AUSTRALIAN NUFFIELD FARMING SCHOLARSHIP

REPORT

OF VISIT TO THE

UNITED KINGDOM

BY

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INTRODUCTION

For the past eleven years I have been involved in agricultural management. This has included an extensive programme of breeding and fattening livestock, the clearing and development of virgin scrub land, pasture production, irrigation and staff training from jackeroo level through to management level.

For me, the Nuffield Farming Scholarship provided an opportunity to gain the experience and knowledge of others in the field of agriculture.

This report consists of:

1. Agricultural Management in Britain

2. Investment in Agriculture

3. Trends in Labour Utilisation and Training

4. Objective Selection in Beef Cattle in France, Germany and Britain.

It is obvious that the depth of study in such a wide field cannot be very great, but I would hope to give some conclusions that may be of interest to people involved in agriculture in Australia.

I have outlined the salient points, under the headings listed above, and have summarised each section separately.

AGRICULTURAL MANAGEMENT IN BRITAIN

Although Britain is a densely populated country relying on imports for nearly half of its food supply, agriculture remains one of the most important industries.

In the last two decades agricultural management has been through two phases of change and is now embarking on a third.

FARM BUILD UP: was the first phase in the 1950's. A general increase in the size of farm and rationalization of prosperities took place. The poorer and smaller farms were sold up and people moved to the city.

ENTERPRISE CHANGE: was the second phase. A simplification of enterprises and changes to more specialisation from the conglomerate of more traditional management technique. Entry into the Common Market also pressured the need for change in enterprise emphasis.

FINE TUNING: is the third phase now being entered into. There is greater awareness for the need of a higher degree of specialisation; to keep a constant check on levels of inputs and outputs; to keep a constant check on inter community prices and become more aware of the world scene.

It is this "fine tuning" that has put management pressure on the farm business resources.

Land

Land is under a great deal of pressure. Values are unrelated to agricultural production and, as such, percentage yields on capital are very poor in some cases. Average net income for different types of full time farms ranged from £30 per ha. on hilly, upland sheep farms with large areas of rough grazing to £170 per ha. on specialist dairy farms, excluding pig and poultry farms.

About 65% of the farms are wholly or mainly owner occupied, the balance being tenanted. Death duties have been a major factor in the breaking up of estates. Those surviving are mostly owned by private individuals or family trusts. However, corporate financial institutions are becoming more prominent as large landholders.

Labour

While unemployment is high, skilled farm labour is scarce. Part-time unskilled labour is plentiful. In recent years farm workers' earnings have improved considerably in real terms, but this has been offset by manpower economies made possible by increasing mechanisation and larger farms. Labour productivity has risen on average by 3.5% per annum between 1969-1979.

Legislation during recent years affecting the employment of agricultural workers has done little more than anticipate good labour management.

The most significant change is that an employee cannot be dismissed because his attitude is unhelpful or because he does not fit in with the other workers. Moreover, even if the employment of the worker ends, he has the right to remain in the tied house until a suitable alternative residence is found.

This legislation on employment draws attention to the need for improved selection and recruitment techniques. It also represents extra administrative work. The use of contract and part-time labour is therefore becoming more widely spread.

Capital

The capital required for land and buildings may be provided by the farmer if he is the owner-occupier, or by the landlord, if the farm is let to a tenant. Most of the capital for investment is generated from within the farm business. Banks are the main source of short and medium term credit; much short term credit is also provided by agricultural merchants. Mortgage loans form the chief source of long-term credit and are provided by specialised financial institutions, such as, the Agricultural Mortgage Corporation Ltd. and private sources.

Marketing

Marketing and promotion of agricultural products are receiving more attention from producers keen to improve their returns and their image within the community. Products are marketed through private trade channels, producer co-operatives and marketing boards.

It is felt by some producers that farmers should have an operative roll in the market place, in both buying and selling. Hence some co-operatives become not only concerned with marketing, but also with production, services and the supply of farmer requirements.

Marketing boards are essentially producer organisations with statutory powers to regulate the marketing of particular products.

