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# ECONOMIC EVALUATION OF BREEDING OBJECTIVES FOR BEEF CATTLE

Commentary

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Defining breeding objectives for beef cattle is a difficult task, especially for cattle under extensive grazing, as described by the authors in this Session. In considering economic aspects, Wilton points out the poor feedback among different sectors of the industry (such as among cow-calf producers, store cattle farmers and finishing operators; also between commercial and pedigree herds). Farmers with different breeds contributing to crossbred cattle also appear to receive poor market signals.

The contrast between a linear equation, to detect the breeding objective, and a linear programming model with resource constraints is described. Further, breeding objectives may differ according to the constraints or to the role played by a breed in different crossing schemes (e.g. Simmentals for dual-purpose or terminal crossing). Choice of units for the equation(s) of merit may vary in the real world according to the type of trading operation (e.g. company, cooperative or Government). In practice market forces are seldom based entirely on "rational man" deciding on the basis of complete and timely information. The effects of targeting supplies to different markets are not often considered.

In discussing the choice of economic values for food-related variables, Notter concentrates on the problem of potential interactions between genotypes or breeds or breed-crosses and the level of nutrition. It is likely that the consequences of these interactions are not appreciated by many breeders of purebred cattle. Other potential incompatibilities such as increasing reproduction and milk yield are discussed for extensive conditions, where there is no food to act as a buffer apart from through the cow's own body tissues. The harvesting process by the animal is also considered.

Hetzel adds a further dimension with cattle raised in the tropics. Genetic adaptations to heat and internal and external parasites are important. Genotype x nutrition interactions have been studied extensively in Queensland and their significance is described in detail.

Some of the generalities from the 1970s on breeding objectives for beef cattle are now suitably qualified. Others still remain to be examined.