

APPENDIX I: WORD OR PHRASE DEFINITIONS

Some words or phrases used in this course may be unfamiliar to you. The words or phrases are a **different colour** in the text of the section listed below. We hope these definitions are helpful. The section refers to where the word or phrase is first used.

SECTION I	WORD OR PHRASE	DEFINITION
1.1	Glandular Tissue	Tissue that contains glands. Glands have specialized cells, which secrete a specific substance, e.g. sweat, saliva. The glandular tissue of the udder secretes milk.
1.1	Secreted	This is an active process by a cell, which produces a special liquid containing specific compounds, which are then actively expelled from the cell – usually into a duct or lumen. There are many types of secretory cells in the body – in this case, we are concerned about those cells that secrete milk.
1.1	Alveoli	A structure containing cells lining a lumen or space that is connected to a duct is usually termed an alveolus (alveoli is plural). An example is the alveoli in the lungs. We are concerned about the ones in the udder.
1.1	Casein	The most common type of protein found in the milk and important in cheese production.
1.1	Lactose	The most common type of sugar found in milk.
1.1	Lipids	This is another word for fat. There are many types of lipids found in milk.
1.1	Minerals	This includes calcium and phosphorus – common in milk, and also trace minerals such as zinc, magnesium, copper, selenium etc.
1.1	Vitamins	Includes vitamin A, D, E and some B vitamins.
1.1	Antibodies	These are proteins produced by lymphocytes, a type of white blood cell. These proteins, also called immunoglobulins, are important in fighting infection.
1.1	Lymphatics	These are a network of tubes, similar to blood vessels that bring white blood cells and lymph (a clear liquid that contains protein) to all areas of the body. Wherever there are blood vessels, there are also lymphatics.
1.1	Nerves	Nerves allow for impulses to go to the brain and back again. Not only does this function allow the animal to feel pain, but also the nerves are critical in allowing for milk letdown.
1.1	Suspensory Ligaments	Ligaments are structures that hold the body together and do not contain muscles (unlike tendons which hold muscles to the bones). The suspensory ligaments hold the udder suspended from the body wall.
1.1	Lumen	This is another word for hole. In this case, the hole holds milk.
1.1	Cytoplasmic	Cytoplasm is the contents of the cell excluding the nucleus, which contains the DNA. There are many components of the cytoplasm.
1.1	Merocrine	A type of secretion from the cell where the cell membrane opens up temporarily to release the secreted product. The type of secretion found with cow's milk.
1.1	Cytokines	These are compounds released by the cell and help it to communicate to other cells. They may be released in response to damage or attack by microorganisms and help to attract white blood cells.
1.1	Mucous Membrane	This membrane lines the insides of all tissues that communicate with the outside of the animal, e.g. the inside of your nose and mouth, the inside of your intestines and windpipe (trachea). In this case, also the lining of the teat and gland cistern.
1.1	Sphincter	A muscular, circular structure that can open and close an opening.

