371 Evaluation of parasite resistance in cattle treated with extended-release eprinomectin (LongRange). Cody R. Dawson[1], Mareah J. Volk[2], Frank A. Ireland[2], Keela M. Trennepohl[1], Joshua C. McCann[2], Daniel W. Shike[2], [1]*Western Illinois University,* [2]*University of Illinois*

The objective was to determine parasite resistance in cattle treated with extended-release eprinomectin (LongRange) from a herd with 3 years of prior eprinomectin use. Fall-born Angus x Simmental heifers (224 ± 22 d of age) were randomly assigned 1 of 3 treatments: LongRange (LR; n = 21), LongRange and Synanthic (COMBO; n = 21), or saline-treated control (CON; n = 21). At trial initiation, all heifers were administered treatments according to label instructions. All heifers grazed endophyte-infected tall fescue in groups (n = 3 per treatment) and supplemented daily modified wet distillers grain (0.91 kg as fed per heifer) and soybean hulls (0.91 kg as fed per heifer). Prior to trial initiation and monthly thereafter, BW, packed cell volume (PCV), and fecal egg counts (FEC) were determined. There was a treatment × date interaction ($P = 0.001$) for fecal eggs counts. There were no differences ($P \geq 0.53$) in the FEC in May or June. In July and August, the LR and COMBO heifers had decreased ($P < 0.01$) FEC compared with CON. By September there were no differences ($P = 0.84$) in FEC. At d 28, there was no difference ($P \geq 0.44$) in FEC reduction between LR (91% FEC reduction) and COMBO (98% FEC reduction). There was no treatment or treatment × date interaction ($P \geq 0.34$) for PCV. There was a treatment × date interaction ($P = 0.01$) for BW. There were no differences ($P \geq 0.16$) in BW during May, June, and July. In August the LR and COMBO heifers tended ($P = 0.09$) to have greater BW than CON. In September and October, the LR and COMBO heifers had a greater ($P \leq 0.01$) BW than CON heifers. Parasite resistance to extended-release eprinomectin was not observed based on FEC reduction tests and similar BW of LR and COMBO heifers.

Key words: beef cattle, eprinomectin, parasite resistance

POSTERS

ANIMAL BEHAVIOR, HOUSING, & WELL-BEING

PSV-3 Effects of space allowance and marketing strategy on growth performance of pigs raised to heavy market weights. Annie B. Lerner[1], Mike D. Tokach[1], Joel M. DeRouchey[1], Steve S. Dritz[1], Robert D. Goodband[1], Travis G. O'Quinn[1], John M. Gonzalez[1], Emily A. Rice[1], Matt W. Allerson[2], Hannah E. Price[3], Dustin D. Boler[3], Anna C. Dilger[3], Steven D. Shackelford[4], Brandon Fields[5], Jason C. Woodworth[1], [1]*Kansas State University,* [2]*Holden Farms Inc.,* [3]*University of Illinois - Urbana-Champaign,* [4]*USDA, Meat Animal Research Center,* [5]*Pig Improvement Company, Inc.*

A total of 976 pigs (PIC 327×L42, initially 22 ± 1.5 kg BW) were used in a 160-d study to determine the influence of space allowance and marketing strategy on performance of pigs raised to heavy market weights (165 kg). Pens were blocked by location and allotted to 1 of 6 treatments with 8 pens/treatment. The first four treatments reduced space allowance/pig via initial pen stocking density: 14 pigs/pen (1.20 m^2/pig), 17 pigs/pen (0.98 m^2/pig), 20 pigs/pen (0.84 m^2/pig), or 23 pigs/pen (0.73 m^2/pig). The fifth treatment began with 25 pigs/pen (0.67 m^2/pig) and the heaviest 3 pigs/pen were removed on d 93, then on d 122 pens were marketed to a common inventory of 20 pigs/pen, and on d 147 marketed to a common pen inventory of 17 pigs/pen. The sixth treatment began with 23 pigs/pen (0.73 m^2/pig) and were marketed to a common inventory of 20 pigs/pen on d 108 and marketed to a common inventory of 17 pigs/pen on d 147. Data were analyzed using PROC GLIMMIX with pen as the experimental unit. Overall (d 0 to 160) ADG, ADFI, and final BW decreased (linear, $P < 0.001$) and G:F increased (quadratic, $P = 0.042$) as space allowance decreased. When comparing treatments with multiple marketing events (treatments 5 and 6) to treatment 4, there was no evidence for differences ($P > 0.05$) for overall ADG or ADFI; however, overall G:F was improved ($P < 0.05$) for pigs initially stocked at 0.67 m^2/pig and marketed four times compared to both treatments that initially allowed 0.73 m^2/pig, regardless of marketing structure. These results indicate that decreasing space allowance of heavy weight pigs reduces growth, feed intake and final BW, although use of multiple marketing events prior to final marketing may allow for increased number of pigs marketed/pen while balancing reduced growth performance often associated with increased stocking density. http://www.conferenceharvester.com/

