

## **Reproductive Terminology**

### **AVS 472**

**Acetonemia (ketosis):** A metabolic disease of lactating cows that occurs within a few days to a few weeks after calving. It is characterized by low blood sugar, ketonemia, in appetite, weight loss, and depressed milk production.

**Afterbirth:** The placenta and allied membranes with which the fetus is connected with the mother. It is expelled from the uterus following parturition.

**Artificial insemination:** Placement of fresh or frozen male semen into the female mechanically without normal sexual contact.

**As fed:** Refers to feed as it is consumed by an animal, including moisture.

**Abortion:** Premature expulsion of the fetus from the uterus.

**Breeding interval:** The average number of days between breeding in the herd

**California Mastitis Test (CMT):** A mastitis screening test useful for determining the somatic cell content in milk. A reagent is required to react with nuclear material of cells present in milk to form a gel. (This is a cowside test and requires a subjective score based on the amount of gel formed when the milk is mixed with the reagent.)

**Calving interval:** The average number of months between the latest two calving dates for individual cows or a herd.

**Clean:** A lay term commonly used by cattle breeders to mean that a cow has shed her afterbirth. Also refers to the natural, wholesome flavor of dairy products.

**Conception:** Fertilization or penetration of the ovum by a sperm cell.

**Conception Rate/Pregnancy per AI:** The number of cows diagnosed pregnant divided by the total number of cows inseminated. Total number of conceptions obtained divided by total number of services.

**Corpus Luteum:** An endocrine gland that forms from the luteinization of the granulosa cells of the ruptured follicle under the influence of the luteinizing hormone. The corpus luteum phase of the estrous cycle then regresses. In the pregnant animal, it remains active throughout pregnancy.

**Culling:** The removal of cows from a herd as a result of low production or other factors that reduce the profitability of the cow.

**Culling :** The process of eliminating nonproductive or undesirable animals.

**Ovarian Cysts:** Follicles larger than 20 mm in diameter that persist for more than 10 days. Cystic ovarian disease

**Days in milk (DIM) :** The number of days during the present lactation that the cow has been milking, beginning with the last date of calving to the current test date.

**Days in milk at first service:** The average number of days from calving until a cow is bred for the first time.

**Days open (DO):** The number of days between the most recent calving and conception.

**Dry Cow:** Any cow that has calved once and is not producing milk.

**Dry :** Describes a nonlactating female. The dry period of cows is the time between lactations (when a female is not secreting milk).

**Dry Date:** First calendar day the cow is not milked (See Dry Period).

**Dry Period:** Period of nonlactation following a period of lactation. This nonlactating time is generally a 5 to 8-week rest period before freshening.

**Dry off:** To change a lactating animal to a nonlactating one. Usually done 6 to 8 weeks prior to freshening. See involution.

**Dry period:** Nonlactating days between lactations. This nonlactating time is generally a 5- to 6-week rest period before freshening.

**Dystocia :** Abnormal or difficult labor (parturition), causing difficulty in delivering the fetus and placenta.

**Estrus (oestrus, estrous):** The recurrent, restricted sexual receptivity (heat) in female mammals, commonly marked by intense sexual urge. Estrous pertains to the entire cycle of reproductive changes in the nonpregnant female animal.

**Estrogen:** The female sex hormone responsible for expression of estrus and secondary sex characteristics. Steroid hormone produced and secreted by the theca interna cells of the follicle under the stimulatory influence of pituitary FSH secretion.

**Follicle:** Ovarian structure containing an ovum and surrounding granulosa cells and classified by state of maturity.

**Gestation Pregnancy (gravidity):** The period from conception to birth. The period of fetal development between fertilization of the ovum and birth of the offspring.

**GnRH** : gonadotropin releasing hormone. A protein hormone which is produced by the hypothalamus to act on the anterior pituitary to cause release of FSH and LH. GnRH is available commercially under such names as “cystorelin.”

**Heat period** That period of time when a female will accept a male in the act of mating. Also called in heat or estrus.

**Heat detection efficiency:** percent of possible breeding detected

$$\text{Heat detection efficiency} = \frac{\text{No. heats detected}}{\text{No. breedable heats}}$$

$$\text{Number of detectable heats} = \frac{\text{Average days open} - 55}{(21)}$$

**Herd Average:** Average milk and component production per cow for all cows in the herd unit for 12 months. Herd averages that are calculated include rolling herd average, lactation average and ME lactation average.

**Hypocalcemia:** See parturient paresis.

**Hypoglycemia:** Below normal blood glucose level.

**Ketosis:** See acetonemia.

**Lactation Average:** Sometimes referred to as DHIR Lactation Average. Actual 305-day average milk and component production for all cows in the herd that was completed during a 12-month period. It may or may not be a calendar year. (Since dry days are not included, lactation averages usually are 8 to 15 percent higher than rolling herd averages.)

**Lactation Record:** The total milk and components produced by a cow beginning on the day of calving and ending on the day the cow goes dry. For purposes of genetic comparison, 10-month (305-day) lactation records are the standard of the industry. A 306 to 365-day lactation record may be used for promotion. Lactation records greater than 365 days will not be published.

**LH** (Luteinizing Hormone): Protein hormone produced and secreted by the anterior pituitary to cause ovulation and luteinization of the granulosa cells of the follicle.

**Metritis and endometritis:** An inflammation of the uterus.

**Net energy (NE):** The difference between metabolizable energy and heat increment. It includes the amount of energy used either for maintenance only or for maintenance plus production.

**Non-return:** Indirect measure of pregnancy or conception rate. The breeding efficiency of bulls or artificial insemination expressed as the percentage of cows that conceive on first service. Also called nonreturn rate.

**Open cow:** A term commonly used for nonpregnant farm mammals.

**Ovulation:** The releasing of the ovum from the ruptured ovarian follicle; under the influence of pituitary LH secretion

**Oxytocin** – protein hormone secreted by the posterior pituitary to cause milk letdown and motility of the uterus in cows during estrus and at parturition; acts on smooth muscle cells to cause contraction

**Parturition.** The process of giving birth.

**Parturient paresis** A condition (observed especially in high-producing dairy cows) characterized by a low blood calcium concentration which results in partial to complete paralysis soon after parturition called milk fever.

**Pregnancy rate** Number of cows diagnosed pregnant divided by total number of breedable cows in the herd over defined period of time (usually 21 days).

Pregnancy rate = Heat detection percentage × conception percentage

**Prepartum:** Occurring before birth of the offspring.

**Progesterone:** Steroid hormone produced by the corpus luteum whose function is to prepare the uterus for the reception and development of the fertilized ovum and maintain pregnancy; has a quiescent effect on uterine motility and estrous behavior

**Pyometra:** An accumulation of pus in the uterus.

**Stage of Lactation:** Period of milk production during a lactation determined by the length of time since parturition.

**Rolling Herd Average (RHA):** Actual average milk and component production per cow for all cows in the herd for the immediate past 365 days. RHA's are updated with each new test.

**Retained placenta:** Placental membranes not expelled normally at parturition.

**Service:** A term commonly used in animal breeding, denoting the mating of male to female. Also called serving or covering.

**Services per conception(S/C):** A measure of fertility in cows that were reproductive successes and have become pregnant. S/C is calculated by dividing the total number of breeding for pregnant cows in the herd by the number of pregnant cows.

**Silent heat:** ovulation without showing visible signs of estrus; relatively uncommon, may occur where hormonal imbalance occurs