Report on Nuffield Foundation Travelling Scholarships for Australian Farmers 1972

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NUFFIELD FARMING SCHOLARSHIP REPORT 1972.

H. PERKINS.

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ACKNOWLEDGEMENT.

First of all, I would like to express my sincere appreciation to the Nuffield Foundation for making this trip possible. The opportunity to study the British Agricultural Industry over a period of six months in association with seven other farmers from Australia, New Zealand and Canada is an honour I will long remember.

I would also like to thank -

- Mr Yonge and his staff at Nuffield Lodge for helping me in a number of ways while I was in Britain and with advice before I arrived.

- The Australian Advisory Committee for selecting me and also for their advice on how to plan my trip.

- Mr Bob Martin, my host farmer in England who made me feel very much at home and also gave me much guidance and inspiration.

- Capt.John Stuart of the English Advisory Committee for the time he spent in seeing our trip was trouble free.

- The Milk Marketing Board for the use of one of their cars which added immeasurably to our flexability and to our general effectiveness in being able to make the most of our opportunities to visit farms and research establishments.

- All ADAS officers and N.F.U. executives who it seemed could not do enough for us.

- And finally to everyone connected with agriculture whose unfailing hospitality made the trip a wonderful experience.

OBJECTS OF MY STUDY TRIP

Coming from the wheat and sheep area of Western Australia, I was interested in finding ways in which I could offset the effects of any sharp downturns in world demand in particular commodities. I had the experience,with many other farmers in 1969/70 of having my gross income reduced by two thirds through a number of factors outside my control and I hoped to use this trip to see how I could structure my farming activities to prevent this happening again.

The main points I became interested in while I was in Britain were:-

1. Co-operatives
2. Wool and its future
3. The utilization of grain in livestock feeding
4. Beef from the Dairy Herd
5. Open range pig systems

In addition to the inspiration I was able to get while I was in Britain the scholarship enabled me to make brief visits to Israel, Denmark,Canada and the U.S.A. on my way around the world. I feel that knowledge I gained in these countries was very useful to add to what I picked up in Britain. This was particularly so in the co-operative field.

CO-OPERATIVES.

I found great interest in co-operatives in Britain at the moment and I believe this stems from two reasons -

a) The imminent entry of the U.K. into the E.E.C. in February 1973.

b) The grants system which encourages the formation of groups.

The main concern, as in Australia, is with marketing. This in general is in a poorly organized state because up until now the home market could be supplied directly by many small groups. To my knowledge there is very little U.K. agricultural produce marketed outside the U.K. but under the E.E.C. this could change especially if strong marketing groups move into Britain from Europe.

For this reason there is a great impetus for producers of commodities to amalgamate their marketing structures to strengthen their selling position. I think this is well illustrated by the grain industry which was basically arranged on a single farm basis but is now moving into groups which are in turn coming together. Examples are the East Kent Cereal Growers, Eastern Counties Farmers and Wiltshire Farmers who were all tending to be in competition with one another and who are now trying to amalgamate their selling to provide a united front against any competition.

The lesson that does seem to have been learnt is that each commodity must be treated separately and one does not try to market a conglomerate package, for example grain and fruit through one organization.

Among the most effective groups I saw were some of the livestock groups. They included calf rearing,fat lambs, and pig groups. A pig group would be a definite possibility for my own area.

A typical pig group in the U.K. has from 50 to 100 members and produces about 50,000 pigs annually. The group consists of about 6 stud breeders who have their stock performance tested and the top 25% go to multipliers who in turn sell their gilts to the Breeders. Often one producer may do several stages himself and so you may have breeder-fatteners or a stud breeder may do some of the multiplying.

The basic thought behind such a group is a contract with a particular processor who would stipulate what quality and weight he wants. As the key to the success of the group is maintaining quality through every section, a series of bonus payments is worked out for each stage to encourage each producer to produce the quality product required by the processor.

It is essential for the success of such an enterprise that the objectives be clearly defined before the group commences so that all members clearly understand what is expected of them. It is also fairly important that such groups should be set up on a regiona basis so that there is a common interest and purpose throughout the membership.

