

## **Advanced Equine Reproduction Course**

by

Jonathan Stout and William B. Ley

### **The use of progesterone plus estrogen (P+E) or Altrenogest (A) alone to alter stallion aggressive behavior.**

There is not much published on altering stallion behavior with hormone therapy. Using either method (P+E, A) would tend to produce the same results in behavior. The difference in the two choices is the addition of estrogen with the P+E. Estrogen will have an effect on spermatogenesis in a fertile stallion. Estrogen has a negative feedback to the anterior pituitary and the hypothalamus in the brain. This negative feedback decreases gonadotrophin releasing hormone (GnRH) release from the hypothalamus, which stimulates the anterior pituitary to produce luteinizing hormone (LH) and follicle stimulating hormone (FSH). The negative feedback decreases LH production and release from the anterior pituitary, which stimulates the testicular leydig cells to produce testosterone and estrogen. The effects of estrogen therapy will decrease sperm production and may possibly induce testicular atrophy or degeneration. Progesterone has the possibility to decrease or modulate the effects of the estrogen. The use of progesterone has suppressed the release of estrogen from the leydig cell.

The use of progesterone alone (Regumate, altrenogest, is a synthetic orally administered progestin) has reduced sexually aggressive behavior. Two studies done with Regumate on breeding stallions have been shown to diminish the aggressive behavior of the stallion, but have also produced side effects. In both studies Regumate

decreased the estrogen, testosterone, LH, and inhibin blood levels. Study on young stallion given twice the label dose produced decreased daily sperm output, decreased scrotal circumference, increased luminal diameters and a disorganized appearance in many seminiferous tubules, and increased spermatozoa abnormalities. The use of label dose on older stallions resulted in latency to first mount, and total time required to obtain an ejaculate were decreased thirty days following cessation of treatment, and these then returned to pretreatment values by sixty days following cessation of treatment.

There has not been enough study on the use of progesterone and estrogens in controlling stallion aggressive behavior. There are no long-term studies to show if there are any persisting adverse effects for the stallions. The best recommendation to give a client is to start early training and break undesirable aggressive behaviors before they start.

#### References:

Brady, Heidi: Effects of Oral Alternogest on Testicular Parameters, Steroidal Profiles, and Seminal Characteristics in Young Stallions. AAEP Proceedings 1997 vol. 43 page 195

Miller, Corey: Effects of Alternogest on Behavior and Reproductive Function of Stallions. AAEP Proceedings 1997 vol. 43 page 197.

Adams, Richard: Veterinary Pharmacology and Therapeutics 7<sup>th</sup> edition. Page 586