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## **SA LIVESTOCK TERMS, CLEARLY DEFINED**

**A PRACTICAL FARMER'S  
WEEKLY GLOSSARY  
OF KEY TERMS AND  
DEFINITIONS FOR  
SOUTH AFRICA'S  
LIVESTOCK INDUSTRY**

**COMPILED BY DAVE FORD**

# PREFACE



The livestock industry in South Africa is one of the biggest but most diverse of all agriculture sectors. Competing in livestock production is becoming ever more complex from the domestic level to the international arena.

This Glossary of Terms and Definitions has been compiled as a reference document to assist in providing the reader with a uniform understanding of the meaning of common terms used in daily communications between different role players in the South African livestock industry.

The Glossary aims to serve the entire spectrum of role players, from producers, feedlot operators, abattoir operators, livestock product marketers, state departments, bank advisers and anyone interested in this dynamic sector to establish common industry terminology.

It offers concise definitions and terms spanning the field of animal production and management, anatomy, breeds, nutrition, grazing and animal health concepts, medications, animal welfare, marketing and regulations.

The terms and definitions in this Glossary come from a variety of trusted sources like manuals, guidelines, research publications and regulations, and have been simplified for the ease of reading.

The livestock industry is constantly evolving, so while the Glossary has attempted to be as comprehensive as possible at this time, it can be considered a living document that should be updated as the need arises and when new innovations and practices emerge.

Sincere appreciation to Dr HO de Waal, Dr Heinz Meissner and Dr Michiel Scholtz for reviewing this Glossary and providing their expert inputs and comments that have helped improve its correctness and clarity.

**Dave Ford**  
**Author**

# FOREWORD

Agriculture is built on relationships, trust and shared understanding. Across South Africa's livestock industry, every decision, from breeding and animal health to marketing, finance, biosecurity and trade, depends on people being able to communicate clearly and confidently.



At *Farmer's Weekly*, we have always believed that information is one of agriculture's most valuable tools. Our role is not only to report on the industry, but to help connect the people who make it work, including our farmers, veterinarians, researchers, auctioneers, agribusinesses, policymakers, students and consumers. Each brings a different perspective, but all rely on a common language to exchange knowledge, solve problems and move the sector forward.

This glossary was created to support that purpose. The livestock industry has its own terminology, and while many of these words are used daily by experienced role players, they can be unfamiliar or confusing to those entering the sector, working across disciplines, or engaging with agriculture from outside the farm gate. By bringing these terms and definitions together in one practical guide, we hope to make the language of livestock more accessible, useful and inclusive.

Clear communication strengthens confidence. It helps prevent misunderstanding, improves decision-making and allows knowledge to travel further. In a sector as important as agriculture, that matters. Whether you are a commercial producer, emerging farmer, student, adviser or simply someone wanting to better understand the livestock value chain, we trust this glossary will become a valuable reference.

At *Farmer's Weekly*, we speak agriculture, and we are proud to help others speak it too.

**Gary Wium**  
**General Manager**

# A

**ABATTOIR-** (*AB-a-twar*)- is a slaughter facility where farm animals are killed humanely and their carcasses processed as meat-based food products. Some abattoirs are species dedicated others are not and have specific species slaughter lines

**ABATTOIR CATEGORIES-** abattoirs in SA are registered in one of 3 categories in terms of the Meat Safety Act 2000 (Act 40 of 2000).

- **High throughput-** maximum daily throughput determined by the Provincial Executive Officer based on the infrastructure capacity to manage the daily number of slaughter units
- **Low throughput-** not to exceed 20 units of either cattle or horses or sausage pigs, or 40 units of sheep or goats, or 30 units of pigs
- **Rural -** throughput may not exceed two units per day

**ABATTOIR SLAUGHTER UNIT**

- 1 head of cattle, horse, mule, or donkey
- or 15 sheep or goats
- or 5 pigs
- or 3 calves

**ABORTION-** is when a female loses a foetus prematurely generally from an unknown cause but could include trauma, metabolic- nutritional- or hormonal disturbances, or an infectious disease

**ABOMASUM** (*ab-oh-MAY-sum*)- is the fourth and final stomach of a ruminant where food is digested by enzymes rather than mechanically or by fermentation  
**Abortion-** is when a female loses a foetus prematurely generally from an unknown cause but could include trauma, metabolic- nutritional- or hormonal disturbances, or an infectious disease

**ABSCESS-** is an accumulation of pus concealed in a cavity in the tissues where bacteria entered, caused by insect bite infections, injury from wire or thorns or dirty needles.

**ABSORPTION-** is when digested molecules of all food nutrients and water move through the mucous membrane of the stomach and intestine into the bloodstream and then transported for further processing or storage

**ACID DETERGENT FIBRE (ADF)-** is a renowned method of chemical analysis used to determine the amount of cellulose, hemi-cellulose and lignin that remain after boiling the mixed feed or ingredient sample in acid detergent; used to predict the energy content of roughages.

## ACTS GOVERNING LIVESTOCK INDUSTRIES IN SA

- Agricultural Products Standards (Act 119 of 1990)
- Animal Protection Act (Act 71 of 1962)
- Animal Disease Act (Act 35 of 1984)
- Animal Identification Act (Act 6 of 2002)
- Environmental impact assessment regulations of 2010
- Environmental Management: Waste Act of 2008
- Fertiliser, Farm Feeds, Agricultural Remedies & Stock Remedies Act (Act 36 of 1947)
- Feeds and Pet food Bill
- Labour and basic conditions of employment (Act 75 of 1997)
- Labour Relations Act 66 of 1995 (updated Nov 2018)
- Livestock identification and traceability system (LITS SA)
- Medicine and related substances Act (Act 101 of 1965)
- Meat safety Act (Act 40 of 2000)
- Medicines and Related Substances Act (Act 101 of 1965)
- Movement of Animals and Animal Products Act (pending)
- National Environmental Management: Air quality Act of 2004
- National Health Act (61 of 2003)
- National veld and forest fire Act (Act 101 of 1998)
- National Water Act (Act 36 of 1998)
- Occupational health and safety Act (Act 181 of 1993)
- Road transport regulations
- Soil conservation Act (amended to Act 15 of 1967)
- Stock theft Act (amended to Act 28 of 1990)
- Value Added Tax (Act of 1991)

**ACCLIMATISE**- is to become accustomed to a new environment or living conditions

**ACIDOSIS**- is a metabolic condition that can occur in ruminants when large quantities of consumed highly digestible carbohydrates are fermented by the rumen micro-organisms resulting in large volumes of D-lactic acid, causing the rumen pH to fall below 5.5 and even lower; the acid is absorbed through the rumen wall into the blood stream and can result in shock and death.

- This condition is caused by poor animal or feed management controls

**ACUTE**- is very severe requiring serious attention or action

**ADAPTATION**- is the process when an animal adjusts to a new environment, production system, diet, climate, or social behaviour order

**ADDITIVE**- is an ingredient or combination of ingredients added in micro quantities to a feed mix to address specific deficiencies or needs

**ADIPOSE** (*AD-ih-pohs*) **TISSUE**- is an anatomical term for loose tissue which stores energy in the form of fat, cushion internal organs and insulate the body

**ADJUSTED WEANING MASS**- is used to evaluate different weaning masses of same sex calves of more or less the same of age by adjusting to 205 days of age. While young lambs of more or less the same age are adjusted to 100 days of age

**AD LIB (AD LIBITUM)**- is a Latin term meaning unlimited availability of feed to be able to be consumed as much as is required.



**AEROBIC** (*air-OH-bik*)- is the breaking down of living matter by metabolic means or organisms that require oxygen for the process

**AFTERBIRTH**- is the placenta and foetal membranes that transferred nutrients from the mother to the foetus before birth that come out of the uterus following a birth

**AGEING OF MEAT (BEEF)**-follows generally one of two processes during both the connective tissue in the muscle begins to break down resulting in a more tender meat with an enhanced flavour

- Dry ageing is when the meat cuts are aged for a number of days in a low temperature controlled dry environment which does result in a measure of fluid loss.
- Wet ageing consists of storing vacuum packed meat cuts in their own juices in a low temperature-controlled environment for a number of days allowing the natural enzymes to break down the connective tissue resulting in limited meat fluid loss.

**AIR DRY**- is feed that has had the moisture removed by natural evaporation with a maximum of 10% left in the feed or 90% dry accepted as the norm in feed

**ALLELE**- (*ah-LEEL*) can have one of three different meanings

- when one of two or more DNA sequences occur at a particular gene locus
- when each of two or more alternative forms of a gene that arise from a mutation and are found at the same place on a chromosome
- when one of two or more versions of DNA sequence (a single base or segment of bases) at a given genomic location].

**AMBIENT TEMPERATURE**- the temperature surrounding the animal at that time

**AMINO ACIDS**- 22 of these specific organic compounds known as building blocks of protein have been identified which all have the key elements of carbon, hydrogen and nitrogen

- Amino acid essential
- Amino acid limiting

**AMMONIATED**- is to be infused with ammonia or ammonia containing products

**AMNION** (*AM-nee-on*)- is related to the membrane and moisture that surrounds and protects the embryo / foetus until birth while still inside the mother

**AMPULE**- is a small, sealed glass capsule that contains and preserves an exact quantity of liquid mainly for veterinary and medical use

**ANABOLIC GROWTH PROMOTERS**- contain active ingredients of male or female sex hormones which are used to stimulate a more economical growth rate and muscle synthesis with a reduced fat deposit. Some are only registered for bovine use

- Androgenic (male) hormone administered to steers to grow at the same rate as intact bulls with a delayed fat deposition and heavier carcass by acting directly on certain muscles in the body
- Estrogenic (female) hormone administered to heifers to stimulate growth rate and muscle synthesis in the final carcass by increased secretion of the growth hormone

- Beta agonists are repartitioning agents that change the process of tissue growth by reducing fat deposition and increasing muscle formation in the carcass.
- Recommended to be used only under strict control in intensive production systems to ensure the quality of the final product.

**ANABOLISM**- is a biochemical metabolic process where simple molecules combine requiring energy to grow and build more complex molecules

**ANAEROBIC** (*an-air-OH-bik*)- is a metabolic process whereby microorganisms break down organic matter into products like alcohol, acids or gasses not requiring gaseous oxygen for the process

**ANAPLASMOSIS**- is a disease caused by the bacterium *Anaplasma phagocytophilum*, which is carried by various ticks in specific regions causing fever, headaches, muscle pains and can lead to organ failure and death if not treated timeously.

**ANAEMIA**- a condition resulting from when the red blood cells count is lower than normal for that class of animal.

**ANESTRUS** (*an-ESS-trus*)- is a period of inactivity of sexual behaviour between two periods of estrus when the female is not receptive to mating

**ANDROGENS**- are a group of sex hormones in males and females that play a role in sexual development from puberty and in the development of secondary sexual characteristics in males.

**ANIMAL BYPRODUCTS**- are derived from a regulated heat sterilised process of animal carcasses, body parts or other animal material not meant for human consumption of which there are two categories of material:

- High Risk material from animals suspected of being infected with specific risk diseases or zoonotic diseases that could be a danger to human health.
- Low Risk material from animal carcasses, body - or digestive tract parts from animals not showing signs of infectious diseases at death

**Animal byproduct plant**- is a facility registered according to specific statutory requirements for the sterilizing of infected or discarded animal carcasses, body parts and digestive systems not suitable for human consumption.

**ANIMAL WASTE**- a material composed of animal excreta from cattle, sheep, goats, or poultry with or without bedding material.

**ANTEMORTEM**- means the inspection of animals or actions before being slaughtered.

**ANTHELMINTIC** (*an-thel-MIN-tik*)- is a veterinary drug or compound used to treat or prevent parasitic infections of worms, flukes and tapeworms in animals.

**ANTIBIOTIC**- is a medicine or compound used to inhibit bacterial growth and infections or to prevent their proliferation.

**ANTI-TOXIN**- is an antibody that neutralises a specific toxin.

**ANTHRAX**- a very serious notifiable zoonotic disease infecting most animal species caused by a spore forming bacterium *Bacillus anthracis* which can also infect humans inhaling spores from an infected animal

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**ANTIBODY**- is a protein produced by the body immune system to protect it against bacteria, viruses, fungi and various toxins known as a group as antigens

**ANTISEPTIC**- a substance or preparation used to clean and sterilise to prevent the growth or action of disease-causing microorganisms

**ANTI TOXIN**- is an antibody that is produced to neutralise a specific toxin

**ANIMAL WELFARE**- is a collective contribution of all aspects of wellbeing which include, humane management practices, humane transporting, proper housing, balanced nutrition, disease prevention and treatment, prevention from harassment and if necessary, humane euthanasia.

Animal Welfare encompasses the Five Freedoms of Animals:

- Freedom from hunger and thirst
- Freedom from discomfort
- Freedom from pain, injury, disease and suffering
- Freedom to express normal behaviour
- Freedom from fear and distress

**ANNUAL**- is a plant that lives only for one year

**ANTIMICROBIAL**- it is an agent that kills or stops the growth of micro-organisms and are grouped according to the micro-organisms they primarily act against, antibiotics against bacteria and antifungals against fungi.

**ANTIOXIDANT**- a substance known to protect cells from damage caused by products from the oxidation process which results in reducing rancidity and increasing the shelf life of biological products

**ARTIFICIAL INSEMINATION (AI)**- is the process followed by a qualified person of collecting sperm cells from a male animal and manually depositing them in the reproductive tract of a female animal during her heat period, other than by natural mating.

**ARTIFICIAL REARING**- is rearing young livestock separated from the dam

**ARTERY**- is the muscular walled blood vessels transporting cleaned blood from the heart back to the various body parts

**ARC TABLES**- are tables compiled by the Agricultural Research Council to establish nutrient requirements for different farm animal species in different stages of production

**AS FED/AS IS**- is the term used to convey that moisture component of the feed has not been deducted.

**ASPHYXIATION** (*as-FIX-ee-AY-shun*)- a severe condition caused by a lack of oxygen that can lead to unconsciousness and death

**ASSIZE WEIGHING DEVICES**- it is a mandatory requirement prescribed by the weights and measures authority to routinely standardise all weighing devices used for trading

**ATROPHY**- follows from a gradual degeneration of muscle cells due to underuse, malnutrition, ageing, lack of activity or neglect

**ATTENUATED VACCINE**- are vaccines that have been weakened that create the required protective immune response without causing the disease in healthy animals

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**Auction sale-** is a public platform that brings willing buyers and willing sellers together regularly to trade livestock at current market prices through a bidding process conducted by an independent auction master either at special auction facilities or online

**AUGER** (*AW-ger*)- is a steel corkscrew shaped shaft, which can be of various sizes which is used for moving grain or chopped material

**AVERAGE DAILY GAIN (ADG)-** is an expression of the rate of weight gain calculated between two weighing intervals of a growing animal divided by the number of days between them and is expressed in kgs/ grams per day.

# B

**BACK CROSS**- is breeding a first cross offspring back to one of the initial parental breeds sometimes in line with establishing a new breed

**BACKGROUNDING**- is a livestock production system where young calves/lambs are grown out and cared for on quality pastures over a period of time preparing them for a feedlot or further growing phase.

**BAGASSE** (*buh-GAS*) -is the dry fibre residue remaining after crushing sugar cane to extract the sugar bearing juice often used in stock feeds

**BALANCED DIET**- is a diet that provides that specific class of animal with sufficient of the scientifically determined energy and nutrients needed to produce at the required production level.

**BALE**- is organic material compressed and bound into standard sizes to facilitate transportation and storage

**BALE PRESS**- is mechanical equipment used to compress material into manageable sizes for storing, transporting and trading

**BALK**- is when an animal hesitates in fright in front of an obstacle and stubbornly refuses to proceed further.

**BARREN**- is the term used for a female that has been mated but is not pregnant

**BARROW**- a young castrated male pig

**BARTER**- is an informal system of trading in less developed communities whereby goods or services are exchanged without a hand over of money.

**BEEF BREEDS IN SA**- the major beef breeds farmed in SA include.

Afrikaner	Brangus (Red)	Pinzyl
Afrisim	Braunvieh	Red Poll
Angus (black)	Charolais	Santa Gertrudes
Angus (Red)	Charbray	Senepol
Ankole	Dexter	Shorthorn
Beefmaster	Drakensberger	Simbra
Bonsmara	Droughtmaster	Simmental
Boran	Gelbvieh	South Devon
Bovelder	Hereford	Sussex
Brahman (Red)	Huguenot	Tuli
Brahman (White)	Limousin	Wagyu
Braford	Nguni	
Brangus (Black)	Pinzgauer	

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**BEEF CATTLE**- are cattle developed and bred primarily to produce meat products for human consumption

**BEEF CATTLE FARMING TYPE SYSTEMS:**

- Cow – calf (weaner system)
- Long yearling (growing out on pastures)
- Stud stock (breeding of registered stock)
- Feedlot (intensive finishing)

**BEEF CARCASS CUTS COOKING METHODS:**

**1. Braise, stew, pot roast and casserole**

- |           |               |
|-----------|---------------|
| • Neck    | • Thick flank |
| • Hump    | • Aitchbone   |
| • Bolo    | • Silverside  |
| • Brisket | • Shin        |
|           | • Chuck       |

**2. Oven roast and stir fry**                      **3. Oven grill/grill/braai**

- |            |             |
|------------|-------------|
| • Flat rib | • Fillet    |
| • Topside  | • Prime rib |
|            | • T-Bone    |
|            | • Ribeye    |
|            | • Rump      |
|            | • Sirloin   |
|            | • Wing rib  |

**BEEF TO GRAIN RATIO**- is the ratio used by feedlots to determine how many kilograms of grain can be purchased per kilogram of meat products sold

**BETA AGONISTS**- are non-hormonal compounds developed for human medicine but only registered to be fed to cattle to reduce and repartition the metabolism and deposition of fat

**BEZOAR (HAIRBALL)** (*BEH-zor*)- is a hard ball of hair which can be of varying sizes found in the stomachs of some cattle when slaughtered which is formed by ingested hair clumping together from them licking themselves. Similarly, also found in some sheep fed very fine grain diets

**BLENDING**- is to combine two or more ingredients in a feed but not implying any form of uniformity.

**BICARBONATE OF SODA**- is a compound that plays a crucial role in buffering ruminant diets

**BIOASSAY**- the determination of the biological activity of a substance by comparing the effects against a standard preparation on a test organism

**BIOLOGICAL VALUE**- is the proportion of protein retained from food in the animal used for maintenance and growth expressed as % of nitrogen absorbed

**BIOME**- is a naturally occurring community of animals on vegetation living in harmony with one another in the same habitat

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**BIOMASS**- is the amount of living matter in a given habitat expressed as weight per unit of area

**BIOMETEOROLOGY**- is the science that studies the interactions between the living organisms and the weather.

**BIOSECURITY**- combined preventative practices and measures designed specifically to reduce the risk of the transmission of infectious diseases or harmful biological agents to livestock or humans in a protected environment.

**BIRTH MASS**- is the mass of the newly born animal at birth and is used to differentiate between animals when selecting breeding animals

**BLACKLEG (QUARTER EVIL)**- an infectious fatal bacterial disease caused by *Clostridium chauvoei* that affects young cattle, sheep and goats characterised by gaseous swellings usually in the muscles in the upper legs

**BLEMISH**- is a small mark or flaw that spoils the appearance of a product.

**BLIND TEAT**- is when one of the female teats does not deliver milk

**BLOAT**- is the distended condition in ruminants that can result after a meal if digestive gases are not sufficiently eliminated by belching or could be due to a blockage of the oesophagus.

**BLOOD MEAL**- is a meal made from dried blood from the slaughtering process that can be used as a protein supplement for animals.

**BLNS COUNTRIES**- the South African abbreviation for Botswana, Lesotho, Namibia and Swaziland

**BLUP**- Best Linear Unbiased Prediction is an accepted technique used to estimate genetic merits during livestock selection

**BOAR**- is a male pig of any age

**BODY CONDITION SCORE**- a numeric score assigned to an animal based on degree of fat covering the animals body used to determine readiness for breeding or as indicator to increase feed supplementation or not

**BODY CONFORMATION**- is the relative proportions of body tissue to each other determined by species, genetics, breed, age and gender of the animal which can to a limited extent be manipulated by nutrition

**BODY ORGANS**- fall into the following categories:

Muscular	Circulatory
Skeletal	Reproductive
Circulatory	Nervous
Respiratory	Urinary
Digestive	Lympho-reticular

## BODY TEMPERATURES (NORMAL)

Cattle	38.5C
Sheep	39C
Pigs	39C
Horses	38C
Digestive	Lympho-reticular

**BOTTLE JAW**- an accumulation of fluid under the jaw normally a sign of infection by *Haemonchus contortis* in sheep

**BOLUS** (*BOH-lus*)- a device placed in the digestive tract of animals for a period of time for either identification, medicinal discharge or lately for temperature determination purposes

**BOS INDICUS**- are typically breeds ideal for cross breeding programmes that are of Indian or South American decent with short hair that have a large hump on their shoulders, drooping ears and a large dewlap to get rid of excess body heat.