I spent some time looking at Anglia Quality Meats,which has joined three other groups to form East Anglia Livestock Development Association. This Association markets a quarter of a million pigs annually. The main problem seemed to be to develop complete trust between each group and all producers. There did seem to be a tendency in tough times to consider one section was doing better than another but I feel this problem can be ironed out if the objectives are clearly stated and understood.

If a group is to develop to its full potential I feel it should control its own processing and marketing as far as possible.

From what I observed I feel this could be achieved by funds being made available by a lending institution such as the Commonwealth Development Bank against a guarantee of production from a group of producers.

Operating funds for a marketing group could be borrowed from an institution such as the C.D.B. against a guarantee of production from the members. Each producer member could guarantee to make a certain volume of production available and also guarantee the group's loan to an amount proportional to his own share of the group's throughput.

Such guarantees of production or declarations are legal in Denmark. The following is an example of part of an agreement which could form the basis of a group in W.A.

"I declare hereby that I am a member of the undermentioned association and that I guarantee for an amount that to any time will be $3 for every kilo of milk delivered from my farm for the last five years.
In connection with this declaration will be a guarantee for my debt so that the co-operative will always be able to use this certificate as a security for credit for the dairy crop."

Translation

The three big advantages I see in this system of establishing a marketing group over any system I have seen attempted in Australia are -

1. The co-operative can start with a much greater amount of initial capital than if it has to rely on subscribed capital from members The amount of capital borrowed will be in direct proportion to the amount of production the co-op will be expected to handle because the initial financing will be based on production guarantees.

2. The operating liquidity of the individual members is not affected to any great extent. With the present method of financing co-ops,or groups, individual farmers are asked to subscribe cash which they probably have not got and so cannot support a proposition no matter how much they like it.

3. Members are vitally interested in seeing that the co-op succeeds for two reasons -

   a) It should give them better returns for their produce if the initial concept was correct.

   b) If it does fail they are up for a lot of money to meet their guarantees.

   This seems to me as though it will make all members much more vitally interested in their group than they are at present when now farmers seem to subscribe to something and do not seem to really know or care what is happening.

   My final comment on this aspect of co-operatives is that if we start at the marketing end we will get purchasing advantages and other group advantages through being members of a strong organization once the group starts to function, but if we try and start from the purchasing end,no one is really sure where the organization is headed.

BUYING GROUPS.

Group trading started in England about 1958. Until this date farming was still under many post war controls and tended to be a "cost plus" industry. Production was the main factor and the industry was rewarded accordingly. By the mid 1950's the cost price squeeze common to agriculture throughout the world started to come into effect and a number of enterprising farmers started to set up purchasing groups.

In setting up a purchasing group three main factors were required of potential members. These were -

1. A member had to be able and willing to pay cash.
2. The member had to be well organized so that he could order well ahead.
3. A person had to be prepared to become a member of a group. Most groups looking for a membership of about thirty.

Approximately 100 such groups were formed in a relatively short time. These had a major effect on the retail trade. The effect they had was to reduce the margins retailers were operating on and so reduce prices.

The next step was the formation of "co-ordinating group traders". One representative from each trading group in an area served by about ten trading groups got together to combine their orders. This led to even stronger purchasing power and so better discounts.

At this stage the National Farmers Union took over the organization in an effort to establish it on a national basis. A.C.T. (Agricultural Central Trading) was formed with professional management as against the previous mainly voluntary efforts by groups of farmers. A.C.T. tended to develop a mail order system which had two major effects.

First of all it tended to by pass the groups which led to the groups involvement at the "grass roots" level being diminished. Where a group could state a position strongly the power of individual farmers was not nearly as great and so A.C.T. management did not get the guidance it would have if it had continued to deal with small farmer groups.

It was also stated by many farmers I sopke with that A.C.T. was not keen to recognise groups because if A.C.T. did not accept a groups suggestions the group may decide to deal elsewhere. In effect, there was a tendency towards "Empire building" which was contrary to the objectives of the ordinary farmer for whose benefit A.C.T. was originally created.

