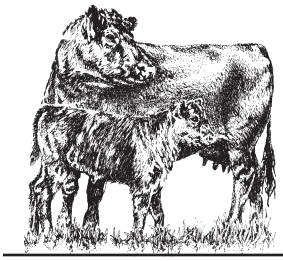

Western Beef Resource Committee *Third Edition*

Cattle Producer's Handbook

Genetics Section 1035

Performance Records: A Tool in Cattle Herd Improvement

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Beef cattle production is becoming more competitive each year. Value-added programs have given rise to premiums being paid for cattle that exhibit superior quality and performance. Accordingly, cattle producers must look seriously at genetic improvement of their herd in order to remain competitive.

For a herd's performance to improve, the genetics of seedstock being introduced into the herd must be superior to the genetics of the herd. Performance records allow cattle producers to evaluate differences between animals, increasing the likelihood of selecting an animal that is genetically superior.

Performance Records and the Seedstock Producer

Since seedstock producers supply breeding animals to the commercial sector, their animals must be genetically superior for the commercial cattle industry to improve. Thus, seedstock producers have the greatest responsibility to track and improve genetic merit. Seedstock breeders should participate in a detailed performance testing program and should select those cattle that will meet the needs of the commercial sector.

Seedstock producers that select animals based on their expert judgment and their herd's performance data distinguish themselves and their operations as leaders within their respective breeds. Thus, it becomes imperative that the seedstock sector keep detailed and accurate records to assist other producers in bringing about measurable positive changes to the commercial cow herds. This leads to greater economic rewards for both themselves and the customers who purchase their cattle.

Also, breed associations rely upon accurate performance data submissions from their member/producers to calculate expected progeny differences (EPDs). EPDs are estimates of transmittable genetic merit for certain traits based upon the performance of individual animals and their relatives. Inaccurate, estimated, or intentionally biased performance data negatively affects the accuracy of EPDs. Since EPDs have become so important to the cattle industry, seedstock producers must ensure that the data they submit are accurate and unbiased. Data can be biased in the following ways:

Parentage—Failure to correctly identify the sire can occur when an artificial insemination (A.I.) mating is followed immediately by exposure to a clean-up bull. This can be corrected by identifying the correct sire through a DNA test.

Inaccurate Collection of Performance Data—Inaccurate birth dates are a major problem. Estimating weights through means such as heart girth tapes is not acceptable. All weights should be taken on accurate scales and within the time frames identified by the Beef Improvement Federation, which are between 160 and 250 days of age for the adjusted 205-day weight and 330 and 400 days of age for the adjusted 365-day weight (BIF 2004).

Incomplete Records—Breeders must report all data on calves, even the poor performers. If only the performance data of the best calves are reported, the resulting EPDs will be too high. Because data on poor performers are as important as data on top performers, most breed associations accept data even if the calves are not registered.

Connectedness—Data become more valid by increasing the relationship of the herd to the breed as a whole. This can be accomplished by using high-accuracy A.I. sires in the herd.

Contemporary Groups—Individuals of the same relative age and sex that are managed together are called contemporary groups. Bias in this case can be introduced when a producer has single-animal or single-sire contemporary groups. Single-animal groups occur when a producer weighs each calf at 205 or 365 days of age. Single-sire groups occur when a single bull is used on a