On the individual level it is not uncommon to see a producer market his produce by a wide range of alternatives: through co-operatives; individual farm shop; pick your own; direct to wholesalers; direct to retailers; livestock direct by weight and grade through the meatworks or through the open auction system, and through marketing boards. This is coupled with individual promotion by making use of attractive surroundings with farm walks and tours. A full explanation to customers of what they are doing and when various products are likely to be available is given.

It is important that producers keep a constant eye on the marketing scene within the community and make optimum use of price fluctuations. It is necessary that they consider themselves as part of a united Europe rather than the parochial feeling that exists in some areas.

Management

Management decision making and analysis is generally carried out by a review of past performances. Production statistics, budget control and cash flow analysis are monitored regularly (in most cases, monthly), and collated with market intelligence and research to be able to make better calculated business decisions.

In some cases more senior farm staff aided the budgetary tasks of target setting and goals to be achieved - a commonsense approach to good labour management.

Computers are used in few cases, but it is felt that they are only economically justified in about 5% of cases at present. Many of the larger and more complex producers (who did not own a computer at present) felt that there would be a place for them in the future. They felt that currently the programmes were not intergrated enough to give them a useful feedback of information, and that alternative services were serving them well at present. Computers will be more widely used in the future and will help aid management decisions in this fine tuning stage.

Conclusion

Management principles of the farm resources in Britain are similar to our own.

The land prices in Britain are getting too high to sustain viable agricultural production. I would question the high level of capital involved in machinery on the majority of farms. With the cost price squeeze, the regular annual changeover price of machinery, together with rising interest rates, must be a doubtful practice.

The most profitable farms I visited had backed off from the high levels of production, rationalising their resources of capital in plant and labour. With reduced overheads, a commonsense approach to labour, and the utilisation of contract and casual staff during peak periods, profitability was increased.

Commodity prices set by the European Communities Common Agricultural Policy certainly underpins the market. It aids the budgetting process for the individual, but it is an unreasonable trading practice when surpluses are dumped on third world markets at below the cost of production. The Community is paying the support prices and hence they have the most expensive food production system in the world.

INVESTMENT IN AGRICULTURE

The pattern of rural land ownership is changing. Farmers are people whose occupation is a way of life that has existed in more or less the same form for centuries. They view change with suspicion and fear, often through ignorance or protection of their way of life. Institutional ownership of rural land, the city moving to the country, has received this reception.

Who is investing in rural land?

1. Near neighbouring farmers accounted for 60% of all vacant possession farms sold between 1977 and 1979 according to Strutt & Parker (Land Agents).

2. Institutions (Insurance Companies, Assurance Companies, Unit Trusts and Pension Funds) purchased about 15% of similar land during the same period.

3. Individuals and syndicates wanting a sound long term capital investment.

4. Hobby farmers.

Motivation and Expectations

For neighbouring farmers and persons already engaged in agricultural activities expansion of enterprises in an endeavour to lower overhead and running costs per unit area and increase returns is an incentive.

Institutions see rural land as a way of protection against inflation. In general it is a more business defined approach. They are looking for a 4-6% yield plus a long term capital growth. Yield growth is also an important factor.

Land price movements over the decade 1965-1975 have been an average of 11% per annum. In the period 1972-1975 it was as high as 27%.

Combining yield with capital growth it is clear to see why institutions find land an attractive investment.

In general, institutions are only buying Grade I or II land in the better favoured areas.

Investment into agricultural land is considered by all financial institutions as a long term investment. The amount of investment in land forms only a tiny portion of total investments. As there is only a small amount of land changing hands annually, there is very little scope to enlarge on this.

Financial institutions concerned fall into three main categories:

1. Insurance companies investing life assurance premiums.

2. Pension funds of individual companies and nationalised industries.

3. Property unit trusts which are designed to provide the public, pension funds and charities with opportunities to invest in land.

Of all the city institutions in the U.K. the pension funds are the most powerful. It is estimated that they own 60% of all equities quoted on the Stock Exchange. Income from pension funds in 1979 was £8,000 million. By 1985, based on the present rate of policies being taken out and the number of pension funds increasing, this annual income is expected to be £24,000 million.

