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Beef Cattle Acronyms Cheat Sheet

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Many acronyms are used in the beef cattle industry. Knowing exactly what they represent instead of guessing can be important. Here is a cheat sheet for beef cattle producers of some of the commonly used acronyms in the industry.

ADF: acid detergent fiber – percentage of highly indigestible plant material; comprised of cellulose and lignin; greater ADF values are associated with less digestibility.

ADG: average daily gain – rate of weight gain for a given time period; weight on one date minus weight at an earlier date divided by the number of days between the dates; typically expressed as pounds per day.

AI: artificial insemination – process of collecting sperm cells from a bull and manually introducing them into the reproductive tract of a cow or heifer; a reproductive technology.

AMC/AMF: Arthrogryposis Multiplex carrier/free - Arthrogryposis Multiplex (Curly Calf syndrome) carriers have one copy of this genetic mutation and can pass the defect on to offspring; Arthrogryposis Multiplex free individuals have no copies of this mutation.

AMS: Agricultural Marketing Service – agency within USDA assigned to facilitate the strategic marketing of agricultural products in domestic and international markets while ensuring fair trading practices and promoting a competitive and efficient marketplace.

BCS: body condition score – management tool used to evaluate the nutritional status of beef cattle; an indication of the fat cover (energy reserves) of an animal; ranges from 1 (extremely emaciated) to 9 (very obese) in beef cattle.

BCIA: Beef Cattle Improvement Association – producer-led organization focused on beef cattle genetic improvement efforts at the state level; state affiliate of the Beef Improvement Federation.

BIF: Beef Improvement Federation – international organization focused on beef cattle genetic improvement efforts.

BLV: bovine leukosis virus – blood-borne viral infection of cattle that may result in malignant tumors.

BQA: Beef Quality Assurance – nationally coordinated and state implemented educational program designed to improve beef quality by encouraging use of proper management techniques and a commitment to quality throughout the beef industry.

BRD: bovine respiratory disease – respiratory disease complex that typically occurs after weaning and causes major economic losses in the U.S. beef cattle industry; also known as shipping fever or pneumonia.

BRSV: bovine respiratory syncytial virus – viral infection of cattle contributing to bovine respiratory disease.

BSE: 1) bovine spongiform encephalopathy – chronic degenerative disease that affects the central nervous system of cattle; “mad cow disease”; 2) breeding soundness evaluation – examination of a bull’s potential breeding ability as determined by a physical examination, scrotal circumference measurement, and semen evaluation for morphology (shape) and motility (movement).

BVD: bovine virus diarrhea – viral infection of cattle contributing to bovine respiratory disease and poor reproductive performance.

BW: 1) birth weight – weight of calf at birth; 2) body weight – weight of live animal.

CP: crude protein – quantity of true protein and non-protein nitrogen present in a feedstuff; nitrogen times 6.25.

CWT: hundred weight – unit of weight equal to 100 pounds.

DM: dry matter – feedstuff sample remaining after the water is removed; $100 \text{ minus moisture \%} = \text{DM \%}$.

DMI: dry matter intake – amount of forage or feed an animal will eat excluding the water content of the feedstuffs; intake estimate based on results from animal feeding trials and measured neutral detergent fiber concentration of a feedstuff.

DNA: deoxyribonucleic acid – chemical compound that stores within each cell the genetic information unique to an individual; codes for amino acids which are linked together to form proteins.

EPD: expected progeny difference – genetic selection tool used to predict the expected performance for specific traits of the calves (progeny) of an individual compared to the expected performance of calves of another individual or group of cattle; based on the performance records of an individual, its relatives, and its progeny and may be marker-assisted as well.

ERT: economically relevant trait – trait that is of direct economic important to cattle producers.

ET: embryo transfer – reproductive technology used to multiply the genetics of selected females; involves generating and obtaining (flushing) the embryos from the donor female and then transferring each embryo into a different female (recipient), who gestates the resulting fetus and gives birth to the calf.

F₁: first cross – offspring resulting from mating a purebred bull to purebred females of another breed.

FOB: free on board – buyer pays freight after loading.

FSA: Farm Service Agency – agency within USDA that implements agricultural policy, administers credit and loan programs, and manages conservation, commodity, disaster and farm marketing programs.

HCW: hot carcass weight – weight of the unchilled beef carcass after removal of the hide, head, feet, and internal organs.

IBR: infectious bovine rhinotracheitis – viral infection of cattle contributing to bovine respiratory disease; rednose.

IMF: intramuscular fat – marbling; flecks of fat within muscle; improves eating quality by improving flavor, juiciness, and somewhat tenderness; determined by trained grader or instrument and used in quality grade determination.

IRM: integrated resource management – multidisciplinary approach to managing cattle more efficiently and profitably with management decisions based on how all resources are affected.

KPH: kidney, pelvic, and heart fat – type of internal fat measured on a beef carcass; as KPH fat increases, so does yield grade.

MGA: melangestrol acetate – administered through feed and used in some heifer estrous synchronization protocols as a progestin (a synthetic form of progesterone).

MLV: modified live vaccine – form of vaccine which contains live bacteria or viruses that have been modified or attenuated so that they do not cause clinical disease when administered to an animal.

MPPA: most probable producing ability – estimate of a cow's future superiority or inferiority for a repeatable trait based upon her past production relative to contemporaries, number of past records, and trait repeatability.

NCE: national cattle evaluation – cattle evaluation programs conducted by breed associations to calculate the estimated genetic merit of a cattle population; expected progeny differences are an output of national cattle evaluations.

