

Beef Sire Selection Recommendations

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Introduction

The overall goal of a beef operation should be to increase net income. Net income is a balance between how much is spent on the operation and how much income the operation generates. Therefore, beef producers need to focus either on increasing income while minimizing additional cost or on reducing costs while trying to maintain income. Although the goal of increasing net income applies to the entire beef operation, this article will concentrate on the impact of the bull.

Selecting the right bull for your operation is one of two practices available to improve the genetics of your herd and therefore improve your chances of increasing net income. The other practice is crossbreeding, which has a major economic impact and is recommended for commercial herds. This publication focuses on selecting the right bull.

When looking for a bull to purchase, you should realize that as you take steps to improve one trait, you often lose ground with another. For example, when you select a bull that will produce bigger offspring, which has a positive impact on income, you may inadvertently increase the mature size and therefore the maintenance costs of your cows through retaining replacements. Finding the balance between the productivity level of your cows (growth and milk) and the required energy to maintain them is very difficult and, if not done properly, will likely result in decreased reproduction and decreased income. Research has shown that cow efficiency depends on the level of nutrition that the cows receive. Larger, high-producing cows are the most efficient in very lush, high nutritional environments (average Kentucky forages would not support this level of productivity), while smaller, low-producing cows are the most efficient in limited nutritional situations. With optimum nutrition, there are few differences between the breed types on replacement female efficiency. It is important to consider what you want to produce and what resources (primarily nutrition) you have available before you select the breed and specific bull that best fits the needs of your operation.

Bull Purchasing Basics

When purchasing a bull, you should assess four primary characteristics: reproductive soundness, structural soundness, visual evaluation, and performance characteristics.

Reproductive Soundness—For a bull to have any value to a beef producer, it must be reproductively sound. The best means to determine the reproductive soundness of a bull is through a breeding soundness exam. If a bull passes this exam, it should

have the physical capability to breed and settle cows. This exam does not measure desire, however, so bulls should be observed for their interest in females in heat.

Structural Soundness—To be an efficient breeder, a bull must be structurally sound. This means that it should move without pain or discomfort and should have appropriate angles at weight-bearing joints.

Visual Evaluation—Many traits that are important to beef producers can only be evaluated through visual observation. These include, but are not limited to, disposition, horned/polled, color, muscling, body capacity, structure, sheath, and testicular development.

Performance Characteristics—The primary reason for purchasing a bull is the expected performance of his calves. If replacement females will be retained, this decision should not be a hasty one because the effects will be long lasting. Breeds differ in their level of productivity; therefore, the first decision should be breed type. Once a breed is determined, selection between bulls for performance should be based on the Expected Progeny Differences (EPDs), whenever possible. (For more information on EPDs, see ASC-141, *Using EPDs, Expected Progeny Differences*, available at county Extension offices or on the Web at <<http://www.ca.uky.edu/agc/pubs/agpubs.htm>>.) Remember, there is no such thing as the “best bull”; individual beef producers must make that determination based on what they want to get from the bull.

Bull Categories

The following are guidelines for finding bulls that meet some of the common needs of Kentucky beef producers. Depending on your goals and management, you may not find the right bull in this list. To find out where a bull ranks in his breed, refer to the EPD Percentile Table from the respective breed association. (This can often be found on the Internet.)

Heifer Acceptable—This is a specialty-type bull that should be used when a high percentage of first-calf heifers are to be bred. Follow this general rule: When using smaller type breeds (Angus, Hereford, etc.), select bulls in the top 25 percent of the breed; intermediate-size breeds (most Brahman-influenced breeds, Salers, Tarentaise, etc.) should be in the top 15 percent of the breed; and with large-type breeds (Charolais, Gelbvieh, Simmental, etc.), select only the top 5 percent when breeding a large number of heifers. Typically, easy calving bulls do not express as much growth in their calves. To maintain an acceptable level of growth, bulls with extremely low weaning and/or yearling weight EPDs should be avoided.

The recommendation for Birth Weight/Calving Ease (BW/CE) for the remaining categories depends on how many first-calf heifers are to be bred. For increased security, choose a bull that meets the Heifer Acceptable category. If any heifers are to be bred, avoid the worst 50 percent of larger breeds and the worst 35 percent of smaller breeds, or be prepared to watch those heifers closely during calving. If only mature cows are to be bred, avoid the worst 5 to 10 percent of the bulls for BW/CE.

Terminal—This is a specialty-type bull that should be used when replacement females will not be retained. The purpose of this bull is to produce calves with exceptional feeder calf performance. Therefore, milk can be disregarded, and growth should be emphasized. Upper extremes should be avoided if the cow size is large and there is danger of producing carcasses that are heavier than the accepted standard.

Balanced Trait—Bulls that fit these recommendations should provide moderation for BW/CE, growth, and milking ability. The purpose of this bull would be to produce calves that are acceptable feeder calves while keeping the mature size and milk level of replacement females in moderation. Selecting bulls that rank between the 25 and 75 percent level in their breed for both growth and milking ability should achieve this goal.

Low Maintenance—This category of bull is for producers who will be retaining and/or selling replacement females that will have lower maintenance requirements. Unfortunately, cow maintenance EPDs are not currently computed for beef breeds. Typically, cows that have smaller mature size and less milking ability have lower maintenance requirements; therefore, selecting bulls with below-average growth and milk values should produce replacement females that will have lower maintenance requirements. The trade-off is that their siblings, which will be sold as feeder calves, will have less growth as well. It is recommended to avoid the lowest extremes for either growth or milking ability.

High Productivity—Producers with extremely good management may consider bulls that will greatly increase individual

calf productivity. This is easily accomplished by selecting bulls that are in the upper third of their breed for both growth and milk. Feeder calves produced from this mating should exhibit good growth, and replacement females should have exceptional milking ability. The trade-off here is that replacement females produced from these bulls will be larger and have higher maintenance costs. If these cows do not receive adequate nutrition, they will lose body condition, and reduced reproduction rates will likely occur. This option is not for everyone, and total herd performance should take precedence over individual calf performance.

Carcass Merit—Producers who will be retaining ownership of their calves and who are being paid for carcass merit should place additional emphasis on those traits. A Carcass Merit bull may easily fit one of the above categories but would have the added responsibility of producing calves with acceptable carcass characteristics. Traits of economic importance would be carcass weight, marbling (% intra-muscular fat), and % retail product. The pricing scheme that the calves will be sold under will determine the level of emphasis to be placed on each trait. For example, if the calves are to be marketed on a “High Quality Grid,” then emphasis would be placed on increasing marbling while maintaining acceptable carcass weights. Also, remember that as you increase carcass weight, you also increase mature cow size of replacement females.

Conclusions

Crossbreeding and bull selection have important long-term economic impact on your herd. Selecting the right bull for your operation is a decision that includes setting production goals, analyzing your resources and management, and locating the bull that best fits your situation. If done properly, this process will take time and effort on your part. But the rewards can be significant.