QUEENSLAND BEEF GENETIC IMPROVEMENT - BEEF GENETICS EXTENSION IN QUEENSLAND

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SUMMARY
The Queensland Beef Genetic Improvement Project is an extension project aimed at encouraging greater use of objective measurement in selection procedures in the Queensland beef industry. The early years of the project involved an increasing awareness of the benefits of objective selection in both the stud and commercial sectors of the industry. This resulted in an increased use of Breedplan and Group Breedplan and an awareness of the need for breeding programs aimed at meeting market specifications.

A new phase of the project will involve working with industry groups to assist them to develop extension packages relevant to their respective sectors of the industry in the areas of breeding and genetics, selection and mating plans, meeting market requirements and reproduction. These modules will assist producers to define their current production system, define the market for which they are breeding and develop a selection and breeding program to move from their current end product to their desired end product.
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INTRODUCTION
The Queensland Beef Genetic Improvement Project was established in 1988, with funding from the Queensland Department of Primary Industries and from the Meat Research Corporation, as an extension project aimed at encouraging greater use of objective measurement and selection procedures within the Queensland beef industry.

The early stages of the project were described by Strachan (1990) who reported that to change the attitudes of stud breeders and their behaviour towards selection an adult education approach to learning was required. Overnight forums and discussion groups were used to encourage participants to describe what was important to them in the selection and breeding of cattle, to assess what benefits may be available through using Breedplan as an aid in their selection and to overcome any perceived problems and barriers to adoption through a better understanding of the new technology.

This paper describes the methodology used in the project from 1988 to 1995, the results achieved during that period, the results of a survey of producers and producer organisations and the proposals for the project over the next five years.

THE PROJECT TO DATE

The first stage of the project involved a series of forums and workshops aimed at creating a greater awareness and adoption of Breedplan technology by Queensland stud breeders and the stud stock selling agents. This provided a basis for the second stage of the project which was to encourage commercial beef producers to look for objective data when buying bulls.

This second phase of the project was conducted in 1992 and 1993 and involved a series of approximately 100 "Buying Better Bulls" field days which were held throughout the state and were attended by about 2,000 producers. These field days focused not only on the use of the Breedplan data by producers (the users of the technology) but also on the need for them to seek objective data on all aspects of performance when buying bulls. Other areas covered in detail were structural soundness, reproductive performance and carcase traits of bulls.

The third phase of the project commenced in 1994, encouraging producers to look critically at the markets for which they were ultimately breeding cattle and to define the breeding system which would best help them to breed the cattle required for those markets. This phase of the project has involved a series of "Breeding for Profit" field days which have been conducted throughout the state. To date, approximately 650 producers have attended close to 30 of these field days.

RESULTS

Over a period of three years (1988 - 1991) the number of studs enrolled in Breedplan in Queensland increased from 55 to 254, or 19% of all studs with 30 or more breeders.

Bertram (1991) reported that despite this rapid increase in the number of stud herds in Queensland enrolling in Breedplan, the numbers effectively using the technology for breeder performance data analysis were not as great.

Of the major tropical breeds of cattle in Queensland, the Brahman, Belmont Red and Santa Gertrudis breeds now have Group Breedplan analyses being conducted each year while the Droughtmaster breed is actively working towards establishing a group analysis. Brahman cattle constitute a very significant number of cattle in the Queensland beef industry and therefore the Breedplan analysis constitutes a large benefit to overall beef production. A number of other tropical breeds, including the Braford and Brangus breeds are now exploring the potential of Group Breedplan for their breeds.

Taylor *et al.* (1995), reported the results of a survey of producers and producer organisations concerning their attitudes towards objective measurement and selection and potential relationships with the Queensland Department of Primary Industries' Beef Genetic Improvement Project (QBGIP). Eighty-seven percent of organisations considered that the QBGIP could provide a training service for their staff, members or members' clients. They identified the areas of facilitation, extension, field days, technical updates and meetings as areas of QBGIP activities. In excess of 30% of producers reported that they were using objective information in relation to

growth rate in making their bull buying decisions. Slightly less than 30% were using objective information in their decision making in relation to carcase and fertility traits.