SECTION I	WORD OR PHRASE	DEFINITION
1.1	Lymphoid Follicle	An area where lymphocytes, a type of white blood cell, are formed. The structure cannot usually be seen with the naked eye, unlike a lymph node, which is a larger structure where lymphocytes are produced.
1.1	Keratin	A fibrous protein material produced by specialized epithelial cells. It contains no live cells. Fingernails, hair, wool and hooves are composed of keratin.
1.2.1	Lobules	A group of alveoli connected by ducts with a single duct exiting the lobule.
1.2.1	Progesterone	A hormone produced either by the corpus luteum on the ovary or by the placenta. This hormone is present in high levels during pregnancy or between heat cycles.
1.2.1	Oestrogen	Also spelled estrogen. A hormone produced by a follicle that forms on the ovary when the ovum (egg) is about to be produced. Animals under the influence of oestrogen often exhibit signs of estrus or heat.
1.2.1	Corpus Luteum	Also called “yellow body”, this is a structure left on the ovary once the ovum (egg) is released from the ovary. The cells in the corpus luteum produce progesterone, the hormone of pregnancy.
1.2.1	Ovum	Also called an egg, this is the female cell that will merge with a sperm to produce the embryo.
1.2.1	Ovulation	When the ovum (egg) is released from the follicle on the ovary. The ovum then travels down a duct (oviduct or fallopian tube) to the uterus where it is fertilized.
1.2.1	Trimester	Pregnancy is most often divided into 3 periods: early, mid and late pregnancy. With pregnancy in sheep being approximately 150 days, the first trimester is up to 50 days gestation, the second trimester is 51-100 days of gestation and the third trimester is 101 to 150 days gestation.
1.2.1	Foetus	Also spelled fetus. When the ovum is first fertilized, it is called an embryo. After the embryo begins to resemble a lamb, it is called a foetus until it reaches 142 days of gestation – the time when it is generally accepted that the lamb can survive outside the ewe.
1.2.2	Colostrum	The first milk of the ewe. It contains high levels of immunoglobulins (antibodies) and extra protein. It is produced by the ewe during the last few weeks of pregnancy.
1.2.2	Galactopoietic	Means to stimulate production of milk.
1.2.2	Growth Hormone	A hormone produced by the pituitary gland in the brain that is responsible for signalling many different tissues to grow.
1.2.2	Prolactin	A hormone secreted by the pituitary gland, which causes the tissues in the udder to proliferate and grow.
1.2.2	Oxytocin	A hormone secreted from the pituitary gland that causes the myoepithelial cells in the alveoli of the udder to contract, therefore forcing the milk down into the cistern. Oxytocin release is controlled by the brain.
1.2.1	Pituitary Gland	A small gland located just below the brain behind the eyes. This gland produces many different hormones in response to signals from the brain.
1.2.2	Conditioned Response	This refers to when the brain is subconsciously trained to expect something to happen, e.g. when you hear the table being set for dinner – you start to experience hunger in anticipation of eating.
1.2.2	Epinephrine	A hormone produced by the adrenal gland in response to an animal feeling pain or stress. It causes an increase in heart rate and blood sugar levels.
1.2.2	Adrenal Gland	This gland is located near the kidney (one on each side) and produces epinephrine and cortisol.
1.2.2	Cortisol	Produced by the adrenal gland, it is released in response to stress and will reduce inflammation and weakens the response of the immune system.

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1.2.2	Machine Stripping	This is the action of using the milking machine to obtain the last of the milk (residual milk) after normal milking is complete. The teat cups are attached and the action of the hands forces more milk out of the alveoli and into the teat.
1.2.3	Involute	To return to a former condition, in this case to reduce the number of alveoli and secretory cells producing milk.
1.2.3	Apoptosis	The process of intentional death of cells necessary for involution.
1.2.5	Photoperiod	This term refers to the length of daylight in one day.
1.2.6	Early Lactation; Mid-Lactation; Late Lactation	Length of lactation is divided into three sections: early, mid and late. Rather than having actual number of days assigned, there are features described for each stage. In early lactation, the amount of milk produced is rising; in mid-lactation the amount of milk produced per day is almost flat; in late lactation the amount of milk per day is dropping down to the level where the animal is going “dry”.
1.2.7	Lactation Curve	This refers to a graphic representation of daily milk production over the entire lactation. In sheep, there is an early peak, which then declines.
1.2.7	Multiparous	Meaning the ewe has lambed more than once. Primiparous means lambed for the first time. Nulliparous means has never lambed.
2.1.1	Bacterial toxin	A bacterial toxin is usually a protein that causes damage to the normal function or structure of tissues of the body. It may be excreted when the bacteria is alive (clostridial bacteria do this) or released when bacteria die (e.g E. coli diarrhoea in lambs).
2.1.1	Digestive tract	This includes the esophagus, the 4 stomach compartments (rumen, reticulum, omasum, abomasum), the small intestine (duodenum, jejunum, ileum) and the large intestine.
2.1.1	Abomasum	This is the glandular compartment of the stomach and is most like our stomach. Digestive juices and acids are secreted so normally the environment is very acidic (pH of 2)
2.1.1	Gangrene	Gangrene occurs when the blood supply is cut-off to living tissue and so the tissue dies. This can be from injury, or from some bacterial infections.
2.1.1	Vaccination	A non-harmful source of a disease-causing microorganism (virus or bacteria) is administered to an animal – usually in the muscle or under the skin, but could also be by another route – with the purpose of stimulating an immune response. This response will protect the animal in the future from infection from the real disease causing microorganism.
2.1.1	Antigens	Microorganisms are complex but parts of them (antigens) are recognized better than others by the animal’s immune system. The best vaccines contain antigens that stimulate a very strong and protective immune response.
2.1.1	Primary series	The initial vaccination and the booster vaccination given a few weeks or months later. With many vaccines given for the first time to an animal, it is necessary to give two injections to properly “prime” the immune system so that it can provide protection against the microorganism that causes disease.
2.1.1	Booster	This refers to any subsequent vaccination given after the initial vaccine. It could be part of the primary series, or the annual vaccine given to keep the immune response active.
2.1.1	Inactivated	This means that the disease causing microorganism has been killed – usually through heat or addition of a preservative (e.g. formalin) which will preserve the antigens but make it so the microorganism cannot cause disease.
2.1.1	Toxoid	This is an inactivated form of the toxin that the microorganism produces. It stimulates an immune response but cannot cause disease.
2.1.1	Expiration date	Every batch of vaccine or drug has a limited shelf-life. On the bottle or box, an