Buying groups have achieved a lot for the farmer and there seems to be no reason why organized purchasing power should not work well anywhere in the world providing the interest of the member is the main concern of the management.

WOOL AND ITS FUTURE.

The opportunity to study the processing and retailing of wool in the U.K. has made me much more confident of the future of the industry than I was previously.

It appears that wool of all descriptions has a definite place in the world textile industry and Australian wool producers should only worry about producing the type that their environment is most suited to.

I was very impressed with the work of the International Wool Secretariat's technical centre at Ilkley. I feel it would be a good thing if more producers had the chance to see what they are achieving there. Much of the credit for the elimination of the New Zealand stock pile of carpet wools could be given to this centre with their technological achievements in carpet manufacture. It is most important that wool should develop new techniques in all fields because this is one of the chief areas of competition with synthetics.

Another major advantage synthetics have over wool is in their chain of supply to the mills. Synthetics can be specified and ordered by telephone from a large stockpile where as wools chain of supply is very uncertain.

It appeared to me that the mills would prefer to deal directly with the Australian Government if they had to do their own buying instead of using the merchants who now control the supply of wool to the mills. For this reason the merchants have a vested interested in maintaining the present situation.

However this can lead to chaotic situations as we have witnessed in the first part of 1973. I was told in Bradford in August 1972 that merchants had contracted to supply more 58's quality wool in the period to December 1972 than the world produced. When the merchant cannot deliver the product there are disastrous and long term effects for the mill concerned.

The most important technical improvement on the way is an improved machine washable product which has just been released in the U.K. This, combined with a wider range of cloth textures,should ensure a place for wool for some considerable time to come.

THE UTILIZATION OF GRAIN FOR LIVESTOCK PRODUCTION.

When I left Australia in February 1972 there appeared to be no end to the Australian grain surplus and so I was interested in any livestock production system using cereals for much of its food.

Three systems with potential I saw being used in the U.K. that were not being widely used in Australia were -

1. Barley Beef - or Beef from the Dairy Herd.
2. Open range pigs.
3. Feed lotting lambs for meat production.

I will deal with these systems as separate sections.

The automation and mechanization of the grain processing also interested me. The extensive use of electricity to automate milking and feeding systems was something I believe we could make much more use of in Australia.

From all I could learn it appeared that the processed grain fed in a pelleted form was the most efficient way to feed. All classes of livestock seem to digest and utilize the pellets more efficiently than feed in the form of a meal. "Wet feed" for pigs and some cattle was almost as good as pellets - possibly better for animal efficiency but harder to handle.
A mix of 3-4 lbs of meal to a gallon of water is easy to pump and animals can utilize the feed very efficiently. Automatic pumping and therefore feeding systems are fairly easy to install. Wet feeding could be the system of the future provided one is feeding enough stock to cover the capital cost of the installation. The Rowett Research Institute,Bucksburn,Aberdeen was doing some interesting work on this method when we left.

BEEF FROM THE DAIRY HERD.

I was most impressed with the use the English make of the dairy herd for beef production. Over 70% of their beef originates from the dairy herd of which 76% is Friesian.

The pure Friesian is very popular for dairy beef production because of its late maturity and fast growth characteristics. The Friesian hereford cross was also popular but because it finished at a lighter weight than the Friesian the net return was generally less. Most dairy farmers mated their heifers to a beef bull and so there was always a fair percentage of these first cross animals in most systems.

There are a number of systems in use for producing beef from the dairy herd. The methods I found most applicable to our situation were

(a) Barley beef
(b) 18 month beef
(c) Bull beef

(a) Barley Beef.
This system uses dairy bred calves which are early weaned,at 5-6 weeks, on to a concentrate containing 17% crude protein. The protein in the diet can be provided by the use of urea. A mineral vitimin supplement must be included in the ration. When the cattle are 6-7 months and weigh 550 lbs the diet can be further cheapened by reducing the crude protein level to 12%. This diet is fed ad lib until slaughter at 800-850 lbs when the cattle are 10-12 months old. Carcase weights should be in the range of 450-520 lbs.