**BOS TAURUS**- are typically breeds that are of European decent and have a body conformation to maintain body heat

**BOS TAURUS AFRICANUS**- also known as Sanga cattle both the Afrikaner and Nguni breeds which presumably originated from East Africa

**BOTS**- are fly larvae from *Oestrus ovis* found in nasal cavities of sheep and goats

**BOVINE**- is the Latin name for cow and the biological bovine group includes cattle, buffalo, water buffalo and bison

**BOXED BEEF**- is the boxing together of similar primal or sub primal carcass cuts that have

been trimmed for excess fat possibly deboned and vacuum packaged for distribution directly to the customer.

**BRAN**- is the edible fibrous wheaten seed husks separated from flour through the sifting process after milling and sought after for livestock feed inclusion

**BRAND**- is a type of product manufactured by a particular company under a specific name that relates just to that company

**BRANDED PRODUCTS**- are labelled products from a supplier that convey to the customer that these products consistently comply with certain quality specifications.

**BRANDMARK**- the Animal Identification Act (Act 6 of 2002) requires every livestock owner to register a unique brandmark with the Department of Agriculture, Land Reform and Rural Development and adhere to the Regulations governing the Act and to mark all animals with a permanent mark and apply the mark to all movement and trade documentation.

**BRANDING**- is the practice of applying a unique permanent mark, registered to the owner under governing regulations, to his own live animals.

- Hot iron is briefly pressing the heated metal mark against the skin of the animal

for 3 sec with the intension of marking it permanently.

- Freeze is a branding process that involves freezing the metal mark in liquid nitrogen before applying to the skin of the animal with the purpose of changing the colour of those hair follicles permanently
- Cheek is the branding practice for ease of handling used by some feedlots that use restraining squeeze chutes to process animals on arrival.
- Tattoo is to apply the registered brand mark with a tattoo needle applicator to an ear of a young calf, sheep, goat, pig, ostrich, or horse. A tattoo slapped on a pig's body is also an industry practice.
- Injudicious brand refers to any practice that is inhumane, which leads to rebranding, smudging or any unnecessary hardship or stress to the animal

**BREAKEVEN**- is the equation of Total Input Costs per kg sold = Total Income per kg sold

**BREECH BIRTH**- normally occurring in sheep births when the lamb is presented for birth backwards

**BRED**- is the past tense of to produce offspring by gestation or hatching

**BREED**- is a group of animals that are related and similar in general appearance and in colour, size and characteristics

**BREED SOCIETY**- a society formed by breeders of a specific breed to manage the administration, marketing, general affairs and the records pertaining to that specific breed

**BREED AVERAGES**- refers to average production or reproduction performance across a particular breed for the specific age and sex of the animal in that country

**BREEDING STOCK**- is the select group of animals specifically kept for improving the breeding herd genetics

**BREEDING SEASON**- is the period that a female shows oestrus

**BREED TYPES**-

- three main categories of cattle breeds are Bos taurus (non-humped), bos indicus(humped) and dairy breeds
- five main categories of sheep breeds are wool, pelt, mutton, dual purpose and fat tail breeds
- main categories of goats are meat, wool, dairy and indigenous

**BREEDING VALUES**- are an arithmetic estimate of an animal's genetic value for a particular trait obtained from pedigree and performance information of near relatives and ancestors

**BROKEN NEEDLE PROCEDURE**- refers to the recording and marking procedure followed when an injection needle or part thereof is left or breaks off in the muscle of an animal destined for slaughter.

**BROWSE**- is the habit of certain species grazing bushes, shrubs and branches of trees in preference over grass.

**BRUCELLOSIS (MALTA FEVER)** (*broo-suh-LOH-sis*)- is a notifiable contagious bacterial disease caused by the brucella bacteria occurring in female

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animals causing abortions and stillborn calves which are then infected as well as transferred to cows by infected bulls, brucellosis is highly contagious to unprotected humans and known as undulant fever.

**BRUISING**- is the localised discolouring and swelling on a carcass caused by transport or handling injuries before slaughter that have a negative effect on the carcass appearance and price.

**BSE**- is a degenerative disease of cattle commonly known as "Mad Cow Disease" believed to have originated from infected meat and bone meal of animals 30 months and older. The time from the onset of symptoms to death can vary from a few weeks to a few years.

- BSE in sheep has not been proven to spread in a sheep population but could be masked by Scrapie a brain disease of sheep but not known to be linked to the human disease

**BUCK**- a mature intact male breeding goat

**BUCKLING**- a young sexually immature male goat

**BUFFER**- is a product regularly used in ruminant rations to help prevent that the acidity level (pH) drops to a level that can negatively affect the digestive process.

**BULK FEED**- is a feed commodity or mixed feed purchased, transported and stored in large quantities

**BULL**- is an intact male bovine used as a sire in a cattle breeding programme

**BULLER (RIDER)**- can be a steer or a heifer that is singled out by pen mates and chased and mounted continuously causing excessive bruising and injury unless removed from the pen- caused by climatic change or mingling of strange animals - the name also given to a cow always in oestrus

**BULLOCK**- a young intact male beef animal that is less developed than a mature bull.

**BUNKER SILO**- is a deep trench usually with concrete walls and floor filled, packed and compacted with tractors and loaders and covered with a tarp or plastic to make it airtight

**BUYING MARGIN**- is a ratio used in the livestock feeding industry as an indicator of whether the purchase price is such that it is economical to feed the calf or lamb intensively.

The buying margin can be either positive or negative:

- is positive when the price of the feeder animal calculated per kg of its carcass is less than a kg of carcass products sold
- is negative when the price of the feeder animal calculated per kg of its carcass is more than a kg of carcass products sold.

**BURDIZZO**- is a castrating device designed to externally clamp the neck of the scrotum and break the blood vessels leading to the testicles, resulting in the eventual shrinking and disappearance of the testicles

**BUSHEL**- is the US measure of volume for dry agricultural products equal to 2150.42 cubic inches



**BUSHVELD**- a rather loose term referring to mixed woodland between 1000 – 1500 m above sea level and stretching from Mpumalanga through Northern parts of Gauteng, the North West, and Limpopo

**BUTTERFAT**- is the measurable natural fat portion of milk used to determine the commercial value of milk for further processing

**BUTTING**- is when livestock hit an opponent with their head and horns

**BUYER OF LIVESTOCK**- is the term used for an experienced person procuring livestock according to specific requirements on behalf of a third party.

**BUYER OF FEED**- is the term used for an experienced person procuring feed ingredients or compounds according to specific requirements on behalf of a third party.

**BVDV (BOVINE VIRAL DIARRHOEA VIRUS)**- is a contagious respiratory and reproductive disease affecting the animal's immune system and its ability to bear a calf.

**BYPASS PROTEIN**- an ingested protein that is protected from digestion by rumen microbes and bypasses the rumen to be digested in the small intestine

**BYPRODUCTS**- are secondary products derived from the industrial processing of primary human food products that can be utilised cost effectively in the human food chain or in animal feed

- Human food chain includes livers, brains, hearts, sweetbreads, testicles, kidneys, oxtails, tripe and tongue

**BYPRODUCTS PLANT (STERILIZATION PLANT)**- is the processing plant normally located adjacent to an abattoir where discarded organs and meat tissue are sterilised by cooking at a stipulated temperature.

# C

**CAFETERIA SYSTEM**- is a feeding system where die individual feed ingredients are fed separately allowing an animal to choose the ingredient it wants to eat

**CAKE(OIL)**- is the protein rich edible compressed residue resulting from the pressing of seeds to extract the oil

**CALCIUM: PHOSPHORUS RATIO**- is a recommended ratio of 2:1 in any final mixed diet

**CALF**- is a male or female bovine offspring under 1 year of age

- Beef calves suckle from the cow until weaned at between 7-9 months but before the birth of the next calf
- Dairy calves are removed from the cow immediately after birth and raised in intensive calf rearing systems

**CALF OR LAMB AT FOOT**- refers to a young offspring still suckling and running with its mother

**CALF CROP**- is the number of calves that are born annually to a specific group of cows

**CALF REARING CRATE**- is individual housing to raise calves for a period in a hygienic and controlled environment to prevent disease transmission

**CALORIE**- is the unit of heat or energy needed to raise the temperature of one gram of water by one degree Celsius at sea level, and used as a measure of energy stored or expended by the body or by organic material expressed in 1000 calories (kcal)

**CALF: BEEF PRICE RATIO**- the ratio of the present calf price divided by the present beef price as an indicator of whether the calf at that price can be fed economically for the beef market; should not exceed 55% of the beef price.

**CALIBRATE**- is the set of actions undertaken to ensure that the readings or settings of an instrument or applicator are correlated with those of a set standard to ensure the instruments accuracy

**CALVING**- is the process of giving birth to a calf

**CALVING RATE**- expresses the number of cows calving divided by the total number of cows mated in the herd.

**CALVING SEASON**- is a specific season of the year which is climatically the most suitable for calves to be born Caprine- relates to goats

**CAPRINE ARTHRITIC ENCEPHALITIS(CAE)** (*KAY-prine arth-RIT-ik en-sef-uh-LY-tis*)- a highly contagious goat virus caused by the CAEV lentivirus leading to lameness, incoordination and respiratory distress

**CAPTIVE BOLT**- a firing device that drives a steel shaft into an animal's brain killing it immediately and is used during the slaughter process

**CAPTIVE MARKET**- refers to a consumer group who are obliged through a lack of supplier options to use a product or service

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**CARBON EMISSIONS**- is the release of carbon dioxide (CO<sub>2</sub>), a colourless, odourless gas formed by the combustion of carbon during the respiration of living organisms into the atmosphere which are also known as Greenhouse Gases

**CARBOHYDRATES**- sugars, starches and cellulose derived mainly from plants, together constituting one of the three principal nutrients used as energy sources for body functions of animals and humans

**CARCASS**- body of a slaughtered and eviscerated animal after the head, lower part of the limbs, hide or skin have been removed

**CARCASS MASS**- can be expressed as either hot or cold

- Hot mass is the mass of the carcass immediately after slaughter
- Cold mass is the mass of the carcass after 24hr of cooling, weighing approximately 1.5% less than the warm carcass mass

**CARCASS COMPOSITION**- used as a basis for evaluating the commercial value of a carcass relating to relative proportions of fat, muscle and bone.

**CARCASS FATNESS**- refers to the fat layer between the skin/ hide and the muscle of the carcass

**CARCASS RESIDUE**- is the residue from animal tissues including meat, hair, bones, hooves, horns and contents of the digestive tract

**CARRIER**- is a neutral substance that various micro ingredients are mixed into for better distribution before mixing into the main mix.

**CARRYING CAPACITY**- refers to the number of livestock expressed in Livestock Units that can be sustained at any time on a pasture in that specific region

**CASEIN**- is the major type of protein (80%) found in cow's milk giving it the white colour; with whey protein comprising the other 20%

**CASTRATE**- process rendering male testicles either inactive or their removal by mechanical or chemical methods to prevent sexual activity

**CATABOLISM**- is the destructive biochemical process whereby larger proteins, tissues and fat are broken down into cells or fatty acids

**CATTLE CLASSES**-

- Suckling calf from birth up to weaning
- Weaner calf from weaning until 12 months
- Yearling a 12month old calf
- Long weaner 12-15 month of age calf
- Cow is a mature female that has had at least 1 calf
- Bull is an adult male
- Bullock is a juvenile male
- Steer is a male castrated before developing secondary male characteristics
- Heifer is an unbred female
- First calf heifer a heifer that is bred for the first time
- Three in one is a pregnant cow with a calf at foot
- Freemartin is an infertile heifer calf generally a twin of an intact bull calf

**CATTLE CYCLE**- is the cyclical process where the size of the national cattle herd expands and contracts due to low rainfall, economic or grazing constraints.

Historically expressed in a 7yr cycle in South Africa

## CATTLE DISEASES-

Bacterial	External
• Anthrax	• Ticks
• Botulism	• Lice
• Brucellosis	• Mange
• Bovine leukosis	
• Bovine respiratory disease	Viral
• BSE	• Bovine malignant catarrh fever (snotsiekte)
• Foot-and-mouth disease	• Bovine viral diarrhoea (BVD)
• Foot rot Haemophilus	• Bovine respiratory disease (BRD)
• Somni Haemorrhagic	• Enzootic bovine leukosis
• septicaemia Leptospirosis	• Infectious bovine rhinotracheitis (IBR)
• Mastitis	
• Mycobacterium bovis	Protozoa
• Vibriosis	• Anaplasmosis
	• Coccidiosis
	• Theileriosis
	• Toxoplasmosis
	• Trichomoniasis
	• Trypanosomiasis
Parasitic	
• Internal	
• Fluke are fasciola and conical	
• Tapeworm Taenia saginata	
Insect transmitted	Metabolic
• Lumpy skin disease	• Acidosis
• Tick toxicosis	• Ketosis
• Three-day stiff sickness	• Milk fever
• Bluetongue	
• Rift Valley fever	
• Wesselsbron disease	

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**CATTLE MATURITY TYPES**- refers to the difference in physiological age at the same chronological age.

These differences in maturity effect:

- Rate of growth (gain/day)
- Efficiency of growth (feed/kg gain)
- Dressing percentage
- Final carcass mass
- Carcass composition affecting carcass class

Early maturing	Medium late maturing	Late maturing
• Afrikaner	• Bonsmara	• Blonde d 'Aquitaine
• Angus	• Brown Swiss	• Charolais
• Ankole	• Drakensberger	• Chiana
• Beefmaster	• Droughtmaster	• Friesan
• Braford	• Gelbvieh	• Holstein
• Brahman	• Santa	• Limosin
• Brangus	• Getrudes	
• Hereford	• Simmentaler	
• Nguni	• South Devon	
• Red poll	• Pinzgauer	
• Shorthorn		
• Simbra		
• Sussex		
• Tuli		

**CARCASS CLASSIFICATION SYSTEM**- is a unique descriptive system used in the South African meat industry to describe carcasses based on age, fat cover and conformation to assist producers, abattoirs and retailers in determining a pricing structure without the final carcass being seen The Beef, Sheep and Goat colour coded system is based on the following:

- Age of the animal as determined by the number of permanent incisors and expressed as class **A**, **AB**, **B** or **C**
- Fat coverage as measured across the 9th, 10th and 11th ribs on the back and is scored from 0-6
- Conformation- of the carcass is visually assessed and scored from 1-5

**CARCASS TRIMMING**- is to remove unwanted fat, bone, bruising, or abscesses from a slaughtered carcass

**CATTLE MARKETING**- is the process of advertising and offering cattle or carcasses for sale according to the market demand for a specific product

**CATWALK**- is a narrow open elevated walkway or path to facilitate movement in handling activities

**CELLULOSE** (*SELL-yoo-lohs*)= a carbohydrate known as the major fibre component of plant cell walls

**CERVIX** (*SIR-viks*)- a lower section of the female uterus protruding into the vagina which dilates to allowing passage for the foetus during birth

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**CHAFF**- is husks and seed coverings and other plant parts separated from seeds during the threshing process at harvesting

**CHEMICAL ANALYSIS**- are recognised standard laboratory procedures that assist with determining chemical composition of feedstuffs

**CHEVON**- is goat meat from adult animals

**CLAWS**- the two sides of a cloven hoof

**CLEATS**- the two halves of a goats' hoof

**CHLAMYDIA** (*kluh-MID-ee-uh*)- are organisms associated with abortion, arthritis, conjunctivitis diarrhoea, encephalitis and pneumonia

**CHOLESTEROL**- is a waxy sterol type fatty compound found in all animal products and is made in the liver and found in the blood and all cell walls and is essential to synthesise tissues, hormones and Vitamin D.

**CHRONIC**- means recurring over a long period of time

- Is also the name given to an animal that fails to respond to prolonged health treatment programmes.

**CLONING**- is a technique used by scientists to generate exact genetic copies of living organisms

**CLOSE OUTS**- is the term used by some feedlots to describe summarised group animal performance, feed intake, mortalities, sickness incidence, carcass data and profit or loss for the group.

**CLOSED HERD**- is a herd where all the animals are bred from within that herd

**CLOSTRIDIAL DISEASE**- is a disease caused by anaerobic bacteria in the environment which is often fatal

**CHROMOSOME**- is a threadlike structure made of DNA coiled around protein found in the nucleus of cells

**COCCIDIA** (*kok-SID-ee-uh*)- are a subclass of spore forming parasitic protozoa which cause coccidiosis and toxoplasmosis

**COCCIDIOSIS** (*kok-sid-ee-OH-sis*)- is a disease of mammals that affects the intestinal tract caused by coccidia

**COCCIDIOSTAT** (*kok-SID-ee-oh-stat*)- is the term given to a group of drugs that are administered to control diarrhoea causing Coccidia that exist in the intestines of livestock and which are also used in ruminant diets for their growth enhancing properties.

**CODE OF PRACTICE FOR THE HANDLING AND TRANSPORT OF LIVESTOCK BY ROAD**-is a code to be strictly adhered to when transporting livestock by road

**CODE OF PRACTICE FOR HANDLING AND TRANSPORT OF LIVESTOCK BY SEA**- is presently in a draft form

**COLD SHORTENING**- is the result of rapid chilling of the muscles of freshly slaughtered carcasses before the glycogen reserves have been converted to lactic acid which causes an irreversible contraction of the muscle fibres resulting in tough meat

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**COLOSTRUM**- is the first secretion of a thick creamy fluid secreted from the mother's udder immediately after birth which is rich in nutrients and the antibodies essential for the newly borne immunity during the first few days of its life

**COMMERCIAL CATTLE**- can be mixed or crossbred animals that are bred to multiply offspring for production for various markets.

**CO-MINGLING**- is the mixing of animals from different sources, locations, gender, age, or management practices which can result in additional stress to the animals

**COMMISSION**- is a service fee asked by an agent for services rendered based on a percentage of a transaction.

**COMMODITY**-is a raw material or primary agricultural product that can be traded

**COMPOSITE**- is a new breed compiled of at least two established breeds designed to partially retain heterosis in future generations without further cross breeding.

**COMPLETE FEED**- is a compounded feed nutritionally balanced according to a scientific formula the adequately meets the maintenance and production requirements of that class of livestock and fed as the sole feed without additional ingredients

**COMPOUNDED FEED**- is a complete feed that has been blended from various ingredients and concentrates according to a formula to meet the nutritional needs of a specific class of livestock.

**COMPENSATORY GROWTH**- is an increased growth rate following a period of restricted growth which exceeds the growth rate that would have taken place before the restriction.

**COMPOSTING OF ANIMAL WASTE**- is an alternative biological process to convert animal waste to valuable organic fertiliser waste and can include abattoir waste, dead animals and livestock manure

**CONCENTRATE**- is a blend of feed ingredients either high in energy - or protein content intended to be further diluted by mixing with other ingredients to form a nutritionally balanced complete feed or supplement.

**CONCEPTION**- is the term for the fertilizing of the unfertilised female egg cell after mating Conception rate- is the number of pregnant females divided by the total number of females mated over a given time.

**CONDEMNATION**- of carcasses or parts thereof is the result of the rejection of the products that do not meet the set quality-, or hygiene standards and are unfit for human consumption

**CONDITION SCORING**-is a visual assessment of the amount of fat and muscle covering the body of an animal regardless of body size or gut fill generally done before the mating season to assess nutritional plane and ranges between 1-5

**CONGENITAL DEFECTS**- is an inherited medical condition that occurs at or before birth



**CONNECTIVE TISSUE**- is tissue that connects, supports, binds and separates other tissues or organs.

**CONFORMATION**- is a subjective visual assessment of the muscle distribution and development of either the live animal or the carcass with higher prices generally paid for well-rounded ones.

**CONSULTANT**- refers to professional Advisors Agronomists/ Engineers/ Environmentalists / Geneticists / Nutritionists /Meat Scientists /Veterinarians that are usually paid on a retainer basis or ad hoc to advise management routinely on their relevant fields of specialisation.

