

Beef Cattle Terminology

Beef cattle terminology is a listing of many of the terms or lingo used in everyday conversation within the industry.

1st, 2nd, and 3rd Stage

The first stage of pregnancy in the cow covers conception up to the 3rd month; the second stage covers months four through six; the third stage includes months seven on out to the 283rd day.

3 in 1

A dam (mother cow) with her calf, where the cow has been bred again and is pregnant. These three (cow, calf, unborn calf) are sometimes sold together in one “package.”

Accuracy (of selection)

Correlation between an animal’s unknown actual breeding value and a calculated estimated breeding value.

Adaptation

Adaptation to a particular environment exists when an animal or breed has the ability to survive, produce and reproduce within that environment at an acceptable level to the cattle producer.

Adaptive Trait

An adaptive trait is one that contributes to an animal or a breed’s ability to survive and reproduce sustainably in a particular environment. Resistance to internal parasites and heat tolerance are important adaptive traits in some environments but not in others.

Average Daily Gain (ADG)

Measurement of daily body weight change in animal on a feed test. Most bull tests are 140 or 160 days in length.

Adjusted Weaning Weight (WW)

An unshrunk, off-the-cow weight adjusted to 205 days of age and to a mature dam age equivalence.

Adjusted Yearling Weight (YW)

An unshrunk weight adjusted to either 365, 452, or 550 days of age and for age of dam.

All Natural

An animal that has been raised growth hormone free, antibiotic free, and no steroids given either by injection or digestion (in the feed) according to the USDA.

Allele

Alleles at a gene locus have different nucleotide sequences within the DNA. Because different alleles may have different biological effects, they account for the genetic variation necessary for response to selection. See also gene. Alleles may also be described as alternate forms of genes. Because genes occur in pairs in body cells, one gene of a pair may have one effect and another gene of that same pair (allele) may have a different effect on the same trait.

Artificial insemination (A.I.)

The technique of placing semen from the male in the reproductive tract of the female by means other than natural service.

Backcross

The mating of a two-breed crossbred offspring back to one of its parental breeds. Example: A Hereford-Angus cross cow bred back to an Angus bull.

Backgrounding

A beef cattle operation for growing feeder cattle from weaning until they are sent to be finished

Base Weight

The actual net weight of the animal before any adjustment (shrink) or (slide) is made.

Beef Carcass Data Service

A program whereby producers, for a fee, can receive carcass evaluation data on their cattle by using a special “carcass data” eartag for their slaughter animals. See county extension director breed representative, Beef Cattle Improvement Association representative, or area office of USDA meat grading service for information.

Beef Improvement Federation (BIF)

A federation of organizations, businesses, and individuals interested or involved in performance evaluation of beef cattle. The purposes of BIF are to bring about uniformity of procedures, development of programs, cooperation among interested entities, education of its members and the ultimate consumers of performance evaluation methods, and to build confidence of the beef industry in the principles and potentials of performance testing.

Birth Weight (BW)

The weight of a calf taken within 24 hours after birth. Heavy birth weights tend to be correlated with calving problems, but the conformation of the calf and the cow are contributing factors.

Bos Indicus

Subspecies of cattle from South Asia, commonly called Zebu, they have a hump. Brahman is the most common breed in the US.

Bos Taurus

Subspecies of cattle from Western Asia, but often referred to as European. Most cattle in the North America comes from these breeds.

Bovine

The general family grouping of cattle

BQA (Beef Quality Assurance)

A national program that provides guidelines for beef production. It is funded/sponsored by the Beef Checkoff to raise consumer confidence through offering proper management techniques and a commitment to quality within every segment of the beef industry.

Breeder

In most beef breed associations, the owner of the dam of a calf at the time she was mated or bred to produce that calf.

Breeding Objective

The precise goal of a beef cattle breeding program is known as its breeding objective. An example would be “to produce high-quality, lean beef at the lowest possible cost.” The breeding objective typically includes a listing of production and indicator traits that will be used as selection criteria. Breeding objectives vary among enterprises because of differences in resources, environments, markets and economic goals.

