

RESEARCH IN PROGRESS

Selection for Increased Growth in Beef Cattle

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A selection study involving both purebred Angus and Hereford cattle was initiated at the Southwestern Livestock and Forage Research Station in 1964. The principle objective of this study is to determine the direct and correlated genetic responses to selection for increased weaning weight and yearling weight, respectively.

The study consists of six selection lines of 50 cows each. There are two Hereford lines (one selected for increased weaning weight and the other for increased yearling weight) and four Angus lines (one selected for increased weaning weight, one selected for increased yearling weight, one selected for increased weaning weight based on progeny test data and one was maintained as an unselected control line).

Detailed analysis of selection progress to date has been conducted only in the two Hereford lines. This analysis was summarized in the 1975 Animal Science Research Report (Okla. Agr. Exp. Sta. Res. Report MP-94:7-17). At that point in the selection program, overall growth performance was quite similar in both lines which suggested similar genetic changes in total growth response as a result of selection based on either weaning weight or yearling weight. Approximately 80 percent of the total selection pressure exerted on these lines has been due to sire selection, which reinforces the common belief that most genetic improvement achieved in a herd is due to selecting and using genetically superior herd sires. Results to date indicate that overall growth rate has increased at the rate of .5 to 1 percent per year.

The last set of calves in this project will be in the spring of 1980 and upon the completion of collecting performance data on this last set of calves it will be possible to conduct a detailed evaluation of genetic changes in all lines.