**CONTINENTAL CATTLE BREEDS**- means breeds of cattle other than Indigenous, Zebu or British breeds also referred to as European or Exotic breeds

**CONTINUOUS GRAZING**- is when livestock have access to grazing for the whole time the grazing is available

**CONTROL**- is something used as a standard of comparison for checking the results of an experiment, a treatment, or a survey

**CONTROLLED DISEASE**- is a disease that by law must immediately be reported to the nearest State Veterinarian

### **CONTROLLED LIVESTOCK DISEASES IN SA**

- |   |                                    |
|---|------------------------------------|
| • African Horse Sickness                        | • Bovine                           |
| • African Swine Fever                           | • Contagious Pleuropneumonia       |
| • Anthrax                                       | • Bovine Malignant Catarrhal Fever |
| • Aujeszky's Disease                            | • BSE                              |
| • Avian Influenza                               | • Brucellosis in all species       |
| • Bacterial Kidney disease in fish              | • Classical Swine Fever            |
| • Bluetongue                                    | • Salmonella Enteritidis           |
| • Contagious Equine Metritis                    | • Salmonella Gallinarium           |
| • Contagious Haemopoietic Necrosis              | • Salmonella pullorum              |
| • Corridor Disease -                            | • Scrapie                          |
| • Dourine                                       | • Sheep Scab                       |
| • East Coast Fever                              | • Strangles                        |
| • Equine Infectious Anaemia                     | • Swine Erysipelas                 |
| • Equine Influenza                              | • Swine Vesicular Disease          |
| • Equine Viral Arteritis                        | • Tuberculosis in all species      |
| • Foot and Mouth Disease                        |                                    |
| • Glanders                                      |                                    |
| • Haemorrhagic Disease                          |                                    |
| • Johne's Disease                               |                                    |
| • Lumpy Skin Disease                            |                                    |
| • Newcastle Disease                             |                                    |
| • Porcine Reproductive and Respiratory Syndrome |                                    |
| • Psittacosis                                   |                                    |

- Rabies
- Rift Valley Fever
- Rinderpest

## COOKING TEMPERATURES OF MEAT

	Beef, Veal Lamb	Pork
Rare	49-52C	49-54C
Medium Rare	52-57C	54-57C
Medium Well	63-68C	57-63C
Well Done	68+C	68+C
Ground Beef to be cooked to 71C		

**CORPUS LUTEUM-** is a hormone secreting like gland that develops in an ovary following the discharging of an ovum.

**COST OF GAIN-** is a production term whereby all production costs, feed, administrative, veterinary and mortality costs are divided by the total gain in mass over the feeding period.

**COW-** is a mature reproductive female bovine that has borne a calf

**COW-CALF- A COW-CALF** system is the raising of cattle where a permanent herd of cows is kept to produce calves for a market after the calves are weaned from the cows

**CRACKING-** is the process of reducing particle size by a breaking and crushing action normally following some form of moisture addition

**CREEP FEEDER-** is an enclosure which allows only the small livestock access to feed dispensers with specialised diets

**CREEP FEEDING-** is the system of feeding a supplementary balanced diet to young livestock while still suckling to prepare their digestive system for weaning onto solids

**CREEP GRAZING-** is allowing young animals to have access to grazing the mothers do not have access to at the same time

**CRIMP-** is the natural waviness of sheep wool

**CRITICAL TEMPERATURE-** this is the minimum or maximum environmental temperature before an animal will require additional energy to maintain normal body temperature

**CROSS BREEDS-** are animals bred by crossing a male and female from two different pure breeds

**CROWDING PEN-** is a confinement area which funnels livestock into a loading chute or crush for further handling.

**CRUDE FIBRE (CF)-** is the fibre fraction that is left after the feed sample has undergone a laboratory process of boiling in acid and then in alkali with the residue burned in a furnace

**CRUDE PROTEIN (CP)-** is an estimated value of protein in feed calculated by multiplying the chemically analysed nitrogen content of that feed by 6.25

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**CRUMBLES**- is a pelleted feed that has its particle size reduced to granular form by a milling process

**CRUSH**- is a livestock handling passage narrowing at the front end where animals can be restrained and handled individually.

**CRUTCHING**- is a management procedure whereby wool is sheared from around the tail and hind legs of sheep to prevent flystrike

**CRYPTORCHIDISM** (*kript-OR-kih-dizm*)- is the condition where either one or both testes fail to drop from the abdomen into the scrotum sack.

**CUD**- is partly digested food regurgitated from the rumen stomach of a ruminant back to the mouth for further chewing before digesting

**CULTIVATED PASTURES**- are planted from cultivated grasses and can produce up to 4 times more than natural pastures on the same land

**CULL**- is to eliminate animals due to their undesirability for a specific purpose

**CULLED STOCK**- are animals that are removed from a group due to their non-conformance to the required norms.

**CURING**- is the process of adding of salt to meat for preservation purposes.

**CUSTOM FEEDING (CONTRACT)**- is the practice whereby a commercial feedlot feeds cattle or sheep from weaner stage to slaughter stage on behalf of a third party for a management fee.

**CUSTOM FEED MIX**- is a complete feed prescribed, formulated and mixed solely for the use of a specific client

**CUTABILITY**- is the proportion of lean saleable meat yielded by a carcass

**CUTS**- are specific standard retail sections cut from a carcass

**CYCLING**- is the period of physiological changes through which the female goes from one ovulation until the following ovulation

**CYSTICERCOSIS** (*sis-tih-ser-KOH-sis*)- is the infection of livestock with the larval stage of a tapeworm relevant to their specific species

# D

**DAGS**- are clumped bundles of wool or hair that are contaminated with mud or faeces hanging on long haired cattle or sheep

**DAGGING**- is the procedure of removing the bundles of dirty hair or wool from animals

**DAIRY CATTLE**- are cattle bred for their genetic ability to produce large quantities of milk from which various nutritious dairy products are made.

**DAIRY BREEDS**- most popular breeds found in SA:

- Ayrshire
- Brown Swiss (Braunvieh)
- Dairy Shorthorn
- Dexter
- Friesland
- Guernsey
- Holstein
- Jersey
- Red Poll
- Simmental

**DAM**- is the mother of an animal

**DAMAGE CAUSING ANIMAL**- is an individual or group of animals that inflict damage or death to domestically farmed livestock which includes but not limited to Feral dogs, Black backed jackal, Lynx (Caracal), Hyena, Leopard, African Wild dog and Chacma Baboon

**DAMAGED CARCASSES**- can be classed 1,2or3 depending on the seriousness of the bruising damage on the carcass at slaughter

**DARK CUTTING BEEF**- is dark discoloured unattractive tough beef originating from male animals stressed from bad handling, transport, cold lairages, changing weather and comingling before slaughter.

**DART GUN**- is type of gun that fires a drug dart used to sedate a fractious animal from a safe distance

**DAYS ON FEED (DOF)**- is the term used for the number of days which animals are fed intensively before being sold or slaughtered.

**DEAD VACCINE**- is also known as inactivated vaccines composed of dead viruses and bacteria ideal for use in pregnant females

**DEBONED**- is the mechanical removal of the bone content from a cut of meat before further processing

**DEFICIENCY**- is a condition brought about by a prolonged shortage of a nutrient or substance necessary for good health, growth, or production

**DEHORN**- is the process of removing the horns of livestock for economic or safety reasons

**DISBUDDING**- has similar results but done at a very young age where the removed bud is cauterised destroying the buds before the horn can grow out.

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**DEHYDRATION**- is the process of removing water through natural processes from organic matter

**DENTITION**- is the number, type and arrangement of teeth also used to determine livestock age

**DEPOSITION OF FAT**- is fat that is deposited in the animal body in the following order

- Perirenal (around the kidneys)
- Intermuscular (between the muscles)
- Subcutaneous (under the skin)
- Intramuscular (within the muscles)

**DEREGULATION**- is the official removal of regulations and /or restrictions in an industry

**DESTOCK**- is to reduce a number of animals from pastures due to poor climatic conditions or other limitations

**DEW CLAWS**- are two small non weight bearing claws just above the front and rear hooves of livestock

**DEWLAP**- is the loose flap of skin hanging from the neck of cattle and more pronounced on males and Zebu type breeds

**DFD**- is dark, firm and dry meat resulting from the meat pH being higher (5.9-6.5) than normal (5.4-5.7) which can result in tough dry meat

**DIAGNOSE**- is to determine the cause of an illness or problem by identifying the symptoms

**DIAPHRAGM**- is the muscle structure in the body that separates the abdominal and thoracic cavities

**DIARRHOEA(SCOURS)** (*die-uh-REE-uh*)- is loose watery stools that occur more frequently which can be caused by a variety of nutritional or infection causes

**DIET**- refers to the feed ingredients or mixture thereof including supplements and water consumed by an animal

**DIGEST**- is the breakdown of ingested feed in the intestinal tract into small substances that can be absorbed into the body

**DIGESTIBILITY**- is the percentage of a consumed mixed feed or ingredient that is digested.

**DIGESTION**- consists of two parts, mechanical digestion where the food is chewed into smaller parts, chemical where the food is broken down to be absorbed by the cells

**DIGESTIVE DISTURBANCES**- is the metabolic state an animal experiences which is caused by incorrect feed formulation, mineral imbalances or management practices that result in metabolic disorders such as, constipation, bloat, acidosis, diarrhoea, White Muscle disease and Polioencephalomalacia (PEM) which can all result in death if not diagnosed and treated in time.

**DIGESTION PROCESS**- is the biological mechanical, chemical and enzyme degradation process of feed into particles small enough to be absorbed through

the intestinal tract walls.

**DIGESTIVE TRACT**- comprises organs that feed and water pass through when swallowed, digested and absorbed and the waste expelled from the body as faeces

**DIGESTIBLE ENERGY**- is the amount of energy in the feed minus the energy expelled in the faeces

**DIP**- is the process by which livestock are soaked in a prescribed diluted commercial parasiticide either by way of plunge/spray dipping or a systemic application method

**DIPPING TANK / VAT**- is a permanent or temporary bath designed to immerse livestock in a diluted liquid pesticide to treat them against parasite infestations.

**DIRECT SALE**- is the sale of livestock between a willing buyer and willing seller without the assistance of a third party.

**DISBUDDING**- or early dehorning is the practice of removing or stopping the growth of horns in young livestock

**DISTILLER GRAINS**- are a by-product of the distilling process of grains from the brewing industry

**DNA**- Deoxyribonucleic Acid carries the genetic instructions for development, growth and reproduction of all organisms

**DOCILE**- easy to manage and handle

**DOCK**- is to remove or shorten the tails of long-tailed sheep

**DOE**- an adult female goat

**DOELING (DOE-LING)**- a young sexually immature female goat

**DOMINANT**- is a genetic trait that will appear in the offspring if one of the parents possess the trait

**DORSAL**- a point above the middle line

**DOUBLE MUSCLING**- is a muscle hypertrophy characteristic caused by a gene mutation prominent in some cattle breeds Dorsal- is a point above the middle line

**DOSE**- is to administer orally or by injection a specific quantity of a therapeutic drug or medicine which is intended to be taken all at one time.

**DOWNER**- is the term for an animal that has been unable to stand for a prolonged period due to various medical reasons and usually put down

**DRENCH**- is the forced pouring of various pharmaceuticals or medications down the throat of livestock for prophylactic or treatment reasons

**DRESSING PERCENTAGE**- is the warm eviscerated carcass mass divided by the live mass of the animal expressed as a percentage

**DRINKING NIPPLE**- is a small fitting on the water supply line used in pig and poultry production to supply water in a hygienic and controlled manner directly into the animal's mouth

**DRIVING**- is the moving of a group of animals on foot from one location to another



**DRUG**- is a chemical substance intended to prevent, treat, or cure a disease or to effect a change in bodily function of an animal

**DRY COW**- is the period in which a dairy cow moves from the end of one calving lactation period to the beginning of the next, during which all lactation stops.

**DRY HEAT COOKING**- is the cooking of meat without adding additional moisture, viz grilling, broiling, roasting, frying and stir frying

**DRYLOT**- is a limited fenced off area to contain, care and feed livestock during a period of limited natural vegetation

**DRYING UP**- is when a dairy cow is stopped from milking usually around 220 days of pregnancy

**DRY PERIOD**- is the period in which a female animal does not produce any milk

**DRY MATTER %**- is the percentage of a feed or ingredient sample including the fat, protein, fibre, mineral and vitamin fractions with the moisture fraction deducted.

**DRY MILLED**- is the process by which grain is tempered with a little moisture and milled to separate various parts of the kernel

**DRY SALTED HIDES/SKINS**- are freshly flayed hides or skins that have been preserved by curing with ample amounts of coarse salt and dried for further processing

**DUST CONTROL**- excessive dust in livestock production units can be caused by feed handling and milling, wind blowing dry manure and from gravel roads, all being a serious health hazard to animals and humans, and an irritation to neighbours and passing traffic and the control thereof by various means is a primary responsibility of management.

- Control measures include- removing excess dry manure regularly, sprinkle water spraying in open pens and with tankers spraying chemicals mixtures or waste oils on gravel roads, adding vegetable oil when milling feed, and increasing stocking rates to keep manure in pens moist in dry periods.

**DWARFISM**- is a condition of stunted growth marked by unusually small size or stature which could be of genetic origin

**DYSTOCIA** (*dis-TOH-shuh*)- refers to a difficult birth which is caused by an unusually large- or badly positioned foetus, or failure of the uterus and cervix to contract and expand normally or due to the size of the pelvic opening of the dam

# E

**EAR (OF GRAIN)**- is only the grain bearing tip of the stem of a cereal plant; also called a cob on the maize plant

**EAR NOTCH**- is an elementary identification mark or series of marks cut into an animal's ear

**EARLY WEANING**- is removing the offspring from its dam at an early age due to various reasons

- Condition of the dam due to health or drought conditions
- Due to a system to increase the number of offspring in a dam's lifetime
- To raise in an intensive production system

**E-COLI (ESCHERICHIA COLI)**- is a type of bacteria that is found in the intestinal tract of humans and animals, some strains are harmless others can cause serious diarrhoea when contaminated food or water is consumed

**ECOLOGY**- is the field of biology of the relationship of organisms to each other and to their environment

**ECTOPARASITES**- is a parasite that feeds on the animal but lives outside of the animal, like ticks, mites, mosquitos and flies

**EDEMA (OEDEMA)**- is the accumulation of abnormally large concentrations of fluid between the tissues of an animal which causes a swelling

**EDIBLE BY-PRODUCTS**- are parts of the slaughtered animal other than the carcass that can be consumed by humans.

**ELASTRATOR**- is an applicator to apply rubber rings to either a lamb's tail or scrotum to either dock or castrate the animal

**ELECTRICAL STIMULATION**- is a process applied immediately after slaughter to an eviscerated beef carcass before de-hiding whereby the stimulated carcass muscles extend and contract to hasten the depletion of muscle energy reserves and thereby the rigor mortis process to reduce the variability in meat tenderness between carcasses.

**ELECTRONIC IDENTIFICATION**- is a management system based on low frequency radio waves from a transponder embedded in a unique permanent tag or chip used to record animal movement.

**EJACULATION**- is the action of ejecting semen from the male penis during sexual activity

**EMACIATION**- is the state of an animal being abnormally thin and weak normally through sickness, hunger, or neglect

**EMASCULATE**- is the neutering of a male animal by removing the testicles or by severing the sperm tracts permanently.

**EMASCULATOR**- is the tool used for the mechanical castration of male livestock.

**EMBRYO**- is a fertilised egg cell in the uterus of the female.

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**EMBRYO TRANSFER**- the non-surgical removal of an embryo with a catheter from the uterus of the donor dam and placing it in a recipient dam

- Donor dam is a top genetic dam that produces the embryo for transfer purposes
- Recipient dam(surrogate) is the ideal dam that is in good breeding condition with proven breeding abilities
- Embryo flushing is when a special medium is flushed in and out of the donor dam uterus to collect the embryos

**EMBRYONIC DEATH**- is the loss of a foetus before 42 days of age and can occur in all species

**EMULSIFIER**- is an added compound that causes fat and oils to remain in liquid suspension

**ENCEPHALITIS** (*en-sef-uh-LY-tis*)- is the inflammation of the brain resulting in high fever which can develop into convulsions

**ENDOCRINE SYSTEM**- is a system of ductless glands or organs that excrete various hormones directly into the blood to regulate specific body functions, amongst others

- Hypothalamus
- Pituitary
- Adrenal
- Pancreas
- Thyroid
- Parathyroid
- Pineal
- Testes
- Ovaries

**ENDOPARASITES**- are parasites that live within the animal's tissues or organs

**ENERGY**- is the potential energy stored in the micronutrients of food

**ENERGY DENSITY**- is the amount of energy per unit volume

**ENERGY FOR MONOGASTRIC ANIMALS**- is energy derived from carbohydrates, proteins and fats

**ENERGY FOR RUMINANTS**-

- TDN is a method for determining the energy in ruminant feed and related to Digestible Energy
- Gross energy is the total amount of energy released as determined during the combustion of a feed sample in a bomb calorimeter
- Digestible energy is the portion of the Gross energy that is digested by the animal
- Metabolizable energy is the available portion of digestible energy left after combustible gases and urine loss have been deducted.
- Faecal energy is the portion of the Gross energy that passes undigested through the animal
- Net energy is that available to the animal for maintenance and production after digestion calculated as the metabolizable energy minus the heat increment.

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**ENTEROTOXEMIA** (*en-ter-oh-tok-SEE-mee-uh*)- also called overeating disease caused by large volumes of toxins from *Clostridium perfringens* which can cause death in young calves and Pulpy kidney in sheep of all ages

**ENSILE(SILAGE)**- is the preservation process utilising anaerobic fermentation of finely chopped and compacted plants- or grains in bunkers or silos and stored for later use. Recently mechanical ensiling has been successful in big, sealed plastic bags.

**ENZOOTIC ICTERUS** (*en-ZOH-uh-tik ICK-ter-us*)- is a form of copper poisoning in sheep and goats occurring in the Northern Cape Karoo region and is characterised by yellowing of the skin and mucous membranes

**ENZYMES**- are natural proteins produced in the digestive tract that enhance the feed digestion process.

**ENVIRONMENT**- are the conditions in which an animal lives or is placed including climate, housing, feed sources and health

**ENVIRONMENTAL GUIDELINES**- are voluntary management practices imposed on industries or companies to reduce water pollution, carbon emissions, dust pollution, animal welfare or other harmful practices.

**ENVIRONMENTAL STRESS**- can be caused to animals by various stimuli such as noise, extreme temperature, high humidity, proximity of humans, overcrowding, available water or feed, strange surroundings, transport, or strange animals.

**EQUILIBRIUM**- is a stable state in nature where opposing forces neutralise one another and no change occurs.

**ESOPHAGEAL** (*ee-sof-uh-JEE-ul*) **GROOVE**- is a muscular structure present in newborn ruminants through which milk passes from the oesophagus into the abomasum bypassing the other three stomachs

**ESSENTIAL AMINO ACIDS**- are amino acids that differ between species but cannot be synthesised by the animal itself and must form part of the diet.

- Essential amino acids for cattle are Arginine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan and valine
- Essential amino acids for sheep are histidine, isoleucine, leucine, lysine, methionine phenylalanine, threonine, tryptophan and valine

**ESSENTIAL NUTRIENT**- is a nutrient that cannot be synthesised in the body in sufficient amounts and must be added to the diet.

**ESTIMATED BREEDING VALUE (EBV)**- are measurements of genetic potential used to estimate a breeding male's true breeding value for a specific trait

**ESTROGEN**- is the primary female sex hormone responsible for the development and regulation of the female reproductive system and secondary female characteristics.

**ESTRUS/OESTRUS (HEAT)**- is the period when the female livestock are receptive to mating with the male

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**ESTRUS /OESTRUS CYCLE-** is the period from the start of one oestrus to the start of the following one

**ETHER EXTRACT-** is a test to determine approximate total fat content of a feedstuff

**EUTHANISE-** is to put an animal to death humanely and without any pain.

**EVISCERATE-** (*ee-VISS-er-ate*) is the removal of all the organs of the gastrointestinal tract of the animal during the slaughter process.