Of this vast amount, only between 0.5% and 2.0% is spent on agriculture annually. Of that figure about 30-40% is spent overseas.

Individuals and syndicates view investment in agriculture in a similar manner to institutions.

Management Options

Self management.

Some individuals and syndicates are turning to consultants who are providing a highly specialised Farm Management Service. Such services encompass the management of physical and financial aspects of farm resources. Preparation of annual budgets and cash flow statements are monitored by a computer-based financial recording system. On all this is superimposed a pattern of consultancy visits (varying from 4-50 per annum) to provide

advice. This is rounded off by annual reports, identifying plan and actual results and comments.

Almost all the land owned by institutions is freehold, only a few hundred hectares are leased.

In general the management can be divided into five options.

a. It could buy a farm with vacant possession and farm it itself by installing a manager.

b. It could let the farm in the conventional way.

c. It could buy land with vacant possession and enter into a partnership, with the partners supplying the stock and plant and managing the enterprise.

d. If it bought owner occupied land it could lease it back to the farmer (sho is often prepared to pay a higher rent and has moved his fixed capital to working capital and is likely to improve his own yield - 12% plus, compared with 1.5% land assets).

e. It could buy a farm with vacant possession and go into partnership with a young farmer allowing him to pay the equity yearly until he finally buys the farm.

Partnerships are becoming more popular where the institution owns the farm and the tenant farmer manages the farm and provides the working capital.

<u>The Role of Financial Institutions in Agricultural Investments</u>

Institutions, notably the insurance companies and pension funds, only own a small percentage of the total acreage at present, but seem set to increase this amount. They are buying only the better class of land and are insisting on efficiency through charging high rents.

They consider farming as forming part of their long term portfolio of assets. They have shown to be willing to invest further for improvements, where it will increase the rental value of the land.

Their methods of farming, in many cases, are increasing the chances of young agriculturalists to enter into farming through being a manager or partner. Since legislation allowed security of tenure, let farms are regarded with disfavour. In many cases they are being taken in-hand, whenever possible, and a manager installed.

Tenant farm companies, like Velcourt Farm Managers Ltd., which have sprung up over the past few year, offer the landlord an alternative to letting the land for an almost compulsory two generations.

Institutions are slowly taking the place of the private landlord. They maintain the separation of ownership from farming. The institutions are not affected by the taxes crippling the private landlord as they do not pay them. Their taxation burden can be spread across their total assets. Thus it is unlikely that farming will be disrupted through selling the farms to pay for taxation.

Like private landlords, there are both good and bad institutions, and in the same way the good ones outweigh the bad ones.

Conclusion

Institutions are bound to make more in-roads into investment in agriculture in Britain. With such vast sums at their disposal and land at a premium, it is not unreasonable for them to consider Australia even more than they do at present. Currently exchange rates and distance make investment expensive and difficult to manage. However, we are a young small country in people terms with a large land mass requiring outside capital to enable us to develop our resources.

TRENDS IN LABOUR UTILIZATION AND TRAINING

Farmers are having to manage a wide range of changes brought about by political, social and economic forces and the need to adopt new technology. One significant result is a smaller, more specialist work force which is demanding a higher level of supervisory and managerial skill, coupled with the need to exploit opportunities offered by outside services and for sharing resources among farms in order to maintain flexibility, improve husbandry standards and reduce costs.

The trends in structural changes of farm businesses affecting the distribution of agricultural labour are the decline in the number of holdings, the increase in the number of large holdings and the concentration of livestock production into larger enterprises. It seems likely that these trends will continue.

Mechanisation has improved husbandry standards, but its most significant effect has been to reduce the labour force. However, there are some arguments put forward in favour of the work force stabilizing. These are:

1. Enterprise employment levels have been reached where further reduction would affect good husbandry and make it difficult to complete even routine tasks. Increasing specialisation of workers could reduce flexibility. Some farmers are encouraging staff to learn a second skill.

2. Machinery costs have risen dramatically and the price for new equipment has reached a level where further substitution for labour is becoming uneconomic.

