

## Marketing for the 90's:

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### Introduction

It is nearly forty-five years since AI was first introduced into Australia (*History of Artificial Breeding in Australia, Brian Mayne, HFAA, 75 years 1998/89 Year Book*). I believe that we are on the threshold of change that will be as equally significant in the dairy industry.

Embryo transfer and in particular embryo transfer with sexing and cloning which has been obtained from ova collected through follicle aspiration and 'test tube' fertilisation, will allow Australian farmers to select genetics of superior production and type at unheard of commercially viable prices. All this new technology has been proven in the laboratory and in some field trials. Future gains will be made with DNA manipulation. (This today, seems to be sometime off)

Today's technology allows us to 'collect' through follicle aspiration, ova from very young female calves, pregnant females of any age and older females – non breeders, as long as they have active ovaries. This technology using ultra sound is non surgical and can be repeated time and again. The ova will be fertilised in the 'test tube' perhaps using 'sexed semen' (semen is being sexed in California using a laser as a drafting gate but it is not commercially viable yet), or the embryo can be sexed.

When the embryo is 5 days old (34 cells) it can be split into 34 single celled embryos (using nuclear fusion) which are place in a zona or an unfertilised ova, and incubated for 5 days. In theory we have 34 x 34 celled embryos. This procedure can then be repeated. After 5 days we have 1150 single celled embryos. Repeat the procedure and we have 40,000 embryos. I have seen third generation cloned calves on the ground in Texas. This is practical.

Just imagine in under three weeks each embryo has the potential, has been sexed and then can be multiplied in the laboratory to 40,000 embryos. This will allow embryos to become competitive and more valuable than semen. I am told that a procedure has been trialled successfully to allow AI competent technicians to transfer embryos.

This is not 'pie in the sky' – the technology is available. The very near future is here.

Whilst this report is written in relation to dairy farmers the same can be said for beef producers. What if, a commercial beef producer owned a herd of 'old dairy crocks', and transplants quality male embryos to produce cattle for today's markets? He can even hedge his bets. Some bred for marbling, some for leanness, some for their white veal, and some for their choice cuts. He isn't locked into one breed. He can change every year depending on whatever market dictates or requires.

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## **Dairy farmers will fit into three categories:**

1. Some will be in business to breed the seed stock, the donors (male and female).
2. Some will breed their own donors and transplant their own embryos into the bottom of their own herd.
3. The balance will use their own herd as high milk producing recipients.

Really not a lot of difference from what we have today. It will be this third group that will use the large majority of embryos, selecting enough dairy embryos for their own replacements and using beef embryos to impregnate the rest of their herd.

It is now that we must prepare for the future. This is the future. The future has arrived. What marketing edge can we have? We must show leadership, be progressive and innovative. Information must now be collected for the edge needed in the next year's market. As the largest market will be the third group, or the commercial man, we should be trying to out think him so that we have the answers when he asks the question, 'What will be the profitability of these genetics over the competitors?'

## **We will need the following information from two areas:**

1. Profitability of the past history. This includes, age at first calving, and consistency of repeat calving. Milking ability, including all components. The in built heritability of all traits either in top or bottom line of the pedigree. Feed efficiency (data is already being collected in the MOET programme in the UK). Of course type and longevity. The secondary traits rise in importance – ease of calving, temperament, milking seed, mastitis, milk fever and acideneomia. Farmers put up with one or two slow milkers but won't put with 20 or 30 full sisters the same. Conception and veterinary costs will need to be monitored. We will quickly have the information to breed the trouble free profitable cow. We must source it and use it.
2. The second area that we can help develop the profitable cow is to have her calving younger. Calving as senior yearlings. These heifers should also be the source of our future bull proving schemes. Much more data needs to go into a bull's index. We will have fewer cows to work with in order to obtain a proof. The UK MOET scheme using sibling females is probably the answer.

Whilst we use past history now as a source of information, we need to set up an index 'as a guide for the future'.

The current system was in place 20 years ago there isn't much else that we do today that was still the same 20 years ago. There is one thing – I might be old fashioned but I still like to be innovative.

The Stock Exchange has a Futures Market where you invest or cover yourself for the future. Breeding is expensive. Just not the semen and embryo price. Cost out how much expense it is to get an animal to start producing milk or to the point of 'a return on investment'. What if you make the wrong choice? Let's develop a reliable 'Future Profitability Index'.

There is going to be strong competition from other centres and privately owned donors. In this new market nothing is going to be much different from what we have now. Those with the right product, at the right price, with reliable and trustworthy marketing, and efficient distribution and back up service will continue to have the largest market share. I intend to stay a part of the future.

ARTICLE: DAVID BLACKMORE