**EWE-** is a female sheep that has given birth to a lamb

**EWE BREEDING SEASON-** usually ewes are bred during Autumn to carry the lamb through the winter and to lamb in the Spring

**EXSANGUINATE** (*eks-SANG-gwin-ate*)- is to drain the blood out of a dead or slaughtered animal

**EXPIRY DATE-** is the last date for use for a product, medication, or vaccine before starting to lose its efficacy

**EXTERNAL PARASITES-** are parasites that feed on external body tissue such as skin, wounds and hair which cause extreme discomfort to the animal such as ticks, lice, flies and mites

# F

**FAMACHA**- an acronym for a chart developed by Dr Faffa Malan that uses the colour of the inner eye lid to determine the level of parasite infection of mainly of *Haemonchus contortus* sheep and goats

**FAECES**- the manure or excrement from an animal

**FAECAL EGG COUNT**- is the number of parasite eggs per gram of faeces

**FARM ANIMALS**- are animals farmed for their production of meat, milk, eggs, fibre, wool, feathers, skins, hides or draft abilities

**F1 CROSS (HYBRID)**- is the first generation of offspring of two distinctly different breeds

**F2 CROSS (HYBRID)**- is the offspring from interbreeding of two F1 animals from the same generation.

**FAT**- is natural oily substance composed of triglycerides of fatty acids occurring in all animals in tissue to store energy

**FAT DEPOSITS**- are localised in animals can be generalised and is either subcutaneous or visceral

- internal body fat – is Pelvic, Heart and Kidney fat
- Intramuscular- is the fat distributed within the muscles more commonly referred to as marbling
- inter muscular- is the fat located between muscles.
- subcutaneous- is the fat stored just below the skin

**FAT SOLUBLE VITAMINS**- are the vitamins A,D,E and K are diet supplemented and are stored in the body fat reserves

**FATTEN**- is to feed intensively in preparation for slaughter

**FATTY ACID**- is a part of fat compiled of carbon and hydrogen that is used as energy by animals

**FECUNDITY** (*feh-KUN-dih-tee*)- is a measure of the reproductive success of an animal

**FEED**- is edible material of plant or animal origin, fed naturally or processed and consumed either in wet or dry form by animals for energy and nutrients.

**FEED ADDITIVE**- is a supplement used in animal feed to improve the quality of the feed or to enhance production

**FEED PASSAGE/ALLEY**- is the passage allowing access to dispatch feed either manually or mechanically into feed bunkers

**FEED ANALYSIS**- is the laboratory tests or measurements to determine the physical or chemical qualities of single feed ingredients or of mixed feed

**FEED BUNK**- is a trough like construction where one or more animals can feed simultaneously alongside each other or from both sides of the trough

**FEED BUNK MANAGEMENT**- is to ensure maximum intake, fresh feed must always be available from a clean bunk.

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**FEED BUNK READING**- is a responsible function of predicting in advance the amount of feed and time of delivery for a specific feed bunk on a daily basis

**FEED BUNK SPACE**- is the number of centimetres allocated per animal to eat at the bunk which can vary according to its size, finish, amount of feed, frequency of feeding or climatic conditions

**FEEDER CALF**- is either a male or female bovine calf under 1 year old being prepared for a feedlot phase

**FEEDER CATTLE**- are male or female that have reached the desirable mass to enter the feedlot phase for the slaughter market

**FEED COMMERCIAL**- is any mixed animal diet that is offered for sale on the open market

**FEED COMPOUND**- is a scientifically formulated commercially manufactured feed blended from various raw materials, by-products and additives to the nutritional requirements of a specific class of animal.

**FEED CONVEYOR**- is a mechanical handling equipment used to move feed or ingredients from one area to another

**FEED CONVERSION RATIO (EFFICIENCY)**- refers to the mass in kg of 90% dry feed consumed per each kilogram of gain

**FEED GRADE**- refers to products that are to be consumed by animals but not for human consumption

**FEED INGREDIENTS**- are various individual components or mixtures comprising the animal's feed.

**FEED INGREDIENT CLASSES:**

- Energy concentrates are feedstuffs high in energy content and low in fibre content
- Protein supplements are feedstuffs with a high protein content used to increase the protein content in the diet
- Roughages are feedstuffs high in fibre content and low in energy content
- Mineral concentrates are feedstuffs providing additional major minerals Ca, P, Mg and S and trace minerals which include Fe, Zn, I, Cu, Mn, Fl, Se, Cr and Mo to the diet in recognised ratios.
- Vitamin premix is a mixture of vitamins, trace minerals, medication, other supplements prescribed by a Nutritionist for specific classes and production levels of animals.
- By- / waste products are products from the processing of livestock and plants used
- as valuable ingredients for livestock feeding

**FEED INGREDIENT QUALITY CONTROL**- are the actions taken to ensure that the product meets the stipulated specifications

**FEED INTAKE**- is the amount of feed in kg's that an animal consumes over a 24hr period, calculated over no less than a 5day period

- % of body mass dry matter feed intake can be estimated for,
- Beef cattle at 2.5-3.5% of the animal's average body mass during the process
- Dairy cows at 2.5-4.5% of the animal's average body mass

- Lambs up to 4% and sheep 2-3% of body mass
- Pigs between 2.7- 4.00 % of body mass
- Ad lib (ad libitum) is a Latin term meaning unlimited availability of feed to be able to be consumed as much as is required
- Dry matter: water is around 1kg of dry feed /4 lt of water consumed at a daily temperature of 18 degrees C
- Voluntary intake is the maximum feed intake determined by feed composition, palatability, moisture content, water consumed, body condition of the animal and can vary according to the animal's body mass
- Restricted feeding means the restricting of the amount of feed/ energy while ensuring sufficient nutrient intake

**FEEDING MARGIN**- is a ratio used in the feedlot industry as an indicator to determine whether it is economical to feed cattle intensively or not. The feeding margin can be either positive or negative: is positive when the total production cost to produce a kg of carcass is less than the price of a kg of carcass sold; and is negative when the production cost to produce a kg of carcass is more than the price of a kg of carcass sold.

**FEEDLOT BREAKEVEN**- is the point when the purchase price of the feeder calf/lamb + feed cost+ total overhead cost+ marketing cost = carcass income +offal income +hide income + any other income

**FEED MILLING**- is the weighing, mechanical processing and mixing of different feed ingredients, liquids and additives of different forms and textures into specialised feed blends.

#### **FEED MILL TYPES:**

- Hammermill is a mechanical or electrically driven grinder in which feed ingredients are milled by swinging hammers through a static sieve to a required fineness.
- Roller mill is a machine for breaking grains into smaller particles by passing them through rotating cylindrical rollers
- Cracker mill is a mill with large discs covered with projecting teeth rotating in opposite directions used to crush previously moistened grains.
- Steam flaking mill- is a machine which mills steamed whole or cracked grain through adjustable heated contra- moving rollers into grain flakes
- Pelleting mill- is a machine which forces a soft finely milled mixed feed through either round or square holes in a rotating ring dye transforming it into uniform hard pellets
- Feed mixing- is the blending of dissimilar ingredients with the objective of distributing them evenly into a uniform product.
- Feed mixer types:
  - Blender is a horizontal mixer used to blend feed ingredients of different particle size, moisture content and density into a uniform feed mix.
  - Batch mixer can be
    - an horizontal stationary open mixer is a mixer mounted on load cells which mixes various weighed amounts of ingredients into a uniform mix before loading into a mobile feed wagon

- a large vertical mixer can be a 3 compartment bin mounted on load cells which is automatically loaded with individual ingredients per compartment before discharging into the awaiting mixer truck below while refilling the next compartment
- Vertical mixer- used in small operations consisting of a tank fitted with vertical auger(s) which lifts the ingredients to the top of the tank which then fall and are re- elevated repeatedly before discharging as a mixed feed
- Mobile paddle mixer- is a large horizontal mobile load cell mounted hopper fitted with a set of augers and a paddle that lifts and tumbles different weighed feed ingredients backwards and forwards into a uniform mixed feed and then discharges it into a feed bunker. The mobile mixers are of varying sizes and used by feedlots and dairies.

**FEED ON FARM MIXING-** is the process of combining various individual feed ingredients into a mixed feed for livestock on the farm

**FEED PROCESSING-** is the mechanical or chemical changing of feed ingredients to enhance their nutritional value.

**FEED SCALE-** is a measuring device that can be of varying sizes that can weigh small or bulk amounts of feed ingredients or mixed feed

**FEED SILO-** is either a vertical or horizontal constructed bulk storage facility used to store and discharge feed ingredients.

**FEEDSTUFF-** is a mixture of substances in a material that can form part of the protein, carbohydrate, fat, vitamin, mineral and water daily needs of an animal.

**FEED TRUCK-** is a truck mounted bulk tank or horizontal feed mixer with discharging abilities

**FEEDING ALLEY-** is the passage between feed bunks travelled by feed mixers to discharge feed

### **FEEDING PHASES IN FEEDLOT PRODUCTION:**

- Starter is when a palatable, protein dense, nutritious low grain: high roughage diet is fed for around 10-14 days
- Grower is when the animals have adapted to the feedlot diet and environment and fed a high protein diet with a higher level of grain with reduced roughage for between 1430 days
- In some feeding operations additional Grower steps are used
- Finisher is when the animals are in the final feedlot phase and fed a high energy: low fibre diet until they reach the required marketing specifications for weight and carcass finish

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**FEEDING PEN**- is the confined fenced feedlot production area where a group of animals is housed with access to ad lib fresh feed and water

**FEEDING PEN AREA**- is the area in the production pen allocated per size and finish of the animal which varies according to the climate, drainage and floor surface conditions.

**FEEDING PEN CAPACITY**- is the number of animals the pen is designed to hold according to a specific animal size, finish and climatic condition

**FEEDING PERIOD**- is the number of days required for the animal to grow from initial mass and condition to required market ready condition.

**FEEDING REGIME**- a programme that specifies the animal's diet, amount, feeding intervals and nutritional intake that should be followed

**FEEDLOT**- is an intensive animal production facility where otherwise unmarketable animals are grouped and scientifically fed and cared for over a feeding period in preparation for final marketing.

**FEEDLOT CARCASS DRESSING %**- can range from 56- 62% depending on gender, age, stage of fatness, distance travelled, feed and water withdrawal period before slaughter. - old Class C cows range from 38-45% depending on stage of fatness

Feedlot initial carcass dressing %- the initial dressing% of a dry SA feeder calf of 230-245 kg on arrival at a feedlot is approx. 48%

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**FEEDLOT INITIAL CARCASS DRESSING %**- the initial dressing% of a dry SA feeder calf of 230-245 kg on arrival at a feedlot is approx. 48%

**FEEDLOT CARCASS GAIN (APPROX)**- is live mass gain X 0.68

**FEEDLOT DIETS**- the animal's economic stage of production requires that the feed intake be adapted into various diet formulations

**FEEDLOT LIVE GAIN (APPROX)**- is  $(\text{Initial mass} + \text{final mass}) / 2 = \text{mid mass} \times 0.54 \%$



## FEEDLOT PROCESSES:

- Estimating feeding potential and suitability
- Purchasing
- Transporting
- Receiving
- Processing
- Adaptation
- Production
- Marketing
- Feed milling
- Feeding management
- Water management
- Health management
- Waste management
- Maintenance
- Administration

**FEED REQUIREMENTS**- can be the physical amount or the actual daily nutrient requirements for the production phase the animal is in

**FERMENTATION**- is primarily an anaerobic process in which moulds, bacteria or yeast produce acids, alcohol and vitamins.

**FERMENTATION AID**- is a substance added to assist in providing better conditions that will facilitate a more efficient fermentation process

**FERTILITY**- is the ability of an animal to produce a large number of living offspring

**FERTILITY TEST**- to assess sperm count and measure their mobility of breeding males before the breeding season

**FERTILISATION**- is the process of fusing a male and a female egg cell after mating

**FERTILISER**- is a natural or synthetic compound that adds nitrogen, phosphorus, potassium to the soil to increase crop fertility

**FIBRE**- is a main component of all plant material consisting of cellulose, hemicellulose and lignin which slow-down the digestion process.

**FIFTH QUARTER**- refers to the hide and the offal components of a slaughtered beef animal.

**FIGHT OR FLIGHT**- is a physiological defence reaction of an animal to either fight or flee in response to a perceived threat which can have a genetic origin

**FINES IN FEED**- is the term given to particles that will pass through the minimum pellet or crumble screen opening which are inclined to negatively affect feed palatability

**FINAL MASS**- is the last mass recorded of any process.

**FINES IN BUNKER**- are small less palatable ingredient particles that are left in the feed bunker after having segregated out from the coarser particles of the consumed feed mix and cause a drop in feed intake

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**FINISHING**- is the process of feeding animals a higher plane of nutrition to accelerate their growth phase to reach a required market specification

**FISTULA**- is a surgically applied tubular connection from the exterior of the body to an internal organ for animal research purposes

**FLAKES**- are processed feed ingredients that have been either dry or steam rolled into uniform thin slithers to aid the digestion process

**FLEECE**- refers to the wool covering of sheep and goats

**FLEECE CASTING**- refers to the single action of throwing the newly sheared fleece spread out onto the sorting table to be skirted

**FLEHMAN RESPONSE**- a behaviour whereby some male species curl back the upper lip with closed nostrils exposing front teeth

**FLIGHT DISTANCE**- is the shortest distance between a human and an animal to the moment of the animal's hasty withdrawal

**FLIGHT ZONE**- is the distance that a human must maintain from an animal for the animal to remain comfortable

**FLOCK**- refers to a group of sheep, goats, or birds both domestic and wild ones grouped together

**FLUSHING (PRIKKELVOEDING)**- is the practice of increasing the female farm animal's nutritional intake to improve body condition prior to the breeding season and to bring on ovulation and thereby improve the conception rate as well as for removing fertilised female eggs from the womb of a female for transferring to a recipient female

**FODDER**- is any coarse green or cured plant-based feedstuff used to feed farm livestock

**FODDER FLOW**- is the matching of the sustainable supply of fodder to the farm livestock's annual requirements.

**FOETUS**- is the unborn offspring of a mammal that is going through the various stages of prenatal development before birth

**FOLLICLE STIMULATING HORMONE (FSH)**- is a hormone produced in the pituitary gland which stimulates the production of follicles by the ovary

**FOOD AND DRUG ADMINISTRATION (FDA)**- is the internationally recognised US Government Department responsible for protecting public health ensuring safety, efficacy of human and veterinary products and devices.

**FOOT AND MOUTH DISEASE (FMD)**- is a highly contagious notifiable viral disease of cloven hooved livestock causing painful lesions in the mouth and hooves of the animals

**FOOTBATH**- is a shallow permanent or temporary narrow bath structure for adding a diluted hoof treatment for one or many animals to pass through singly.

**FOOT ROT**- is a contagious bacterial infection of the hooves of livestock that causes swelling which can be painful and cause lameness brought about in wet conditions

**FORMAL MARKET**- is the organised market of buying and selling according to accepted price and quality norms and standards.



**FORAGE**- refers to all plant material that is fresh, baled, ensiled, which is chopped, ground or grazed which forms part of livestock diet

**FOREQUARTER**- are the areas of the body that include front legs and feet, shoulder, chest and brisket

**FORMULATION**- is a combination of specific ingredients according to their nutrient analysis that will meet the nutrient requirements of a class of animal when mixed.

**FRAME SCORE**- is an objective accepted numerical description of skeletal size used to reflect the growth pattern and potential growth pattern of an animal

**FRAME SIZE**- is a descriptive categorisation of livestock into Large, Intermediate or Small frame size

**FREE CHOICE**- is a feeding system of unlimited access to separately offered ingredients of a balanced diet.

**FREEMARTIN**- is an infertile female animal normally the twin of a male which shows masculine behavioural characteristics.

**FREE RANGE**- is the description of the natural open environment of freedom of movement that livestock are raised under

**FREEZING**- is to convert liquid into a solid at 0 degree C used to preserve meat, semen and embryos before transfer

**FRESHEN**- means for a female to come into milk

**FUNCTIONAL EFFICIENCY**- an animal's capability of being able to produce and reproduce under its environmental circumstances with minimum effort and input cost

# G

**GAG-** is a triangular shaped metal device inserted along the top of the teeth on one side of the lower jaw into the back of the animal's mouth to keep the mouth open while doing an oral procedure

**GAMBREL RESTRAINER-** a restraining device for small stock that is placed over the animal's neck with openings on either side to hold both the front legs of the animal

**GASTROENTERITIS (PGE)-** caused by Roundworms that infect the digestive tract

**GELATINISED** (*jel-AT-in-ized*)- is when starch molecules in a grain kernel are ruptured by a process of heat, moisture and mechanical shearing which improves digestion

## GENDER

Cattle	Sheep	Goats
Bull	Ram	Male intact (buck)
Cow	Ewe	Female (Doe)
Bull / heifer calf	Ram / ewe lamb	Kid
Tollie / Steer	Wether (hamel)	Kapater

**GENE-** is the unit of inheritance transferred in reproductive cells

**GENE LOCUS-** is the physical location on a chromosome

**GENETIC CORRELATION-** is the correlation of breeding value traits between animals or different traits of the same animal

**GENETICS-** is the study of how different qualities (traits) are passed from parents to offspring.

- Genotype- is the set of genes in the composition of the animal
- Phenotype- is the physical expression of the genetic composition of the animal

**GENITALIA-** are the internal and external sex organs

**GENOME-** is the complete set of DNA of an individual

**GENOTYPE-** is the complete combination of the genes of an animal which influences its characteristics

**GERM-** is the embryo part of the kernel of seeds that is separated from the bran and starch endosperm during the milling process



**GESTATION** (*jes-TAY-shun*) period- is the period from date of conception that it takes for a foetus to develop fully until birth.

**GESTATION PERIODS OF FARM ANIMALS (DAYS):**

Cattle	Sheep
Cow	282
Ewe	152
Sow	115-122
Mare	320-362
Doe	148-152

**GLYCOGEN**- is a polysaccharide of glucose stored in muscle and liver tissue in an animal and as starch in plants

**GMP (GOOD MANAGEMENT PRACTICE)**- is a practice or series of industry agreed practices routinely audited that have as objective a more efficient, safer, or ethical operating environment.

**GOAT BREEDS**

- **Meat** Boer, Kalahari Red, Savanna and indigenous breeds
- **Wool** Angora
- **Milk** Saanen, Toggenburg, British Alpine

**GOITRE** (*GOY-ter*)- is a swelling of the neck resulting from the enlargement of the thyroid gland

**GONAD**- refers to the sex organ that produces egg cells in females (ovary) and sperm in males (testicle)

**GOSSYPOL**- is a phenolic pigment in cottonseeds that is toxic to some animals

**GRADE**- is the system used to measure quality of an animal or a product against that animal/product standard

**GRAIN**- is the general term given to the harvested seeds of cereal plants for example Maize, Sorghum, Wheat, Oats, Barley, Rye, Millet and Triticale.

**GRAIN FED**- is the intensive production of livestock fed nutritionally balanced

**GRAIN**-based diets for a period prior to slaughter

**GRASS BASED**- is when pasture or natural grazing plays the major role in the production process

**GRASS FED**- is the extensive production of livestock on pastures with only limited feed supplementation



**GRAIN PRESERVATION**- is the practice of harvesting grain at its highest nutritional value and storing it for a long period to either enhance the nutritional value or to lose the least amount of the original value:

- Dry storage is the process of harvesting the grain at a moisture content that will not result in fermentation or fungal growth, store either outside in heaps or in sheds, silos, or covered trench pits.
- High moisture is grain that is harvested and stored whole or milled at a moisture content of around 24% in a bunker type of silo for later use but requires good management to prevent spoilage
- Reconstituted is the process of soaking grain in water until the inside of the seed swells making the starch and other nutrients more readily available for digestion

**Grain processing:**

- Whole
- Milled/ ground
- Cracked
- Micronised
- Exploded
- Steam flaked
- Reconstituted
- Pelleted
- Dry rolled
- High moisture
- Ensiled

**GRAVID**- is the term used for pregnant females

**GRAZING DENSITY**- is the number of livestock expressed in terms of number of hectares per livestock unit grazing

**GRAZING SYSTEMS**- grazing means the free roaming of animals to fend for themselves in open pastures or rangeland where the system will depend on the quality of the pastures, production system envisaged and the class of livestock. Grazing systems can differ between neighbouring farms as well as sections of the same farm. However, the objectives should remain the same; to maintain the ground cover and to supply sufficient sustainable grazing for optimum production and reproduction.

- **Continuous** (one camp system) is when livestock graze for an extended period on plentiful grazing with no rest periods
- **3 Camp** is a system whereby animals rotate between 3 camps with periods of up to 3months and a rest period of up to 6months
- **4 Camp** is a system where 3 camps are grazed annually with the 4th camp rested for a full year.
- **Rotational** is a system allocating herds to their own smaller camps allowing the animals to be moved routinely between these camps allowing rest periods for regrowth of the grazing.
- **Savory** is a holistic approach with the basic principle of intensive grazing of smaller pastures for a short duration of time by a concentrated herd before moving to the next camp.