SECTION I	WORD OR PHRASE	DEFINITION
		expiration date is provided. The vaccine used after the expiration date may not be effective as the contents may have degraded. The vaccine should not be used and should be properly discarded.
2.1.1	Abscess	This is a structure formed when the body is fighting some types of infections. It contains purulent material surrounded by a wall of smooth tissue.
2.1.1	Lymph nodes	This is part of the lymphatic system which carries white blood cells around the body. They store as well as manufacture white blood cells.
2.1.1	Chronic wasting	This term refers to loss of condition (fat and muscle) over weeks to months; to the point the animal is very thin and weak.
2.1.1	Isolate	The sheep is isolated from healthy sheep – with no contact. The length and degree of isolation depends on which disease the sheep may have. Some diseases require no shared feeders and waters and no opportunity for direct contact, some also require housing in a separate airspace.
2.1.2	Abortion	This is the premature loss of a fetus from a pregnancy.
2.1.2	Enzootic	When disease is present in a population at a constant but low level. Epizootic (epidemic when referring to people) means a sudden and rapid rise in level of disease.
2.1.2	Macerated	The fetus is dead and decayed – usually to the point that it is falling apart.
2.1.2	Mummified	The fetus is dead, in one piece but is dried up and leathery. The death likely occurred several weeks prior to the abortion and is “sterile”, i.e. in the absence of a bacterial infection – but may be due to parasites or a virus.
2.1.2	Placentitis	Inflammation of the placenta. It may be mild or very severe, involve just the cotyledons (the buttons) or also the placenta between the cotyledons.
2.1.2	Term	For sheep, gestation is between 143 and 155 days – term refers to the lambs being born at the full gestational age.
2.1.2	Stillborn	The lamb is born at term but dead and never takes a breath. The lamb may have died before the birth process started, died during the birth process or died within minutes of being born.
2.1.3	Placenta	There are two layers to the placenta. The inner layer is the amnion which is clear and surrounds the lamb. The outer layer is the chorion. It contains numerous cotyledons which are large button-like structures. The chorion is the part that must be submitted.
2.1.2	Cotyledons	The cotyledon is the part of the placenta through which nutrients and oxygen are passed from the dam to the fetus. The cotyledons attach to the maternal caruncles inside the uterus.
2.1.2	Zoonotic	A disease which can be transmitted from animals to humans and cause disease in humans.
2.1.2	N95 fitted mask	This mask is used by hospital personnel. It is a special mask that will filter out 95% of infectious microorganisms. It must be specially fitted so that all air inhaled by the wearer, first passes through the mask’s filter. Masks cannot be reused and are disposable.
2.1.3	Pregnancy scanning	An ultrasound machine that projects an actual picture (real-time) of the scan, can be used to visualize the contents of the uterus and can see foetuses and the placenta.
2.1.3	Vitamin E	This is a vitamins, also called α -tocopherol, found in abundance in fresh forages but degrades quickly once those forages are stored. Along with selenium, it provides protection against free radicals that damage the body. It cannot be produced by the sheep but must be fed.
2.1.3	Selenium (Se)	This is a trace mineral that if present in the soil, is taken up by plants. It is

