

### 032 Use of Triptorelin Acetate for Inducing Ovulation and Facilitating Fixed Time Artificial Insemination of Sows Weaned on Small-Scale and Niche Market Pig Farms.

A. J. Fabi<sup>\*1</sup>, K. A. Williams<sup>2</sup>, M. J. Estienne<sup>2</sup>

<sup>1</sup>Virginia Tech, Blacksburg, <sup>2</sup>Virginia Tech Tidewater AREC, Suffolk.

Developing a single fixed-time artificial insemination (FTAI) protocol would benefit small-scale and niche market pork producers by decreasing semen costs and labor associated with detection of estrus. The objective of this study was to test the efficacy of an AI breeding system using triptorelin acetate, a GnRH agonist (OvuGel; JBS United Animal Health, LLC, Sheridan, IN) that induces ovulation. A total of 92 sows (parity,  $3.5 \pm 0.2$ ; BCS,  $2.5 \pm 0.08$ ) were weaned (h 0) after a  $25.0 \pm 0.6$  d lactation on five participating small pig farms and allocated to one of four treatment groups: 1) OvuGel applied intravaginally at h 96 and AI at h 120 (n = 23); 2) P.G. 600 (400 IU eCG and 200 IU hCG, Merck Animal Health, Inc., De Sota, KS) applied i.m. at weaning, OvuGel at h 96 and AI at h 120 (n = 23); 3) AI at 0 and 24 h after first detection of estrus (n = 23); and 4) P.G. 600 at weaning, and AI at 0 and 24 h after onset of estrus (n = 23). Treatments 1 and 2 were FTAI protocols with sows being inseminated without regards to estrus onset. Treatments 3 and 4 were consistent with current industry AI practices. The proportion of females displaying estrus by day 7 post-weaning was greater ( $P = 0.02$ ) for sows that received OvuGel ( $93.9 \pm 0.07\%$ ) compared to sows that did not ( $81.0 \pm 0.07\%$ ). There were no effects ( $P > 0.05$ ) of P.G. 600 or P.G. 600 x OvuGel on females displaying estrus by day 7. Weaning to estrus interval was decreased ( $P = 0.04$ ) for sows that received P.G. 600 ( $4.9 \pm 0.4$  d) compared to sows that did not ( $5.4 \pm 0.4$  d). There were no effects ( $P > 0.05$ ) of OvuGel or P.G. 600 x OvuGel on the weaning-to-estrus interval. There were no effects of P.G. 600, OvuGel or P.G. 600 x OvuGel ( $P > 0.1$ ) on pregnancy rate (59%), total litter size (11.8), born live (10.8), or born dead (0.9). These results suggest that FTAI protocols may be employed on small-scale pig farms without compromising reproductive performance.

**Keywords:** Triptorelin Acetate, Artificial Insemination, Sows

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### 033 Effect of Supplementation Method on Protein Supplement Intake and Performance of Individual Beef Steers Grazing Native Range.

G. D. Williams<sup>\*</sup>, M. R. Beck, L. R. Thompson, G. W. Horn, R. Reuter

Oklahoma State University, Stillwater.

The objective of this study was to determine the effects of supplementation method (hand-fed 3 days per week vs. ad libitum access) on protein supplement intake and performance of beef steers grazing dormant native range. The experiment was conducted for 56 days in late winter in central Oklahoma. Cross-bred steers (n = 40; BW =  $242.6 \pm 7.2$  kg) grazed dormant native range pastures and were randomly assigned to one of two supplementation methods: 1) hand-fed (HF) or 2) self-fed (SF). Both treatments received a protein supplement consisting of 80% soybean meal, 20% soybean hulls (TDN = 76.6 %, CP = 43.9 %; DM basis). In the HF treatment, steers received either 0, 0.39, 0.78, 1.17, or 1.56 kg per day, fed 3 days per week in individual stanchions. Eight steers were chosen at random to receive 0 kg of supplement per day and four were assigned to the remaining HF supplementation amounts. The remaining 16 steers were assigned to the SF group, and received supplement via the SmartFeed system (C-Lock Inc., Rapid City, South Dakota). The SmartFeed is a portable, self-contained system designed to measure individual feed intake. Supplement was available ad libitum, but salt was added to the supplement until mean SF supplement intake approximated mean HF intake (approximately 1 kg per d). Intake of supplement in SF ranged from 0 to 1.42 kg per steer per day. Average daily gain was regressed on supplement intake and supplementation method. At greater supplement intakes, intake improved ADG more in HF than in SF (interaction  $P = 0.04$ ). In production systems with more than minimal supplement requirements, directly managing supplementation may be more efficient than relying on traditional, salt-based intake-limiting approaches.