Beyond the slaughter weight of 850-900 lbs, the food conversion rate deteriorates rapidly making it financially unattractive to go past these weights.

It is almost essential to use late maturing breeds - such as the Friesian - because of their lower feed costs per pound of grain. Early maturing beef crosses and all heifers tend to become over fat at light weights and are unsuited to the system.

Bloat is a hazard but the incidence can be minimized, without depressing performance by feeding 2lb.hay per day.

I felt this system could have a lot of merit in a situation where a large cereal producer was connected with a dairy farmer who did not have an alternative outlet for his calves.

18 month Beef.

Any beef breed crossed with a friesian,or pure friesians are suitable for this system. Heifers can be used because of the ease with which they can be finished but they grow more slowly than steers.

Good friesian calves are fairly easy to finish. The poorer calves are better switched over to barley beef.

This system is based on intensive reared calves. They are then turned out on to grass at about 12 weeks to grow with an intensive finishing period prior to marketing. I felt this system could fit into our wheat belt situation very well with the intensive finish being in a feed lot for the late autumn market.

Bull Beef.

A logical step on from the above -18 month beef. Trials have shown that bulls will generally grow about 13% faster than steers and their feed conversion is about 4 to 8% better. Butchers that use bull beef show a preference for it because they get consistently uniform carcases full of lean and saleable meat. Much of northern Europe's beef comes from bulls.

OPEN RANGE PIG SYSTEMS.

I became very interested in the outdoor pig enterprises on the light chalk downs of south England. The fact that the system seemed to be working satisfactorily in that environment made me feel that it would be very successful in our conditions. The fact that the sows could farrow out in the cold wet conditions of an English winter made me believe that with some modifications a similar system should succeed here.

The main advantages I can see in the system are -

(a) Capital outlay is low.

(b) Labour costs are lower than in the indoor herd.

(c) Profitability compared very favourably with the indoor herd.

(d) Strong healthy store pigs are produced for which there is a good demand.

(e) There are no slurry problems.

The main disadvantages of the system seemed to be -

(a) Productivity per pig tends to be low.

(b) It is hard to control large mobs of pigs, and it is hard to identify individual pigs.

(c) If sows do not respect the fences, fencing costs can be high.

(d) Foxes may take young pigs.

I spent some time with a farmer who was running 480 sows with the help of 2 hired men in addition to carrying out a substantial cropping programme.

The 480 sows were divided into 8 herds of 60 sows and each herd was mated three weeks after the previous one. After the main mating period one or two boars were left in the herd to catch any sows that may have failed to conceive initially. When the herd farrowed the sow that was late conceiving was shifted back to the next herd so that all the progeny in each herd were reasonably even and good control was exercised over the enterprise. It was the herd results that mattered rather than the performance of an individual pig.

Some results of a survey by Wye College,Ashford,Kent give an indication of the performance that can be expected from an open range pig system. In the survey of 41 farms using this system, five farms had an average herd size of 548 sows. The sows had 1.85 litters per year and reared 15.40 weaners each per annum. These figures were fairly typical of smaller herds as well, the interesting point being that performance did not drop with increasing sow numbers.
It appears that approximately 10% of the sows will fail to mate under the open range system.

On one farm south of Oxford, I saw a field of approximately 50 acres which had 257 sows from which 2,318 pigs had been marked. The figure at weaning time was expected to drop to around 2000.

From what I saw of these activities I feel that there is a lot of potential for well organized open range pig systems in Australia.

INTENSIVE FEEDING OF LAMBS.

Feed lotting sheep for prime lamb production is also a major enterprise in some parts of the U.K. While I do not believe it has any great commercial application here, I feel the technique of feeding young lambs could have some part to play in unusual situations. Our lamb prices are very low compared to the U.K. and so we must look towards low cost production. The price the English farmer received for his lamb in 1972 was around $28.00 for a 40 lb.lamb.