- **Overgrazing** is the result of pastures being intensively grazed without a rest period and can result from; too many animals for an extended period; insufficient grazing due to adverse climatic conditions; poorly managed grazing systems
- **Strip** (controlled) is a system involving the moving of the livestock from a limited area to another after short grazing periods followed by fertilisation and irrigation.
- **Zero systems** used mainly in dairy production where cows are kept in pens to save energy expenditure and for ease of observation and management, by supplying them with high quality feed and forage in feed bunkers

**GREEN CHOP**- is a cultivated crop chopped during premature harvesting either for direct feeding or ensiling

**GREEN HIDE/SKIN**- is a raw or untanned hide /skin

**GRINDING**- is the process whereby the particle size of a grain or roughage is reduced by hammering, impact, shearing, or roller milling

**GROUND WATER**- is the supply of fresh water drawn from an underground aquifer or reservoir.

**GROUP FEEDING**- is a feeding system where a group of similar sized animals of the same species are fed all together

**GROWTH CURVE**- is a plotted graphic representation of the variation in the movement of growth performance

**GROWTH HORMONE (SOMATOTROPIN)**- is a naturally produced hormone released into the blood stream by the anterior pituitary gland

**GROWTH IMPLANT**- is a small pellet inserted under the skin of the animal's ear that releases a growth stimulant over a period of time resulting in increased muscle growth

**GROWTH PROMOTER**- are chemicals used to promote growth in livestock that can be either implanted or taken orally in mixed feed.

**GROWTH RATE**- is the percentage increase in body mass measured over a period



# H

**HABITAT**- is the natural environment of a plant or animal

**HACCP SYSTEM (HAZZARD ANALYSIS CRITICAL CONTROL**

**POINTS)**- is a system of sequential steps to identify potential food hazards in a process, assess their risk and institute controls and procedures to prevent problems

**HAEMONCHUS CONTORTIS**- is a common parasite one of the most pathogenic nematodes in livestock

**HAEMOPHILUS SOMNUS**- is a bacterial respiratory disease forming part of the Histophilus somni complex which can spread to other organs

**HALAAL**- is meat that adheres to processes permissible under Islamic law which includes strict health and slaughter requirements only done at Islamic authorised facilities.

**HALTER**- is a leather, canvas or rope strap placed around the head and neck of an animal to lead or tether it

**HAND MATING**- is placing an individual oestrus female in a small pen with the selected individual male to mate under supervision

**HAND REARED**- means the rearing of offspring by hand due to the mother having died or been slaughtered or having insufficient milk.

**HAY**- is the aerial part of grass especially cut and dried for livestock feeding

**HAY ADDITIVES**- are organic acid - based products that are designed to allow hay to be harvested and baled at a higher-than-normal moisture content by preventing mould damage in the bales.

**HAYLAGE** (*HAY-lij*)- is grass silage

**HEAT**- known as oestrus, is the period when the female is fertile and the most receptive to male semen

**HEALTH MANAGEMENT**- is the overall management and leadership given by both the private and public sectors

**HEAT LOAD**- is the quantity of heat energy expected in a particular area to retain the temperature within a specific range

**HEAT SYNCHRONIZATION**- is the manipulating of the heat cycles of a group of female animals to coincide to simplify the breeding process

**HEAT STRESS**- occurs when animals are subjected to more heat than they can dissipate

**HEAT STROKE**- is a condition created by excessively high temperatures and the failure of the body's temperature regulating system to get rid of excess heat which leads to fever and unconsciousness

**HECTARE**-is a unit of area equal to 10000 sq. metres used to measure land sizes

**HEIFER**- is a young female bovine that has not yet born a calf

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**HEMICELLULOSE**- is found in the plant cell walls but has a less complex structure than cellulose

**HERD**- is a group of cattle of any number, size or age

**Herd composition**- refers to the ratio of the different gender classes of the herd to each other

**HERD COMPOSITION**- refers to the ratio of the different gender classes of the herd to each other

**HERD /FLOCK MANAGEMENT**- is the encompassing term for caring, mating, tendering, feeding, health, welfare and data recording of a herd/flock

**HEREDITY**- is the occurrence of genetic factors derived from each of the animal's parents

**HERITABILITY**- is the percentage of variation in individual characteristics between related animals due to genetic differences also indicating the level of probable transmittance of a characteristic

**HERNIA**- is a condition when a part of an organ protrudes through the wall of the cavity containing it

**HERMAPHRODITE** (*her-MAF-roh-dite*)- is an animal that has some or all the primary sex characteristics of both genders

**HETEROSIS**- is the improvement in growth, size, production yield or other characteristics in the offspring of cross bred animals over those of either of the two parent breeds; also referred to as hybrid vigour

- Heterozygous (*het-er-oh-ZY-gus*)- means having two different alleles of a particular gene

**HIDE**- is the pelt of a bovine or other large animal removed after death for further processing for various human uses.

- Pelt is an animal hide or skin with the hair or wool still on it
- Flaying means the process of removal of the hide or skin from the carcass of the slaughtered animal
- Green means hides or skins immediately after removal from the dead animal
- Wet blue are hides or skins that has been chrome tanned but not finished
- Cured are hides or skins that have been soaked in a brine solution and turned in a large vat for at least 12hrs before draining and salting
- Dry salted refers to a green hide or skin that was salted and air dried
- Splits refers to the two portions of a hide that has been split into two equal pieces usually used for the furniture and foot ware trades
- Hide damage means physical damage to a hide of skin caused by parasites, branding, horns, fence wire, thorn trees or during the hide or skin removal or flaying process.

**HIDE / CARCASS** – hide mass- is around 13.2 % of the final carcass mass

**HIGH MOISTURE CORN**- is maize that is harvested at 24 % moisture or more and allowed to ferment in a silo to feed at a later date to livestock

**HOGGET**- is an Australian term for a yearling sheep but also used in SA

**HOLDING PEN**- pen where livestock are temporarily confined before handling



**HOLISTIC FARMING**- is a livestock and resource management system that focuses on promoting soil and grazing patterns together with water usage in an overall eco system

**HOMEOTHERM**- refers to an animal that can maintain its body temperature despite a change in the temperature around it

**Homogenisation**- is mechanically reducing a product into small uniform particles evenly distributed.

**HOMOZYGOUS** (*hoh-moh-ZY-gus*)- means having two identical alleles of a particular gene

**HOOF SCALE**- is an individual or group walk-on scale

**HORMONE**- is a natural chemical substance produced in the body that controls and regulates cells and organs.

**HORNED**- means animals or breeds that have horns

**HOSPITAL PENS**- are pens that segregate sick or treated animals from the rest of the group for recuperation or retreatment purposes

**HOT CARCASS MASS**- is the carcass mass immediately after slaughter

**HULL**- is the dry outer shell of a seed or nut

**HUMANE HANDLING**- means using methods to handle, treat, transport or slaughter animals in a compassionate way to avoid unnecessary injuries or stress

**HUMANE TRANSPORTATION OF LIVESTOCK**-by Road SANS 1488:20XX

**HUMIDITY**- refers to a percentage of moisture in the air

**HUSKS**- are the dried leaves enveloping the kernels on an ear of maize.

**HYBRID VIGOUR**- is the improvement in performance of cross breeds over that of the purebreds

**HYPERPLASIA** (*hi-per-PLAY-zhuh*)- is the enlargement of an organ caused by an increase in the reproduction rate of its cells

**HYPERTHERMIC**- is an abnormally high temperature which can be caused by infection or exposure to heat

**HYPERTROPHY**- is the increase in muscle size in response to a stimulus such as exercise

**HYPOCALCAEMIA** (*hi-poh-kal-SEE-mee-uh*)- a condition of low blood levels of calcium Hypothalamus- is a control centre situated in the brain to keep the body in a stable state called homeostasis

**HYPOTHERMIA**- is when the body temperature drops below that required for normal bodily functions caused by extreme cold or wet conditions

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**IBR (INFECTIOUS BOVINE RHINOTRACHEITIS)**- is a highly contagious infectious respiratory disease affecting all ages of cattle but very prevalent amongst younger stressed animals after mingling with other strange animals under intensive conditions.

**IDENTIFICATION DOCUMENT**- is a document that must accompany all livestock when traded that specifies all the owner and animal details together with their description and brandmark.

**IDENTIFICATION SYSTEM**- is a compulsory National Identification System for all livestock owners whereby the owners are registered and issued with a unique non-transferable permanent mark which has to be applied to the livestock within a prescribed period after taking ownership of the animal and is entered on all trade and movement documents

**INBREEDING**- is the mating of closely related ancestry over consecutive generations

**INDIRECT SALE**- is a sale made through a third party

**INDUSTRY ORGANISATIONS**- umbrella representative organisations that have been established to address the specific affairs of that specific industry.

- Industries with own organisations are extensive cattle and sheep, dairy, pigs, feedlots, abattoirs, retailers, importers and exporters, hides and skins and auctioneers

**INFECTION**- is the invasion and growth of bacteria or other microorganisms in the body that can cause fever or other health problems

**INGEST**- the process of eating or drinking and then swallowing into the body

**INJURED**- means hurt, impaired, or physically harmed

**INTERNATIONAL UNIT (IU)**- international measurement unit for vitamins and drugs

**INTRAMUSCULAR (IM)**- into the muscle

**INTRAVENOUS (IV)**- into or in a vein

**INSEMINATION**- is the action of placing artificially tapped male semen into a female to make her pregnant

**IMMOBILISER**- is an electronic/ battery operated instrument used to restrain cattle during castration, dehorning, branding and hoof trimming procedures by adequately trained handlers

**IMPLANTATION**- is the first stage of gestation when the embryo attaches to the wall of the pregnant female uterus

**IMMUNITY**- is the state where the immune system of the body protects it against infectious diseases

**IMPOTENTIA COCUNDI**- is the inability to insert the penis into the vagina because of not being erect enough

**IMPOTENCY**- failure to be able to mate



**IMPREGNATE**- is the term used to describe when a male animal mates with a female

**INDIGENOUS**- means originating, occurring or native to a particular place (animals or vegetation)

**INFORMAL MARKET**- is selling to the market outside the formal auction sale, abattoir, or feedlot structures on a per head basis to individuals, smaller traders, butcheries, or for cultural events or speculation

**INGREDIENT**- is one of the components of a combination of components compiling a mixture of a balanced livestock feed

**Initial mass**- is the first mass recorded of any process.

**INOCULATE**- is to inject a live micro-organism into an animal or a product

**INTER-CALF PERIOD (ICP)**-a measure of reproductive efficiency of a cow expressed as the period in days between two consecutive calves.

**INTEGRATED**- is to form, coordinate or blend into a functioning or united whole

**INTERMEDIATE BREEDS**- are composite breeds created from the crossbreeding of early maturing and late maturing breeds

**INTESTINAL TRACT**- is a continuous tube of organs through which food and liquid pass when chewed, swallowed, digested absorbed and excreted which include the mouth, pharynx, oesophagus, four stomachs, small intestine, large intestine, rectum and anus

**INJECTION TYPES**

- Intramuscular- directly into a muscle for slower absorption, preferably a muscle of low economic value
- Intra venous- directly into a vein for quick absorption
- Subcutaneous- applied under the skin for a very slow absorption

**INTERNATIONAL UNIT (IU)**- is an internationally recognised standard unit of strength of vitamins, antibiotics and hormones.

**INSPECTION STAMP**- is the ink mark stamped on a carcass by the Meat Inspector after it has passed meat inspection

**INTERNAL PARASITES**- are parasites that occur in the gastrointestinal tract of animals

**INTRADERMAL**- means within the dermis layer of the skin which is below the epidermis

**INTRANASAL**- is the administering of medication into the animal's nostrils

**IRRADIATE**- is when a product is treated by exposure to specific radiation to sterilise, prepare or alter for animal or product use

**INVENTORY**- a complete list of items (amongst other classes of livestock, feed ingredients, veterinary medicines, equipment, property, vehicles)

**IN VIVO**- describes research done within a living organism

**IN VITRO**- describes research done outside a living organism such as in a laboratory.

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**IODINE**- is an excellent disinfectant used to dry out the navel of a newly born offspring closing the way of infection

**IONOPHORES**- originally developed as coccidiostats in poultry feeds which are now registered for their growth promoter characteristics of altering ruminal fermentation in meat producing ruminants.

**IRRADIATED**- is a product that has been treated, sterilised, or altered in some way by a process of exposure to a measure of radiation by x-ray or gamma radiation to kill micro-organisms to preserve the product.

**ISO SYSTEM**- is a system encompassing an internationally recognised quality management standard

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# J

**JACOBSON'S ORGAN**- also is a specialised chemosensory nasal organ used by some species to detect pheromones in the environment

**JOHNE'S DISEASE**- is a wasting disease of cattle, sheep and goats caused by a mycobacterium, there is a onetime vaccine available to prevent the disease but there is no known cure

**JOULE (JOOL)**- is the unit of energy in the International System of Units (SI) equal to the work done by the force of 1 Newton to move 1 kg 1 meter forward, which is universally used as a unit of energy in feedstuffs.

**JUGULAR**- is the main vein that drains the brain which is severed when the dead animal is exsanguinated

**JUVENILE**- refers to humans and animals that are physiologically immature or underdeveloped

# K

**KAPATER**- is a castrated male goat

**KERNEL**- is a whole grain seed

**KETONE**- an acidic product when the body breaks down fat instead of sugar for energy

**KETOSIS**- is a metabolic state caused by increased levels of ketones due to a diet extremely low in carbohydrates or due to insufficient energy intake resulting in utilization of fat reserves

**KID**- a young goat of either gender below 12 months of age

**KIDDING**- the act of a doe giving birth to a kid

**KILOGRAM**- a unit of mass recognised as meaning one thousand grams

**KILOLITRE**- a unit of capacity equal to one thousand litres

**KOSHER**- is the name given to meat from animals specifically slaughtered according to specific religious requirements under Rabbinical supervision

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# L

**LACTATION**- the production and secretion of milk by the mammary glands

**LACTATION PERIOD**- is the milk producing period after birth lasting until the dry period before the next birth.

**LACTIC ACID**- is an organic acid and a by-product of anaerobic fermentation, which is formed in the rumen from the fermentation of ingested feed by the rumen micro-organisms and is also produced during anaerobic metabolism in muscle tissue.

**LACTOSE**- is the main carbohydrate composed of glucose and galactose found in milk

**LAIRAGES**- are small holding pens at abattoirs where livestock are held for a short period to rest and have their behaviour observed and be ante mortem inspected before slaughter.

**LAMB**- is a young sheep under 1 year of age

**LAMBING**- is the process of an ewe giving birth to the newborn lamb

**LAMB MARKING**- the management activity when the new seasons lambs are marked, tails docked and vaccinated

**LAMBING SEASON** -usually for the bred ewes to lamb in the Spring onto the new seasons grazing

**LAMINITIS (LAMENESS)**- is a condition that affects the hooves of cattle, sheep, goats and horses which leads to extreme tenderness and later the inability to walk and increased hoof temperatures. Chronic cases can lead to 'slipper foot'(langklou) where the hoof grows out into a disfigured form curling at the end and extremely painful to the animal which should be culled as soon as possible

- Causes- can have a genetic (breed)origin, intensively fed excessive finely milled grains and insufficient roughage, very sandy or soft ground surface where the animal is kept for a prolonged period.

**LANOLIN**- is grease from raw wool

**LARVAE**- the immature form of many insects which hatch from eggs

**LATE MATURING BREEDS**- are breeds that are physiologically younger than early maturing breeds and are inclined to deposit carcass fat later in their lives

**LEGUME**- is a plant with edible seeds or pods which is a member of the pea family

**LEPTOSPIROSIS** (*lep-toh-spy-ROH-sis*)- is a bacterial disease spread through the urine of infected animals or through water or soil infected by their urine

**LETHAL**- means deadly and can refer to a gene that can cause death of an animal if possessed by it

**LETHARGIC**- is the condition when an animal is slow to react and has no energy



**LIBIDO**- describes the sexual drive of a male to mate with a female

**LICE**- are small wingless parasites that live on the skins of humans, animals and birds

**LICK**- is a common name given to a mixture of essential mineral and /or protein nutrients to meet an animal's production requirements

**LIGNIN**- is a polymer related to cellulose forming the woody and rigid cell walls of plants

**LIMITED FEEDING**- is restricting the amount of feed while ensuring the required nutrients are still consumed

**LIPIDS**- is a term given to fats and fatlike substances and waxes

**LIQUID FEED**- usually a molasses-based protein supplement containing elevated levels of NPN

with added vitamins and trace minerals.

**LISTERIA MONOCYTOGENES**- is a dangerous foodborne pathogen which can grow slowly in packaged products under refrigeration which causes Flu like symptoms and abdominal pain

**LITS**- is a proposed new national traceability system for the SA beef cattle industry

**LITTER**- a group of related offspring from one birth

**LIVER ABSCESS**- is a digestive disease condition of the liver caused by rumen bacteria from acidosis which in serious cases reduces production.

**LIVER FLUKE**- is a flat worm of the infectious Fasciola parasites that is found in the bile ducts of humans and grazing animals resulting in weight loss, anaemia and bottle jaw in livestock

**LIVE SALES**- refers to livestock sold either per head or per kg on the hoof weighed in a group or individually

**LIVESTOCK REGISTER**- is the updated record of births, purchases, sales, deaths and all treatments and vaccinations of each and every animal on the property

**LIVESTOCK REMOVAL CERTIFICATE**- is a mandatory certificate required under the Stock Theft Act which contains the following information of livestock when leaving their place of residence

- Details of person issuing the certificate
- Details of the owner of the animal
- Place from where and place to which the livestock are to be driven or conveyed
- Name of driver
- Date
- If applicable registration of vehicle
- Details of the animals
- Breed and gender
- Number of each class
- Registered brand marks

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**LIVESTOCK TILT**- mechanical equipment used to restrain and tip livestock on their side for easy access to their body or feet for management procedures

**LIVESTOCK UNIT (LSU)**- is a reference unit which facilitates the aggregation of livestock of various species and ages back to the common basis of one grazing unit of a 450 kg animal gaining 500g per unit per day.

The present SA table of coefficients for the various livestock classes is outdated and requires a revision but as general rule of thumb the following can be used

- Mature cow- 0.9
- Cow with calf – 1.00
- Bull- 1.2
- Weaner under 6mths- 0.4
- Yearling- 0.5
- Horse- 0.5
- Sheep- 0.1
- Goat- 0.08

**LIVE VACCINE**- also called as attenuated vaccine where the virulence of a pathogen is weakened but kept viable but not to be used on pregnant livestock

**LOADING RAMP**- is a permanent or mobile structure connecting lower and higher surfaces facilitating the humane loading or off- loading of livestock on to a vehicle

**LOAD CELLS**- is a metal measuring device that converts a mechanical force, like mass, into a digital value that can be read and recorded

**LOCK OF WOOL**- is a column of freshly shorn wool that stays together

**LOIN**- is the area of muscle on the back of an animal between the ribs and the pelvis

**LONGISSIMUS DORSI MUSCLE**- is the loin eye/rib eye muscle.

**LONGEVITY**- is the long duration of an individual's life

**LONG WEANER**- is a weaner that has passed the normal weaner age also referred to as a yearling

**LUNGWORM**- is a roundworm occurring in the respiratory tract and lung tissue

**LUTEINIZING HORMONE (LH)**- is a hormone secreted by the anterior pituitary gland that stimulates ovulation in females and the synthesis of androgen in males

# M

**MACROCLIMATE**- is the climate of a large geographic area

**MACRO MINERALS**- refers to the minerals required daily in large amounts by farm animals, which include Calcium, Phosphorus, Magnesium, Potassium, Chlorine Sulphur and Sodium

**MACRONUTRIENTS**- are nutrients needed in large amounts such as proteins, carbohydrates, and fats

**MAGGOT**- is a legless larva of a fly or other insect found in decaying organic matter

**MAIMED**- is the state of an animal that is permanently wounded, injured, or has lost a limb

**MAINTENANCE**- is the quantity of feed required to support an animal's body function while doing no work or production

**MANGE** (*MAYNJ*)- is a highly contagious skin disease caused by parasitic mites which results in itching and hair loss normally on animals in poor condition

**Manure**- is organic matter derived from animal excreta with a fertilizing value that has no harmful impact on the environment

**MANURE BUILDUP**- is the concentrated accumulation of manure in intensive production systems that can impact animal comfort and production

**MANURE PAD**- is the layer of dried manure build up on the ground surface in feedlot or dairy pens

**MANURE POND**- is a manmade lagoon filled with animal waste collected from an intensive animal production unit and forms part of the manure management system

**MARKET READY**- is the stage of production of an animal when it meets the required market requirements for mass, fat coverage, conformation or any other market requirement

**MARBLING**- is the intramuscular fat in meat that contributes to tenderness and flavour

**MASCULINITY**- is the term for the secondary bold characteristics of breeding males exhibited in the head, shoulders, and general body muscling

**MASTITIS** (*mas-TIE-tis*)- is an inflammatory condition of an udder caused by microorganism infection or physical injury which can be painful and leads to reduced production

**MASS MEDICATION (META PHYLAXIS)**- is the practice of treating a herd, group, or pen of animals with antibiotics that are not showing any signs but are at risk of a disease outbreak.

