

*These guidelines represent one of 11 investment areas within the **County Agricultural Investment Program (CAIP)** to provide Kentucky agricultural producers cost-share assistance on practices that increase net farm income and opportunities to try new/innovative technologies or systems that improve farm efficiency and productivity.*

Funded participants shall adhere to all local, state, and federal rules and regulations.

### A. Cattle – Beef & Dairy

#### Prerequisites:

- **All Beef & Dairy applicants** must become Kentucky Beef Quality & Care Assurance (BQCA) certified before funding is received.
- ***"1. Genetics"***
  - **All bulls** purchased through this program must pass a Breeding Soundness Evaluation (BSE) – within the last six (6) months - prior to receiving cost-share funds. The cost of a BSE should be negotiated between the buyer and seller and can be included in the total cost of the bull purchase.
  - **All breeding stock (bulls/heifers)** must be a minimum age of 12-months.
  - **Ownership of all breeding stock** must be maintained for a minimum of two (2) successive breeding seasons, and a minimum of six (6) months.
  - **Beginning 2021**, all bulls purchased through this program must be genomically tested (genomic-enhanced EPDs) or have an accuracy value for Calving Ease EPD of .30 or above.
- ***"2. Handling Facilities"***  
**Minimum herd size** to qualify for handling facilities cost-share - **beef:** 10 mature cows or 35 backgrounding cattle / **dairy:** 40-head herd
- ***"3. Milk Production"***  
**Dairy applicants** shall be permitted by the Kentucky Milk Safety Branch.

#### Limits:

- **Bull Purchases** – limit of two (2) bulls per program year
- **Heifer Purchases** – limit of five (5) heifers per program year

## Eligible Cost-share Items (Cattle – Beef & Dairy):

### 1. Genetics

- a. Bulls (purchase only) / Semen for A.I.
  - i. Expected Progeny Differences (EPDs) must be certified to meet the requirements set forth in the state EPD standards in Appendix A.
  - ii. Must qualify within one of the two bull type categories selected by the producer at the time of application.
  - iii. Limited to reimbursement for two (2) bulls per program year.
  - iv. **Beef:** When selecting bulls/semen for each of the six bull type categories, the following traits must be met to qualify:
    1. **Balanced Trait Bulls**, the EPD requirements must be met for calving ease, milking ability, and either weaning weight or yearling weight guidelines.  
*An alternative method can be used that requires the bull to meet the minimum calving ease EPD and minimum maternal index that is specific to the breed, if available.*
    2. **Carcass Merit Bulls** must meet minimum calving ease and index value that are breed specific, if available.
    3. **Heifer Acceptable Bulls** will have to meet minimum calving ease and either weaning weight or yearling weight guidelines.
    4. **High Productivity Bulls** must meet EPD requirements for minimum calving ease and milking ability, and minimum weaning weight or yearling weight guidelines.
    5. **Low Maintenance Bulls** must meet minimum calving ease and maximum yearling weight and milking ability guidelines.
    6. **Terminal Bulls**, the EPDs shall meet the calving ease and either weaning weight or yearling weight guidelines, depending on the targeted market.
  - v. **Dairy:** Use the Lifetime Net Merit Index when selecting (<http://aipl.arsusda.gov/reference/nmcalc.htm>)
    1. This score is an economic index based on milk, fat, protein, somatic cell score, productive life, daughter pregnancy rate, calving ability, udder, feet and legs, and body size.
    2. Semen purchased from artificial insemination (AI) organizations must be from bulls in the upper 20% (80th percentile) for their respective breeds.
    3. Natural service bulls must have sires that are in the upper 20% and dams in the upper 30% (70<sup>th</sup> percentile) for their respective breeds for the Net Merit Index.
- b. Testing: DNA, genomics, semen
- c. Whole herd or individual animal disease diagnostic testing (live animal only)
- d. Artificial Insemination
  - i. Estrus synchronization
  - ii. AI Procedure
  - iii. AI School
  - iv. AI Pharmaceuticals
  - v. AI Equipment, *excluding liquid nitrogen, gloves, sheaths and other consumables*

