

RECORDING IN BEEF CATTLE IMPROVEMENT

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The first objective of this paper is to contribute to the formation of an agenda for the working sessions to follow and therefore in the form in which it is circulated prior to the Conference, it is incomplete.

The task of completing the agenda will require active participation by delegates during presentation. Delegates who, hopefully, have done their homework thoroughly before going to Armidale.

Recording can be conveniently examined under three broad headings.

1. Recording and Record Keeping by the Producer.
2. Record Processing.
3. Record Interpretation.

My second objective is to stimulate thought concerning the first heading. As a producer I have some experience in this area and there are others present who are more competent to deal with the other two.

I would however recommend to delegates that they study the booklet issued in April by the Australian Meat and Livestock Corporation entitled "The National Beef Recording Scheme - Its Development, Current Status and Proposals for Action." which is included in the pre-conference posting.

An appreciation of the matters covered in this booklet will provide an invaluable background to the whole range of subjects discussed at the Conference concerning the breeding of beef cattle.

RECORDING AND RECORD KEEPING BY THE PRODUCER

I am very much aware that producers deal with the problems associated with this subject in isolation. Occasions such as this Conference for collective consideration and the sharing of ideas are rare. Moreover producers are under constant economic pressure to improve efficiency. The practical application of genetics and technology to breeding programs is essential to the effort of keeping ahead on this treadmill.

As with most matters rural there is a conflict between the inclination to formulate logical systems or blue prints for management of breeding enterprises on the one hand and the unique requirements and limitations that apply to the individual case on the other.

Our job is to find common ground for all producers; most producers; significantly large sections of producers or determine useful guidelines. We must be aware that the situation is always fluid and therefore in need of regular review. Meeting this need is a major aspiration of AAABG.

To aid examination of recording by the producer in detail I propose to outline the system that I have developed over the years and if at times it appears to have grown like Topsy let me assure you that is exactly how it happened.

The value of it will be that anything that our collective effort can subsequently devise will appear so superior that we will all experience a great sense of achievement.

At the Conference I propose to illustrate on the over-head projector examples of the various devices used for recording mentioned in the text such as index cards, paddock books, field sheets etc.

ANIMAL IDENTIFICATION

This subject is covered elsewhere but I would like to make two points. Firstly that it is essential to use ear tags and the identification as shown on the ear tag must be used unchanged in all reference to the animal concerned.

A stud animal may have in addition a name, a herd book number, a registered tattoo and/or a firebrand but for the purpose of recording, processing and interpretation the tag number must have priority.

In my own case the tattoo and tag number are the same and for stud animals the firebrand also.

Secondly I believe that it is important to have the information about the group of animals you wish to deal with listed in numerical order of tag number.

I do not therefore approve of the method used by N.B.R.S. in their reports which list animals in order of performance ranking. It is true that these reports also provide a cross reference arrangement but to me this merely solves a problem that need not be there in the first place.

To discuss this point further requires delving into the realms of record interpretation and application and therefore is also beyond the scope of this paper.

CALF RECORDING

I use a small self piercing ear tag which is in two parts and inserted with special pliers in one operation. It only requires the use of one hand leaving the other free to hold the calf, the horse and if necessary fend off the mother.

This calving tag is for short term identification and a larger permanent tag replaces it at about three months after calving when the calves are branded and tattooed with their permanent identification.

The number printed on the calving tag is immaterial but the permanent tag is numbered in numerical order of date of birth from the first calf born during the calendar year to the last.

The reasons for this double tagging are as follows:

- a) Calving takes place in about eight paddocks with supervision divided between three people. To use a permanent tagging system at this stage and attempt to have all calves tagged in order of date of birth would be complicated and vulnerable to error.
- b) Large tags tend to wear over large holes in the ears of new born calves. This is often accentuated by the cleaning activities of over zealous mothers.
- c) There is an opportunity to check recording details, eliminate obvious culls etc. before permanent identification takes place.
- d) The calving tag can also identify the paddock to which the calf belongs making it easier to find calves which stray from their mothers.
- e) In some instances where the person supervising cannot find the new born calf for some days because the mother has hidden it, cannot catch the calf or the mother is too belligerent it is not necessary to use a calving tag at all. The few cows and calves concerned can be mothered later or in the yards at branding time, permanently tagged and the calving record brought up to date.