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**MATURITY TYPE**- refers to the difference of animals of a breed in age in years or months in relation to the development of the body compared to animals of others breeds. These differences in maturity type in males can influence growth, efficiency of production, final mass and carcass composition of animals of the same age under the same environmental conditions.

**Maturity type can also influence reproductive age and rate of females**

- Early
- Intermediate
- Late

**ME (METABOLIZABLE ENERGY)**- is the amount of energy available to an animal from the digested food after the energy losses in faeces and urine

**MEAL**- is an ingredient or mixed feed that has been ground or reduced to the smallest uniform particle size

**MEASLES** - is term given to the damage to a carcass that occurs when an immature tape worm encysts in the striated muscles of cattle, the *Taenia saginata* tapeworm and in pigs, the *Taenia solium* tapeworm which can infect humans when they eat contaminated raw or undercooked meat causing Taeniasis a parasitic infection. The cyst develops into an adult tapeworm over 2 months and attaches to the intestinal wall, the eggs are passed out in the human stool which can survive for several months on vegetation until ingested by cattle. The cystercerei (or larvae) migrate through the intestinal wall to the striated muscles in the animal's body and forms a cyst where the cycle begins once again.

**MEASLE CYST**- is the small pea like cyst filled with fluid containing an immature tape worm, cysts are found in the hardworking muscles of the animal such as, heart, tongue, jaw, diaphragm and upper foreleg

**MEASLEY CARCASS**- is a beef carcass which has been condemned and marked with an M during Meat Inspection due to infestation of tapeworm cysts found in the muscles

**MEASLE CYSTICERCOSIS** (*MEE-zul sis-tih-ser-KOH-sis*)- is a tape worm infection of humans resulting from ingesting cysts from either beef infected with the *Taenia saginata* tape worm, or infected pork with the *Taenia solium* tape worm

**MEAT**- is the flesh of any animal that is used for human or animal food preparation purposes.

**MEAT SPECIES:**

- Beef – cattle 1 year and older
- Veal – beef less than 1 year
- Chevron- goat meat
- Lamb – sheep meat younger than 1 year
- Mutton- sheep older than 1 year
- Poultry- chicken, duck, goose and turkey
- Lapan- rabbit meat

**MEAT AND BONE MEAL**- rendered product from animal tissues and bone

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**MEAT GRADING**- is a system that is used to measure meat carcass quality based on age and fat content

**MEAT PREPARATION (DONENESS)**

- Rare – below 50 C
- Medium – 60 C
- Well done- 70-75 C

**MEAT TENDERNESS**- is the desirable soft eating quality of meat that is sought after by the consumer which can be laboratory tested by the Warner Bratzler Shear Force test.

**MEDICATED FEED**- refers to any feed which contains any form of medication to prevent, treat or cure any disease or to improve feed efficiency utilization or to stimulate growth.

**MELENGESTROL ACETATE (MGA)** (*mel-en-JES-trol ASS-eh-tate*)- is a synthetic progesterone administered orally in feed and used to suppress the oestrus cycle in feedlot heifers to improve their growth and the feed efficiency. Due to the young age of heifers in SA feedlots the feeding of MGA has not been found to be cost effective.

**METABOLISM**- are the chemical processes in the body of an organism required to maintain the life of that organism

**METABOLIC BODY MASS**- is Body Mass to the power of 0.75, used to calculate the basal and other energy expenditure per day or per animal in comparison to others.

**METABOLITES**- is a substance made or used when the body breaks down own tissue, food, chemicals, or medication

**METHIONINE**- an essential sulphur based amino acid required for protein synthesis in the body.

**METRITIS**- is the inflammation in the uterus cavity created by bacterial infection associated with strains of E. coli

**MICROCLIMATE**- is the climate of an exceedingly small area which differs from the climate of a larger surrounding area

**MICRO INGREDIENTS**- are all ingredients that are added in small quantities usually by way of a carrier before adding to the main feed mix, amongst other vitamins, micro minerals, antibiotics, growth enhancers or other medicinal additives.

**MICRO MINERALS**- refers to the other minerals needed daily in exceedingly small quantities by farm animals, such as Cobalt, Copper, Fluoride, Iodine, Iron, Manganese, Selenium and Zinc

**MICRO- ORGANISMS**- are microscopic organisms typically bacteria, protozoa, viruses and fungi

**MICRON**- a millionth of a meter used to measure wool fibre diameter

**MID MASS**- is the initial mass of an animal going into a system plus the final mass, divided by two

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**MILK FEVER**- is a condition of hypocalcaemia primarily occurring in high producing dairy cows after calving when the cow struggles to mobilise sufficient calcium and show signs of difficulty in standing and cold to the touch

**MILK TEETH**- are the set of early temporary teeth of young animals that fall out and are replaced by permanent teeth as the animal reaches puberty

**MILK REPLACER**- is an artificial replacer of whole milk nutritionally balanced with trace minerals and vitamins used to rear young animals when insufficient natural whole milk is available or when removed from the mother at an early age

**MILKING DOE**- lactating female goat

**MILKING MACHINES**- are automatic machines designed for milking one or many cows at the same time by sucking the milk out of the teats through a rubber cup into pipes that convey the milk to cooler tanks for distribution

**MILKING PARLOUR**- is an essential construction in a dairy where cows are brought in to be milked before returning to their grazing camp

**MILKING PARLOUR TYPES**- common types are Tandem, Herringbone, Rotary and Parallel

**MILL BY-PRODUCTS**- a secondary product resulting from the milling of the principal grain product for human consumption.

**MILLILITRE (ML)**- a unit of liquid volume equivalent to one thousandth of a litre

**MILK PROTEIN**- around 3.3 % of total protein and contains all the essential amino acids and used for determining the selling value of fresh milk for processing

**MINERAL SUPPLEMENT**- is a concentrated supplementary mix of minerals for livestock compiled from one or more minerals.

**MIXING**- is to combine by agitation two or more ingredients to a specific dispersion requirement

**MIXED VELD**- is an intermediate between sweet – and sour veld with characteristics of both

**MODIFIED LIVE VACCINE**- is derived from a naturally occurring pathogen in a controlled process not to cause a clinical disease but producing an immune response

**MOIST HEAT COOKING**- is cooking with additional moisture added i.e. potjie cooking, pressure cooking, braising, casseroles and stewing

**MOLASSES**- is a viscous concentrated nutritious by-product resulting from the sugar refining process

**MOLDS**- are slow growing organisms with long tentacle type growths or mycelium that grow on a damp medium.

**MOLD INHIBITOR**- is a substance added to a feed or ingredient that inhibits the growth of moulds



**MONOGASTRIC**- are all animals with a single stomach compartment for digestion.

- All poultry including Ostriches
- Pigs
- Horses
- Donkeys
- Rabbits

**MONOUNSATURATED FATTY ACIDS**- fatty acids with only one double bond in the carbon chain.

**MONOZYGOUS**- see homozygous

**MORBIDITY RATE**- is the number of animals showing signs of a certain disease within a group of animals expressed as a percentage

**MORTALITY RATE**- is the number of animals that have died within a group, expressed as a percentage over a specific timespan

**MOTHERING ABILITY**- is the ability of a female to give birth easily and care, nourish and protect her offspring

**MOTILITY**- the measure of the ability of sperm to move by themselves

**MOUTH (VERB)**- is the process of opening the mouth of an animal to count the milk or permanent teeth to determine the animal's age

**MULESING**- is a practice frowned on and in most instances banned where folds of skin around the tail area of sheep are removed to prevent blowfly infestation

**MUSCLE: BONE**- is used as a measure of carcass quality by determining the ratio of the total muscle component of a carcass in relation to the total bone content

## MUTTON/ LAMB CARCASS CUTS AND COOKING METHODS

Cut	Cooking Method
Neck	Sliced in potjiekos
	Braised whole
Thick Rib	Mostly grilled
	Braised
	Cubed for stews or kebabs
Shoulder	Deboned and rolled
	Oven roasted
	Sliced for grilling on the coals
Breast and Flank	Deboned and rolled
Pot roasted	Cubed for casseroles and stews
Rib	Whole rib frenched
	Oven roasted as rack or crown
	Cut as chops for grilling
	Whole for grilling on the coals
Loin	Cut into chops for grilling
	Deboned
Leg	Whole for pot roasting
	Deboned for a leg roll
	Cubed for braising or kebabs
Chump	Cut as chops for grilling or roasting
Shank	Cooking whole
	Thinly sliced for braising

**MUZZLE**- is the mouth and nose area of an animal

**MYCOPLASMA**- the group of small parasitic bacteria that do not have cell walls and can cause diseases

**MYCOTOXIN**- is a toxic substance produced by fungi on plant material during adverse damp climate conditions during harvesting or on products stored with a high moisture content.

# N

**NANNY GOAT**- is a mother goat

**NATURAL**- is a term for an ingredient produced solely from plant or animal subjected to processing without being exposed to any form of synthetic chemical additive or process

**NDF**- is neutral detergent fibre

**NAVEL ILL**- is an infection of the remnant of the umbilical cord shortly after birth

**NEAT**- is an archaic term for a single beef animal (there is no recognised singular for cattle other than bull, cow, steer, heifer, or calf)

**NEATSFOOT OIL**- is a protective leather dressing that is extracted from the bones of cattle.

**NECK CLAMP**- is at the front end of a handling crush used to restrain an animal for veterinary- or other management procedures

**NECROPSY**- a postmortem examination

**NEMATODE**- are microscopic unsegmented parasitic roundworms, one of the most numerous forms of life which negatively affects production in infected animals

**NET ENERGY (NE)**- is the amount of energy in the feed after the energy in the faeces, urine and heat production have been deducted

**NET ENERGY FOR MAINTENANCE (NEM)**- is the dietary energy required to sustain an animal at rest in a thermal neutral state that is neither losing nor gaining weight

**NET ENERGY FOR PRODUCTION (NEP)**- is the dietary energy required for gain, lactation or for products

**NITRATE**- is used as  $\text{NaNO}_3$  in some meat curing processes

**NITROGEN: SULPHUR RATIO**- is important for rumen micro-organisms which are essential for the synthesis of some amino acids and vitamins

**NITS**- is the National Identification and Traceability Systems of Namibia and Australia

**NON-ESSENTIAL AMINO ACIDS**- these are amino acids that can be synthesised by the animal itself

**NOSE RING**- is a sturdy metal ring applied permanently through the septum of a bull's nose to help control them when handling



**NOTIFIABLE DISEASE**- is any disease that is required by law to be reported to the relevant government authorities for investigation to counter a possible widespread outbreak

- Bovine malignant catarrhal fever (snotsiekte)
- Bluetongue
- Lumpy skin disease
- Rift Valley Fever
- Strangles
- Swine erysipelas

**NON-PROTEIN NITROGEN (NPN)**- is a chemical Nitrogen compound converted to protein by the rumen micro-organisms and used in limited low quantities only in ruminant feed supplements and feedlot diets together with sufficient amounts of carbohydrates.

**NRC (NATIONAL RESEARCH COUNCIL)**- is the scientific body in the US which regularly publishes updated tables of Nutrient Requirements of Farm Animals that assists nutritionists in compiling balanced diets for production farm animals

**NUTRACEUTICAL** (*new-truh-SOO-tih-kul*)- is the name given to a food or part thereof that provides medical or health benefits

**NUTRITIONAL STRESS**- is when nutrient intake is insufficient to meet the animal's metabolic needs

**NUTRITIONAL TABLES**- provide detailed information on the nutrient content of individual feed ingredients

**NUTRIENT**- is a component of feed that at a level will contribute to the sustainable life and production expectations of livestock

**NUTRIENT DENSE**- is feed that is high in nutrients but low in energy

**NUTRIENTS**

- Protein
- Energy
- Minerals
- Vitamins
- Water

**NUTRITION**- is the process of providing and obtaining food necessary for health and production

**NUTRITIONIST**- is a scientist that advises animal producers and feed manufacturers on the cost- effective composition of diets and feed regimes to obtain the optimum production from feed ingredients available

**NUTRITIONAL PLANE**- is the quantity and quality of per capita feed intake

**NUTRIENT REQUIREMENTS**- are recognised scientifically determined minimum requirements of nutrients needed by animal's production animals for maintenance, reproduction, lactation and growth

**NUTRITIONAL STANDARDS**- recognised international tables which indicate quantities of nutrients required by various classes of livestock to attain different required physiological functions like maintenance, growth and production



**OESTRUS/ESTRUS**- is the period of sexual heat in a female animal when she is receptive to mating with a male.

**OESTRUS CYCLE**- occurs after sexual maturity in a female when a set of recurring physiological changes are induced by reproductive hormones, interrupted only with a pregnancy, and will continue to the end of the female life

- Anoestrus- is an interval of sexual inactivity during the oestrus cycle normally due to pregnancy.

**OESTRUS DURATION (APPROX.) OF FARM ANIMALS (DAYS):**

Cow	21
Ewe	17
Mare	21
Nanny Goat	19
Sow	21

**OFFAL**- is the combined name of the entrails and internal organs of a slaughtered animal used for food:

- Red offal comprises the organs, heart, liver, kidneys, tongue, spleen, lungs, skirts and tail which are generally all sold separately in the higher end market
- Dirty offal includes the large tripe, small tripe, intestines, hooves and uncleaned head sold in the informal market

**OFF LABEL**- is a product not labelled but prescribed solely by a veterinarian for a specific condition

**OIL**- is a liquid vegetable product resulting from the seed extraction process and comprised mainly of triglycerides of fatty acids

**OIL CAKE**- is the highly nutritious residue left after seed products have gone through the pressing process to extract their oil

**OIL SEEDS**- are seeds grown primarily to produce edible cooking oil

**OMASUM**- is the third ruminant stomach situated after the reticulum

**OOCYTE** (*OH-oh-site*)- is an immature female egg cell

**OPEN**- refers to a female breeding animal that is not pregnant

**OPTIMUM PRODUCTION**- is the most favourable level of growth or production

**ORF (VUILBEK)**- is a highly contagious viral disease that effects sheep and goats with lesions around the mouth, lips and nose making eating difficult and can result in weight loss

**ORIFICE**- is the opening at the end of a female teat that allows milk to pass through which is closed by a small circular muscle to prevent bacterial infection

**ORGANIC**- is the description given to a feed or an ingredient that has been produced in compliance with strict Organic Specifications that excludes all forms of medications or chemical additives



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**ORGANIC MATTER**- is everything present in the feedstuff that can decompose minus the ash or mineral content and expressed as a % of the dry matter.

**OSSIFICATION** (*os-ih-fih-KAY-shun*)- is the calcification of cartilage to form bone which is used in some countries to determine animal age at slaughter.

**OUT OF HAND SALE**- is the sale of livestock or produce directly to a third party without going through a conventional industry structure that would require payment of a commission

**OVA**- is a female egg cell

**OVARY**- is a primary reproductive organ that produces the female egg cell as well as oestrogen and progesterone

**OVER-CONDITIONED**- refers to animals that have been fed to a condition in excess of the ideal market requirement

**OVER THE COUNTER (OTC)**- means veterinary medicines that can be purchased over the counter not requiring a prescription

**OVER/UNDER SHOT JAW** is an abnormality when either the upper (overshot) or lower (undershot) jaw protrudes causing difficulty in suckling and grazing

**OVER GRAZING**- is the repeated over utilisation of grazing without rest until the grass nutrients are entirely depleted

**OVINE**- pertains to sheep

**OVULATION**- is the release of an egg or ovum from the ovary

**OVUM**- is a female reproductive cell that can develop into an embryo after fertilization by a male cell

**OXYTOCIN** (*ok-see-TOH-sin*) – is a naturally occurring hormone that plays a role in the milk let down and during the birth process

# P

**PALATABILITY**- is the term to describe the combination of the attributes of smell, taste and texture that contribute to the acceptability of feed to an animal.

**PARCEL OF LIVESTOCK**- small and large livestock are very seldom sold singularly but a group known as a parcel where uniformity of breed type, size, gender and condition of the animals in the parcel attract better prices

**PADDOCK**- is an enclosed area for grazing livestock.

**PARASITE TREATMENT MECHANISMS**- can be by dipping vat, spray race, injection and pour-on

**PARASITE**- is an organism that lives on an animal benefiting by deriving nutrients from that animal

**PARAFILARIASIS** (*par-uh-fil-uh-RY-uh-sis*)- is a nematode infection of cattle transmitted by biting flies in certain of the Northern parts of South Africa characterised by bleeding on the skin with damage to the subcutaneous tissue that resembles carcass bruising and is trimmed from the carcass during Meat Inspection with economic implications to the owner.

**PARAINFLUENZA(P13)**- is a highly infectious viral disease more common in stressed young calves leading to fever, nasal discharge and a dry cough

**PARTICLE SIZE/ LENGTH**- is the size of a processed ingredient that can or cannot pass through a certain size sieve and relates fineness or coarseness affecting the mixing ability of that ingredient.

**PARTURITION**- is the process of giving birth

**PASTURE ROTATION**- is when animals are routinely moved between grazing pastures

**PASTEURELLOSIS**- is a highly infectious bacterial disease, also known as Shipping Fever, usually because of confining and intermingling of stressed young calves caused by *Pasturella haemolytica* and *- multocida* which can result in catastrophic losses if not timeously vaccinated against

**PASTEURIZATION**- is the heating process of raw milk to at least a specific temperature for a specified time to destroy pathogens before refrigeration.

**PASTURE**- is a land covered by either cultivated or natural vegetation and grasses suitable for livestock grazing

**PASTURE RAISED**- refers to animals that roam free and receive the major portion of their feed from natural pastures

**PATHOLOGIST**- is a scientist that examines body tissues or does postmortems for diagnostic purposes

**PAUNCH (PAWNCH)**- refers to the first compartment or rumen of a ruminant

**PAUNCH CONTENT**- is the contents of the stomach of livestock that is removed during the slaughter process

**PEDIGREE**- is the breeding ancestry of an animal proving that it is purebred

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**PELLET**- is the product of a finely mixed feed forced under pressure and steam through various sized openings during a mechanical process

**PELT**- the skin of a very young lamb, seal, skunk, jackal, leopard and lynx with hair or wool on it

**PELVIS**- is the flat bone in the hind quarter of livestock and with females plays a cardinal role in the ease of giving birth.

**PEN**- is a term for an enclosure used to hold varying sizes of groups of livestock

**PEN DEATHS**- is a term used for animals that died in the livestock pens

**PENIS**- is the male genital organ used for urination and the transfer of sperm to the female during mating

**PEN RIDER**- is a term generally used for a person on foot or mounted on a horse that is specialised in working livestock in pens

**PENCIL SHRINK**- is a calculation used by buyers of livestock in determining the trade mass making providing for gut fill.