NDF: neutral detergent fiber – percentage of cell walls or other plant structural material present; includes cellulose, hemicellulose, and lignin; only partially digested by cattle; greater NDF values are associated with less dry matter intake.

NE_g: net energy for gain – estimate of the energy value of a feed used for body tissue gain (weight gain) above that required for maintenance.

NE_l: net energy for lactation – estimate of the energy value of a feed used for maintenance plus milk production during lactation and for maintenance plus the last two months of gestation for dry, pregnant cows.

NE_m: net energy for maintenance – estimate of the energy value of a feed used to keep an animal in energy equilibrium, neither gaining nor losing weight.

NIRS: near infrared reflectance spectroscopy – method of forage or feed quality analysis based on spectrophotometry at wave-lengths in the near infrared region.

NPN: nonprotein nitrogen – nitrogen in feeds from substances such as urea and amino acids, but not from preformed proteins.

NRCS: Natural Resources Conservation Service – agency within USDA charged with helping people conserve, maintain, and improve natural resources and the environment; formerly the Soil Conservation Service.

PI: persistently infected – animal that persistently harbors a pathogen for long periods of time, and may shed the pathogen in urine, feces, milk, or respiratory secretions; BVD-PI refers to persistently-infection with bovine virus diarrhea virus.

PI₃: parainfluenza type 3 – viral infection of cattle contributing to bovine respiratory disease.

PPI: postpartum interval – length of time from calving until a dam is pregnant again.

QG: quality grade – determination of the eating quality of meat from a beef carcass; determined by evaluating carcass maturity and marbling.

QTL: quantitative trait locus – gene locus that has an effect on a quantitative trait (a trait like weaning weight where there is gradual variation from one extreme to the other).

REA: ribeye area – area of the *longissimus dorsi* (ribeye) muscle exposed by cutting or “ribbing” the carcass between the 12th and 13th ribs; an indicator of the amount of lean muscle associated with a carcass and an important factor in determination of yield grade.

RFI: residual feed intake – difference between an animal's actual feed intake and their predicted feed intake, with the prediction being based on equations for maintenance and growth requirements; an animal with a negative RFI value is more efficient than average.

RFID: radio frequency identification – cattle identification method that uses an electronic tag or button placed in the ear of an animal, with the tags read by a scanner or manually.

RFQ: relative forage quality – total digestible nutrients times dry matter intake divided by 100; similar to relative feed value but includes digestible fiber, making it more representative of animal performance; can be used with all forages except corn silage.

RFV: relative feed value – expression of a forage’s expected intake by animals and its energy value; index ranking forages on ADF and NDF content; digestible dry matter times dry matter intake divided by 100; compared to full bloom alfalfa (RFV = 100); forage quality generally increases as RFV increases.

SNP: single nucleotide polymorphism – type of genetic marker where alleles (different forms of a gene) differ from each other by the sequence of only a single nucleotide base pair; referred to as “snip”.

SPA: standardized performance analysis – programs that facilitate collection, processing, and interpretation of production and financial data from beef cattle enterprises and present these data in a standardized format for comparison purposes.

TB: tuberculosis – respiratory disease from bacterial infection of cattle and other livestock; spread via coughing, sneezing, milk, feces, inhalation, or ingestion.

TDN: total digestible nutrients – indicator of feedstuff energy content; calculated using the acid detergent fiber, neutral detergent fiber, crude protein, and ash components of the feedstuff to give an estimated value of energy.

TMR: total mixed ration – all feed ingredients mixed together in a nutritionally balanced ration and fed to the animal rather than each ingredient being fed individually.

TNZ: thermoneutral zone – range in temperature where rate and efficiency of gain is maximized; comfort zone.

UIP: undegradable intake protein – protein not fermented in the rumen but digested in the small intestine; also known as escape protein, bypass protein, or rumen undegradable protein (RUP).

USDA: United States Department of Agriculture – department of the federal government charged with supporting the American agricultural economy to strengthen rural communities; protecting and conserving natural resources; and providing a safe, sufficient, and nutritious food supply for the American people

WHR: whole herd reporting – inventory-based performance recording system in which the production of all animals in a breeding herd and the performance of all progeny are accounted for each year.

WDA: weight per day of age – weight of an individual divided by its age in days.

WW: weaning weight – weight of a calf at weaning (time at which a calf is no longer allowed to nurse); typically measured within a certain age window around 205 days of age and then adjusted back to 205 days of age.

YG: yield grade – classifies carcasses for differences in cutability or yield of boneless, closely trimmed retail cuts from round, loin, rib, and chuck; USDA yield grades are

numbered 1 (greatest cutability) to 5 (least cutability) and rounded to nearest tenth; based on hot carcass weight, ribeye area, fat thickness, and KPH fat.

YW: yearling weight – weight of a calf at one year of age; typically measured within a certain age window around 365 days of age and then adjusted back to 365 days of age.

This cheat sheet is a sampling of commonly used acronyms and not an exhaustive list. In addition, there are many terms that do not have acronyms associated with them but are worth knowing. Several online glossaries provide definitions to an extensive list of beef cattle terms. The eXtension Beef Cattle Glossary is one such reference that is online at www.extension.org/pages/16158/beef-cattle-glossary. It can also be easily located with a quick web search of “beef cattle glossary”. Other lists of definitions can also be found in the same manner. For more information about beef cattle production, contact an office of the Mississippi State University Extension Service or visit msucares.com/livestock/beef.