I use the N.B.R.S. designed calving books and each person supervising is issued with a book in which is listed, within paddock groups, all the cows in numerical order that are under his supervision for the duration of calving.

This system helps to avoid errors such as misreading tag numbers; to confirm identification when tags are lost, difficult to read or to draft stock when mobs become boxed.

The cows are usually paddocked for calving in groups co-inciding with their next mating so that when bulls are joined each herd has established a social order and behaves as a co-hesive unit. This practice also avoids an extra handling between calving and branding.

The joining period is nine weeks, and most calves are born in the first six weeks of calving. Supervision is on a daily basis during the early period but only three times weekly towards the end.

A central calving record is maintained in which the details from all calving books are combined. This is an insurance against loss of paddock books and is used to allot the permanent identification numbers. It also provides a reference for use in the overall management context.

N.B.R.S. BEEF BREEDING NOTE BOOK

I consider that the format of this book needs review and it may be desirable to either have the sections for calving and weaning separated or to print separate books for each period.

I believe such action to be desirable so that when the time comes round to consider the calves as weaners they can be listed separately in numerical order within sex groups and further sub-divided if necessary into paddock groups.

RECORDING AT WEANING AND POST WEANING

For this period I list calves within the groups mentioned above on sheets of foolscap held on a clip-board. There are eleven columns in which the following information is recorded.

- a) Permanent ear tag identification number.
- b) Date of birth.
- c) Dam and Sire identification numbers.
- d) Actual 200 day weaning weight.
- e) N.B.R.S. weaning index and place in group.
- f) Actual post weaning weight. 550 days for bulls and 400 days for heifers.
- g) N.B.R.S. whole of life index and place in group.
- h) Testicle circumference measurement for bulls and first mating sire for heifers.
- i) Final weight prior to auction sale for bulls and pregnancy status for heifers.
- j) Sale lot numbers for bulls. First calf identification number for heifers.
- k) Large column for notes on such things as serving capacity tests, veterinary problems, structural faults, visual grading, disposal etc.

These field sheets provide a progressive record and performance picture of the young cattle to be used in association with visual assessment in the yards or paddock from weaning through to the point when final decisions are made regarding herd replacements or disposal in some other way.

PERMANENT RECORDS

After selection as replacements each animal is allotted a card in a card index system on which is recorded details of their breeding performance so long as they remain in the herd.

These records are reviewed regularly and a constant weeding out process takes place maintaining the herd at a more or less constant total number and structured from an age point of view like a pyramid with the largest numbers in the younger ages and least in the oldest ages.

Consideration should be given to the design or designs for a card index system, and whether or not this can be combined, for stud purposes, with the registration certificate i.e. using both sides of the card.

ADDITIONAL READING THE VALUE OF SELECTION FOR GROWTH RATE IN BEEF CATTLE

The following reference should be read to complement this paper.

BARKER, J.S.F., PIPER, L.R., HAMMOND, K., JAMES, J.W., RICKARDS, P.A., SEIFERT, G. and FRANKLIN, I.R. (1979) The National Beef Recording

Scheme. Its Development, Current Status, and Proposals for Action. The Australian Meat and Live-stock Corporation, Sydney, 1979.

This paper examines the economic consequences of changes in growth rate and weight resulting from selection. Selection for growth rate among yearlings produces the following consequences:

- (a) Cull yearlings are lighter and cheaper than average.
- (b) Selected heavier yearlings produce more carcasses and some animals are sold at a higher price than average.
- (c) If numbers are reduced to the same level as the original after selection.
- (d) The selected group will be heavier and worth more when culled for age.
- (e) Progeny of selected yearlings will be heavier than average. As they age, there will be consequences similar to those for the selected yearlings themselves as described in (b) to (d).

James (1978) described a model which can accommodate all economic consequences in determining optimum selection indices and the value of selection response. The model can be adapted to a beef herd by considering weight in age groups other than yearlings as distinct correlated characters both in current and future generations.

Ability to fatten is another correlated character.

Description of Herd

-	Closed herd selling only slaughter animals.
-	200 cows, 8 bulls, 800 weanlings.
-	Value of herd as selected = \$60,000
-	Value of annual turn-off = \$25,000
-	Standardized selection differentials in males and females are 1.0 and 0.8.
-	Finished yearlings are worth 25 per cent more than unfinshed yearlings which are sold as stores or retained for an extra year.

RESULTS

Sum of discounted returns \$1 from a single selection for yearling