**PEN SPACE**- is the amount of pen area allocated to each animal confined in a pen according to their size

**PH**- is the measure of acidity and alkalinity of a substance which can range between 1 most acidic to 14 most alkaline, and can be critical for an animal's nutrition and general well being

**PER CAPITA**- means per individual

**PERENNIAL** (*per-EN-ee-ul*) - is a plant that lives for three or more seasons

**PER OS**- means administered per mouth (orally)

**PERFORMANCE DATA**- is the record of an individual animal's reproduction, production and even carcass data

**PERFORMANCE TESTING**- is a State managed recording system that can assist breeders to evaluate differences between animals in their herds and increase the accuracy of selecting genetically superior breeding stock

**PHENOTYPE**- (*Phenotype – FEE-no-type*) is the external appearance of an animal influenced by its genetic makeup and the environment in which it lives

**PNEUMONIA**- is a complicated disease leading to the inflammation of the lungs and which is the common cause of death of livestock of all ages

**PHOSPHATES**- phosphorous is an essential mineral in animal nutrition playing an important role in the development of the skeleton, growth, fertility, calving rates and general wellbeing, added supplementary to diets in the inorganic form

**PIN BONES**- are the ends of the pelvic bones that appear on either side of the root of the tail

**PINK EYE**- is a highly infectious bacterial disease of the eye that results in inflammation of the eye and can if untreated result in blindness

**PIZZLE ROT**- is bacterial infection of the prepuce of a ram leading to inflammation and blockages in the penis causing difficult urination

**PLACENTA**- is a circular organ in the uterus of a pregnant female that nourishes the foetus through the umbilical cord up until birth

**PNEUMONIA** (*new-MOHN-yuh*)- a very serious lung infection requiring treatment

**POLLED**- is the term used for animals either naturally without horns or mechanically dehorned

**POLYUNSATURATED FATTY ACID**- is a vegetable oil characterised by being a liquid at room temperature or fatty acids with multiple double bonds

**POMACE**- is the pulpy fibrous residue left after juice extraction from fruit or vegetables

**POOR DOER**- is a term used for animals that struggle to gain condition and adapt to intensive conditions but can also relate to a shy disposition

**POSTMORTEM INSPECTION**- is the inspection by a suitably qualified person of all the internal organs, tissues, digestive tract, stomach contents and brain to determine the cause of death or of a slaughtered animal to determine wholesomeness for human consumption.

**POST NATAL**- refers to issues after birth pertaining to the offspring

**POST PARTUM**- refers to issues pertaining to the mother during the period after birth when the body is returning to its state before giving birth

**PPM (PARTS PER MILLION)**- refers to the measurement of milligrams per kilogram or millilitre per litre; used for the addition of very small quantities of micronutrients

**PRECONDITIONING**- is the process whereby calves are vaccinated and introduced to full feed before entering the final production phase.

**PREDATION**- refers to the act of animals preying on and killing other animals

**PREDATOR**- an animal that lives by killing and eating other animals

**PREGNANCY DIAGNOSIS**- refers to various mechanical, laboratory or ultrasound methods used by a qualified person to determine stage of pregnancy

**PREMIX**- a concentrated mixture of micronutrients and medication and / or growth promoters in a carrier to facilitate more uniformity in a final larger mix

**PRENATAL**- relates to the period of pregnancy before birth

**PREPARTUM**- means before the birth process

**PRESERVATIVE**- is a substance that is added to prevent decay or discolouration of the product during display or storage. Organic products are added to harvested ingredients with a higher level than normal moisture content to maintain nutrient value and/ or protect it against spoiling during storage.

**PRICE DIFFERENTIAL**- is the difference in price per kg paid based on desirability of the animal for breeding or feeding

**PRIMAL CUTS**- are retail cuts that have been trimmed to specification and vacuum packed for boxing and distribution.

**PRION**- is a misfolded protein that causes untreatable fatal brain damage

**PROBE**- is a blunt instrument used for exploring a part of the body

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**PROBIOTIC**- is a supplement for ruminants compiled of live microbes such as Lactobacillus and Streptococcus that are known to improve animal health, adaptation to new diets, reduce digestive disturbances and improve growth performance.

**PROCESSED ANIMAL WASTE**- is animal waste that has been dried, milled, ensiled, chemically treated, digested, or treated in any way to render the product safe or suitable for further use.

**PROCESSOR**- is an organisation that alters a product mechanically, composition, chemically or by addition to add value

**PROCESSING (ANIMAL)**- is the preparing of an animal moving from a primary production- to a secondary production system

- Identification is the allocating of individual identification of an animal by either tag, permanent mark, or electronically to be able to track the animal's production performance, health and final slaughter data.
- Weighing individual mass is determined and recorded against the animal's number to be able to track the animals' growth performance during the feeding process
- Classing (type, mass, gender) animals are classed according to certain breed / maturity type, mass categories, gender groups and number of animals in the group for ease of management, socialising and feed allocation
- Dosing(drenching) all animals are susceptible to various internal parasite infestations at some stage and must be treated either orally or by injection to assure that they are clean before entering the next production phase
- Immunisation/ vaccination all animals that are brought together need to be vaccinated against the various contagious and devastating diseases that are transmitted by numerous vectors and by physical contact between animals, which are recommended by the local Veterinarian.
- Implanting it is a standard practice in most secondary production systems to apply a non- hormonal growth promoter to castrated males- and non-cycling female animals that are not to be used for breeding purposes.
- Parasite treatment animals from differing sources can have different external parasite infestations and need to go through a parasite cleansing treatment, i.e. plunge/ spray dip, injection, or systemic treatment.
- Castrating depending on the management requirements young males are castrated for ease of management and to ensure less secondary masculine development on the final carcass
- Horn tipping (dehorning) some breeds are more likely to have horn development at the same age as others without the development, which can contribute to more aggression and injury as well as hide damage and are either removed or if past a certain length just the tip removed
- Applicators are accessories used to tag, drench, brand, dehorn, hoof trim and ear notch livestock
- Vaccinators is an instrument with adjustable volume settings to apply vaccinations to livestock



**PRODDER**- is a battery or electric operated instrument used to encourage stubborn animals to move forward in a handling facility

**Production systems**

- Grass fed animals have been raised on grass for their entire life
- Natural refers to animals raised on natural products that excludes any synthetic additive
- Organic is a system focused on a sustainable ecosystem and soil health using only biological products while complying to strict specifications audited by a third party
- Subsistence is the producing of livestock or crops sufficient only for own family use or for the informal market
- Any of the above four production systems are used to produce:
  - Cow / Calf or Ewe/ Lamb
  - Steer / wether(hamel)
  - Intensive production are animals initially raised on grass with the dam, weaned and the finished on a grain-based diet until marketing
  - or animals produced by controlled intensive grazing systems on irrigated pastures
  - Zero grazing is a system used in some dairy systems whereby all producing cows are managed and fed according to stage of production in enclosed pens

**PROGENY** (*PROJ-uh-nee*)- are descendants or offspring

**PROGENY DATA**-is information related to offspring

**PROGENY TESTING**- is the evaluation of males based on their daughter's breeding performance

**PROGESTERONE** (*proh-JES-ter-own*)- is a female hormone secreted by the ovary and by the placenta during pregnancy

**PROLAPSE**- is the outward protruding of a body part.

**PROPHYLAXIS**- (*pro-fih-LACK-sis*)- refers to treatment to prevent a disease

**PROPIONIC ACID**- is a short chain fatty acid often used in the preservation of silage, grains or hay and a major end product from rumen fermentation.

**PROSTRATE**- means lying stretched out

**PROTECTED FAT**- is a fat that has been chemically treated to protect it against degradation by the rumen bacteria.

## PROTEIN

- Crude (CP) is an estimation of protein content of an ingredient or feed by laboratory analysing the nitrogen content and multiplying the figure by 6.25
- Digestible protein (DP) is the actual portion of the crude protein that is absorbed by the animal.
- Metabolizable protein (MP) is the total portion of rumen and undegraded protein that reaches the small intestine
- Rumen degradable (RDP) is the fraction of dietary protein that is converted into microbial protein during the ruminant digestion process.
- Undegradable dietary protein (UDP) is the part of protein in the diet that is not degraded by the ruminal micro-organisms and passes into the intestines to be digested and absorbed
- Non-protein nitrogen (NPN) is a manufactured nitrogenous product that releases nitrogen in the rumen when ingested which is converted by the rumen bacteria into microbial protein, i.e. Urea and Ammonium sulphate

**PROTEIN SUPPLEMENT**- is one with at least a 20% protein concentrate mix comprised of natural and NPN protein also containing trace minerals and vitamins.

**PROTOZOA** (*proh-toh-ZOH-uh*)- are first single cell organisms that live in the rumen of ruminants and help in the digestion process to break down plant material into digestible molecules

**PRUSSIC ACID (BLOUSUUR)**- is a rapidly acting poison produced by some crops wilted by heat and when consumed by livestock enters the bloodstream inhibiting oxygen utilisation causing asphyxiation and death

**PSEUDO RUMINANT (CAMELIDS)** (*SOO-doh ROO-min-ent*)- are animals with three stomachs

- Camels
- Alpacas
- Llamas

**PUBERTY**- is when the reproductive tract and secondary sex organs start to acquire their mature form which varies between animals and species

**PULLING CATTLE/SHEEP**- is the process of removing animals from a facility or group that are showing signs of disease or injury for treatment

**PULP**- is the fibrous residue left after vegetable material or fruit have been pressed for juice extraction.

**PURGE**- is the tissue juices that drain from fresh- or processed meat into their packaging or from cooked meat removed from the oven or grill.

**PUREBRED**- are animals that are fully pedigreed and registered and have been bred up to this purebred status compliant to breed requirements

# Q

**QUALITY**- means a measure of excellence when compared to another product of a similar kind

- -quality means the ability to conform to requirements

**QUARANTINE**- is a place of isolation in which an animal that may be disease affected has been placed

**QUALITATIVE TRAITS**- are measurable phenotypic characteristics caused by genetic – enviro interaction

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**RACE**- is a narrow corridor, built species specific, to be able to work a group of constrained animals individually and humanely

**RADIO FREQUENCY IDENTIFICATION (RFID)**- is a wireless system comprised of a device that emits radio waves which receives signals back from ear tags

**RAM**- an adult male sheep or goat that has not been castrated and normally used in a breeding programme

**RANDOM**- means happening without method or conscious decision or organising

**RANGELAND**- open natural grazing land for animals or game

**RATION**- is the amount of total feed provided to an animal over a 24hr period.

**RAW**- is a product or ingredient that is in its natural state not having been subjected to any form of heating in the preparation process

**RECESSIVE GENE**- are genes with no obvious effect and will only come to the fore when present in both parents

**RECTAL PROLAPSE**- is when a part of the large intestine protrudes from the anus

**RECTUM**- is the last few centimetres of the large intestine before the anus

**RED LINE**- is a physical barrier maintained by the National Animal Health Department to prevent the free movement of animals from a 'contaminated area' into a 'uncontaminated area'

**REHYDRATE**- means replenishing body fluids that have been lost due to heat, illness, or fever

**RED PERMIT**- is the permit that can be issued by the National Veterinary Department to allow animals to be moved from a 'contaminated area' in sealed transport for direct slaughter only

**REGISTERED**- is an official record kept by an authority of a unique product, breeder, animal, brand mark, firearm, motor vehicle or other

**REGURGITATE**- is part of the digestion process of a ruminant where they bring up previously swallowed partly chewed food to the mouth again for further chewing.

**REIMPLANTING**- is the practice of implanting animals a second time with either the same or a different implant.

**RENDERING**- is the removing of a liquid from a cooked solid material by pressing and draining from the solid material.

**RENNET**- is a group of enzymes extracted from the fourth stomach of a young calf which is used to coagulate milk in the cheesemaking process

**REPEATABILITY**- is the expression of the tendency of an animal to repeat its genetic performance

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**REPLACEMENT HEIFER/EWE-** is a heifer/ewe selected according to certain specific characteristics to be absorbed into the breeding herd

**REPARTITIONING AGENT-** is an agent that directs tissue deposition away from fat tissue to muscle tissue more economically

**REPRODUCTION-** is the biological process of the mating of sexually active animals through conception, pregnancy and birth of the new offspring.

**RESIDUE-** is the part of a product that remains after the original components of the product have been removed or metabolised by the body.

**RESIDUE MONITORING-** is a compliance programme that monitors the level of specified chemical residues in meat or feed samples

**RESPIRATORY-** is the process of breathing that encompasses the combined actions of the nose, throat, larynx, trachea, bronchi, and lungs

**RESTRAINING CHUTE-** is the handling equipment at an abattoir that restrains the animal for stunning before slaughter

**RESTRICTED GROWTH-** is the process of restricting the optimum growth of livestock by manipulating the nutrition availability

**RETAILER-** is a person or business that sells products rather for consumer consumption than resale

**RETAINED PLACENTA-** is when a part or the whole placenta remains in the uterus after birth

**RETICULUM-** is the second stomach of a ruminant with a netlike structure

**RHINITIS** (*rye-NY-tis*) - is when the mucous membranes of the nose become inflamed due to a viral infection

**RIB EYE-** a beef cut taken from a carcass between the 6th and 12th ribs

**RIGOR MORTIS-** is the stiffening of body muscles and joints after slaughter resulting in chemical changes to the muscle structure which can impact negatively on meat tenderness. The process goes through three stages and takes different times to begin in the different species.

Cattle	6-12hrs
Sheep	6-12hrs
Pigs	15mins-3hrs

**ROLLER MARK-** is the edible colour coded mark rolled down the length of classified carcasses at registered abattoirs by the independent classifier showing the abattoir ID code, age, and fat cover over the 9th, 10th and 11th ribs

**ROLLING-** is the process of changing of the surface area or particle size of an ingredient by compressing between moving hot or cold rollers

**ROTATIONAL GRAZING-** is a grazing management practice of routinely moving the animals from one paddock to another

**ROUGHAGE-** is the term used for a forage type feed ingredient high in fibre and low in energy content



**ROUND WORM**- are unsegmented worms pointed at both ends and negatively affects the health and production of livestock

**RUMEN**- is the first and largest of the four stomachs of ruminant animals from which food is regurgitated for rumination and in which fermentation of cellulose and other feed components by bacteria takes place

**RUMEN CONTENTS**- comprises the partly digested feed particles of ingested feed, rumen flora, and a large amount of rumen fluids extracted from the freshly slaughtered animal

**RUMEN DEGRADABLE**- refers to the portion of crude protein that can be degraded by the microorganisms to be used in the manufacture of quality microbial protein

**RUMINANT**- is a mammal with four stomach compartments that consumes plant material which is regurgitated a couple of times and then fermented by microbes in the rumen before passing through to the reticulum then to the omasum and abomasum for further digestion, these include.

- Cattle
- Sheep
- Goats
- Buffaloes
- Antelopes

### **RUMINANT STOMACH COMPARTMENTS**

- Rumen is the major stomach and is a large fermentation chamber where rumen bacteria breakdown coarse ingested feed into smaller particles that can be further digested in the following three compartments
- Reticulum is the second stomach compartment which serves as a screen for foreign objects as well as passing smaller digested particles through to the other stomach compartments while the coarser particles remain in the rumen for further digestion
- Omasum is the third stomach compartment with the main function to absorb short chain volatile fatty acids, electrolytes and water
- Abomasum is the fourth stomach compartment, and the true stomach where the animal's stomach acids and enzyme breakdown the ingested feed particles they pass into the small intestine

**RUMINATE**- is when an animal regurgitates previously consumed food back to the mouth and completes the chewing process before digestion

# S

**SALEABLE MEAT**- is the proportion of the carcass that can be processed and sold to the consumer

**SALINITY**- is the measure of the amount of salt in a liquid

**SALMONELLA**- is a dangerous foodborne pathogen that can occur in contaminated food and milk that results in severe nausea, diarrhoea, stomach cramps, and fever

**SAVANAH**- tropical or subtropical grassland with scattered trees and drought resistant plants

**SATURATED FATTY ACIDS**- are straight chain organic acids with an even number of carbon atoms such as butter fat, meat fat, palm oil, coconut oil and palm oil

**SCOURS**- is a bad smelling diarrhoea that can develop in newly born suckling animals which if untreated can lead to dehydration and death

**SCRATCH**- is the mechanical scraping of the hard outer surface of a grain kernel to facilitate moisture absorption for further processing

**SCRAPIE**- is a fatal brain disease caused by TSE in sheep and goats

**SCREEN**- is the separating of feed into various size particles by passing it over different size mechanical screens

**SCROTUM**- is the external skin bag between the hind legs of male animals that contains the two testicles

**SCROTUM CIRCUMFERENCE**- is a measurement used as a good indicator of sperm production when selecting young bulls

**SECONDARY MALE DEVELOPMENTS**- these include bigger bone structure, coarse hair, muscle development, more aggressive.

**SEAR**- is to briefly brown the surface of meat on a grill or pan on high heat.

**SELECTION**- is the process of choosing certain animals between peers for breeding stock for future generations

**SELECTION INDEX**- a linear combination of phenotypic information with weighting factors used in genetic predicting

**SELECTION DIFFERENTIAL**- is the term for the difference between the average of the entire group and the average of the animals selected for the next generation

**SEMEN**- it is the fluid containing sperm cells which is ejaculated by the male penis during mating

**SERVICE**- is the process in where a male mates with a female in heat.

**SHEAR**- the process of annually cutting the wool off sheep

**SHEARING SHED**- a farm building in which sheep are shorn and wool is classed and baled

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## SHEEP BREEDS:

Mutton breeds	Dual purpose
Dorper	SA Mutton Merino
Blackhead Persian	Dohne Merino
Meatmaster	Dormer
Van Rooy	Letelle
Ille de France	Suffolk
Damara	
Namaqua Afrikaner	Wool sheep
Pedi	Merino
Afrikaner	Karakul (carpet wool)
Merino Landskaap	
Afrino (dual- purpose)	

## SHEEP DISEASES:

Bacterial	Mites
Brucellosis	Sheep scab
Blackleg	
Foot rot	Parasitic
Pulpy kidney	Lung worms
Black disease	Stomach worms
Haemophilus somni	Liver fluke
Joint ill	Hydatid Lumpy
wool	Tape worm
Pasteurella	Coenunis cerabalis
Caseous lymphadenitis	Stilesia hepatica
Navel ill	Protozoal
Tetanus	Babesiosis (redwater)
Johne's disease	Coccidiosis
Metabolic	Toxoplasmosis
Acidosis	Theileriosis (mot)
Milk fever	sarcocystis
Pregnancy toxaemia	Viral
Geilsiekte (prussic acid poisoning )	Bluetongue
	Rift valley fever
	Scrapie
	Jaagsiekte
	Maedi visna
	Pink eye
	Contagious ecthyma
	Scabby mouth



## SHEEP FLOCK CLASSES:

- Rams
- Ewes
- Wether (hamel)
- Lambs at foot - Weaned ewe/ram lambs
- Replacement ewes
- Culls

## SHEEP PRODUCTION SYSTEMS:

- **Extensive** is a system only makes use of extensive natural grazing for ewe/lamb production or growing out of stores
- **Semi extensive** is a system that relies on not only extensive grazing but utilizing grain stover during harsh winter periods
- **Semi intensive** a system utilizing cultivated pastures on smaller sized farms
- **Intensive** is a system with high stocking rates on controlled irrigated pasture requiring intensive management
- **Feedlot** is a system whereby weaned lambs are fed grain-based diets to accelerate growth in preparation for specific marketing requirements

**SHEEP TILT**- is a mechanical adjustable tilt restraint used for treating or trimming sheep hooves or for performing oestrus synchronisation of breeding ewes

**SHEEP SCAB (BRANDSIEK)**- a highly contagious Psoroptic mange occurring in all provinces is

## SHEEP WOOL CLASSES:

- Locks
- Bellies and skirtings
- Broken fleece
- Backs - Fleece wool

## SHEEP WOOL LENGTHS (MM):

AA	90 +
A	80-90
BB	70-80
B	60-70
C	50-60
DD	40-50
D	30-40
EE	20-30
E	shorter than 20

## SHEEP WOOL FINENESS:

- Super fine FF less than 19 micron
- Fine F 19.1- 20
- Medium M 20.1-22
- Strong S 22.1- 24
- Super strong SS 24.1 and higher

## SHEEP WOOL TYPES

- Merino type wool
- Mutton Merino type wool
- Crossbreeds wool

**SHIPMENT**- means consignment of any product

**SHIPPING FEVER**- is Bovine Respiratory Disease Complex which is the most common disease affecting cattle causing major economic losses to livestock producers by reducing production and causing great stock losses.

