



Tennessee Specific Industry Certification Animal Science Content Area Resource

This Tennessee Specific Industry Certification (TSIC) resource provides additional guidance as you prepare your veterinary and animal science instructional materials. The general knowledge and skills are provided as a guide for developing lessons and lab activities that lead to deeper understanding of content. The list of sample terms are just that, a list of sample terms that will be helpful to build each student's knowledge base for this content area.

General knowledge and skills for Reproduction

- Identify the anatomy and primary function of the male and female reproductive tract and their components
- Use vocabulary of appropriate terminology to effectively communicate information related to reproductive cycles.
- Identify the major reproductive hormones, identify and define their role in reproductive processes.
- Identify and define the development of secondary sex characteristics in different livestock species.
- Trace the route of a sperm cell from formation in the testes to implantation into the egg correctly naming all of the structures that the sperm passes through on its journey to the egg.
- What structures does a sperm cell pass through on its journey to fertilize an egg
- What is the length/duration of the estrous cycle, estrus cycle, and gestation period for a horse, cow, sow, ewe, doe, bitch, and queen.
- Identify the critical period within the estrus cycle of cattle and the name the visual actions that signify ideal timing of insemination.
- Describe different signs of estrus in different female livestock and companion animal species.
- Explain the impact of a controlled breeding season on the productivity of a cow/calf herd in Tennessee.
- Explain the current value and benefits of artificial insemination and embryo transfer of livestock in the United States.
- Describe the primary methods of artificial insemination of different species of livestock and companion animals.
- Explain the process of estrous synchronization.
- Explain how embryo transfer increases outstanding female progeny.

Sample terms associated with content area

- Androgens
- Artificial insemination
- Artificially inseminate
- Beginning to cycle
- Body of uterus
- Breeding schedules
- Calf Crop
- Calving intervals
- Calving percentage
- Cervix



Tennessee Specific Industry Certification Resource Topics and Terms

- Cesarean
- Cloning
- Come into estrus
- Commercial beef cows
- Commercial cow-calf
- Commercial poultry
- Conception
- Crura
- Diestrus
- Donor cow
- Dystocia rates
- Egg
- Embryo transfer?
- Epididymis
- Eructation
- Estrogen
- Estrogens
- Estrous cycle
- Estrus
- Ewes
- Farrowing
- Feed inputs
- Feeder to Finish
- Fertilization
- Fetus
- Flushing
- Foaling
- Follicle stimulating hormone
- French foley catheter
- Gametes (Spermatozoa)
- Gestation
- Glans Penis
- Heat activity
- Heat indicator
- Hormone
- Horns of uterus
- Insecticide
- Kindling
- Lambing
- Lambing percentage
- Laparectomy
- Laparoscopy
- Lice
- Live weight
- Lutalyse
- Magnesium
- Metestrus
- Mineral deficiency
- Mites
- Myometrium
- Nuclear transfer
- Ovaries
- Oviduct
- Oviducts
- Oxytocins
- Parturition
- Perimetrium
- Placenta
- Pregnant.
- Prepuce
- Progesterone
- Prolactin
- Prostaglandin F2A
- Purebred dairy producer
- Sheath
- Sow
- Sperm
- Super ovulation
- Testes
- Urethra
- Uterine body
- Uterine horn
- Uterus
- Vagina
- Vas deferens
- Vascular organ
- Vulva
- Whelping