3. Farming now offers pay and conditions comparable with other industries.

4. An increasing proportion of workers' wives have off-farm jobs and are no longer available as a source of casual labour.

Recent technical advances are leading to improvement in

labour productivity through better livestock and crop yields, rather than by saving labour. Some technology requires a higher labour input. If better returns to labour are to be obtained in this way, then a higher calibre of worker will be required.

Legislation has anticipated good labour management. Eight Acts of Parliament passed in recent years have highlighted the need for improved selection and recruitment techniques.

The Acts are:

Contracts of Employment
Redundancy Payments
Equal Pay
Trade Union and Labour Relations
Health and Safety at Work
Employment Protection
Sex Discrimination
Agricultural Rent (Tied cottages)

The most significant change is that an employee cannot be dismissed because his attitude is unhelpful or he does not fit in with other workers. Also if his employment is terminated he has the right to remain in a tied house until suitable alternative accommodation is found.

Co-operation and sharing of machinery is becoming more popular, particularly among smaller farmers. The loss of flexibility, resulting from decline in the farm work force, should encourage more farmers to share an extra worker who might be a specialist or an all-rounder. An example is a travelling farm secretary.

Contractors are being increasingly used to provide machinery, know-how and operators at peak labour requirement times.

Technical services are being provided by a growing number of ancillary trades and professions. For example, the Milk Marketing Board provides enterprise costings, artificial inseminations, pregnancy diagnosis, etc. Such services enable new technology to be readily taken up.

Rewards

In general basic rates for farm workers are now more in line with other industries, as previously stated. Bonus and incentive schemes are common and numerous. Some are related to over target production, others to percentage of net operating profit. In general, the non-monetary incentives appear to be more appropriate for motivation and improved performance than financial schemes. If farm workers are to be rewarded through increased performance, then increases in flat rates would seem to be more appropriate.

Training

Training in agriculture is very well catered for and organised in Britain. Universities and Agricultural Colleges generally cater for the technical training for degrees and Diplomas in Agriculture.

Local authorities play a large role in providing Agricultural Colleges which have full time, block-release, day-release and other part time courses available to farmers and farm workers.

The Agricultural Training Board provides a training advisory services and organises training courses in agriculture and horticulture.

The apprenticeship scheme for agriculture is the usual route to craftsman status. It is organised and run in conjunction with the A.T.B. and the N.F.U. The apprenticeship lasts for three years, during which the apprentice receives training and supervised practices in a selected category of work, attends classes of associated further education, and is tested for his proficiency in skills.

Craftsman status is important as it determines rates of pay. Qualified craftsmen receive a wage premium. During 1979-1980, 21,150 candidates participated in National Proficiency tests for various sections of the craftsman certificate.

Farm worker training is on the increase. It is extremely well organised and intergrated system.

Conclusion

Trends in the labour force are not dissimilar in Australia, however, the historical events and legislation vary. Reward systems are similar.

While there are still large reductions in the farm labour force, there continues to be a steady rise in the demand for all aspects of farm training. Employers are demanding an increase in skilled workforce. There is also a growing awareness of the importance of greater efficiency at supervisory and management levels.

OBJECTIVE SELECTION IN BEEF CATTLE IN FRANCE, GERMANY AND BRITAIN

France

French agriculture has often been criticized as being old fashioned and inefficient. It is true that in some instances time has passed some things by, but in terms of crop production and cattle husbandry, the French can be justly proud.

Environmental and soil conditions vary enormously through the length and breadth of the country.

With easily the greatest cattle population in Western Europe, France, unlike other countries, has 25% of its 10 million cow herd as beef suckler cows.

The most popular pure breeds of beef cattle are Simmental, Charolais and Limousin.

The most popular sire for crossbreeding is the Charolais.

A very high proportion of the A.I. bulls of the French Fréesian breed are both reared under performance test conditions and progeny tested for beef, as well as dairy characteristics.

Genetic improvement programmes are carried out by Co-operatives which are controlled by two central government bodies. They administer, support and control policy on breed and group developments. This is usually in conjunction with local departments, but emphasis is given to the traditional specialities and needs of the area.