Breeding Value

An animal’s breeding value reflects its transmissible genetic merit for a trait. It is twice the amount by which progeny of the individual would differ from progeny of an average individual from the same population when mates of both were chosen at random from the population at large. Breeding value cannot be known with certainty, but it can be estimated using performance information from the animal itself and from its relatives. Directional selection is often practiced using expected progeny difference or EPD (one-half of estimated breeding value) as the selection criterion. Breeding value of an animal as a parent. The working definition is twice the difference between a very large number of progeny and the population average when individuals are mated at random within the population and all progeny are managed alike. The difference is doubled because only a sample half (one gene of each pair) is transmitted from a parent to each progeny. Breeding value exists for each trait and is dependent on the population in which the animal is evaluated. For a given trait, an individual can be an above average producer in one herd and a below average producer in another herd.

British Breeds

Breeds of cattle such as Angus, Hereford, and Shorthorn originating in Great Britain.

Broken Mouth

A cow that is starting to lose her teeth.

Bull

Male bovine (uncastrated), usually means a breeding age animal (sexually mature).

Bullock

Young male bovine (young bull), usually referring to an animal less than 20 months old

Calf:

Young cattle (less than a year) of either sex

Calf Crop

The number or percentage of calves produced within a herd in a given year relative to the number of cows and heifers exposed to breeding.

Calve

To give birth to a calf

Calving Difficulty (Dystocia)

Abnormal or difficult labor, causing difficulty in delivering the fetus and/or placenta.

Calving Season

The season(s) of the year when the calves are born. Limiting calving seasons is the first step to performance testing the whole herd, accurate records, and consolidated management practices.

Carcass Merit

Desirability of a carcass relative to quantity of components (muscle, fat, and bone), USDA quality grade, plus potential eating qualities.

Carcass Quality Grade

A quality grade is a composite evaluation of factors that affect palatability of meat (tenderness, juiciness, and flavor). These factors include carcass maturity, firmness, texture, and color of lean, and the amount and distribution of marbling within the lean. Beef carcass quality grading is based on (1) degree of marbling and (2) degree of maturity. The USDA Quality Grades are rated Prime, Choice, Select and Standard.

Carcass Yield Grade

Yield grades estimate the amount of boneless, closely trimmed retail cuts from the high-value parts of the carcass—the round, loin, rib, and chuck. However, they also show differences in the total yield of retail cuts. We expect a YG 1 carcass to have the highest percentage of boneless, closely trimmed retail cuts, or higher cutability, while a YG 5 carcass would have the lowest percentage of boneless, closely trimmed retail cuts, or the lowest cutability. The USDA Yield Grades are rated numerically and are 1, 2, 3, 4, and 5. Yield Grade 1 denotes the highest yielding carcass and Yield Grade 5, the lowest.

Carrier

A heterozygous individual having one recessive gene and one dominant gene for a given pair of genes (alleles). For example, an animal with one gene for polledness and one gene for horns will be polled but can produce horned offspring when mated to another animal carrying the gene for horns

Chromosome

Chromosomes are long DNA molecules on which genes (the basic genetic codes) are located. Domestic cattle have 30 pairs of chromosomes.

Closed Herd

A herd in which no outside breeding stock (cattle) are introduced.

Collateral Relatives

Relatives of an individual that are not its ancestors or descendants. Brothers and sisters are an example of collateral relatives.

Composite

A breed that has been formed by crossing three or more established breeds

Conception

The fertilization of the ovum (egg). The act of conceiving or becoming pregnant.

Congenital

Acquired during prenatal life. Condition exists at or dates from birth. Often used in the context of congenital (birth) defects.

Contemporary Group

A group of cattle that are of the same breed and sex and have been raised in the same management group (same location on the same feed and pasture). Contemporary groups should include as many cattle as can be accurately compared.

Cow

Female bovine, one that is sexually mature, and usually one that has already delivered a calf

Cow-Calf Operation

A farm/ranch that maintains a breeding herd of cows and sells weaned calves for sale

Crossbred:

An animal that is a product of the crossing of two or more breeds

Cud

Feed that cattle regurgitates into their mouth so they can chew it and swallow it another time

Culling

The process of eliminating less productive or less desirable cattle from a herd.

Cutability

An estimate of the percentage of salable meat (muscle) from a carcass versus percentage of waste fat. Percentage of retail yield of carcass weight can be estimated by a USDA prediction evaluation that includes hot carcass weight, ribeye area, fat thickness, and estimated percent of kidney, pelvic, and heart fat.

CWT

A value expressed in 100-pound increments.

Dam

The calf's mother.

Dehorning

Removing the horns from calves so that they are easier to handle and safer to farmers/ranchers and each other, this is not always practiced.