**Keywords:** SmartFeed, hand-fed, self-fed

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### 034 Effect of Creep Feeding on Meat Goat Kid Traits at Weaning.

E. G. Hayes<sup>\*1</sup>, R. V. Lourençon<sup>2</sup>, P. Khanal<sup>1</sup>, R. Browning, Jr.<sup>1</sup>

<sup>1</sup>Tennessee State University, Nashville, <sup>2</sup>Universidade Estadual Paulista, Botucatu, Brazil.

The purpose of this three year study was to observe the effects of creep feeding on the growth, survivability, conformation score, market value and FAMACHA scores for 509 spring born kids. Straightbred Savanna (n = 10), Kiko (n = 8), Spanish (n = 8) and Myotonic (n = 3) bucks were bred to straight-

bred and crossbred does ( $n = 168$ ). At 30 d, kids were split into two contemporary groups (creep and non-creep). Their 30-d and 90-d (weaning) weights were recorded and the ADG was calculated from 30 d to 90 d. Conformation scores were assigned by USDA graders, and market values were calculated using local market prices around the date of weaning. FAMACHA was recorded at weaning. The effects of treatment, sire breed, doe breed, doe age, kid sex, and litter size were analyzed as sources of variation. Sire breed, doe breed, doe age, litter size, and kid sex affected ( $P < 0.05$ ) 30-d weights. Creep and non-creep fed kids had similar ( $P > 0.05$ ) 30-d weights. Doe breed, doe age, litter size and kid sex affected ( $P < 0.05$ ) weaning weight and ADG. The creep fed kids were heavier ( $P < 0.05$ ) at weaning ( $16.11 \pm 0.6$  vs.  $15.28 \pm 0.6$  kg) and had higher ADG ( $0.13 \pm 0.01$  vs.  $0.12 \pm 0.01$  kg) when compared with the non-creep kids. Sire breed, treatment x sire breed, doe breed, and treatment x doe breed had an effect ( $P < 0.05$ ) on kid survival rate from birth to weaning. Creep feed did not affect ( $P > 0.05$ ) kid survival rate. Sire breed, litter size and kid sex affected ( $P < 0.05$ ) conformation score. Creep feed did not affect ( $P > 0.05$ ) conformation score. Doe breed, doe age, litter size, and kid sex affected ( $P < 0.05$ ) the market value. Creep kids had higher values ( $P < 0.05$ ) than non-creep kids at market ( $\$58.12 \pm 2.35$  vs.  $\$54.92 \pm 2.31$ ). The weighted average cost of creep feed per kid was \$2.00. Sire breed, litter size, and treatment x litter size affected ( $P < 0.05$ ) the FAMACHA score. FAMACHA scores of creep fed kids were lower (better;  $P < 0.05$ ) than non-creep kids ( $1.16 \pm 0.08$  vs.  $1.24 \pm 0.08$ ). Creep feeding was shown to be beneficial for kid performance under the prevailing study conditions.

**Keywords:** Creep Feed, Kid Performance, Meat Goat  
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### 035 Effects of Moxidectin/Oxfendazole and Long-Acting Eprinomectin Treatment on Fecal Egg Counts and Performance in Newly Received Stocker Calves.

A. C. Lewis<sup>1</sup>, E. A. Watson<sup>1</sup>, A. L. Sonntag<sup>1</sup>,  
K. E. Kasten<sup>1</sup>, B. Papajeski<sup>2</sup>, J. C. Robertson<sup>1</sup>,  
E. A. Backes<sup>3</sup>, C. A. Porr<sup>1</sup>, A. J. Davis<sup>1</sup>

<sup>1</sup>Murray State University, Hutson School of Agriculture, Animal/Equine Science, Murray, KY, <sup>2</sup>Murray State University, Hutson School of Agriculture, Breathitt Veterinary Center, Murray, KY, <sup>3</sup>Purina Animal Nutrition, LLC, Gray Summit, MO.

