



Five State Beef Initiative in Kentucky

A coordinated effort among:
the **Kentucky Department of Agriculture**,
Kentucky Cattlemen's Association,
Kentucky Farm Bureau,
and the **University of Kentucky**

Sire Recommendations and Certification System

Beginning January 1, 2002, the following system will be used to certify bulls in each of the 5 participating states. For calves to be eligible for the FSBI, the calves must have been sired by an FSBI certified bull. The system chosen by the 5 State Genetics action team is the Power Score System developed by Roy Wallace. In order to evaluate sires, both a Performance Power Score and a Carcass Power Score is used. Bulls must meet both requirements to be FSBI certificated.

Performance Power Score (PPS). The PPS will be calculated for a beef sire based on performance EPDs. The PPS for sires used in a **rotational or straightbred breeding system** uses birth weight (BW), weaning weight (WW), yearling weight (YW), and maternal milk (MM) EPDs in the following equation:

$$\text{Performance Power Score} = (\text{BW}\% + \text{WW}\% + \text{YW}\% + \text{MM}\%) / 4$$

In the equation, BW% is the sires percentile rank within his breed for BW, WW% is his percentile rank for WW, YW% is his percentile rank for YW, and MM% is his percentile rank for MM. Performance Power Scores for bulls to be used as **terminal sires** will be calculated by a different equation. The rationale here is that females will not be retained for the cow herd and will be harvested like their male contemporaries. Consequently, there is no need for MM to be included in the PPS. The PPS equation for these sires is as follows:

$$\text{PPS} = (\text{BW}\% + \text{WW}\% + \text{YW}\%) / 3$$

For a sire to meet, or exceed FSBI genetic requirements, a sire should calculate a PPS of 65% or lower. Effectively, this will eliminate the bottom third of the genetic pool from consideration. A sire will be certified for 3 years and may be re-certified using his current (updated) EPDs and current year non-parent percentile breakdown.

Carcass Power Score. A separate Power Score needs to be calculated for carcass traits. The Carcass Power Score (CPS) should utilize two traits; marbling (or % intra-muscular fat [%IMF] for ultrasound data) and percent retail product (%RP) as shown in the following equation:

$$\text{Carcass Power Score} = (\% \text{IMF}\% + \% \text{RP}\%) / 2$$

In the equation, %IMF% represents the percentile rank of the sire for %IMF, while %RP% is the percentile rank of the sire within his breed for %RP within his breed. The rationale for these two traits is that marbling (%IMF) is the major factor determining quality grade in young cattle and %RP includes both muscle and fat for carcass yield. The percentile table to be used to determine the percentile ranks and calculate the CPS for a bull will depend on the sire's type of carcass EPD data (Ultrasound or Carcass). If a bull has both ultrasound and carcass EPDs, a CPS will be calculated utilizing each set of data. If a bull meets the requirements in either one of the data sets, the sire will be eligible for certification. For a sire to meet the FSBI requirements and become certified, the CPS must be 80 or lower.

On-Farm tested bulls. For bulls tested on the farm and ultrasound data obtained, there must be at least three (3) bulls in the contemporary group as defined by the national breed association and it is required that the CUP data be reported to the respective breed association for the generation of carcass EPDs.

Bulls without EPDs for carcass traits. Bulls that do not have EPDs for carcass traits may be used in the program, if they have ultrasound data. For bulls at a state sponsored central test station to be eligible for use in the FSBI, the bull must have ultrasound data in the upper 2/3 of his tested contemporary group. A contemporary group is defined as six (6) bulls or more of the same breed. If six (6) bulls of the same breed are not available, then the individual is compared with the group of similar breeds (ie., British and European). Bull tests are required to have the CUP data sent to the respective national breed association for the generation of carcass EPDs. In all cases, EPDs will take precedence over raw data. If a bull is not part of a state sponsored central bull test, not tested on the farm, or is not part of a contemporary group, the carcass EPDs of the bull's sire will be used and the CPS must be 65 or lower.

Other requirements and criteria for FSBI.

- 1) All breeds and breed combinations are eligible, but cattle cannot have more than a 2" hump at harvest. Producers are encouraged to utilize breeds that have carcass and/or ultrasound database(s).
- 2) Cattle must have performance EPD data from a national cattle evaluation association to participate in the FSBI program.
- 3) Embryo transfer cattle without an EPD (from an embryo transfer heifer) will be calculated based on the average of the sire and dam EPDs.
- 4) Bulls must meet both the PPS and CPS requirements to be eligible. The exception is for the first year of certification (2002). Bulls two years of age or older that do not and cannot have ultrasound carcass data collect on them can become certified by successfully meeting or exceeding the PPS.

Other considerations. It is recognized that the Power Score System is not the final answer in sire selection. Once a sire meets the PPS and CPS requirements for certification, producers must further evaluate bulls on traits that will help them better meet the market targets within their herd. Traits such as structural correctness, udder quality, frame size, disposition, etc. must be selected (independent culling strategy) to improve cow herd deficiencies

For more information, contact:

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