Sixty percent of the producers surveyed had previous experience with QBGIP activities. All except one rated the QBGIP activities as useful to extremely useful. Topics that producers identified as being of interest included bull selection, bull soundness, serving capacity testing, general bull fertility, growth rate assessment (particularly Breedplan), carcase selection, crossbreeding, breed selection, breeding for markets, herd fertility, female selection and selection for calving ease.

THE FUTURE
A revised QBGIP is now being put in place in Queensland.

Short term objectives. This project has short term objectives which include the wider adoption of Group Breedplan by the numerically influential breed societies, the development and enhancement of information packages in beef genetics and the evaluation of emerging technologies in beef genetics. The QBGIP continues to encourage increased use of objective selection of bulls in planned breeding programs including the use of crossbreeding. It also encourages the wider use of the GENAB (Genetics and Animal Breeding) resource kit for teachers in Queensland secondary education establishments. The time frame for the achievement of these objectives is immediate to the end of 1998.

Long term objectives. The long term objectives include the release of Group Breedplan evaluations by other tropically adapted breed societies, an increase of at least 10% in the use of Breedplan by seedstock producers and the use of objective selection strategies in the breeding of the majority of commercial Queensland cattle. Consistent with these objectives is support for crossbred breeding values for genetic evaluation and selection in crossbred herds, as these evaluations become available. The project supports the increased use of objective recording packages consistent with the Beef Trading Information Systems principles. The time frame for these long term objectives is the year 2000.

Process. The project will have a greater focus on client definition and identification of client needs. This will involve active participation with various industry organisations, such as breed societies and producer groups who are interested in cooperating in the extension of advanced breeding and genetics technology to improve industry awareness and the eventual adoption of this improved technology. This will not preclude the already established practice of dealing with unaffiliated groups of commercial producers on a local basis through the provision of workshops, field days and other activities those groups of producers.

The process used will focus on adult learning principles with the producers within the groups identifying their issues and needs, recognising their current experiences and eventually planning an improved breeding program using objective selection that satisfies their needs.

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To assist this process, a range of modules will be developed in the areas of breeding and genetics, selection and mating plans, meeting market requirements and reproduction. These modules will assist producers to define their current production system, define the market at which they are aiming their production and develop a selection and breeding program to move from their current end product to their desired end product.

The proposed activities will be promoted to potential collaborating organisations with an offer to discuss in detail the range of activities that can be offered under the project. This will allow the particular activities with each group to be tailor-made to meet the requirements of the group.

While a number of the activities in the project involve the continuation of existing activities, there are a number of areas which involve the development of new extension packages to support the areas of using crossbred breeding values (when they become available), adoption of computer based data collection systems, using feedlot and carcase feedback data in making breeding decisions, adoption of crossbreeding decision support software, targeting markets through selection for growth and carcase traits and using market alliances to promote efficient marketing and collection of data for breeding program design.

In these areas the project will also be providing extension delivery for outputs from other projects such as the Storelink Project, the Value Based Trading Project and the CRC crossbreeding program and decision support software.

Benefits. The benefits of these extension modules will be an increased profitability by beef producers and awareness of the need to develop breeding strategies to meet specific market requirements. An ongoing development will be a recognition and adoption by producers of computer based data collection systems and the use of crossbreeding and crossbred breeding values in the development of these breeding systems.

REFERENCES
Bertram, J.D. (1991) *Proc. Aust. Assoc. Anim. Breed. Genet.* 9:200
Strachan, R.T. (1990) *Proc. Aust. Assoc. Anim. Breed. Genet.* 8:427
Taylor,K., Whittle,R., Bertram, J. and Thompson, R. (1995) "Queensland Beef Genetic Improvement Project Marketing Plan." QDPI Brisbane.