Deviation

Difference between an individual record and the average for that trait for that contemporary group. These differences sum to zero when the correct average is used. A ratio deviation is the ratio less the average ratio or 100.

Disposition

Temperament, the sum of physical, emotional and intellectual components that effect or determine the action or reactions of an animal.

DNA Marker

A DNA marker is a specific sequence on nucleotides within a particular gene that can be detected through laboratory analysis and can be used to determine which alleles are present at that locus in an individual. See also marker-assisted selection.

Dominance

Dominant genes affect the phenotype when present in either homozygous or heterozygous condition. A dominant gene need only be obtained from one parent to achieve expression.

Dystocia (calving difficulty)

Abnormal or difficult labor causing difficulty in delivering the fetus and/or placenta.

Economic Value

The net return within a herd for making a pound or percentage change in the trait in question.

Effective Progeny Number (EPN)

An indication of the amount of information available for estimation of expected progeny differences in sire evaluation. It is a function of number of progeny but is adjusted for their distribution among herds and contemporary groups and for the number of contemporaries by other sires. EPN is less than the actual number because the distribution of progeny is never ideal.

Environment

All external (nongenetic) conditions that influence the reproduction, production, and carcass merit of cattle. In the context of beef cattle breeding, the environment includes the net effect of all nongenetic factors that influence an animal's phenotype for a particular trait, up until the time that the trait is observed or expressed. Factors that contribute to the environment include but are not limited to physical geography, climate, quantity and quality of the diet, management practices and health maintenance programs.

Embryo

A fertilized ovum (egg) in the earlier stages of prenatal development usually prior to development of body parts.

Embryo Transfer (ET)

Removing fertilized ova (embryos) from one cow (donor dam) and placing these embryos into other cows (host cows), usually accompanied by hormone-induced superovulation of the donor dam. More calves can be obtained from cows of superior breeding value by this technique. Only proven producers should become donor dams.

Estimated Breeding Value (EBV)

An estimate of an individual's true breeding value for a trait based on the performance of the individual and close relatives for the trait. EBV is a systematic way of combining available performance information on the individual, brothers, and sisters of the individual, and the progeny of the individual.

Estrus (heat)

The recurrent, restricted period of sexual receptivity in cows and heifers. Nonpregnant cows and heifers usually come into heat 18 to 21 days following their previous estrus.

Expected Progeny Difference (EPD)

The difference in performance to be expected from future progeny of a sire, compared with that expected from future progeny of the average bull in the same test. EPD is an estimate based on progeny testing and is equal to one-half the estimate of breeding value obtainable from the progeny test records.

F 1's

An animal that has been produced from a typical purebred breed crossed with another purebred breed. Resulting in an offspring with "Hybrid Vigor."

Fed (or Live) Cattle

Cattle that have been fed in a feedlot.

Feed Conversion (feed efficiency)

Units of feed consumed per unit of weight gained.

Feeder Cattle

Cattle that need additional feeding, for weight gain, before going to slaughter.

Feedlot:

Beef cattle enterprise where cattle are placed in confinement, fed harvested feeds and fattened for slaughter.

Finished Cattle

Cattle that are ready to go to slaughter.

Fleshy

The ribs are not visible when the animal moves and there is a round “thick” appearance through the rib and loin area.

FOB

“Free On Board” or “Freight On Board” refers to the physical place at which ownership (title) of livestock or goods passes to the buyer. The buyer is responsible for the shipping and its cost from this location.

Frame Score

A score based on subjective evaluation of height or actual measurement of hip height. This score is related to slaughter weights at which cattle will grade Choice or have comparable amounts of fat cover over the loin eye at the 12th to 13th rib.

Gene

A gene is a discrete segment of the DNA molecule, located at a specific site on a specific chromosome pair. The unique nucleotide sequence of each gene determines its specific biological function. Many genes specify the amino acid sequence of a protein product. Others produce molecules that are involved in controlling developmental and metabolic events. The basic units of heredity that occur in pairs and have their effect in pairs in the individual, but which are transmitted singly (one or the other gene at random of each pair) from each parent to offspring. See also allele.

Generation Interval

Average age of the parents when the offspring destined to replace them are born. A generation represents the average rate of turnover of a herd.

