Induction of Ovulation in Seasonally Anestrous Mares Using Recombinant Equine Follicle-Stimulating Hormone

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Administration of recombinant equine follicle-stimulating hormone was effective in stimulating development of follicles and advancing the first ovulation of the year in anestrous mares under ambient lighting conditions. Authors’ addresses: University of California, One Shields Avenue, Davis, CA 95616 (Roser, Meyers-Brown, Claes, Morganti); University of Kentucky, 1400 Nicholasville Road, Lexington, KY 40546 (Troedsson, Klein); Colorado State University, 3103 Rampart Road, Fort Collins, CO 80521 (McCue, Ferris); AspenBio Pharma, Inc., 1585 South Perry Street, Castle Rock, CO 80104 (Colgin, Wetzel, Peters); e-mail: jfroser@ucdavis.edu. *Corresponding author; **Presenting author © 2011 AAEP.

1. Introduction
The aim of the study was to determine the efficacy of recombinant equine follicle stimulating hormone (reFSH) in stimulating follicular development and advancing the first ovulation of the year in seasonally anestrous mares under ambient lighting conditions.

2. Materials and Methods
Sixty university-owned anestrous mares, maintained under natural lighting conditions, were randomly allocated to group A or B. All were examined by transrectal ultrasound to confirm that all ovarian follicles were ≤20 mm in diameter. Starting on January 31, group A mares received twice-daily IM injections of 0.65 mg reFSH in 1.3 mL PBS and group B received 1.3 mL PBS IM as negative control. Treatments were blinded, and subsequent follicular development was closely monitored by ultrasound. When the largest follicle reached ≥35 mm, reFSH treatment was discontinued and 2500 IU human chorionic gonadotropin (hCG) was injected IV 36 hours later to induce ovulation.

3. Results
All 30 mares receiving reFSH developed follicles ≥35 mm within 7.4 ± 1.6 days of treatment. Twenty-three of the 30 reFSH-treated mares ovulated...
within 72 hours after human chorionic gonadotropin (hCG) administration. In contrast, mares in group B (placebo treatment) did not exhibit significant follicular development, and none ovulated during the 15-day observation period.

4. Discussion
These data indicate that reFSH was effective in stimulating development of ovarian follicles and advancing the first ovulation of the year in seasonally anestrous mares under ambient lighting conditions. This product is not yet commercially available.

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