Apart from initial performance recording, all bulls to be used for A.I. are progeny tested. The basic progeny test for all breeds is similar.

The main criterion for every A.I. bull is:

1. Calving difficulties - most cows calve at 3 years and are very seasonal in calving pattern (80% plus are dropped in 3 spring months). As cows are

reared naturally(i.e. not overfat), this is not the problem it has been to breeders elsewhere. The French have little objection to Caesarean operations when necessary.

2. Growth to 90 days - this gives a good indication of thriftiness and calf adaptability to suckling. It is claimed that growth to 200 days or more can be influenced more by quality and quantity of concentrates fed.

3. Conformation Score at Slaughter - this is usually given by an assessment of the 10-11th rib. The use of a standardised grading system with appropriate +'s and -'s gives a system which leads to comparative analysis.

4. Combination of Growth and Conformation Characters.

There are a very high proportion of the suckled cows in France pure bred, and surprisingly few cases of herds which are crossbred. Due to this background, it is desired to do further progeny tests on maternal characters. The three main breeds participating in this area are Limousin, Charolais and Blond D'Aquitaine.

Annually about 10 bulls from each breed are tested.

Twenty daughters are taken from the 10 bulls and reared at a central station. Details measured include :

1. Age and weight at maturity (first oestrus).
2. Age at breeding) Mating is always to bulls of
3. Length of gestation) known genetic worth so that
4. Weight of calf) other variables are minimised.
5. Ease of calving - very easy to do a caesarean.
6. Calf mortality - a. birth; b. up to 24 hrs; c. - 48 hrs.
7. Dams milk productivity
8. Weights of calves at 90 to 120 days.

From this information, bulls are then given a characteristics index for the breeding quality of their daughters.

Characters include:

1. Fertility
2. Numerical Productivity
3. Mortality
4. Milk Production
5. Calf Growth
6. Ease of Breeding
7. Progeny growth to 18 months
8. Conformation of Progeny
9. Development of Progeny

The work I saw being carried out was very detailed and impressive and gearted to their market requirement.

Germany

In Bavaria the aim of the breeding programme is to improve the genetic productive capacity to ensure economic success of cattle husbandry.

The sponsors of the programme are breed societies, the A.I. centres and the state administration for animal breeding.

To supervise and execute the breeding programme and carry out the necessary measures, the breed societies and A.I. centres have formed regional societies.

The breeding programme is divided into the following stages:

1. Performance testing - this includes both milk recording and milkability tests, as well as meat performance testing.

2. Estimation of Breeding Value - progeny testing of bulls for fattening performance and carcase quality and evaluation of young cows, (i.e. ease of calving, milkability, etc.)

3. Selection - after an appraisal of the test results of male and female progeny as to performance in calving, milk and milk yield, milkability and external assessment, the above average bulls are selected.

4. Planned Matings - 5-10% of the best are used as sires for planned matings.

5. Rearing of potential breeding animals - bull calves from planned matings are raised in performance testing stations or in an on-farm situation. Females are raised and recorded on farm.

A.I. plays a very large role in the Bavarian cattle breeding programme. 87.5% of the cattle farms, which hold 82.5% of cows, carry out A.I. In 1979, the number of first inseminations was 2.3 million.

The Germans are very proud and dedicated people. The breeding programme is well thought out and executed.

Britain

Beef production in the U.K. is based on the dairy industry. Approximately 70% of all the beef produced is derived from dairy breeds. Home beef production accounts for approximately 80% of consumption.

The United Kingdom has about 1 million suckler cows. Generally speaking, the suckler cow is a cross between a beef breed (Hereford, Angus, Galloway) and the Friesian. The hybrid cow has the advantages of availability, fertility and constitution.

Usually pure bred sires of the beef breeds are used as terminal sires. Hereford would be the most dominant, with Charolais, Angus and Simmental.

A.I. is widely used by dairy farmers. Use in suckler herds is relatively low, but on the increase with the advent of Prostaglandins and other drugs to control ovulation.