Genetic Correlation

The genetic correlation between two traits is a numerical measure of the extent to which variation in both of them is caused by genes at the same loci. It ranges from +1 (indicating that the two traits are genetically equivalent) through zero (indicating that the two traits are totally independent) to -1 (indicating that alleles causing the first trait to increase cause the other trait to decrease concomitantly). Correlations between two traits that arise because some of the same genes affect both traits. When two traits (i.e., weaning and yearling weight) are positively and highly correlated to one another successful selection for one trait will result in an increase in the other trait. When two traits are negatively and highly correlated (i.e., birth weight and calving ease) to one another, successful selection for one trait will result in a decrease in the other trait.

Genotype

Actual genetic makeup (constitution) of an individual determined by its genes or germplasm. For example, there are two genotypes for the polled phenotype [PP (homozygous dominant) and Pp (heterozygote)].

Genotype by Environment Interaction

Genotype by environment interaction exists when the difference in phenotypic merit between genetic groups is dependent upon the environment in which those groups are compared. Variation in the relative performance of different genotypes from one environment to another. For example, the “best” cattle (genotypes) for one environment may not be the “best” for another environment.

Gonad

The organ that produces the reproductive cells, the testicle in the male and the ovaries in the female.

Green

The ribs are visible on the animal and the flank area seems drawn up or empty, there is no “roundness to the stomach-flat” and the rib/loin areas of the topline look under developed.

Half-Sibs

Individuals having the same sire or dam. Half-brothers and/or half-sisters.

Heat Synchronization

Causing a group of cows or heifers to exhibit heat together at one time by artificial manipulation of the estrous cycle.

Heifer

A female of the cattle species less than three years of age that has not borne a calf.

Heiferette

a heifer that has calved once, dried up, and is then fed for slaughter

Herd

A group of cattle.

Heredity

The transmission of genetic or physical traits of parents to their offspring.

Heritability

Heritability is a numerical measure of the extent to which variation in a trait is genetically determined. Varying from zero to one, it describes the proportion of an individual’s phenotypic superiority or inferiority for the trait expected to be transmitted to its offspring. The proportion of the differences among cattle, measured or observed, that is transmitted to the offspring. The higher the heritability of a trait, the more accurately does the individual performance predict breeding value and the more rapid should be the response due to selection for that trait.

Heterosis (Hybrid Vigor)

Heterosis is the difference in average performance for a trait between crossbred individuals and the average performance of parent breeds contributing to the cross. It frequently is economically beneficial, particularly for traits that contribute to reproduction, longevity and health. Amount by which measured traits of the crossbreds exceed the average of the two or more purebreds that are mated to produce the crossbreds.

Heterozygous

Genes of a specific pair (alleles) are different in an individual.

Homozygous

Genes of a specific pair (alleles) are alike in an individual.

Inbreeding

Production of offspring from parents more closely related than the average of a population. Inbreeding increases the proportion of homozygous gene pairs and decreases the proportion of heterozygous gene pairs. Also, inbreeding increases prepotency and facilitates expression of undesirable recessive genes.

Inbreeding Coefficient

The inbreeding coefficient is a number between zero and one that quantifies the expected reduction in proportion of heterozygous loci in the inbred individual, compared to the proportion of heterozygous loci in a typical individual from the noninbred population from which the individual descended.

Inbreeding Depression

Inbreeding depression is the average change in phenotypic value for a trait that accompanies each unit of change in inbreeding coefficient within a population. Generally, it is economically detrimental, particularly for traits that contribute to reproduction, longevity and health.

Independent Culling Levels

Selection of culling based on cattle meeting specific levels of performance for each trait included in the breeder's selection program. For example, a breeder could cull all heifers with weaning weights below 400 pounds (or those in the bottom 20% on weaning weight) and yearling weights below 650 pounds (or those in the bottom 40%).

Indicator Trait

An indicator trait is one that does not directly influence net profit of commercial livestock production but which is genetically correlated with one or more traits that do. For example, larger scrotal circumference of yearling bulls does not increase revenue or reduce cost of production, but it is predictive of a bull's genetic merit for age at puberty, an economically important trait in many instances.

Linebreeding

A form of inbreeding in which an attempt is made to concentrate the inheritance of one ancestor, or line of ancestors, in a herd. The average relationship of the individuals in the herd to this ancestor (outstanding individual or individuals) is increased by linebreeding.

Linecross

Offspring produced by crossing two or more inbred lines.

Long Yearling

Calves that are between 19 months to 24 months of age.

