2026 Beef Sire Selection for Cattle Genetic Improvement Program

(Updated December 23, 2025)

Introduction

The overall goal of the 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 on increasing income while minimizing additional costs or reducing costs while trying to maintain income. Although this practice pertains to the entire beef operation, this program is to assist in selecting a bull that helps achieve this goal.

Two practices are available to improve the genetics of commercial beef operations: crossbreeding and individual bull selection. Crossbreeding has a major economic impact on your herd and should be practiced by commercial cattlemen (additional information is available in ASC-168, available at your county Extension office); however, this program does not require crossbreeding.

When looking for a bull to purchase for your operation it is important to realize that as you make progress to improve one trait you often lose ground in another trait. For example, as we select for increased growth, which has a positive impact on income, we usually inadvertently increase the mature size and maintenance costs of our cows through retaining replacements. Finding the balance between the productivity level of the cow (growth and milk) and the required energy to maintain her is very difficult and, if not done properly, will likely result in decreased reproduction. Research has shown that cow efficiency is dependent on the level of nutrition that they 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) and smaller lower-producing cows are the most efficient in limited nutritional situations. Under optimum nutrition there are very little differences between the breed types. Before you buy a bull, it is important to consider what you want to produce and what resources (primarily nutrition) you have available.

Bull Purchasing

When purchasing a bull there are four primary characteristics that should be assessed: reproductive soundness; structural soundness; visual evaluation; and performance characteristics.

Reproductive Soundness – For a bull to have any value to a beef producer he must be reproductively sound. The best means to determine the reproductive soundness of a bull is through a breeding soundness examination (BSE). If a bull passes his BSE he should have the physical capability to breed and settle cows. This exam does not measure desire and bulls should be observed for their interest in females in heat. ***To receive cost-share money bulls must pass a BSE.***

Structural Soundness – To be an efficient breeder a bull must be structurally sound. This means that he should move without pain or discomfort and should have appropriate angles at weight bearing joints. ***There are no requirements for structural soundness; however, producers should evaluate bulls for soundness to avoid problems with breeding and future problems in replacement females.***

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. ***There are no requirements for visual appraisal; however, producers are encouraged to carefully evaluate bulls for visual traits that are of economic or functional importance to them.***

Performance Characteristics – The primary reason for purchasing a bull is the expected performance of his calves. If replacement females will be retained then this decision should not be short sided, because the impact will be long lasting. Breeds differ in their level of productivity; therefore, the first decision will be on 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 please see ASC-141). There is no such thing as the "Best Bull"; each individual beef producer must make that determination based on what they want to get from the bull. ***Guidelines have been developed for three specific bull types. Producers must select what type of bull they will purchase on their application***

then purchase a bull that meets the requirements for that bull type. Please see additional recommendations for Calving Ease/Birth Weight when breeding heifers and recommendations for Docility. If replacement females will be retained additional recommended guidelines have been included for Mature Weight, when available, and Milk.

Bull Types

Balanced Trait –Bulls that fit these recommendations should provide acceptable calving ease when only a small number of heifers will be bred (see further guidelines if many heifers will be bred) and good growth traits. Additional recommended guidelines have been included to help moderate mature weight (when available) and milking ability. This bull would be used to produce calves that are acceptable feeder calves, while keeping the mature size and milk level of replacement females in moderation. Using an Index is the preferred selection method for this category, when available, higher values mean more economic benefit!

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. The values listed for Calving Ease/Birth Weight in this category only eliminate the very worst calving difficulty bulls.

Carcass Merit – Producers that will be retaining ownership of their calves and are paid for carcass merit should place additional importance on those traits. The indexes used for this bull type emphasize feedlot performance and carcass traits; additional, most assume that replacement females will be retained so maternal traits are included. The Calving Ease EPD guidelines for this type are minimal and are based on no heifers being bred by this bull. If a small number of heifers will be bred it is recommended to use the CED associated with the Balanced Trait type and if many heifers will be bred use the value recommended for heifers.

Conclusions

Crossbreeding and bull selection have very important long-term economical 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 then 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.

How to determine if a bull qualifies for the program:

1. All bulls must have genomically-enhanced EPD or have a minimum accuracy value of .25 for the Calving Ease Direct EPD. Contact the breed association if you are unsure of the bull's status.

2. There is no longer a Heifer Acceptable bull type. If many heifers are to be bred the bull can qualify in one of the other categories and a recommended value is provided for Calving Ease/Birth Weight in those cases.