Table 1. Effects of space allowance and marketing strategy on growth performance of pigs raised to heavy market weights

	Treatment							Probability, *P*=
Initial floor space, m^2/pig:	1.20	0.98	0.84	0.73	0.67	0.73		Fixed inventory floor space[3]
Final floor space, m^2/pig:	1.20	0.98	0.84	0.73	0.98	0.98		
Initial pigs/pen:	14	17	20	23	25	23		
Marketing events:	1	1	1	1	4	3	SEM	Linear
BW, kg								
d 0	22.2	22.1	22.2	22.2	21.8	21.9	0.57	0.994
d 160	171.1	167.2	165.5	162.6	160.3	161.7	1.59	0.001
d 0 to 160								
ADG, kg	0.93	0.90	0.89	0.87	0.89	0.88	0.008	0.001
ADFI, kg	2.81	2.68	2.64	2.62	2.56	2.59	0.031	0.001
G:F[a]	0.329	0.335	0.336	0.333[b]	0.348[c]	0.340[d]	0.0023	0.096

[a]Quadratic effect of floor space with fixed inventory, P=0.042.
[bcd]Means with different superscripts differ $P<0.05$.

Key words: heavy weight pigs, marketing strategy, space requirements

PSV-4 Effect of drying and/or warming piglets at birth on rectal temperature over the first 24 hours after birth. Katherine D. Vande Pol[1], Naomi Cooper[1], Andres Tolosa[1], Michael Ellis[1], Caleb M. Shull[2], Katie Brown[2], Stephan Alencar[3], *[1]University of Illinois, [2]The Maschhoffs, [3]Doutorando na Universidade Federal de Mato Grosso do Sul*

Newborn piglets experience a rapid decrease in body temperature, increasing the risk of mortality. The objective of this study was to determine the effect of drying and/or warming at birth on piglet rectal temperature over 24 h after birth. The study was carried out at a commercial sow facility using a CRD with 4 treatments: Control (no drying or warming of piglets), Drying (piglets dried at birth using a cellulose-based desiccant), Warming (piglets placed in a box under a heat lamp for 30 min after birth), and Drying+Warming (piglets dried and warmed as above). Piglets were identified with a numbered ear tag. They were weighed at birth and rectal temperature was measured at 0, 10, 20, 30, 45, 60, 120, and 1440 min (24 h) after birth. Sows and litters were randomly allotted at birth to treatments. Data were analyzed using a repeated measures model with PROC MIXED of SAS. Litter was the experimental unit and piglet was a subsample of the litter; the model included the fixed effects of treatment and repeated time, and the interaction. Rectal temperature at birth was similar ($P > 0.05$) for all treatments. Subsequently, piglets on the Drying and Warming treatments had similar ($P > 0.05$) temperatures, which were greater (P 0.05) than the Control at all measurement times up to 120 min. Drying+Warming resulted in the highest ($P < 0.05$) rectal temperature overall and at most times of measurement between 10 and 120 min. Rectal temperatures were similar for all treatment at 24 h after birth. In conclusion, drying and/or warming piglets at birth significantly increased rectal temperatures between 10 and 120 minutes after birth with the combination of the two having the greatest effect. This research was funded by the National Pork Board.

Least-squares means for the effect of piglet drying treatment on the rectal temperature of piglets over the first 24 h after birth.

	Treatment					
Item.	Control	Drying	Warming	Drying+Warming	SEM	*P*-value
Number of litters	17	17	17	17	-	-
Number of piglets	226	209	214	217	-	-
Piglet birth weight, kg	1.46	1.46	1.45	1.44	-	-
Rectal temperature, min after birth						
0	38.8	38.8	38.8	38.8	0.07	0.99
10	36.4[c]	36.9[b]	37.1[ab]	37.4[a]	0.07	<0.0001
20	35.1[c]	36.6[b]	36.8[b]	37.6[a]	0.07	<0.0001
30	34.6[c]	36.8[b]	36.9[b]	37.9[a]	0.07	<0.0001
45	34.8[c]	37.2[b]	36.9[b]	38.0[a]	0.07	<0.0001
60	35.2[c]	37.7[b]	37.3[b]	38.2[a]	0.07	<0.0001
120	37.1[c]	38.2[ab]	38.0[b]	38.4[a]	0.07	<0.0001
1440	38.5	38.5	38.5	38.6	0.08	0.82
Overall	36.3[c]	37.6[b]	37.6[b]	38.1[a]	0.05	<0.0001

[a,b,c.] Means with differing superscripts differ at $P \leq 0.05$.

Key words: piglet temperature, rectal temperature, piglet drying