The objectives of this study were to evaluate effects of various anthelmintic treatments on fecal egg counts (FEC) and performance of newly received stocker calves. Upon arrival to the Murray State University Beef Unit, steers ( $n = 66$ ) were allowed a 7 d adjustment period prior to allocation of treatment. Steers were randomly allocated to treatment based on BW ( $296.41 \pm 23.67$  kg) and FEC (13.67 eggs/gram; EPG). Treatments included: control ( $n = 10$ ; no anthelmintic administration; CON); moxidectin/oxfendazole combination ( $n = 28$ ;

COMBO); and long-acting eprinomectin ( $n = 28$ ; LAE). Steers were comingled and grazed mixed grass pastures with rotation based on forage availability. Paddock size ranged from 0.40 to 0.81-ha with an average stocking density of 47,255.4 kg/ha. Fecal samples, BW, BCS, and hair coat scores (HCS) were collected on d 0, 13, 27, 56, 90, and 101. Fly counts were performed from an all-terrain vehicle while steers grazed on d 14, 31, 61, 91, and 100. Statistical analysis was performed using the MIXED procedure of SAS (experimental unit = steer, repeated measure = day). Two preplanned orthogonal contrasts were used to evaluate effects and included comparisons of: 1) CON vs treated steers; and 2) COMBO vs LAE steers. Controls differed from treated steers for EPG ( $P = 0.05$ ) and LAE steers differed from COMBO steers ( $P < 0.01$ ). A treatment  $\times$  d interaction ( $P < 0.01$ ) was detected for EPG. The highest EPG were observed in the COMBO steers on d 101, 90, 56 (62.57, 47.34, and 44.73 EPG, respectively) with the fewest EPG observed on d 13 (COMBO = 1.56, LAE = 2.02 EPG). Body weight and ADG were similar between treatments throughout the study ( $P > 0.09$ ) except for ADG from d 13 to 27, in which CON steers exhibited a higher ADG ( $P = 0.04$ ) compared to treated steers (1.03 vs 0.24). Greater ( $P = 0.06$ ) BCS were observed for CON versus treated steers on d 27 (5.5 vs 5, respectively); however, BCS were similar ( $P > 0.1$ ) throughout the rest of the study. Fly counts were not affected ( $P = 0.78$ ) by treatment, but were affected ( $P < 0.01$ ) by d with the highest fly counts occurring on d 100 and the fewest flies on d 31 (19.49 and 6.14, respectively). Data suggest anthelmintic use may reduce FEC without improving performance in stocker calves under management intensive grazing systems.

**Keywords:** performance, long-acting eprinomectin, moxidectin/oxfendazole  
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### 036 Effect of Acute or Chronic Water Restriction on Hematological Variables, Rectal Temperature and Performance in Parenteral or Intranasal Modified-Live Viral Vaccinated Beef Calves.

E. L. Kaufman<sup>1</sup>, P. A. Beck<sup>2</sup>, S. L. Roberts<sup>1</sup>,  
J. T. Richeson<sup>1</sup>

<sup>1</sup>West Texas A&M University, Canyon, <sup>2</sup>University of Arkansas, Hope.

The study objective was to determine if acute or chronic water restriction affected hematology or performance in beef calves with parenteral or intranasal vaccination. A total of 60 crossbred beef steer ( $n = 28$ ) and heifer ( $n = 32$ ) calves were used. On d -7, calves within sex were assigned randomly to 1 of 6 treatments arranged in a  $3 \times 2$  factorial. Water restriction treatments (Factor A) were applied at the origin ranch via 3 different models: A<sub>1</sub>) Control, no water restriction except during transport to the feedlot (CON), A<sub>2</sub>) Acute, consisting of 48 h water restriction prior to transport to the feedlot (ACU), or A<sub>3</sub>) Chronic, consisting of alternating 24 h periods of water access

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