

## General Reproductive Hieroglyphics

### Uterine Edema

1. E> = Coming into estrus with beginning edema – faint to light uterine folds
2. E = Normal estrus edema – defined uterine folds: diced tomato/wagon wheel
3. E+ = Heavy edema – prominent rolling uterine folds: diced tomato/wagon wheel
4. <E = Departing edema – light uterine edema

### Ovarian Activity:

1. 0/45 = Left Ovary No Activity & Right Ovary has a 45 mm Follicle
2. 45/0 = Left Ovary has a 45 mm Follicle & Right Ovary has no activity

### Breeding Hieroglyphics

1. “B” = mare was bred that day
2. “S” = Sutured
3. “C” = Cultured
4. “OV” = Ovulated
5. ~S~ = Sutured Vulva or Castlick
6. P-OK = Palpated Pregnant
7. U-OK = Ultrasound Pregnant
8. PIT = Oxytocin
9. F<sub>2</sub><sup>∞</sup> = Prostaglandin

### Estrus Hieroglyphics

1. Use a “red” stamp pad and an pencil eraser to mark the days of standing heat
2. 35/45 E+ = 35 mm follicle on left ovary 45 mm follicle on right ovary - heavy edema

### Foaling Hieroglyphics

1. “F” = Foaled
2. “BC” = Bay Colt                      “BF” = Bay Filly
3. “ChC” = Chestnut Colt              “ChF” = Chestnut Filly
4. “RC” = Roan Colt                    “RF” = Roan Filly
5. “SC” = Sorrel Colt                   “SF” = Sorrel Filly
6. “BIC = Black Colt                    “BIF = Black Filly

### Embryo Transfer Hieroglyphics

1. ET = Embryo Transfer Candidate
2. FD = Flush Date
3. ET+ = Embryo Flush Positive
4. ET- = Embryo Flush Negative

## Normal Reproductive Glossary of Terms & Definitions

**Ovaries:** Egg-producing reproductive organs found in female organisms either of the two female reproductive organs that produce eggs and, in vertebrates, also produce the sex hormones estrogen and progesterone

**Follicle:** Sac like or pouch like depression or cavity that retains the ovum.

**Fallopian Tubes:** either of two narrow tubes through which a female mammal's eggs pass from either of the ovaries to the womb

**Uterus:** A hollow muscular organ in the pelvic cavity of female mammals, in which the embryo is nourished and develops before birth. The main function of the uterus is to accept a fertilized ovum which becomes implanted into the endometrium, and derives nourishment from blood vessels which develop exclusively for this purpose. The fertilized ovum becomes an embryo, develops into a fetus, and gestates until birth.

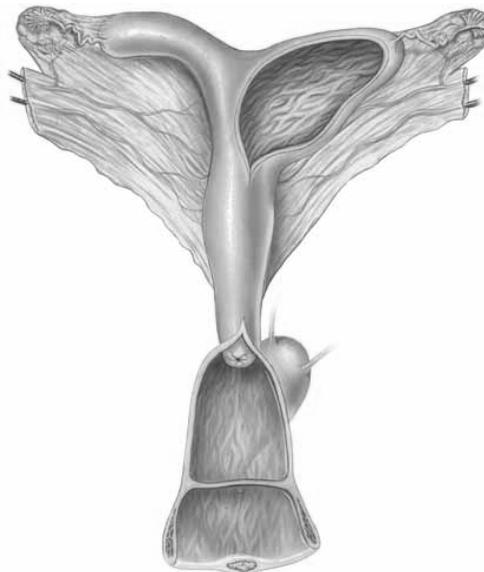
**Edema:** an abnormal buildup of serous fluid between tissue cells

**Ovulate:** to ripen and release an egg or eggs from the ovary for possible fertilization

**Corpus Hemorrhagicum:** An ovarian follicle containing blood due to the rupture of the egg from the follicle thus causing the follicular sac to fill with blood from a ruptured and/or ovulated egg.

**Corpus Luteum (CL):** The **corpus luteum** (Latin for "yellow body") is a small, temporary endocrine structure in animals. It develops from an ovarian follicle during the luteal phase of the estrous cycle, following the release of a mature egg from the follicle during ovulation. While the egg traverses the Fallopian tube into the uterus, the corpus luteum remains in the ovary.