Marbling

The specks of fat (intramuscular fat) distributed in muscular tissue. Marbling is usually evaluated in the ribeye between the 12th and 13th rib.

Marker-Assisted Selection

In marker-assisted selection, DNA markers are used to predict genotypes of candidates for selection at loci associated with merit for an economically important trait. Such information may then be used in breeding value estimation for the trait.

Moderate- Flesh

The ribs are slightly visible on the animal and some thickness is apparent along its topline.

Most Probable Producing Ability (MPPA)

An estimate of a cow's future productivity for a trait (such as progeny weaning weight ratio) based on her past productivity. For example, a cow's MPPA for weaning ratio is calculated from the cow's average progeny weaning ratio, the number of her progeny with weaning records, and the repeatability of weaning weight.

National Sire Evaluation

Programs of sire evaluation conducted by breed associations to compare sires on a progeny test basis. Carefully conducted national reference sire evaluation programs give unbiased estimates of expected progeny differences. Sire evaluations based on field data rely on large numbers of progeny per sire to compensate for possible favoritism or bias for sires within herds.

Nonadditive Gene Effects

Favorable effects or actions produced by specific gene pairs or combinations. Nonadditive gene action is the primary cause of heterosis. Nonadditive gene action occurs when the heterozygous genotype is not intermediate in phenotypic value to the two homozygous genotypes.

Number of Contemporaries

The number of animals of similar breed, sex, and age, against which an animal was compared in performance tests. The greater the number of contemporaries, the greater the accuracy of comparisons.

Open

A term commonly used to indicate a non-pregnant female.

Optimum Level of Performance

The most profitable or favorable ranges in levels of performance for the economically important traits in a given environment and management system. For example, although many cows produce too little milk, in every management system there is a point beyond which higher levels of milk production may reduce fertility and decrease profit.

Organic Beef

Certified organic beef must come from a fully verifiable production system that collects information on the history of every animal in the program, including its breed history, veterinary care, and feed.

Outcrossing

Mating of individuals that are less closely related than the average of the breed. Commercial breeders and some purebred breeders should be outcrossing by periodically adding new sires that are unrelated to their cow herd. This outcrossing should reduce the possibility of loss of vigor due to inbreeding.

Ovulation

Release of the female germ cell (egg) by the ovary. Cows usually ovulate several hours (up to 15 hours) after the end of estrus or standing heat.

Parturition

The act of giving birth; calving.

Pedigree

A tabulation of names of ancestors, usually only those of the three to five closest generations.

Performance Data

The record of the individual animal for reproduction, production, and possibly carcass merit. Traits included would be birth, weaning and yearling weights, calving ease, calving interval, milk production, etc.

Performance Pedigree

A pedigree that includes performance records of ancestors, half and full sibs, and progeny in addition to the usual pedigree information. Also, the performance information is systematically combined to list estimated breeding values on the pedigrees by some breed associations.

Performance Testing

The systematic collection of comparative production information for use in decision making to improve efficiency and profitability of beef production. Differences in performance among cattle must be utilized in decision making for performance testing to be beneficial. The most useful performance records for management, selection, and promotion decisions will vary among purebred breeders and for purebred breeders compared with commercial cattle producers.

Phenotype

The visible or measurable expression of a character; for example, weaning weight, postweaning gain, reproduction, etc. Phenotype is influenced by genotype and environment.

Phenotypic Correlations

Correlations between two traits caused by both genetic and environmental factors influencing both traits.

Phenotypic Selection

Phenotypic selection occurs when individuals are selected to become the next generation of parents based upon their phenotypic merit for a particular trait or traits. Because “like tends to beget like,” selection of phenotypically superior parents should increase progeny merit for the selected trait.

Planned Matings

Planned matings occur when the cattle breeder chooses to mate a particular male with a particular female in an attempt to achieve a desired result. Crossbreeding is a planned mating, for example, when practiced in an attempt to benefit from heterosis. See also random mating.

Polled

Naturally hornless cattle. Having no horns or scurs. Planned matings.

Possible Change

The variation (either plus or minus) that is possible for each expected progeny difference (EPD). This measurement of error in prediction or estimation of EPD decreases as the number of offspring per sire increases.

Premise I.D.

A physical location which is engaged in the production-(breeding), and/or feeding, and marketing of cattle, that has been assigned a numeric number dependent on the legal descriptive of said location, within a specific state. The resident state and the U.S. Department of Agriculture record the information in a shared data base which is then shared with other U.S. states.