SECTION I	WORD OR PHRASE	DEFINITION
		important in enzyme systems that protect against damage caused by free radicals. Soils in much of Canada are low to deficient in Se and so the ration must be supplemented.
2.1.3	ppm	Parts per million. This is a measure of concentration of a substance. PPM can also be defined as milligrams per kilogram (mg/kg) or grams per tonne (gm/tonne). Both of these are often used when balancing rations. ppb is parts per billion or micrograms per kilogram ($\mu\text{gm/kg}$).
2.1.3	IU	International units is a measure of activity of some compounds. It is often used for measuring vitamin activity.
2.1.3	Congenital Goiter	Goiter is an enlargement of the thyroid gland, located in the neck. Growth hormones require iodine. If iodine is either deficient or fed in excess, the thyroid gland become enlarged. Congenital goiter refers to lambs either aborted or born with enlarged thyroid glands due to lack of iodine in the ewe's diet during pregnancy. They are either born dead or born weak and soon die.
2.1.3	Vitamin B12	Vitamin B12 is necessary to keep sheep healthy. It is produced in the rumen but requires cobalt (Co) to be made. For this reason cobalt must also be supplemented in the feed if soils are deficient.
2.1.3	Rumen microflora	The rumen of the sheep contains special bacteria which digest the feed the sheep consumes. These bacteria are called "microflora" and do not harm the sheep. Without these bacteria, the sheep could not digest most forages and so their health is very important.
2.1.3	mg/L	Milligrams of a substance per litre of water
2.1.4	Perineum	The area below the anus to the udder. Also called the escutcheon.
2.1.4	Zearalenone	A toxin produced by a mould which often grows on corn and other feeds. It mimics oestrogen which is the hormone produced when a sheep is in heat.
2.1.5	Polyestrous	This means that during the ovulatory season, the ewe may cycle many times rather than just once.
2.1.5	Cycle	The estrous cycle is what this refers to, i.e. the 17 day period in which a ewe comes into heat, ovulates, forms a corpus luteum and if she does not become pregnant, will come into heat or estrus again.
2.1.5	Breeding exposure	When a ram is joined with a group of ewes, the ewes are considered to be "exposed" to the ram for purposes of breeding. At some point in that time period it is expected that they will be bred by the ram when they come into estrus or heat.
2.1.5	Ram marking harness	This is a nylon or leather harness with a crayon that fits on the brisket (sternum) of the ram. When he mounts the ewe to breed, the crayon leaves a mark on the ewe's rump indicating that she has been mounted and possibly bred by the ram.
2.1.5	Puberty	This refers to the age when a ewe lamb starts to cycle for the first time in their lives.
2.1.5	Oxytocin	This is the hormone that causes milk let-down and is available as a veterinary drug.
2.1.5	Non-steroidal anti-inflammatory drug	NSAID. These are a group of drugs which reduce the level of inflammation and pain without harming the immune system which may be fighting disease. There are a group of these drugs available by veterinary prescription only and must be used with a valid veterinary-client-patient relationship.
2.1.6	Malpresentation	When the lamb is not presented normally and its position must be corrected for the lamb to be delivered.
2.1.6	Caesarian section	This is the name for the surgery when an incision is made in the abdomen of the ewe and the lambs are delivered surgically through an incision in the uterus.

