to other fibres immediately in that case.

With regard to the suggested improvement and development of marketing methods mentioned in the sub-clauses of part (13) these developments are projected developments for the future and it may take a considerable number of years for them to be achieved. Some may never be achieved, though we should strive to attain all these objects—in fact we will need to if wool is to be as profitable as it could be. Hardly any of these objectives can be properly reached without a Marketing Commission first being established.

CONCLUSION

Investigations around the world have shown that, whilst wool is facing possibly a really desperate situation, at the same time there could be in the future a very much better market for wool than we at present even dream of. This may seem paradoxical but many wool processors, spinners, weavers and manufacturers state that wool is still a preferred fibre by an immense number of users (of worsted cloths and knitted garments for example) and that they, as processors, would be happy to pay substantially more for good wool—certainly in the vicinity of 20 percent more, if only they could be sure that their competitors could not buy it any cheaper a few weeks later and undersell them. This is a worthwhile possibility to keep in mind when considering wool's future marketing. One piece of evidence which substantiates this is that rarely is the value of the raw greasy wool over 10 or 15 percent of the value of the finished garment as offered to the consumer. This means that the price of the raw wool could be greatly increased and yet only put up the cost of the garment to the consumer by a minute percentage, perhaps only one percent and it need not have a profit increment placed on it by the processors through which it was passed—they having earned their profit already.

Further evidence bearing out this fact can be adduced by illustrating the extremely high prices paid by consumers for woollen articles in the United States where an immense tariff of 25 cents per pound, as well as one of 7.5 percent *ad valorem* on the value of processed woollen goods,

adds considerably to the already high processing cost of wool in that country.

Notwithstanding the foregoing, even to have a Marketing Commission set up, able to act in the event of a market emergency (for example Japan considering to buy as one national buyer which would greatly reduce the competition in the market) or a currency exchange alteration, does help to give confidence in wool values to the trade—and *confidence* is a word of immense importance in the wool market.

Like other commercial enterprises, an Australian Wool Marketing Commission would improve, widen and diversify its operations as it gained experience and knowledge. It will be the most important event ever to happen in the history of the Wool Industry if we can achieve this active, developing, aggressive marketing organisation for our product. If we had had such a body even 20 years ago, wool would be in an extremely different situation in the world today. Nobody helps you like you help yourself. Nothing will help an industry as much as it can help itself. It is absolutely imperative that we set up a complete marketing organisation able to compete with and match the methods employed by our competitors in all textile fields. Our prospects look gloomy if we don't, but could be really bright if we do.