- e. Embryo transfer work
- f. Heifers - Bred or open heifers
  - i. Applicant must submit Heifer Affidavit – Producer Report for heifer purchases and include documentation of veterinary examination
  - ii. All heifers purchased shall have been developed following the minimum guidelines outlined by the University of Kentucky and the Kentucky Department of Agriculture’s “Herd Builders” replacement heifer program (Appendix B)
  - iii. Heifer with calf is eligible, as long as under 30 months
  - iv. Limited to reimbursement for five (5) heifers per program year
- g. Herd pregnancy checks
- h. Vaccines

2. **Handling Facilities –**

including secure lots or pens for holding, sorting, bulls, calves

- a. Commercial headgate, headlock stanchions
- b. Chutes – holding, squeeze, curved or offset working, loading
- c. Crowding tub and gate
- d. Gates, corral panels and materials for pens
- e. Treatment stall or pens
- f. Scale
- g. Flooring: Gravel, filter fabric, concrete and contracted site preparation
- h. Catch lanes, management rails
- i. Feedways, forage/TMR mixers, feeding equipment systems
- j. Creep gate, creep feeder, mineral feeder, feed bunk (including portable), trough
- k. Filter fabric pads for heavy use areas
- l. Animal waste handling and distribution equipment (excluding motorized vehicles) or custom services
- m. Misting / sprinkler systems, cooling fans
- n. Temporary or Permanent Shade (excluding trees) – material costs necessary for construction of temporary or permanent shade for cattle, including shade cloth
- o. Calf hutches, palpation rails, hoof trimming chute or table, free-stall mattresses including waterbeds, specialized equipment for bedding free stalls, and footbaths
- p. Freeze branding supplies
- q. Ear tagging and tattoo equipment
- r. Castration tools, including banders
- s. Pneumatic darts, remote injection methods for herd health
- t. Cost of having a Nutrient Management Plan or Comprehensive Nutrient Mangement Plan developed

### 3. Milk Production

- a. Milking equipment and generator, including robotic milker
  - b. Cooling and raw milk storage equipment
  - c. Pasteurization equipment
  - d. Equipment service check-up and/or system analysis
  - e. Animal waste handling and distribution equipment (excluding motorized vehicles) or custom services
  - f. Rubber flooring or concrete for heavy cow and human traffic area
  - g. DHIA testing
  - h. Somatic cell testing tools, kits
  - i. Milk weigh meters / weigh jars
4. **Education** - Cost of participation in a master-level agricultural education program (e.g. Master Cattleman, etc.)
5. Biosecurity signage

#### **Exceptions/Limitations:**

- **Buyer/Seller Clause:** A producer shall not participate as a buyer and seller (of that sex of breeding livestock) within the same program year.

Meaning – if one producer sells Bulls to producers that participate in CAIP, they shall not receive cost-share on the purchase of Bulls within the same program year – this statement also applies to Heifers.

- **Emergency Early Release Clause:** The local program administrator shall reserve the right to approve an early release, if it is determined that an animal, due to physical or disposition problems, is no longer considered sound for breeding purposes. The local program administrator can require the animal to undergo an examination by a licensed veterinarian to assist in determination.
- **Replacement Bull:** In the event that a producer retains female offspring sired by a cost-shared bull for use as breeding stock, then the cost-shared bull may be sold and replaced by another bull of equal or greater value. The replacement bull **shall not** be eligible for additional CAIP funds.

#### **Exclusions:**

- The intent of genetics investments is to aid producers in bringing superior genetics into their herd.

Cost-share shall not be provided for animals traded or sold between producers who have co-mingled herds or share sires. This includes the use of a third party to buy/sell the same animals from the co-mingled herd.

