

Have the groups answer one of the following questions. Make sure that each student gets a chance to talk over the course of the semester

Anatomy and Estrus Detection in the Mare

1. List signs of estrus
2. Diagram the estrous cycle
3. List the physical things you would look for at a pre-season mare exam
4. Describe methods of estrus detection (pros and cons)
5. Describe record keeping-how, why
6. Diagram the internal reproductive organs of the mare (discuss the functions)

Problem:

Q: I want to breed my mare this spring but don't have a stallion to test heat. My neighbor has offered to let me use his intact donkey. My mare is very dominant, will this work?

A: Mares probably will not show estrus to the donkey (some mares are very particular while some mares are not very particular at all). A better way to manage this mare is to have the vet come and ultrasound to determine the ovarian structures. The vet can predict ovulation or may be able to give shots to induce ovulation

Endocrinology of the Mare

1. Diagram the endocrine glands of the mare
2. Diagram the function of the reproductive hormones of the Brain
3. Diagram the function of the reproductive hormones of the uterus & ovary
4. Describe the effects of light on the mare
5. Describe the estrous cycle in the mare (1 cycle vs seasonal)
6. List hormones and how they are used to manipulate the mare's cycle

Problem:

Q: I have a 12 yr Quarter Horse Pleasure mare and would like to manipulate her cycle so she is not in estrus for shows. My vet has suggested giving Regu-Mate but it is very expensive (\$240/liter). She has also suggested putting a marble in the mare's uterus during estrus. Why would these methods work? Can you explain? David

A: Regu-Mate is progesterone. Giving the mare progesterone will have a negative feedback on GnRH and decrease LH. Exogenous progesterone will not allow increases in LH and FSH so that follicular growth will not occur. Putting a marble in the uterus will mimic pregnancy so that the CL will not regress. This method works for about 80% of mares.

Anatomy and Endocrinology of the Stallion

1. Diagram the reproductive tract of the stallion
2. List what you would look for in a pre-season stallion exam
3. Diagram the endocrine glands of the stallion
4. Describe the role of LH in sperm production
5. Describe the role of FSH in sperm production
6. Describe the effect of light on the stallion

Problem:

Q: My husband and I have a mare in heat. I had suggested that we use a 2 1/2 year old stud that we own. He

said that the stud is too young and that the foal would probably come out with some form of defect. I am having a hard time finding an answer to this question. Can you help? Shelly

A: Most colts are capable of achieving pregnancy in fertile mares by two years of age, and the capacity for producing sperm cells usually increases between ages two and five. For this reason, most serious breeders will not try to breed large numbers of mares with colts that are two years old. But in your situation, there is no reason not to try breeding your mare with your stallion. The chances for producing offspring with genetic defects are no different now than when he is more mature.

Semen Collection and Evaluation

1. Describe AV's pros and cons
2. Describe how to assemble to AV
3. Describe teasing of the stallion
4. List the evaluation criteria
5. What are typical results of evaluation
6. Describe how the determine concentration

Problem:

Q: I have just collected a semen ejaculate and the gel-free volume is 70 ml, concentration is 70×10^6 sperm/ml, and the motility is 75%. I want to cool and ship this semen for AI in a Quarterhorse mare. What are the reasons why it is recommended to centrifuge this ejaculate? What is wrong with following the standard simple dilution approach as I have plenty of semen?

A: If you follow the standard recommendations for dilution only, you would end up with 57.1 ml of extended semen which is above the maximum volume of 50 recommended for insemination. Going above the critical volume is likely to result in increased retrograde flow of the semen and it being lost out the vagina.

Q: I want to use an AV to collect my National Champion Halter Stallion. I can't afford to buy a microscope this year and am planning to just dilute the semen 1:4 for fresh insemination (10 ml) and 1:10 for cooled insemination (25 ml). I have not used this stallion to breed mares. Will this work?

A: You can certainly collect the stallion with an AV. However, it is very risky to not be able to evaluate the semen or to do a concentration on the ejaculate. If everything goes perfect, you should get pregnancies.

Hormone manipulation

1. Describe why cycle manipulation is important- examples (entire class) From these answers, assign groups to describe how to manipulate
2. Describe how to accomplish early breeding
3. Describe how to short cycle mare Why?
4. Describe the control of ovulation
5. Describe how to abort mare
6. Describe the anestrual, transition and estrous cycles

Problem:

Q: I have a Quarter Horse Halter mare and would like to produce a foal for show. Could I use estrogens to bring her into heat early (February)? Can you help? David

A: Giving exogenous estrogens will induce the signs of estrus but will not induce oocyte maturation and ovulation. A better approach would be to put the mare on supplemental lighting in November.

Pregnancy Detection and Management

1. List the methods of pregnancy detection (age of detection, pros and cons)
2. Discuss the maternal recognition of pregnancy
3. Discuss fetal mobility and fixation
4. Discuss the management of twin pregnancy
5. List management concerns during pregnancy
6. Discuss fetal sexing-When, Why, How

Problem:

Q: The vet confirmed that my 7yr Arabian mare is pregnant at 25 days. She is not being ridden and is now at 120 days but has not gained any weight. Should I increase her grain intake? Should I have the vet do another preg check? Tiffany

A: It would not hurt to have another pregnancy check at this time. Your mare may still be pregnant without gaining any weight or looking pregnant until much later in the pregnancy.

Parturition and Foaling

1. List signs of Parturition and discuss signs and timing
2. List what owner should do in preparation of foaling
3. What equipment should you have available
4. List common foaling problems
5. List neonatal care
6. Discuss the timing of parturition

Problem:

Q: My mare was due 2 weeks ago. Her udder secretions are still clear. My vet says that we should not induce parturition but I want to go to South Padre Island for vacation next week. What should I do?

A: Be patient and wait for the foal. Re-book your vacation.

Cryopreservation and Insemination

1. List advantages and disadvantages of frozen semen
2. Discuss what you need to do at the cellular level to freeze sperm
3. List the steps in cryopreservation
4. Discuss storage and handling of frozen semen
5. Discuss proper insemination of frozen semen
6. Discuss fertility of frozen semen

Assisted Reproductive Techniques

1. List assisted reproductive techniques
2. List pros and cons of assisted reproductive techniques
3. Discuss steps in embryo transfer

Venereal Diseases and Pregnancy Losses

1. What is a venereal disease? List some
2. Discuss early pregnancy loss
3. List Intrinsic vs Extrinsic causes of early pregnancy loss
4. List common causes of Abortion
5. What are management issues to avoid abortions

Problem:

Q: I found an aborted fetus in the field this morning. I am not sure which mare lost the fetus (I have 6 pregnant mares). We just bought a new blood mare and didn't quarantine her. What should I do?

A: Call the vet. You must be concerned about a contagious disease i.e. Rhino. Have the vet examine the aborted fetus and determine which mare lost the pregnancy.

Sexual behavior and performance of the stallion

1. List factors that effect behavior and performance
2. What management practices will lead to impotence or abnormal behavior

Training the stallion to phantom

3. List what should be considered before starting training
4. What are some stallion handling guidelines
5. Describe procedure to train stallion