The economically important beef production systems involve slaughtering cattle between 15-24 months. Calves are generally reared in the Upland areas and fattened in the Lowland areas.

Because of the high level of cross breeding to beef bulls, improvement programmes concentrate on improving the beef crossing breeds, rather than the beef potential of the of the Friesian.

Several organisations are actively involved in livestock improvement:

The Meat and Livestock Commission - set up by the Government and paid for by an industry levey. Among some of its functions it provides a range of performance recording and testing services to breeders.

The A.I. organisations - play a vital role in exploration of proven bulls and participate in progeny testing for ease of calving and growth performance.

The breed societies - through normal registrations. Some societies operate type classification schemes which describe the conformation of breeding stock.

The basic service is:

1. On-farm weight recording - a bull's individual performance is compared with the rolling breed average for that trait.

2. Central Performance Testing - superior animals are compared for growth, feed conversion efficiency, skeletal size and backfat thickness.

3. Progeny testing of top performance tested animals - a great proportion of this is carried out by the Milk Marketing Board. Records are kept on ease of calving, daughter's production, and carcase evaluation of males. the M.L.C. has a programme called the Young Bull proving scheme which is run in conjunction with breed societies for the same purpose.

4. Evaluation of Breeds and Crosses - this is carried out by the M.L.C. to evaluate performance so that their abilities are used to the best advantage.

To my mind the expertise and technological skills within the M.L.C. and A.I. organisations in the field of genetic improvement are frustrated by herd size and lack of co-operation of breed societies and, hence, breeders.

Conclusion

Over the years the breed societies have done a remarkable job in breed promotion with the slender financial resources available. However, the impetus given by breed societies in genetic improvement is not so great. While some societies have developed a progressive approach and an acceptance of modern ideas, in many it is not evident.

A similar attitude of mind exists within Australia and is in sharp contrast to several countries in Europe. In many cases in Europe an open herd book is allowed and cattle of proven productive performance and basic breed type are given full pedigree status. Sustained performance, acceptable type and commercial profitability are the yardsticks and criteria to which Europeans have given their emphasis.

In general, the beef production of France, Germany and Britain have evolved through traditional and economic requirements. Hence the slight variations in the attitudes have produced different basic production systems.

AUSTRALIAN NUFFIELD FARMING SCHOLARS ASSOCIATION

PLEASE COMPLETE AND RETURN NO LATER THAN MONDAY, 8 APRIL, 1996

Surname: McMICHAEL.

Initials: I. V.

Name by which you are usually known: IAN.

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Address: (if possible not more than four lines including postcode)

"MORVEN HOMESTEAD"

MORVEN

N.S.W.

Post code 2660

Telephone/Facsimile numbers you are happy to publish in the Directory:

Business: (060) 362688

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Car: (018) 578043

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Fax: (060) 365245

Subject of your study: INTENSIVE ENTERPRISE MANAGEMENT, AGRICULTURAL EDUCATION, – SELECTION FOR PRODUCTION CHARACTICS IN BEEF CATTLE

Countries visited: EUROPE, U.K.

Current business or employment: (not more than 30 words) M.D of RURAL MANAGEMENT CONSULTANCY FIRM. – LITCHFIELD McMICHAEL. SPECIALISING IN RURAL INVESTMENT & MANAGEMENT PLUS GENERAL CONSULTANCY WORK.

Off farm involvement in the industry and community: (not more than 30 words)

COUNCIL MEMBER MARCUS OLDHAM AGRICULTURAL COLLEGE.

27 MAR 1996

AUSTRALIAN NUFFIELD FARMING SCHOLARS DIRECTORY

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(** Please place an * next to the numbers you do not want published in the Directory.)**

Subject of your study: Intensive enterprise management — Ag. education and training — Selection for production characteristics in beef cattle.

Countries visited: U.K. + Europe.

Current business or employment: Rural management and consultancy firm — Wool producer.

Off farm involvement in the industry and community:

Council Member Marcus Oldham Ag. College.

(For your information attached is a copy of what is currently recorded for the Directory)

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