

**SEEDSTOCK AND COMMERCIAL BEEF CATTLE BREEDERS' PERCEPTIONS OF
BREEDPLAN AND PRIORITIES FOR SELECTION EMPHASIS IN
TEMPERATE AUSTRALIA**

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SUMMARY

Commercial consultancy and market research groups surveyed the owners of 464 BREEDPLAN enrolled herds and 523 commercial breeders from the main breeding areas of temperate Australia.

Seedstock breeders' priorities for future traits in BREEDPLAN were very similar to the priorities of commercial breeders for information on purchased bulls, viz. female fertility; calving ease; scrotal size; muscling and feed efficiency.

Seedstock breeders considered they had a good knowledge of BREEDPLAN recording needs, yet detailed questioning on their understanding of management groups for example, showed deficiencies.

Commercial breeders were well aware of BREEDPLAN, and able to read simple catalogues. They use BREEDPLAN quite extensively in their bull buying, with 31% rating it very or extremely important, and 28% moderately important.

In the main British breeds, the owners of approximately 75% of seedstock, with the potential to use BREEDPLAN, were enrolled or intending to enrol.

It is suggested that BREEDPLAN extension has progressed quite well and that priorities for future advisory work should be to assist existing users better understand the system rather than general promotion.

INTRODUCTION

In recent years, some senior Australian research staff have been questioning the efficiency of transferring breeding research to commercial and seedstock breeders. Increased involvement in technology transfer by funding bodies such as the Meat Research Corporation (MRC) has been called for.

In response to this, and in order to determine extension priorities, and breeders' understanding and perception of technologies such as BREEDPLAN, the MRC supported some detailed market research in 1990 and 1991. This included the surveys of commercial and seedstock breeders reported in this paper, as well as surveys of agents, veterinarians, meat companies and extension agencies. The work was overseen by R. Barlow and B. Sundstrom of NSW Agriculture who prepared an overview report drawing all this work together. (MRC Report MC.018) Detailed reports on all aspects are available from MRC.

MATERIALS AND METHOD

Seedstock breeders survey

The Armidale consulting group Animal Breeding Technology (ABT), was selected by MRC to survey seedstock breeders. They also investigated agencies involved in technology transfer to this sector and

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recommended ways of enhancing the process (Nicol et al, 1991).

Two mail out surveys were carried out.

- i. The BREEDPLAN questionnaire was sent to all BREEDPLAN members (1,047) with properties in temperate or sub-tropical Australia south of an east-west line through Brisbane.
- ii. The non-BREEDPLAN questionnaire was sent to 1200 non-BREEDPLAN breeders that were members of the Hereford, Shorthorn, Charolais or Santa Gertrudis Breed Societies, in equal numbers.

All surveys were sent with an accompanying letter of introduction and a reply paid envelope. No follow-up or incentives were employed. There were 464 responses to the BREEDPLAN survey (44.3%) and 260 (21.7%) to the non-BREEDPLAN survey. This is a good response rate for a mail survey.

Commercial breeders survey

The Sydney market research group, Wilson Rural Research was selected for this phase. In late 1990 they conducted four focus groups with commercial breeders to determine the issues and develop a questionnaire.

523 interviews were then conducted with commercial beef producers having greater than 50 head in key beef breeding regions of New South Wales and Victoria. A standard telephone interviewing technique was employed utilising a recruitment, call back and interview methodology. After recruitment, respondents were mailed a questionnaire after which interviewers arranged a convenient time to phone back and collect responses over the phone. (Hoile, 1991).

RESULTS AND DISCUSSIONS

Seedstock breeders' priorities for future traits in BREEDPLAN

BREEDPLAN participants were asked to list in order of preference five additional traits that they would like included in future analyses (i.e. weight analyses already provided). They were asked to assume a fixed additional cost per trait for additional EBVs. Their weighted preferences are shown in Table 1.

Table 1. Preferences of BREEDPLAN users for future trait analyses

Trait	Weighted* Preferences	Trait	Weighted* Preferences
Female fertility	1389	Mature weight	285
Calving ease	1168	Hip height	235
Scrotal circumference	821	Fat depth	227
Eye muscle area	694	Marbling	169
Feed efficiency	573	Eye pigmentation	165
Serving capacity	482	Other	88
Lean meat yield	348	Feedlot gain	38
* 1st preference = 5pts 2nd preference = 4pts 3rd preference = 3pts 4th preference = 2pts 5th preference = 1pt (Adapted from MRC Report MC.109)			

Commercial breeders' priorities for information on purchased bulls

Breeders were asked to score each of 15 traits from 1 (extremely important), to 4 (not at all important). Table 2 summarises the results.