3. All categories require that the bull meet a minimum Calving Ease or maximum Birth Weight EPD. If the breed you are using computes Calving Ease EPDs then that is the EPD that must be used. The bulls EPD must be equal to or be greater than the value listed for that category. If the breed does not compute Calving Ease EPDs then Birth Weight EPDs will be used. The breeds that use Birth Weight are clearly indicated on the guidelines table. If Birth Weight EPD is used it must be equal to or less than this value.

4. For the Balanced Trait category there is an alternative method that can be used for some breeds. If a breed has a selection index that focuses on performance with the intent of retaining replacement females, then that index may be used. The bull must meet the minimum Calving Ease value and must meet the minimum Index value. Using a selection index is the best selection tool available because it is based on the economic value of the bulls for that category.

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5. Carcass Merit bulls will be evaluated based on their selection index values that reward improved carcass characteristics. Only breeds that offer a selection index that stresses feedlot and carcass merits will qualify for this category. A minimum Calving Ease value is also required.

6. When replacement females are to be retained, recommendations are provided to moderate mature cow weight and milking ability. When these traits are selected for in extremes it can increase the cost of maintaining the future cow herd.

7. Docility is an important trait for many Kentucky beef producers, therefore, a recommendation is provided for minimum Docility EPDs, when available.

8. Other traits that may have importance to many Kentucky beef producers, but are not included in the guidelines, are the reproduction trait EPDs (Heifer Pregnancy, Stayability, Sustained Cow Fertility, Preg30). Higher values in these traits indicate better performance by the bull's daughters for the respective trait.

For more information contact your county agent for Agriculture and Natural Resources or Darrh Bullock, University of Kentucky Beef Extension Specialist (859-257-7514 or dbullock@uky.edu).

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2026 CAIP - Expected Progeny Differences (EPD)/Index

Minimum Requirements

British Breeds

ANGUS	CALVING EASE CED	+	INDEX	or	GROWTH WW		GROWTH YW
Balanced Trait / Maternal	4	+	$M ≥ 61	or	56	or	101
Terminal	-2		-		64	or	114
Carcass Merit	-2	+	$B ≥ 147				

Suggested Milk range: 20 - 33 **Suggested CED for breeding heifers: CED ≥ 7**
Suggested Max. Mature Weight: MW EPD ≤ 97 **Suggested Docility: Doc ≥ 14**

HEREFORD	CALVING EASE CED	+	INDEX	or	GROWTH WW		GROWTH YW
Balanced Trait / Maternal	0	+	$BMI ≥ 362	or	51	or	81
Terminal	-4	+	-		60	or	96
Carcass Merit	-4		$CHB ≥ 118				

Suggested Milk range: 20 - 33 **Suggested CED for breeding heifers: CED ≥ 6**
Suggested Max. Mature Cow Weight: MCW EPD ≤ 112

RED ANGUS	CALVING EASE CED	+	INDEX	or	GROWTH WW		GROWTH YW
Balanced Trait / Maternal	10	+	$HB ≥ 51	or	60	or	95
Terminal	5	+	-		70	or	113
Carcass Merit	5		$GM ≥ 50				

Suggested Milk range: 21 - 30 **Suggested CED for breeding heifers: CED ≥ 13**

SHORTHORN	CALVING EASE CED	+	INDEX	or	GROWTH WW		GROWTH YW
Balanced Trait / Maternal	14	+	$BMI ≥ 126	or	38	or	53
Terminal	7	+	-		46	or	66
Carcass Merit	7		$F ≥ 46				

Suggested Milk range: 17 - 26 **Suggested CED for breeding heifers: CED ≥ 21**

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Continental, Hybrid Breeds

CHAROLAIS	CALVING EASE CED	+	INDEX	or	GROWTH WW		YW
Balanced Trait / Maternal	8	+	-		55	or	100
Terminal	2	+	-		65	or	117
Carcass Merit	2		$TSI ≥ 264				

Suggested Milk range: 17 - 30 **Suggested CED for breeding heifers: CED ≥ 12**
Suggested Docility: Doc ≥ 8

CHIANINA/CHIANGUS	CALVING EASE CED	+			GROWTH WW		YW
Balanced Trait / Maternal	8	+	$APT ≥ 103		43	or	62
Terminal	4	+	$TI ≥ 70		51	or	78

Suggested Milk range: 10 - 20 **Suggested CED for breeding heifers: CED ≥ 12**
Suggested Docility: Doc ≥ 8

GELBVIEH/BALANCER	CALVING EASE CED	+	INDEX	or	GROWTH WW		YW
Balanced Trait / Maternal	10	+	$MPI ≥ 102	or	65	or	97
Terminal	6	+	-		75	or	115
Carcass Merit	6		$FPI ≥ 111				