Prepotent

The ability of a parent to transmit its characteristics on its offspring so that they resemble that parent, or each other, more than usual. Homozygous dominant individuals are prepotent. Also, inbred cattle tend to be more prepotent than outbred cattle.

PRE-VAC

A preventative animal health program to raise the level of resistance and other pathogens before a disease can occur. In this program, calves are given respiratory /viral and intestinal (bacteria) preventing vaccines prior to weaning and then vaccinated again 14 to 21 days.

Production Trait

Production traits are those that directly influence cost or revenue from beef cattle production; growth rate, feed intake and carcass merit, for example.

Progeny records

The average, comparative performance of the progeny of sires and dams.

Progeny testing

Evaluating the genotype of an individual by a study of its progeny records.

Puberty

The age at which the reproductive organs become functionally operative and secondary sex characteristics begin to develop.

Purebred

An animal of known ancestry within a recognized breed that is eligible for registry in the official herdbook of that breed.

PVP (Process Verified Program)

A USDA approved Process Verified Program requires a company or business entity to implement a Quality Management System, based upon ISO 9000 standards, and to provide products or services which consistently meet specified product requirements. In the beef cattle industry, PVP's are usually used to verify the age and source of cattle for export to various foreign countries.

Qualitative Traits

Those traits in which there is a sharp distinction between phenotypes, such as black and white or polled and horned. Usually, only one or few pairs of genes are involved in the expression of qualitative traits.

Quantitative Trait

Those traits in which there is no sharp distinction between phenotypes, with a gradual variation from one phenotype to another, such as weaning weight. Usually, many gene pairs are involved, as well as environmental influences.

Random Mating

In random mating, the alternative to planned mating, males and females are mated without regard to their genetic relationship or to their phenotypic similarity. A system of mating where every female (cow and/or heifer) has an equal or random chance of being assigned to any bull used for breeding in a particular breeding season. Random mating may be required for accurate progeny tests.

Rate of Genetic Improvement

Rate of improvement per unit of time (year). The rate of improvement is dependent on: (1) heritability of traits considered; (2) selection differentials; (3) genetic correlations among traits considered; (4) generation interval in the herd; and (5) the number of traits for which selections are made.

Recessive Gene

Recessive genes affect the phenotype only when present in a homozygous condition. Recessive genes must be received from both parents before the phenotype caused by the recessive genes can be observed.

Reference Sire

A bull designated as a benchmark in progeny testing other bulls (young sires). Progeny by reference sires in several sires enable comparisons to be made between bulls not producing progeny in the herd.

Regression (regressed)

A measure of the relationship between two variables. The value of one trait can be predicted by knowing the value of the other variable. For example, easily obtained carcass traits (hot carcass weight, fat thickness, ribeye area, and percent of internal fat) are used to predict percent cutability. Likewise, breeding value estimates based on limited data are regressed back toward the population average to account for the imperfection of this relationship.

Replacement Heifer

A female calf chosen to become a producing dam (cow) in a herd. They are selected on the basis of weight per day of age, performance in nutrition, health, maternal pedigree, sexual maturity, frame size and soundness, and visual appraisal.

Rotational Crossbreeding

Systems of crossing two or more breeds where the crossbred females are bred to bulls of the breed contributing the least genes to that female's genotype. Rotation systems maintain relatively high levels of heterosis and produce replacement heifers from within the system. Opportunity to select replacement heifers is greater for rotation systems than for other crossbreeding systems.

Ruminant

Any mammal that has a four-part stomach (rumen, reticulum, omasum, abomasum).

Scrotal Circumference

A measure of testes size obtained by measuring the distance around the testicles in the scrotum with a circular tape. Related to semen producing capacity and age at puberty of female sibs and progeny.

Scur

Horny tissue of rudimentary horns that are attached to the skin rather than the bony parts of the head.

Seedstock Breeders

Producers of breeding stock for purebred and commercial breeders. Progressive seedstock breeders have comprehensive programs designed to produce an optimum or desirable combination of economical traits (genetic package) that will ultimately increase the profitability of commercial beef production.