A ration used in the U.K. for early weaned lambs was -

Rolled barley or oats	50%
Flaked Maize	20%
Molasses	10%
Soya Bean of Fish Meat	17½%
Calcium Carbonate	2½% plus vitamins

Once the lambs are eating this ration it can then be changed to -

Rolled barley	80% - 85%
Soya Bean or Fish Meal	20% - 15%
Calcium and Vitamins E, A & D.	

Calcium is important in the ration for the prevention of urinary calculi. The calcium phosphorous ratio should be as near to 2-1 as possible.

In any lamb fattening project a crude protein level of 12.5% is essential for a satisfactory carcase when fattening store lambs.

The use of a self feeder to which lambs only have access was something I saw on many sheep farms and could be useful in our situation when paddock feed is short. The idea is similar to creep feeding young pigs.

One other recent development in the U.K. which is interesting, but for which I can see no commercial application at present, is the use of Finnish Landrace sheep to boost lambing percentages. The Finnish Landrace is a small sheep but has very high fertility characteristics. In one flock I saw, the ewes were from Dorset Horn ewes mated to the Finnish sheep. The cross bred ewes were born in June 1969 and had lambed in March 1971, October 1971 and April 1972 and so by the time they were 34 months old they had produced on average approximately 8 lambs from three lambings in 13 months. The lambs were weaned at 4 weeks of age. There is a lot of study being done on this breed at present but I feel it is irrelevant to individual producers here until they are starting to average 200% lambing from their present flocks.

SUMMARY.

As a result of what I saw on my trip I am more confident about the future of our industry than I was before I left.

It was a very interesting time to be in the U.K. and see at first hand the preparations they were making for entry into the E.E.C. It gave me an opportunity to see what effects this entry may have on us.

The enlarged common market will be self sufficient to the following levels -

Beef and Veal	90%
Mutton and Lamb	53%
Pig Meat	99%
Poultry Meat	101%
Wheat	84%
Barley	100%
Maize	48%
Dairy Products	100%

Thus mutton and some beef will be the only major products we will be able to export to the E.E.C. Under E.E.C. price levels any exports we do get into the common market will get a premium price.

A fact which must be kept in mind is that there is a lot of "environmental" pressure on farming in Britain and as the urban areas continue to expand I believe the heavily populated countries will turn to countries who can produce food for a reasonable cost. A big asset we have in Australia that we do not appreciate, is lots of space,because land is one of the natural resources of the world that is increasing in value at a remarkable rate. During the six months I was in the U.K. I saw farm land prices double and they have almost doubled again since I left. This gives an indication of the effect of Britain joining the E.E.C. is having on British agriculture.

I felt farm management in Western Australia was probably as good as anywhere I visited. The service offered by the Farm Management Service Laboratory of the University of W.A.,the Farm Management Foundation of W.A. and various consultants was equal to anything I saw.

In Britain much of the farm management services are offered by commercial firms such as I.C.I. They are computerised and provide a great deal of information if used correctly. I felt it is preferable to have management aids separated from commercial firms because one is never sure when it may be used as a selling aid. However, the information from these firms seemed to be very good and they are particularly careful

to see that it is fair and accurate.

In the field of farm management one quote I took down from an Agricultural and Development Advisory Services officer is worth repeating "Improved technology from original capital is preferable to increased capitalization to maintain income." As capital costs for farm machinery and similar items go up, I feel this quote is well worth remembering and will probably lead to the formation of machinery syndicates and similar groupings.

One farming company I studied in England expected a 40% return on working capital because they followed the above principle wherever possible.

The ability of one farmer to manage a unit that may have up to 10 major enterprises by delegating authority was also a lesson I learnt.

In the area of beef production it was interesting to see the part being played by some of the "exotic" European breeds. Two in particular appeared to have something to offer but after that I felt the benefits were doubtful.

The two breeds that were being used to advantage were the Charolais and Simmental and to a lesser extent the Limousin.

