Directions: This quiz is worth 30 points. Read each question carefully. Put your name on the back; 2 points will be deducted if I find it on the front. Relax, you will do fine.

6 pts. 1. Define each of the following terms:

a. Animal breeding
   The application of scientific knowledge for the better improvement of animals

b. Heterozygous
   2 different alleles with both contributing to a trait but only one present in the phenotype
   i.e. H h

   at the same loci on homologous chromosomes

   c. Objective of animal breeding
   Breed the best to best to create a genetically superior animal and thereby creating a better product for the ultimate consumer

6 pts. 2. What are the four things a good identification system should provide for?

   ① Permanence
   ② Lots of information
   ③ Specificity for each animal (positive for each animal)
   ④ Economical

RESERVED
Pre Vet 00
Van Derwell
Fill in the blank.

2 pts. 3. The formation of gametes in higher plants and animals occurs through **meiosis** cell division.

2 pts. 4. The complete expression of an individual’s genotype is the **phenotype**.

2 pts. 5. Two chromosomes that contain identical loci for all traits are called **homologous**.

10 pts. 6. List the six areas with which you should have some understanding of in order to develop a selection program.

   1. Knowing and understanding pedigrees
   2. Understanding variation
   3. Understanding genetics
   4. Heritability values ($h^2$)
   5. Knowing performance records
   6. Understanding genetic correlations

Choose the correct answer.

2 pts 7. The main difference between mitosis and meiosis is:

   a. mitosis only occurs in plants.
   b. mitosis produces two cells with different genetic information.
   c. meiosis produces four daughter cells with exactly the same genetic information as the parent.
   d. meiosis produces four daughter cells with half the genetic information of the parent.

Are Vet 00
Van Derwell
20/30
AVS 222
Quiz 1
January 1999

Directions: This quiz is worth 30 points. Read each question carefully. Put your name on the back; 2 points will be deducted if I find it on the front. Relax, you will do fine.

6 pts. 1. Define each of the following terms:
   a. Animal breeding: The method of applying scientific knowledge to the improvement of animal genetics.

   b. Heterozygous: Having genes coding for different phenotypes on the same loci of homologous chromosomes.

   c. Objective of animal breeding: To increase the efficiency of production and quality of product for the ultimate consumer.

6 pts. 2. What are the four things a good identification system should provide for?
   Permanent, unique and positive to individual, economic, as much information as possible at a glance.

RESERVED
Pre Vet 00
Van Derwell
Fill in the blank.

2 pts. 3. The formation of gametes in higher plants and animals occurs through **mitotic** cell division.

2 pts. 4. The complete expression of an individual's genotype is the **phenotype**.

2 pts. 5. Two chromosomes that contain identical loci for all traits are called **homologous**.

10 pts 6. List the six areas with which you should have some understanding of in order to develop a selection program.

- Understanding of variation
- Know genotypes
- Know value of pedigree
- Understand heritability values ($h^2$)
- Understand genetic correlations
- Understand statistics (variation)

Choose the correct answer.

2 pts 7. The main difference between mitosis and meiosis is:

a. mitosis only occurs in plants.

b. mitosis produces two cells with different genetic information.

c. meiosis produces four daughter cells with exactly the same genetic information as the parent.

d. meiosis produces four daughter cells with half the genetic information of the parent.
AVS 222 - Reproduction
Quiz 1

PUT YOUR NAME ON THE BACK OF THIS PAGE. You have 10 minutes to complete this quiz.

1.) (3 pts) Name 3 individuals who have distinguished themselves in the study of reproductive biology and list their accomplishment(s).
   - **Rudolf Virchow:** Invented early Magnifying glass - allowed him to find "Animalcules" (sperm)
   - **Spallanzani:** Performed first Artificial Insemination on dog
   - **Dumas:** proved sperm to be the fertilizing agent

2.) (2 pts) What are two things that an understanding of reproductive biology allows you to do relative to reproductive rate or reproductive efficiency?
   - **Increase reproductive efficiency** (more productivity per litter)
   - **Increase reproductive rate** (help prolong pregnancy OK, limit repro. rate)

3.) (2 pts) In cattle, the estrous cycle is ___21___ days long, and gestation is approximately ___280___ days in length.

4.) (3 pts) List 3 components of the bovine female reproductive tract.
   - Uterus, Ovaries, Vagina

Bonus (1 pt): Give an early example of the use of biotechnology in the field of reproductive biology. **Anton van Leeuwenhoek:** Magnifying glass/microscope
AVS 222 - Reproduction  
Quiz 1

PUT YOUR NAME ON THE BACK OF THIS PAGE. You have 10 minutes to complete this quiz.

1.) (3 pts) Name 3 individuals who have distinguished themselves in the study of reproductive biology and list their accomplishment(s).
   1) Leeuwenhoek - developed the first lens (i.e. the first microscope) saw sperm
   2) Dumas - determined that it was sperm and ovum's fusion that caused fertilization
   3) Coster - found and described Corpus Luteum

2.) (2 pts) What are two things that an understanding of reproductive biology allows you to do relative to reproductive rate or reproductive efficiency?
   1) Human population control
   2) Control of pet population

3.) (2 pts) In cattle, the estrous cycle is _____21_____ days long, and gestation is approximately _____280_____ days in length.

4.) (3 pts) List 3 components of the bovine female reproductive tract.
   1) Ovaries
   2) Uterus
   3) Fallopian tubes (oviduct)

Bonus (1 pt): Give an early example of the use of biotechnology in the field of reproductive biology.

Be Vet 00
Vin Derwell