



# Cattle Producer's Handbook

## Commercial Beef Sire Selection

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Bull selection is the foundation for building a profitable beef herd. In most commercial herds, bulls are purchased and replacement heifers are selected from within the herd. The sire and dam each contribute 50 percent to the genetic make up of each calf. One-half of a dam's contribution to her calf comes from her sire and one-fourth comes from her dam's sire. Thus, 87.5 percent of a calf's genetic material comes from three bulls that were brought into the herd.

Sire selection is the major tool available to producers for changing the genetic potential of a herd. Sire selection can and should be more accurate today than ever before. Beef breed associations have developed programs that use performance information on a bull's relatives in addition to his own records to produce Expected Progeny Differences (EPDs). This fact sheet discusses methods of using this data and considerations involved in selecting bulls to be used in natural service.

### Selecting Bulls

The two basic ways to bring about genetic improvement in a commercial herd are crossbreeding and selection. The purpose of crossbreeding is to produce heterosis (hybrid vigor). A good crossbreeding program is important in improving reproductive traits and production traits like rate of gain. Selection of superior breeding stock is most effective in changing production traits and carcass traits. A good breeding program for a commercial herd will include both a designed crossbreeding system and selection of superior bulls within the chosen breeds.

The crossbreeding system used will affect the type of bull that is needed. In a rotational system, heifer calves are kept for replacements. General purpose breeds of comparable size are normally used. Disposition, calving ease, moderate size, fertility, maternal ability, and gain

are all important criteria for bull selection. In a terminal crossbreeding system bulls from larger growth breeds are typically used on smaller cows and all calves are sold as market animals. Growth and carcass traits are very important while maternal traits are not important since no heifers are kept for replacements. Plan the crossbreeding system before individual bulls are selected.

With a planned crossbreeding system established, the next step is to critically evaluate the cow herd. Look at the cows in terms of how they fit available resources such as feed, labor, facilities, and environment. Look at how calves fit market demand. Determine the weak points and strong points of the herd. This will help in describing the type of bull that is needed. It is almost impossible to find a bull that is superior in every trait. The goal is to find a bull with an acceptable combination of traits that compliments the strengths and weaknesses of the cow herd.

After a crossbreeding system has been established and the type of bull has been determined, it is time to decide where to buy. Only consider reputable sources that can provide complete performance records. Performance records and pedigrees are only as good as the integrity of the breeder. Sellers should make results of breeding soundness examinations available and guarantee the quality and fertility of bulls. Herds that are actively involved in their breed association performance program are excellent sources for bulls. Bulls from these herds can be bought by private treaty, at production sales, at central test station sales, or at consignment sales. Whether bulls are purchased at auction or by private treaty, be sure the information needed to make a wise decision is provided. If it is not presented, ask for it. If performance information is not available, look elsewhere for bulls.

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