Selection

Causing or allowing certain individuals in a population to produce offspring in the next generation. Selection occurs when individuals of different genetic or phenotypic merit reproduce at different rates. Relevant types of selection include:

- **Artificial Selection.** The livestock breeder decides which individuals will reproduce and for how long. Ideally, animals with highest predicted genetic merit for economically important traits are chosen as parents, and those with the poorest estimated genetic merit are rejected or culled.
- **Natural Selection.** Whether an animal reproduces, and for how long, is determined by that animal's ability to cope with environmental challenges, rather than or in addition to breeder decisions.
- **Directional Selection.** Animals chosen to be parents are above (or below) the average of their contemporaries for the trait in question. The goal of directional selection is to improve phenotypic merit of the selected traits in progeny of the selected individuals.
- **Stabilizing Selection.** Those animals closest to average of their contemporaries are selected as parents, while animals that are either well above or well below average are discriminated against. The goal is to maintain the trait in question at its current level of expression. Stabilizing selection is appropriate for traits for which the optimum phenotype is an intermediate value.

Selection Differential (reach)

The difference between the average for a trait in selected cattle and the average of the group from which they came. The expected response from selection for a trait is equal to selection differential times the heritability of the trait.

Selection Index

A formula that combines performance records from several traits or different measurements of the same trait into a single value for each animal. Selection indexes weigh the traits for their relative net economic importance and their heritabilities plus the genetic associations among the traits.

Selection Intensity

Selection intensity is a numerical measure of a breeder's attempt to change a trait by choosing as parents those individuals with better than average estimated transmissible genetic merit for that trait. If all other things are equal, then higher selection intensity leads to higher selection response.

Selection Response

Selection response is the amount by which the population mean for a trait is changed by the effects of selection, generally expressed per unit of time.

Semen Tested

The evaluation of sperm morphology (structure) and motility (rate and percent of forward movement). Volume and concentration from a single ejaculation can also be measured.

Short & Solid

A cow of "mid-age" which has all her teeth, but they show signs of wear.

Short Yearling

Calves that are between 12 months to 18 months of age.

Shrink

The loss of body weight an animal experiences when gathered, transported, or held.

Sibs

Brothers and sisters of an individual.

Sire

The calf's father.

Sire Summary

Published results of national sire evaluation programs.

Slide

The adjustment of the final sale price to accommodate a variance in weight. The value can be added or subtracted from the quoted selling price, depending upon stated weight range at "point of sale."

Smokey

A calf that is colored grey or "Smokey", which is the off spring of a Purebred Charolais and some dominant black breed.

Smooth Mouth

A cow that has lost all of her teeth.

Source Verified

Source and/or age verified programs were established for the purpose of identifying cattle processed for human consumption. Moreover, export markets, where such identification has become mandatory in order for U.S. beef to become eligible for import from other countries; the program uses a "RFID" ear tag for the calf. The calf must be registered with one of the following in order to qualify: 1) breeds association, 2) packing plant, 3) management company, 4) feedlot. The ear tag is then matched to the ranch or "birthplace" of the calf. That location could also have a "Premise Number" which is part of a state and USDA data bank.

Springer

A cow or heifer that is close to calving.

Steer

Male bovine that has been castrated (testicles physically or functionally removed) before reaching puberty, raised for meat.

Stocker:

Weaned cattle that are run on grass or fed on high roughage diets. Generally weigh 350 - 550 lbs. when started with expectations to gain 250 - 300 lbs. during growing phase

Stressor

A stressor is any external challenge that causes an animal to initiate a physiological, behavioral and(or) immunological response to maintain or achieve its physical integrity and well-being. Examples include environmental temperatures outside the animal's inherent comfort zone, pathogenic organisms and dietary toxins.

Terminal Sires

Sires used in a crossbreeding system where all their progeny, both male and female, are marketed. For example, F1 crossbred dams could be bred to sires of a third breed and all calves marketed. Although this system allows maximum heterosis and complementary of breeds, replacement females must come from other herds.

Tipped

The removal of the insensitive part of the horn.

Variance

Variance is a statistic that describes the variation we see in a trait. Without variation, no genetic progress is possible, since genetically superior animals would not be distinguishable from genetically inferior ones.

Veal

Meat from very young cattle (typically under 3 months old). Most veal comes from dairy breeds.

Weaning

Separating calves from their dams (mothers) so that they no longer suckle, this can be allowed to happen on its own or can be forced.

Weight per Day of Age (WDA)

Weight of an individual divided by days of age.

Yearling

Cattle (male or female) that are between 1-2 years old