**SHRINK**- is the weight loss in livestock, meat products and feed ingredients due to Aa measure moisture loss

**SHROUD**- is a chlorinated cloth used to wrap around a hanging carcass to reduce cooler shrink

**SHOW STRING**- is the list of male and female stud animals selected by the breeder to exhibit at a breed show to advertise his genetic material

## SIB

- Full sib- full brothers and full sisters
- Half sib- half brothers and half sisters

**SILAGE** (*SY-lij*)- is a nutritious feed product resulting from mechanically chopping green crops into small pieces, compacting in a bunker, sealing, and allowing to go through a fermentation for at least 21 days before use in ruminant diets:

- crops used include maize, sorghum, cereals and various grasses
- the process is to mechanically chop the entire plant at the right stage of moisture into small pieces and compacted in a silo or bunker and covered until used
- the fermentation process follows when the well compacted finely chopped plant goes through a process of natural anaerobic fermentation for a period of at least 21 days after which it is ready to use.
- once opened and disturbed secondary fermentation, or aerobic fermentation, starts which is detrimental to the silage quality resulting in a reduced shelf life
- the bunker is normally a trench like structure constructed either below or above ground with a cement floor and walls
- preservatives / additives are chemical additives to stimulate fermentation or to inhibit the growth of undesirable micro-organisms including Propionic- and Lactic acids which are sometimes mixed with the freshly chopped ensiled plant
- spoilage can occur if the bunker is not properly sealed and a measure of spoilage or aerobic fermentation, takes place between the cover and the top layer of the silo

**SIGMOID CURVE**- is an S shaped growth curve

**SILO BAGS**- are specially constructed storage bags of various capacities that are mechanically filled for either grain storage or with chopped forage crops for silage

**SILO**-a tower or pit used to store grain or silage for use at a later date

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**SIRE**- refers to the father of an animal

**SITE OF DIGESTION**- ruminants' site of digestion is the rumen where the ingested feed is fermented by rumen microbes into Volatile Fatty Acids which are absorbed by the body through the rumen wall

**SKELETON**- is the internal body framework that supports muscles and protects internal organs

**SKIN**- is the outer body covering of smaller animals like goats, sheep, pigs, and small antelope Skirting- removing undesirable pieces of a sheep fleece

**SLAUGHTER**- is to kill an animal with the intention of using that animal's products for human or animal consumption, or for humane reasons

**SLAUGHTERHOUSE**- place of slaughter, normally referred to as an abattoir

**SLAUGHTER STOCK**- are animals purchased/ sold or raised for immediate slaughter

**SLAUGHTER MASS**- is the mass of the cold carcass after the hide, head, tail, hooves, kidneys, kidney fat, external genitalia, and udder have all been removed

**SLUDGE**- is the suspended or dissolved animal waste solids resulting from the processing of stored waste matter

**SOIL EROSION**- is the continuous removal of soil through the action of water or wind

**SOMATIC CELL COUNT**- is the number of white blood cells present in a sample of milk

**SONAR SCAN (ULTRASOUND)**- is used mainly in the sheep industry to assist in pregnancy diagnosis and twins and in the beef industry for determining body composition

**SORTING GATES**- a system of gates and pens either manually or automatically operated used to separate animals into specific groups based on their size, type, gender, body condition scoring or any other grouping.

**SOURVELD**- a region of higher rainfall and cold winters with a type of grazing characterised by long coarse grasses which are less palatable in the winter.

**SPAY**- to surgically remove female ovaries

**SPECIES**- is a group of organisms or animals that can reproduce naturally with one another and produce similar looking fertile offspring

- farm species
- bovine, -ovine, -equine, -chevon, -porcine and-galine

**SPECIFIC RISK MATERIAL (SRM)**- is from those specified parts of cattle, sheep and goats that are most likely to be a risk of infectivity if that material originated from animals that were infected with BSE related diseases

**SPECULATOR**- a person that trades in agricultural products by buying at a lower price and selling at a higher price

**SPERM**- is the body fluid excreted from the male animal's reproduction organs during mating that carries the male reproductive cells

**SPERMATOGENESIS**- is the production of sperm

**SPIN**- processing natural fibre into useable thread

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**SPOILAGE**- a costly result of poor harvesting or storage of agricultural products

**SPRAY RACE**- a method of spraying cattle with a paracide where they move down a race equipped with spraying nozzles ensuring a complete wetting

**SQUEEZE CHUTE**- is sturdy handling equipment used for restraining livestock singularly to be able to apply various animal management processes

**STANDARD DEVIATION**- is the measure of how dispersed or concentrated research data is in relation to the mean

**STAPLE**- is the length of a lock of shorn wool

**STARCH**- is a carbohydrate that, together with cellulose, is the major form of stored energy in plants

**STARVATION**- is the state of suffering that is caused by food deprivation which can result in death

**STATUTORY LEVY**- is a compulsory charge or tax imposed and collected by a state institution on a product or service

**STEAM FLAKING**- is the process of passing grain kernels through a steam cabinet for a fixed period before being rolled through adjustable steel rollers

**STEER**- is a bull that has been castrated at an earlier age before secondary male characteristics are visible

**STEEPED**- means stored in a liquid.

**STERILE**- is the inability to produce offspring

**STERILIZATION**- is the process of killing all bacteria on surfaces, handling- and cutting equipment, or in a product for it to be shelf stable

**STICK**- the practice used during exsanguination to accelerate the bleeding out of the carcass.

**STILLBORN**- is a calf or lamb born dead before full term.

**Stocking density**- is the relationship between the number of animals and are of grazing at any time

**STOCKPILE**- ingredients that are accumulated over time for later use

**STOCKING RATE**- is the specific kind and classes of animals that graze a measured area of pasture over a specified time period

**STOCK REMEDY**- is a substance registered for use to treat- or for disease prevention for animals only

**STOCK REMOVAL CERTIFICATE**- no livestock may be moved along a public road or by transport by a third party if not accompanied by this certificate issued by the owner of the livestock

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**STOCK SALE**- is when livestock are offered on the open market by a willing seller to a willing buyer through a bidding process

- commercial mixed stock
- breeding stock
- fat stock
- stud stock
- weaner calf/lamb sale

**STOCK THEFT**- means removing or being in possession of livestock without the permission of the owner is an act of stock theft

**STOMACH TUBE**- is a narrow tube placed down through the oesophagus of an animal into the rumen or stomach

- to administer food or liquid
- release gas from the rumen of a bloated ruminant

**STORE ANIMALS**- refers to livestock carried over or purchased on grazing or stover to grow out for finishing before marketing

**STOVER**- are the dry stalks and leaves left on the lands after the harvesting of the cobs and ears of maize or sorghum

**STRAW**- is the plant residue remaining after the separation of the grain during threshing

**STRESS**- is experienced by animals when subjected to a prolonged period of discomfort, injury, hunger, or fatigue that upsets their normal feeling of content

**STRIKE (FLY STRIKE)**- is a serious health and production problems for sheep farmers caused by blowfly larva feeding into the sheep's skin during hot and moist conditions

**STRIP CUP**- a plastic cup with a black screen used to squirt milk from a teat to check for abnormalities in the milk before milking commences

**STUD**- is an establishment that produces selected registered superior livestock for breeding purposes

**STUD STOCK/SEEDSTOCK**- are livestock registered with a specific Breed Association according to specific standards set by the Association, whose genetic performance improvement records have been maintained over several generations

**STUN**- is to render senseless, part of the slaughter process

**SUBCUTANEOUS** (*sub-kew-TAY-nee-us*) - means beneath or under all the layers of the skin

**SUCKLING**- is the raising of offspring by their drinking of milk from the mother's teat

**SUCKLING PIG**- is a piglet separated from the sow at about 2 months of age

**SUPEROVULATION**- a technique used by administering a FSH (follicle stimulating hormone) to induce many follicles to facilitate fertilization

**SUPPLEMENT**- is a feed mixture containing additional protein, energy, minerals, vitamins, or medication used to improve the nutritional value of grazing, pastures, or other basic feed to provide a more balanced diet.

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**SURFACTANT**- is a chemical compound used to reduce the surface tension between two different compounds

**SURROGATE**- is a replacement and could relate to;

- natural milk with commercially prepared milk
- or a replacement mother

**SUSTAINABLE**- is something that is bearable and capable of being continued at a certain level for an indefinite period of time

**SWEETVELD**- is a region referred to of low rainfall and mild winters that is characterised by more palatable grasses throughout the year

**SYMBIOSIS**- is the relationship between two different organisms living interdependently with each gaining benefit from the other

**SYNCHRONISATION**- the process of getting all the females in that herd to come into heat at the same time

**SYNTHESIS**- is the combining of different separate elements to form a whole

**SYSTEMIC**- relates to the whole body instead of a specific part

# T

**TAG-** is one method to identify livestock by applying a unique private or national alpha/numeric code to the ear on a metal or plastic tag , tail tags are popular in Australia

**TAIL DOCKING-** extremely popular in the sheep industry where at young age tails are removed to facilitate herd health management

**TALLOW-** is the fat rendered from the cooking of slaughtered animal parts or carcasses and often used in livestock diets

**TANNERY-** is the facility where fresh perishable hides and skins are cleaned and converted through various chemical and mechanical processes into different leather products

**TAPEWORM-** is a ribbonlike flatworm parasite occurring in the intestines of most mammals

**TATTOO-** is a unique permanent state registered identification mark applied to a specified part of that species of live animal by a needle and ink method.

**TDN-** Total Digestible Nutrients is a concept from a former complex system of measuring energy in feeds and energy requirements of ruminant animals

**TEASER (KOGGELRAM /BUL)-** is commonly the name given to a vasectomised animal used to identify a female in heat or help females to come into heat

**TENDER STRETCH-** is the process of stretching a beef carcass by suspending it from the aitch bone so that the loin and rib muscles are physically prevented from contracting

**TEMPERAMENT-** refers to the animal's attitude regarding aggression or fear when being handled which is hereditary and can lead to animal handling complications

**TERMINAL CROSS-** is the practice of cross breeding two recognised breeds to produce male and female offspring not to be used for further breeding

**TERMINAL SIRE-** is used to produce offspring with growth or carcass characteristics for a specific final market

**TESTES-** primary sex organ of the male animal where sperm and male hormones are produced

**TESTICLE-** one of two egg shaped glands inside the male scrotum that produce sperm cells and male hormones

**TESTOSTERONE-** is a male hormone produced in the testes whose levels are related to fluctuations in male aggression

**TETANUS-** is a bacterial disease caused by an infection through a deep open wound resulting in rigidity of the voluntary muscles

**TETHERING-** the practise of physically restraining an animal only allowing minimum movement, ridiculed in swine production



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**THERMOREGULATORY**- is the process of maintaining a particular temperature whatever the environmental temperature

**THIAMINE**- is the water-soluble Vit B1 that functions in the body carbohydrate metabolism which in its absence can cause a Vit B1 deficiency

**THREE IN ONE**- commonly refers to a pregnant female with an offspring at foot

**TICKBORNE DISEASES**- diseases transmitted from the bite of an infected tick such as:

- African and Asian Red water, Anaplasmosis, Lumpy Skin, Heartwater, Corridor disease

**TISSUE TYPES**- adipose, blood, bone, cartilage, connective, epithelia and nerve tissue

**TOLLIE**- is a young castrated male calf

**TOP DRESS**-means to apply supplements on the top of a mixed feed

**TOTAL MIXED RATION**- is a mechanically mixed nutrient balanced ration fed to animals in intensive production systems

**TOXICITY**- is the degree that a substance is poisonous to an animal

**TRACEABILITY SYSTEM**- is a nationally coordinated individual animal identification system that tracks its origin, location health and movement from birth to slaughter and to final processed consumer product

**TRACE MINERALS**- are minerals required by the body in small amounts

**TRADE AGREEMENTS**- any contractual arrangements agreed between States concerning their trade relationships which may differ vastly from State to State

**TRANSGENIC ANIMALS**- is an animal whose genetic composition has been altered to carry a gene for a specific trait from a different specie

## **TRANSPORT**

Flat deck – fixed or semi, side or rear loaded from a standard height loading ramp

- Double deck- semi with various height access ramps
- Interlink- semi with two trailers with various height access ramps from special loading facilities

**TRENBOLONE ACETATE (TBA)** (*TREN-boh-lone ASS-eh-tate*)- is a controlled veterinary product applied intra muscularly to promote muscle growth in beef cattle

**TRIMMINGS**- are small pieces of meat remaining after steaks, roasts and other more economical cuts have been removed

**TRIPE**- is the first or second stomachs of a ruminant used for food

**TROCAR**- is a sharp three-sided veterinary instrument in a loose tube or cannula used for releasing gas from the rumen through the skin while the cannula remains behind

**TRIGLYCERIDES** (*try-GLISS-er-ides*)- is an ester of glycerol between one and three fatty acids.

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**TSE**- refers to Transmissible Spongiform Encephalopathy, a prion disease that can occur in humans, sheep, goats and cattle in different forms and is normally fatal

**TUBERCULOSIS**- is a chronic highly infectious bacterial lung disease caused by *Mycobacterium tuberculosis*; is zoonotic and the major source of infection for humans

**TWO TOOTH**-is a term used for a young animal when the first two permanent teeth have erupted the gum

# U

**UDDER**- a mammary gland of female animals with two or more teats for suckling the young

**UIP**-is the portion of crude protein that is rumen undegradable

**ULTRASONIC**- is a scientific method whereby soundwaves are used to measure subcutaneous fat thickness of loin-eye depth on both live animals and carcasses

**ULTRASOUND**- is a procedure that uses high energy sound waves to examine tissues and organs inside the body

**UMBILICAL CORD**- is a cord that arises from the navel that connects the foetus to the placenta of its mother through which respiratory gases, nutrients and waste passes

**UNDERSHOT**- refers to an animals' upper jaw being shorter than the upper jaw which would be discriminated against during the selection process

**UNDEGRADABLE PROTEIN**-refers to protein not digested by the rumen microbes

**URINARY CALCULI**- are solid particles that form due to nutritional calcium imbalances that results in difficulty in urinating, pain, nausea and even death due to abdominal infection. This is a condition which is prevalent in male sheep which has been found to be diet Ca: P ratio related

**UNSATURATED FAT**- is a fat that has not been completely hydrogenated and referred to as oils.

**UNSATURATED FATTY ACID**- is one which carbon chains have one or more double bonds; with a single bond is a monosaturated fatty acid while one with more double bonds is a polyunsaturated fatty acid

**UREA**- is a chemically formulated non-protein nitrogen fertiliser product also utilised sparingly in ruminant nutrition as an economical building block to produce protein by the rumen microbes

Injudicious use can result in the death of livestock by asphyxiation

**UTERUS**- is a female reproductive organ composed of a main body with two horns which provides an environment for the young foetus to develop until the completion of pregnancy

# V

**VACCINATE**- is to administer a vaccine or preparation by injection to stimulate an animal's immune system

**VACCINE**- is a commercially manufactured medication against specific dangerous diseases administered by injection to stimulate an animal's immune response against that specific disease

**VAGINA**- is located between the opening to the bladder and the cervix and is the site of semen deposition during natural service

**VAGINAL PROLAPSE**- is a condition that occurs in some species around the time of giving birth when the female vagina protrudes outside and must be assisted in putting it back in the body

**VALUE ADDED TAX (VAT)**- is a State imposed consumption tax on all goods purchased and services rendered and is borne by the final consumer except on those specifically exempted by the Vat Act

**VALUE CHAIN**- is the full chain of the processes to produce a product including material, sourcing, production, consumption and disposal

**VARDAGE**- is the fee charged which includes all daily non feed costs to house and care for an animal during an intensive production phase

**VARIANCE**- is the statistical measurement of the spread between readings from the mean

**VAS DEFERENS**- is the sperm duct that transports mature male sperm to the urethra in preparation for ejaculation

**VASECTOMY**- is a procedure to remove a section of the male animal's vas deferens to create a "teaser" to help identify herd females coming on heat

**VEAL**- is the meat of a calf slaughtered under six months of age

- Pink veal if raised under anaemic conditions
- Red veal if raised under normal conditions

**VELD BURNING (CONTROLLED)**- is a practice applied normally following the first good rain to either remove old organic matter to stimulate growth or to combat bush encroachment

**VETERINARIAN**- is a qualified person trained to treat and care for sick and injured animals as well as prepares general management programmes to prevent the contracting of diseases through vaccinations, drenching and humane animal handling and general animal health

**VFA**- means volatile fatty acid

**VIBRIOSIS**- a serious infectious disease affecting cattle caused by *Campylobacter foetus* spread by infected bulls during mating

**VISCERA**- are all the soft internal organs in the abdomen, including intestinal tract, heart, lungs, excretory and reproductive systems

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**VITAMIN**- is a compound that functions together with enzymes and can be either essential or non- essential for many metabolic functions. Some vitamins are water soluble others are fat soluble

**VITAMIN PRECURSORS**- or provitamin is a substance that may be converted in the body to a vitamin

**VOLATILE FATTY ACIDS (VFA)**- are the short chain fatty acids, Acetic, Propionic and Butyric acids that are the primary end products of rumen fermentation which are the main sources of energy to the ruminant animal

**VOLUNTARY FEED INTAKE**- refers to the amount of feed an animal will eat when feed is available on an ad lib basis

**VULVA**- is the female external genitalia

# W

**WALK OVER INDIVIDUAL HOOF SCALE-** is designed to weigh large numbers of livestock individually without causing unnecessary stress by restraining them and sorting them into specific groups based on weight parameters.

**WATER REQUIREMENTS-** daily water requirement depends on size, age, energy expenditure, moisture content of fodder, fineness of feed, temperature, humidity and stage of lactation.

**WATER CONSUMPTION-** depends on above conditions but by rule of thumb for the following species:

Cattle	
Dry cows	40-80lt
Lactating cow	50-100lt
Weaner calf	20-50lt
Sheep	
Dry ewes	2-6lt
Lactating ewe	4-10lt
Pigs	
Dry breeding sow	6-8lt
Lactating sow	20-26lt
Weaned piglet	2-4lt
Horses	
of average size	20-40l

**WATER TROUGH-** is a receptacle of various lengths and depths that provides drinking water to livestock or game animals. Most modern water troughs are designed to supply a certain number of animals with water and are fitted with automatic self-filling mechanisms.

**WATTLE-** a fleshy appendage that hangs from the throat skin of goats

**WEAN-** is the process of removing the young animal from being suckled by its mother and a milk diet

**WEANER-** is a young calf, lamb or piglet recently removed from suckling on its mother

**WEANING AGES-** depend on various factors other than just age. Condition score of the mother, plane of nutrition, management system, condition and availability of grazing, and season.

Calves Beef	7-8 months	Goat (kids)	12-16 weeks
Calves Dairy	After birth	Piglet	3-4 weeks
Foals	4-6 months	Lambs	2-3 months

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**WEANING MASS** - is the mass of the weaner determined immediately after it is removed from its mother, which can be adjusted to a standard base to be able to compare mothering abilities for selection purposes of breeding stock.

**WEEDS**- descriptive term for unwanted plants

**WEIGH BRIDGE**- is an instrument for weighing a load carried by a vehicle where the load and the vehicle are supported on a platform linked to a system of levers or electronic load cells connected to a visual indicator.

**WEIGHT LOSS (SHRINK)**- refers to loss of weight during stressful events such as transport and handling activities. After gut fill loss further loss is from extra- and intra cellular fluid from the muscle and fat tissue which is difficult to replace and can have serious health implications to the animal.

**WEIGHT PER DAY OF AGE**- is the mass of an animal divided by its age in days

**WET CARCASS SYNDROME**- is a condition that manifests itself as a slimy surface on the carcass on mainly Dorper sheep and their crosses after slaughter with considerable financial losses to mainly Northern Cape and Southern Namibian farmers

**WETHER (HAMEL)**- is a castrated male sheep or goat (kapater)

**WHITE MUSCLE DISEASE**- is a degenerative disease that occurs in cattle, sheep and goats caused by a selenium deficiency affecting skeletal and cardiac muscles with animals unable to rise, stiffness of limbs.

**WITHDRAWAL DATE**- is the time that must lapse between the last day of administration of a medicine and the slaughter of the animal for food purposes

**WIND CHILL**- is the temperature felt on the exposed hide or skin due to the combination of low temperature and speed during transporting

**WOOL CLASSING**- is when the characteristics of the raw wool is examined and compared to required standards by a qualified wool classer

**WOOL CLIP**- total amount of wool shorn from a specific group, region, or country in that year

# Y

**YARDAGE**- is the fee charged which includes all daily non- feed costs that an animal to house and care for an animal in confinement

**YEARLING**- refers to a young calf, lamb, or goat of approximately 12 months of age

**YEAST**- single cell fungus that can stimulate microbial activity during digestion

# Z

**ZERO GRAZING**- is a production system of raising livestock in confined areas fed with all fodder brought to them, used in many dairy systems

**ZOONOTIC DISEASE**- is a disease that normally occurs in animals but can also infect humans;

**some examples are:**

- Anthrax, Ascariasis, Bovine tuberculosis, Brucellosis, Campylobacter infection, Cysticercosis, Ebola, Enzootic abortion, Hepatitis E, Leptospirosis, Malaria, Pasteurellosis, Plague, Rabies, Rift Valley Fever and Ringworm