**Concepts:** An embryo or fetus along with all the tissues that surround it throughout pregnancy, including the placenta, amniotic sac and fluid, and the umbilical cord



## General Breeding Principles – Maiden & Barren Mares

### Uterine Edema

With the use of an ultrasound, it has become much easier to identify and manage the estrus cycle of a broodmare. Beginning at day 12 using a 7.5 MHz ultrasound probe, one can begin to see the accumulation of uterine edema which most of the time is indicative that conception will be difficult to maintain a pregnancy in a uterine environment that is not conditionally acceptable. Most ultrasounds utilize a 5.0 MHz probe which edema can begin to be seen at day 14 – 15 post ovulation. With this in mind, by following the accumulation and/or building of edema to where aggressive uterine folds are present one will be able to pin point the best time suited for H.C.G. and/or Deslorelin.

#### Aggressive Uterine Folds = E+

1. Ultrasonic views as a diced tomato or spokes of a wagon wheel.
2. When these edemas folds are present ovulation is normally within 36 to 48 hours
3. When these edemas folds are present, this is the optimum period to administer
  - a. H.C.G.
  - b. Deslorelin
  - c. Oxytocin
  - d. Eqstim Immune Stimulation

#### Regressive Uterine Folds = E<

1. Ultrasonic views as a uniform homogeneous look that a uterus would have post ovulation.
2. When this view is present, ovulation is normally within 6 to 18 hours
3. When this view is present, this is the optimum period to inseminate and administer
  - a. Oxytocin
    - i. Maiden Mares:
      1. 2 hours post insemination
    - ii. Older Mares:
      1. 2 hours pre-insemination
      2. 2 hours post insemination

#### Regumate<sup>®</sup>: When to use

1. Maintain pregnancy
2. Keeps cervix clamped shut
3. Set up mares for cycling

#### Regumate<sup>®</sup>: Setting up a cycle – Transitional Anestrus

1. Mares must have little or preferably no edema
2. Must have multiple 20+ mm follicles on ovaries
3. Place on Regumate for 10 days
4. Day 10 scan each mare and administer Prostin accordingly
5. Check reproductive activity beginning in 4 days

## General Breeding Principles – Post Partum Mares

### Foal Heat Breeding

1. Day 2 post partum: Begin 1 ml Oxytocin BID to induce uterine involution
2. Day 4 post partum: Begin 1.5 ml Oxytocin BID to induce uterine involution
3. Day 8 post partum: Ultrasound for ovarian activity as well as analysis of uterine involution
4. Continue 1.5 ml Oxytocin BID through foal heat ovulation
5. Oxytocin can be given orally to prevent becoming timid to needles – add ½ mL to recommended dose.

### Short cycle Foal Heat

1. Day 6 post marked ovulation, ultrasound for follicular activity and administer 2 ml of Lutalase
2. If follicular activity is present upon – check 2 days post Prostin
3. No follicular activity – check 4 days post Prostin
4. Follow uterine edema and follicular activity through estrus cycle.

### H.C.G. (Human Chorionic Gonadotropin) /Deslorelin

1. Only administer when uterus is in full edema
  - a. If not given during maximum uterine edema the drug will not function well
2. H.C.G. or Deslorelin required 24 to 36 hours to maturate the dominate follicle(s)
3. Breed 18 to 24 hours depending upon the regression of the uterine edema.
  - a. Insemination should only occur when edema is reduced to moderate or less.

### Oxytocin

#### Post Partum

1. Day 2 post partum: Begin 1 ml Oxytocin BID to induce uterine involution
2. Day 4 post partum: Begin 1.5 ml Oxytocin BID to induce uterine involution

#### Pre & Post Breeding

1. 1 ml 2 hours prior to insemination
2. 1 ml 2 hours post insemination

### Eqstim/Settle Immune Support

#### Pre Breeding Tool

1. An excellent way to enhance the immunity from a breeding insult – the body rejects semen as if it was an insult to the immune system.
2. Administer along with the H.C.G. or Deslorelin to boost defensive mechanism from the invasion of semen into the uterine body
3. Works as an excellent tool with maiden mares