The Charolais was being used very successfully over some of the lighter and smaller breeds with excellent results. Live weight gain was being increased by about 10% on many of these breeds. Attention to pre natal feeding was important to avoid calving problems due to the calf being too big and heavy.

The Simmental is a good dual purpose breed and appears to be an excellent animal to mate with the Hereford. The lean carcase and milking characteristics could play an important part in improving some Hereford strains.

The Limousin could be a useful animal as a terminal sire for commercial producers. It stands the cold well and has an excellent lean meat carcase with light bone.

There were also some useful English breeds I had not known much about before I landed in the U.K. The Red Breeds,Lincoln Red,Sussex and Devon all had good characteristics and could be used to advantage over some Shorthorn herds. The South Devon was also a breed that had excellent live weight gains and grew into a large animal. Figures for the South Devon were not far behind the Charolais.

My overall impression was that many of the A.I. stations in the U.K. were doing extremely well out of Australian breeders who were only interested in making a fast dollar and had not really looked at what they were trying to achieve for the Australian Beef Industry.

In a report of this nature,it is not feasable to try and cover all points I saw in my travels. Rather,I have tried to pick out some of the more important systems I saw,that we are not utilizing in Western Australia to any great extent,and have tried to offer some suggestions as to how I think some people could develop them.

My chief impression is that if we can keep our cost of production in Australia low by using our resources well and also carry out a vigorous marketing policy, the future for Australian agriculture should be good.

I will be very happy to give anybody who wants more information any help I can. I would strongly urge any person who has the opportunity to travel to do so because I think the more we see,the better farmers we will be.

Mine was a wonderful experience in learning and friendship and to all those who made it possible I shall always be very grateful.

Harry Perkins.
June 1973.

FOOTNOTE:

One of the ways of measuring the success of any study tour is to look at the actions that have since taken place that are a direct result of the tour.

Since returning from my trip I have:-

- purchased a wheatbelt farm of 4340 acres (December 1972)
- been a member of a 3 man working committee to look at reorganization of the W.A. Farmers Union (February 1973)
- commenced an open range pig system based on observations of systems south of Oxford. The nucleus herd of 50 sows is expected to increase to 200 next year (January 1973)
- commenced a Bull Beef enterprise (February 1973)
- in the process of establishing a company in conjunction with two other Australians and an English company to manage and operate Australian farms (Current)

APPENDIX

LIST OF AGRICULTURAL ORGANIZATIONS VISITED

National Agricultural Centre, Kenilworth, Warks.

A.D.A.S. Farm Management Section,Coley Park,Reading.

University of Reading,Farm Management Section.

International Wool Secretariat Headquarters,London.

I.W.S. Technical Development Centre,Ilkley, Yorks.

Meat and Livestock Commission,Bletchley,Bucks.

M.L.C. Pig A.ICentre,Thorpe Willoughby,Yorks.

Central Council for Agricultural and Horticultural Co-operatives Hancock House, 87 Vincent Square, London.

I.C.I. Research Station,Jealotts Hill,Bracknell,Berks.

I.C.I. Bilingham & Wilton Demonstration Farm.

National Farmers Union Headquarters,London.

North of Scotland College of Agriculture,581 Kings St,Aberdeen.

Rowett Research Institute,Bucksburn,Aberdeen, Scotland.

East of Scotland College of Agriculture,Edinburgh.

Grasslands Research Institute,Hurley,Maidenhead,Bucks.

National Institute of Agricultural Engineering,Silsoe,Bedford.

National Livestock Mechanization Specialist,Coley Park,Reading,Berks

National Institute for Research into Dairying,Shinfield,Reading.

Pig Improvement Company,Fyfield Wick,Berks.

Velcourt Ltd, Ledburg,Herefordshire.

National Institute for Agricultural Botany, Cambridge.

Cambridge Agricultural Research Institute.

Drayton Experimental Husbandry Farm,Stratford on Avon, Warks.

High Mowthorpe Experimental Husbandry Farm,Duggleby,Malton,Yorks.