SECTION I	WORD OR PHRASE	DEFINITION
2.1.6	Ringwomb	A condition not seen uncommonly in sheep where the cervix does not dilate when it is time for the lambs to be delivered. The cause is unknown.
2.1.6	Torsed	Uncommonly the uterus may twist inside the ewe so that the cervix will not open properly to deliver the lambs.
2.1.6	Diaphragm	The muscle separating the lungs and heart from the abdominal muscles. Its movement is responsible for breathing.
2.1.6	Hypothermia	Chilling, low body temperature. Normal for a lamb is 39°C. If less than 37°C, the lamb's life is at risk from chilling.
2.1.6	Hypoglycaemia	Starvation, low blood glucose. If the lamb depletes its fat reserves and does not get colostrum or milk, it will quickly starve to death – particularly if the environment is cold.
2.1.7	Johne's disease	A common infection in cattle, sheep and goats caused by the bacterium <i>Mycobacterium avium</i> subspecies <i>paratuberculosis</i> . It causes chronic wasting and death of adult sheep. There is not treatment or cure.
2.1.7	Bovine leucosis virus	BLV. This virus causes bovine lymphosarcoma in cattle and can infect sheep and cause the same type of cancer. It will not harm people.
2.1.7	Anaemic	This is a condition when there are too few red blood cells in the body or the red blood cells have too little haemoglobin – the protein which helps oxygen move from the blood to the tissues.
2.1.7	Caprine arthritis encephalitis	CAE. This is a common infection in goats caused by a virus. The signs in goats are arthritis, hard udder and chronic pneumonia.
2.4.2	Ad libitum	Ad lib. Means without restriction. In this case, the ewes eat as much as they want. Use of TMR's is healthier for the rumen microflora and the ewe.
2.4.2	Sub-acute ruminal acidosis	SARA. This occurs when because of too much grain, the rumen pH drops for a while – changing the rumen microflora and making the sheep go off feed. SARA is a sign that the feeding program is harmful to the ewes and milk production.
2.5.4	CgFARAD	This stands for Canadian global Food Animal Residue Avoidance Database. Veterinarians, when prescribing a drug which is not labeled for use in dairy sheep, can ask the people at CgFARAD for a recommendation on meat and milk withholding periods. It may take 2 to 3 weeks to get this information and a fee may apply.

SECTION II	WORD OR PHRASE	DEFINITION
1.1	Anatomy	The structure of a tissue or organ.
1.1	Physiology	How an organ or tissue functions.
1.1	Systemic	A disease that affects the whole body. The illness may cause symptoms in one or two areas, such as the lungs or digestive system, but the whole body is affected.
1.1	White Blood Cell	A cell that helps to fight infection or cleans up the damage from injury. There are many types of white blood cells: neutrophils, lymphocytes, macrophages etc. Each has a special function but they work together.
1.1	Somatic Cells	Includes white blood cells and epithelial cells (a type of cell that lines the skin or, in this case the lining of the alveoli of the udder).
1.2.1	Benefit – Cost	This is usually expressed as a ratio between the money and labour spent controlling a disease and the financial return from the increased production seen from those expenditures.