Suggested Milk range: 17 - 28 **Suggested CED for breeding heifers: CED ≥ 14**
Suggested Max. Mature Weight: MWT EPD ≤ 153 **Suggested Docility: Doc ≥ 11**

LIMOUSIN/LIM-FLEX	CALVING EASE CED	+	INDEX	or	GROWTH WW		YW
Balanced Trait / Maternal	10	+	-		57	or	86
Terminal	6	+	-		68	or	106
Carcass Merit	6		$TPI ≥ 104				

Suggested Milk range: 20 - 30 **Suggested CED for breeding heifers: CED ≥ 15**
Suggested Docility: Doc ≥ 11

MAINE-ANJOU/TAINER	CALVING EASE CED	+			GROWTH WW		YW
Balanced Trait / Maternal	6	+			36	or	45
Terminal	0	+			47	or	64

Suggested Milk range: 14 - 25 **Suggested CED for breeding heifers: CED ≥ 11**

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SALERS/OPTIMIZER	CALVING EASE CED	+	GROWTH WW		YW
Balanced Trait / Maternal	10	+	32	or	37
Terminal	7	+	43	or	56

***Suggested Milk range: 9 - 22** **Suggested CED for breeding heifers: CED ≥ 11**
Suggested Docility: Doc ≥ 5

SIMMENTAL/SIMANGUS	CALVING EASE CED	+	INDEX	or	GROWTH WW		YW
Balanced Trait / Maternal	8	+	$API ≥ 129	or	73	or	107
Terminal	3	+	-		80	or	120
Carcass Merit	3		$TI ≥ 80				

***Suggested Milk range: 18 - 29** **Suggested CED for breeding heifers: CED ≥ 12**
Suggested Docility: Doc ≥ 10

BRAUNVIEH	CALVING EASE CED	+	INDEX	or	GROWTH WW		YW
Balanced Trait / Maternal	7	+	$API ≥ 96	or	46	or	60
Terminal	2	+	-	or	54	or	76
Carcass Merit	2		$TI ≥ 65				

***Suggested Milk range: 10 - 20** **Suggested CED for breeding heifers: CED ≥ 11**
Suggested Docility: Doc ≥ 10

Brahman Hybrid, Other

BRANGUS/ULTRABLACK	CALVING EASE CED	+	INDEX	or	GROWTH WW		YW
Balanced Trait / Maternal	4	+	$Fert ≥ 3	or	17	or	34
Terminal	2	+	-		26	or	48
Carcass Merit	2		$TI ≥ 2				

***Suggested Milk range: 4 - 13** **Suggested CED for breeding heifers: CED ≥ 6**
***Suggested Max. Cow Weight: Cow Weight EPD ≤ 8**

BEEFMASTER	CALVING EASE CED	+	INDEX	or	GROWTH WW		YW
Balanced Trait / Maternal	3	+	$M ≥ 16	or	18	or	25
Terminal	1	+	-		28	or	39
Carcass Merit			$TI ≥ 72				

***Suggested Milk range: 7 - 12** **Suggested CED for breeding heifers: CED ≥ 5**

SANTA GERTRUDIS	CALVING EASE BW (Max.)	+	INDEX	or	GROWTH WW		YW
Balanced Trait / Maternal	BW ≤ 0	+	$Cow/Calf ≥ 19	or	6	or	6
Terminal	BW ≤ 1	+	-		15	or	19
Carcass Merit			$TI ≥ 11				

***Suggested Milk range: -4 - 4**

Suggested BW (Max.) for breeding heifers: BW ≤ - 1

SENEPOL	CALVING EASE BW (Max.)	+	GROWTH WW		YW
Balanced Trait / Maternal	BW ≤ 1	+	6	or	6
Terminal	BW ≤ 3	+	13	or	17

***Suggested Milk range: 1 - 8**

Suggested BW (Max.) for breeding heifers: BW ≤ - 1

WAGYU	CALVING EASE BW (Max.)	+	GROWTH WW		YW
Balanced Trait / Maternal	BW ≤ 0	+	-4	or	-6
Terminal	BW ≤ 3	+	4	or	6

***Suggested Milk range: -5 - 3**

Suggested BW (Max.) for breeding heifers: BW ≤ - 2

BLACK HEREFORD	CALVING EASE CED	+	INDEX	or	GROWTH WW		YW
Balanced Trait / Maternal	13	+	$API ≥ 157	or	50	or	81
Terminal	9		-		58	or	93
Carcass Merit	9	+	$TI ≥ 89				

***Suggested Milk range: 21 - 30**

Suggested CED for breeding heifers: CED ≥ 16

Suggested Docility: Doc ≥ 11

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