## B. Equine

### Eligible Cost-share Items:

1. Genetics:
  - a. Purchase of breeding stock / semen
  - b. Artificial Insemination
    - i. AI Procedure
    - ii. AI Equipment, *excluding liquid nitrogen, gloves, sheaths and other consumables*
  - c. Embryo transfer work
2. Equine exerciser equipment (excluding motorized vehicles)
3. Temporary or Permanent Shade (excluding trees) – material costs necessary for the construction of temporary or permanent shade for livestock
4. Cooling fans, face masks, shade blankets
5. Mare/foal monitoring system (including alerts, camera, and contracted installation services)
6. Vaccines
7. Disease diagnostic testing (live animal only)
8. Animal waste handling and distribution equipment (excluding motorized vehicles) or custom services
9. Hay mangers
10. Castration tools, including banders
11. Cost of having a Nutrient Management Plan or Comprehensive Nutrient Mangement Plan developed
12. Cost of participation in a master-level agricultural education program
13. Biosecurity signage

## Appendix A: Expected Progeny Differences

### Beef Sire Selection for Cattle Genetic Improvement Program

(Updated 1/1/2020)

#### 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 cost or reduce cost 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 low-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 exam. If a bull passes this exam 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 breeding soundness exam.**

*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/poled, 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 on 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 six specific bull types. Producers must select what type of bull they will purchase (2 choices can be made) on their application then purchase a bull that meets the requirements for that bull type.**

#### 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 a category

1. 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 have parentheses around their values. The bulls Birth Weight EPD must be equal to or less than this value.
2. All categories, except Carcass Merit, have a requirement for growth. For Heifer Acceptable, Terminal Sire and High Productivity categories the bull's Weaning Weight **OR** Yearling Weight EPD must be equal to or greater than the value listed. For the Low Maintenance category the bull's Yearling Weight must be equal to or less than the value listed. For the Balanced Trait category the bull's Weaning Weight **OR** Yearling Weight EPD must be equal to or in between the two values listed. For the Carcass Merit category the bulls Carcass Weight EPD must be equal to or in between the two values listed. In this category if the breed does not compute Carcass Weight EPDs then Yearling Weight EPDs are used and this is indicated by the values being in parentheses.
3. There are requirements for milking ability in three of the categories. Balanced Trait bulls must have an EPD that is equal to or in between the two values listed. For the Low Maintenance Category the bull's EPD must be equal to or less than the value listed. High Productivity bulls must have a value that is equal to or greater than the EPD listed in the guidelines. The other three categories have no requirement for milk.
4. 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.
5. **NEW!** 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 through weaning 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.

For more information there is a video available at your county Extension office or 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](mailto:dbullock@uky.edu)).

## Bull Calculator

An online tool has been developed to assist producers to determine if a bull qualifies for their desired category. The website is address is <http://afs.ca.uky.edu/beef/KBAT>.

From the launch page above you can chose whether you plan to use the calculator to assist in purchasing a bull or if you are a seedstock producer that would like to identify which categories the bulls being sold qualify for. These tools are for your convenience, but you are responsible for putting in the correct values and the University of Kentucky and Kentucky Ag Development Fund is not liable for incorrect designations for any reason.

*List of EPDs by bull type is available on-line at <http://agpolicy.ky.gov/funds/Pages/program-portal.aspx>*

## Appendix B: Heifer Purchases

### Requirements for Heifer Purchases Program - Beef

<http://www.kyagr.com/marketing/beef.html>

#### **Bred Heifers:**

1. All bred heifers must be bred to calving ease bulls based on their EPDs (see Beef Sire Selection for Cattle Genetics Improvement Program). **The EPDs of the service sire must be provided at the time of sale.**
2. All bred heifers must be owned by the consignor at the time of breeding.

#### **Open Heifers:**

1. All open heifers must be owned a minimum of 60 days prior to consignment and be a minimum of 12 months of age on sale day.

#### **Vaccination:**

Heifers must be vaccinated for IBR, BVD, PI3, BRSV, Leptospirosis, Vibriosis, (Campylobacter Fetus), and 7-Way Blackleg. Various products may be used on the heifers. Label directions concerning booster vaccinations must be followed. Initial vaccinations and boosters must be administered to all heifers and cannot be given within two weeks prior to sale day. Any intramuscular vaccines should be given in the neck. A veterinarian and/or a signed statement from the producer must validate vaccinations.