SECTION II	WORD OR PHRASE	DEFINITION
1.2.1	Turnover Rate	This is rate by which adult animals leave the flock for any reason, including death and opportunity sales – as well as culling. In a perfect world, deaths and involuntary culling would be minimal and sheep would leave only for sales and culling due to low productivity.
1.2.1	Cull	This is the action whereby a sheep is removed from the flock because it can no longer produce well. The reasons for culling may be voluntary (e.g. the ewe doesn't milk well enough) or involuntary (e.g. the ewe didn't lamb or had mastitis severe enough that her milk wasn't saleable). It does not include losses from death.
1.2.1	“Dry-Cow” Intramammary Antibiotics	This term is often used in reference to antibiotic products infused into the udder of cows when they are dried off at the end of lactation. These products will kill existing infections and help to prevent new ones.
1.2.3	Pasteurization	Heat-treating a liquid (in this case milk) to the point where most microorganisms are killed. For milk, there are regulatory levels so that temperature and duration are long enough to make sure most microorganisms are killed.
1.2.3	Antimicrobials	This is a group of chemicals that are known to kill microbes and includes antibiotics.
1.2.3	Antimicrobial resistance / AMR	Abbreviated AMR. When microorganisms – often bacteria – are not affected by the antimicrobial. Although AMR has many causes, one of the causes is through over-use of antimicrobials through either long-term or frequent use or use at levels too low to kill all the bacteria.
1.2.3	Dewormers	Also called anthelmintics or parasiticides. These products kill “worms”, such as gastrointestinal nematode parasites, which commonly infect sheep.
2.1.1	Dehydration	Means the animal has lost too much fluid from the body, either because of losses (e.g. diarrhoea or scours) or because of not drinking enough.
2.1.1	Spores	Some types of bacteria produce spores that can stay in the soil for years and can infect an animal when conditions are right.
2.1.1	Clostridial Organisms	These bacteria are a large group that cause different diseases in livestock and humans (e.g. tetanus, pulpy kidney, gas gangrene). They can live in the soil for years as spores and once they infect an animal, produce toxins, which cause disease.
2.1.1	Purulent	This means the presence of pus. Pus is composed mostly of dead inflammatory cells but also bacteria.
2.1.1	Fly Struck	Certain types of flies are attracted to decomposing material. They lay their eggs in this material and the maggots hatch and eat the pus and dead tissue. Unfortunately the maggots secrete enzymes, which further cause tissue damage. The animal absorbs the toxins from the decaying flesh and become very ill or “toxic”. Fly strike can kill a sheep within a few days.
2.1.2	Palpation	Means to firmly touch in order to determine how an object feels.
2.1.2	Fibrotic	Fibrosis means to scar in. When healing, scar tissue replaces healthy tissue that was damaged by disease. The scar tissue is harder and may feel lumpy.
3.1	Pathogen	A pathogen is a microorganism (or “germ”), such as a bacteria, virus, fungus or prion.
3.2.1	Nervous system	Includes the brain, spinal cord and nerves.
4.5.2	Coronary Band	This is the sensitive top of the hoof of sheep. It is a thin band of tissue from which the hoof wall grows.
4.5.2	Poll Region	This is the top of the head of the sheep. Because rams fight with each other, this region is often bruised – making it susceptible to other infections.

SECTION II	WORD OR PHRASE	DEFINITION
4.7	Callus	This is the term applied to a build-up of dead skin and keratin usually on part of the skin subjected to repeated use or damage (in this case, the teat end).
4.7	Proliferation	Build-up or growth.
4.7	Hyperkeratosis	Another term for callus. A build-up of keratin on the surface of the skin.
4.7	Papilloma	Another term for wart, which is a proliferation of epithelial cells in response to a viral infection (papilloma virus). The virus is contagious to other sheep. The wart will usually disappear when the animal mounts an immune response to the virus – but this may take weeks or months.
4.9.1	Escutcheon	This is the part of the sheep below the tail to the top of the udder.
4.9.1	Crutched	This term is used to describe shearing the wool from the escutcheon, udder and inside the legs in order to keep the area cleaner.
4.10.1	Heritable	The trait is carried on the genes of the animal and can be passed on to the offspring. Lowly heritable traits are not well passed on and highly heritable traits are very likely to show up in the offspring.
4.10.1	h²	This is the proportion of the phenotype (the way an animal looks or performs) that is due to genetics. The rest is due to the effects of the environment. So an h ² of 0.25 means that genetics account for only a small portion and environment will have the biggest impact. E.g. wool colour is highly heritable and isn't influenced by environment; number of lambs born is much less heritable and is strongly influenced by nutrition and ram fertility.
4.11.1	Negative Energy Balance	During early lactation it is very difficult to meet the energy needs of a heavily producing ewe. This means that she is milking "off her back" i.e. using fat reserves and so is losing body condition.
4.11.1	Body Condition Score / BCS	Abbreviated BCS. Fat and muscles are palpated along the backbone and the sheep is scored from 1 to 5 based on the level of fat and muscle present. A score of 1 being very thin (no fat reserves) and 5 being severely over-conditioned (fat).
5.3.7	Nucleic Acid	This is the DNA and RNA within the cell.