Table 2. Commercial breeders' priorities for information

Trait	Mean Score	Trait	Mean Score
Female fertility	1.4	Feed efficiency	1.9
Calving ease	1.4	Frame size	1.9
Muscling	1.6	Fat depth	2.0
Milk	1.6	Mature weight	2.0
Weight gain	1.6	Marbling	2.2
Scrotal circumference	1.7	Eye pigment	2.2
Serving capacity	1.7	Feedlot performance	2.5
Lean meat yield	1.8		

(Adapted from MRC Report MC.105)

The priorities of seedstock and commercial breeders were very similar and supportive of the current introduction of fertility and carcass traits into BREEDPLAN. The low priority for marbling reflects a view that this is only important for a small portion of Australia's export market. The very low priority for feedlot gain is surprising, given the rapidly increasing profile of feedlots in the industry.

Seedstock breeders understanding of BREEDPLAN

BREEDPLAN users were asked to rate their understanding of various facets of the system. Their responses are shown in Table 3.

Table 3. BREEDPLAN users' perceptions of their understanding of the technology

BREEDPLAN facet	% of BREEDPLAN respondents answering	Average rating*
What information needs to be collected	100	3.26
When information should be collected to obtain best results	99	3.16
How to record information on cattle treated differently	99	2.81
How to record embryo transfer (ET) calves	96	1.58
How to interpret the reports you receive back	99	2.82
How to use EBVs in selection decisions	99	2.96
How to use EBVs in buying decisions	99	2.97
How to use EBVs in marketing	99	2.75
How to use selection indexes	62	1.91

* 0=No understanding 1=Limited understanding 2=Reasonable understanding
3=Good understanding 4=Thorough understanding (MRC Report MC.109)

They were then asked four questions on situations where a management or treatment code might or might not be needed to give the best comparisons for BREEDPLAN analysis. Out of a possible score of 100, they averaged 53.5. Cross analysis with answers from Table 3, showed a low correlation. Some people have less understanding than they thought.

Potential BREEDPLAN membership levels

The 260 non-BREEDPLAN seedstock breeders, were grouped by ABT as follows:

Intending to join within 12 months	37%
Not interested at present	34%
Interested but herd too small	29%

In many breeds, a relatively small number of studs/sires have a major share of bull sales and hence genetic influence on commercial herds. For example, ABT reported that 14% of Hereford Society members register 70% of calves in that society. With Angus in 1989, 20% of registrations were by AI, and 70% of these were by 10 sires. ABT estimated 75% of seedstock cattle, from British breed herds sufficiently large to be in BREEDPLAN, were enrolled or committed to enrol.

Given the large enrolment currently in BREEDPLAN, or intending to join, and the significant numbers of small herds in the remainder, it appears a relatively low priority to continue strong promotional activities to encourage new members. Emphasis should instead be placed on educational activities, such as *understanding management groups, for existing members.*

Commercial breeders understanding of BREEDPLAN

When asked to score how important BREEDPLAN was in their bull buying practices, breeders responded as follows in Table 4.

Table 4. Commercial breeders use of BREEDPLAN in bull purchase

Extremely important	14%	Slightly important	10%
Very important	17%	Not at all important	12%
Moderately important	28%	Don't know of BREEDPLAN	19%

Approximately 80% of breeders know of BREEDPLAN, 30% use it significantly in bull buying and another 30% pay some attention to BREEDPLAN figures. This is a higher level of use, than was indicated by a survey of EPD usage in South Western USA. (Freer 1991) Wilson Research reported that a significant number of commercial breeders who were aware of BREEDPLAN but not using it for bull buying, were distrustful of the figures. Those aware of BREEDPLAN, were asked to select bulls from an example catalogue. With only two choices, 74% selected correctly, 4% incorrectly and 22% did not know. The extension priority for commercial breeders is education on how to use BREEDPLAN for bull buying and how EBVs are derived.

Extension of BREEDPLAN in Temperate Australia, has progressed quite well. There are however, many areas requiring improvement which would give a good return on resources invested in advisory activities.

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