#### **Parasite Control:**

All heifers must be treated for internal and external parasites within 45 days of sale. Products for internal parasite control must have a label claim for all stages of the parasite life cycle.

#### **Bred Heifers:**

Consignors guarantee heifers to be safe in calf. If a heifer is proven open by veterinary exam within 30 days after sale, the consignor will replace the heifer or make financial settlement with the buyer. All heifers must have had a yearling pelvic measurement of **160 square centimeters** or greater, and/or 18 months old heifers must have a pelvic measurement of **200 square centimeters** or greater. Tract score and pelvic measurement work should be done by local vet and statement brought to the sale.

#### **Open Heifers (ready to breed):**

Open heifers that are 15 months of age or less must have a reproductive tract score of 2 or greater on sale day. Heifers that are older than 15 months of age must have a reproductive tract score of 4 or 5 on sale day. Open heifers must be pregnancy checked and certified open. Tract score and pelvic measurement work should be done by local vet and statement brought to the sale. All consignors guarantee that animals are sold as represented. If not then settlement must be made with the buyer.

#### **Blemishes:**

Heifers with active cases of Pinkeye or scars resulting from Pinkeye will not be eligible for sale. Heifers must be polled or dehorned and healed completely by sale day.

#### **Body Condition:**

All heifers must have a minimum body condition score of 5 on sale day. Open heifers must weigh 700 pounds or greater upon check in at the sale.

#### **Sire Requirements:**

Bulls of known ID and breed must service heifers. All service sires must have complete EPD information, with emphasis placed on birth weight and calving ease.



## Requirements for Heifer Purchases Program - Dairy

### Heifers:

1. All bred heifers should be bred AI to bulls that are considered acceptable to use on heifers based upon scoring <10% on percentage of difficult births in heifers (%DBH).
2. All bred heifers must be owned by the consignor at the time of breeding.
3. All open heifers must be owned a minimum of 60 days prior to consignment and be a minimum of 12 months of age on sale day.

### Vaccination:

Heifers must be vaccinated for IBR, BVD, PI3, BRSV, Leptospirosis, and 7-Way Blackleg. Various products may be used on the heifers. Label directions concerning booster vaccinations must be followed. Initial vaccinations and boosters must be administered to all heifers and cannot be given within two weeks prior to sale day. A veterinarian and/or a signed statement from the producer must validate vaccinations. All vaccinations must meet BQA certification and must include a list of all products used.

### Parasite Control:

All heifers must be treated for internal and external parasites within 45 days of sale. Products for internal parasite control must have a label claim for all stages of the parasite life cycle and brands must be listed.

### Bred Heifers:

Consignors guarantee heifers to be safe in calf. If a heifer is proven open by veterinary exam within 30 days after sale, the consignor will replace the heifer or make financial settlement with the buyer. All heifers must have had a yearling pelvic measurement of 150 square centimeters or greater, and/or 18 months old heifers must have a pelvic measurement of 180 square centimeters or greater. Tract score and pelvic measurement work should be done by local vet and statement brought to the sale.

### Open Heifers (ready to breed):

Open heifers must be certified to not be a freemartin. Open heifers must be pregnancy checked and certified open. All consignors guarantee that animals are sold as represented. If not, then settlement must be made with the buyer.

### Blemishes:

Heifers with active cases of Pinkeye or scars resulting from Pinkeye will not be eligible for sale. Heifers with active cases of ringworm or heel warts will not be eligible for sale. Heifers with unsound udders or udders showing evidence of mastitis will not be eligible for sale. Heifers must be polled or dehorned and healed completely by sale day.

### Body Condition:

All heifers must have a body condition score between 2.5-3.5 on sale day. Dairy heifers must be between the median and 95<sup>th</sup> Percentile for wither height based upon the Penn State guidelines for their respective breed.

### Sire Requirements:

Bulls of known ID and breed must service heifers. See item no. 1 in section on Heifers. All service sires must have complete Net Merit Index information.