SECTION III	WORD OR PHRASE	DEFINITION
1.1.1	Disinfectants	A chemical which kills or inhibits the growth of bacteria. It is usually designed to be used on non-living objects (e.g. floors). Antiseptics are designed to be used on skin. Often the terms are used interchangeably but products designed to be used on skin should be labelled as safe for such use.
1.1.3	Sanitizing	When a surface is cleaned and disinfected at the same time. If the udder and teats are washed with a soap and an antiseptic agent, this will sanitize the udder
6.1	Drug Identification Number (DIN)	A specific number that is allocated to each drug that is approved for use in both human and veterinary medicine through Health Canada
6.1	Extra Label Drug Use (ELDU)	The use of drugs not in accordance of its intended use.

SECTION V	WORD OR PHRASE	DEFINITION
1.1	Total Solids	This term refers to the component of milk that is not water and includes fat, protein, lactose, minerals and vitamins.

SECTION V	WORD OR PHRASE	DEFINITION
3.2	Aerobic	Needs presence of air to grow. Anaerobic bacteria require the absence of air to grow, i.e. exposure the air will inhibit their growth.
3.2	Aseptically	Without the presence of bacteria.
3.3.1	Prototheca	A type of colourless algae (single-celled plant) present in dirty water that is a cause of mastitis in dairy cattle
3.3.4	Pasteurized	A specific process where milk is heated rapidly to kill harmful organisms without harming the quality of milk. Named after Louis Pasteur, a 19 century physician in France.
3.5.4	Grains of hardness	A measure of the amount of calcium in the water. 1 grain of hardness = 17 ppm of calcium.
5	Withdrawal period	Also called withholding period. The time (hours or days) from the last treatment of a veterinary drug until the milk or meat from the treated animal can enter the food-chain. This time period is determined through scientific testing of the target animals and may change with the species of animal, route of administration, dose and duration of treatment are different that was is indicated on the label of the drug.
5	Intramammary product	A veterinary drug, usually a mastitis ointment containing antibiotics which is inserted via a cannula into the teat opening. Only products intended for use in this manner should be inserted or infused into the udder.
5	Veterinary client patient relationship (VCPR)	This is legally defined within each province. When a particular medication is prescribed by a veterinarian licensed in that province, the veterinarian must have knowledge of the animal being treated – usually be clinical examination or from knowledge from a recent visit; the treatment is therapeutically indicated for that animal or flock; the owner of that animal is willing to accept the treatment; the veterinarian is readily available in case of treatment failure or adverse reaction; and the veterinarian is responsible for assuring residues do not enter the food chain (meat or milk).
5	Dry treatment	This is a treatment usually administered at the time of dry-off either to cure existing mastitis infections or to prevent new ones.
5	Topical	A topical treatment is applied to the skin. In this case, it may be on the skin of the teat or udder but may also be a foot bath or an antibiotic applied elsewhere on the body that may have been absorbed or contaminated the udder or teats.

SECTION VI	WORD OR PHRASE	DEFINITION
1.	Residue	Traces of a chemical (e.g. a veterinary drug) remain in the food product (e.g. meat or milk) or in the tissues of the animal – usually days but sometimes even weeks or months after the chemical was administered to the animal. These residues may be harmful to people consuming these products. All members of the value chain have a responsibility to make sure that all actions are taken to avoid them.
1.1.1	Active Pharmaceutical Ingredients	API. A substance or mixture of substances used as an active ingredient in the development of a drug product.
1.1.1	Compounding Drugs	The combination of more than one ingredient to make a final drug product, in its dosage form.
1.1.3	Metabolize	When the body's organs – usually the liver – change a drug or chemical into another chemical, or break it down into harmless substances. These changed

SECTION VI	WORD OR PHRASE	DEFINITION
		or broken down chemicals are called metabolites.
1.1.3	Excrete	The drug or one of its metabolites are flushed from the body usually either through the kidneys into the urine, into the digestive tract, or very importantly into the milk.
1.1.3	Violative residue	When a drug, e.g. antibiotic, is detected in milk or meat at a level which is at or higher than the allowed MRL. This means a violation has occurred and the milk or meat must be discarded.
1.1.3	Intramammary	To administer into the mammary gland through the teat opening. Usually to administer an antibiotic to treat or prevent mastitis.
1.1.4	Adulterants	Chemicals or organisms (e.g. bacteria) that are in a product (e.g. drug or vaccine) which may be harmful and should not be present.

