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SYMPOSIA AND ORAL SESSIONS

Extension—Swine

73 Effectiveness of the National Swine Nutrition Guide educational initiative in enhancing pork industry professionals' understanding of nutrition. R. C. Thaler*[1], M. S. Carlson[2], S. D. Carter[3], G. Dahlke[4], J. M. DeRouchey[5], D. J. Meisinger[6], J. F. Patience[4], D. E. Reese[7], B. T. Richert[8], E. vanHeugten[9], and M. H. Whitney[10], *[1]South Dakota State University, Brookings, [2]University of Missouri, Columbia, [3]Oklahoma State University, Stillwater, [4]Iowa State University, Ames, [5]Kansas State University, Manhattan, [6]US Pork Center of Excellence, Ames, IA, [7]University of Nebraska, Lincoln, [8]Purdue University, West Lafayette, IN, [9]North Carolina State University, Raleigh, [10]University of Minnesota, Mankato.*

The National Swine Nutrition Guide (NSNG) is a comprehensive education and extension effort by 9 faculty from Land Grant universities, the US Pork Center of Excellence and the United Soybean Board. The purpose of the NSNG is to provide practical, science-based feeding and nutrition information to US pork producers and their advisors to enhance their competitiveness. The NSNG book consists of 35 swine nutrition and management factsheets, a booklet containing the nutrient recommendation tables, and a diet formulation and evaluation software. Following its development, 9 training sessions on the NSNG and the diet formulation program were held across the US. A total of 265 people from 18 states, Canada and Japan, representing or influencing over 1,864,800 sows and 48,798,000 market swine (over 40% of the 2009 US annual production) attended the meetings. An exit survey completed by 58% of the participants revealed that 90% agreed or strongly agreed that the NSNG will be a useful tool for producers, university faculty, nutritionists, and industry professionals, 76% agreed or strongly agreed that the NSNG diet formulation program will be a useful tool for the swine industry, and 85% agreed or strongly agreed that the NSNG training session was beneficial. The NSNG training sessions resulted in a change to modern formulation strategies such as SID amino acids and available P by 45 and 82% of attendees, respectively, which will result in more cost effective and environmentally responsible swine production. Nutritionists (36%), graduate students (27%), and university faculty (12.4%) were the top groups responding to the survey. A follow-up webinar was held after the 8 training sessions were completed to address any questions that may have surfaced after the training sessions. Over 500 copies of the NSNG have been sold, and it is currently being translated into Mandarin for sale into China. The NSNG has proven to be highly effective in improving pork industry professionals' knowledge on the latest technologies in swine nutrition and management through Extension specialist collaboration.

Key Words: swine, nutrition, training

74 Effects on performance characteristics of immunologically castrated male pigs using different levels of lysine in the diets. S. S. Dritz*[1], M. D. Tokach[1], R. D. Goodband[1], J. M. DeRouchey[1], J. L. Nelssen[1], D. M. Meeuwse[2], V. L. King[2], Pl L. Runnels[2], and J. P. Crane[2], *[1]Kansas State University, Manhattan, [2]Pfizer Animal Health, Kalamazoo, MI.*

In global swine production systems where immunological castration is used to control boar taint, pigs physiologically function as entire males for a large portion of their lives and then transition to become more like a castrate after immunization. Historically, most studies which have compared the performance of immunologically castrated (IC) males with physical castrates or intact boars have used the same diet (usually barrow diet) with equal levels of lysine. Therefore, the lysine requirement of IC male pigs is not known. The objective of this study was to determine the effect on performance characteristics of IC male pigs using different levels of lysine in the diets. Male pigs (n = 1174) were raised in a commercial finisher and randomly assigned to 6 treatment groups: physical castrates (barrows) fed a standard lysine level diet for barrows (T01), IC pigs fed a standard lysine level for barrows (T02), IC pigs fed a medium low lysine diet (T03), IC pigs fed a medium high lysine diet (T04), IC pigs fed a high lysine diet (T05) and intact males fed a standard lysine level for intact males (T06). The lysine level fed to groups T01 and T02 were the same as were the lysine levels fed to groups T05 and T06. Pigs were housed approximately 25 to the pen with 8 pens per treatment group. Pen was the experimental unit. The 160 d feeding period was divided into 5 phases: nursery [Day 0 (weaning) to Day 55], grower (Day 55 to 76), developer, (Day 76 to 94), finish 1 (Day 94 to 122) and finish 2 (Day 122 to 160). Gonadotropin-releasing factor conjugate (IMPROVEST; Pfizer Animal Health) was administered via subcutaneous injection to groups T02, T03, T04 and T05 on Days 94 and 122. Pigs were commercially harvested on Day 162, 163 and 177. The average daily gain (ADG) of T04 pigs (0.79 kg) was significantly ($P < 0.05$) greater than that of T01 (0.75 kg) and not different ($P > 0.05$) from T06 (0.78 kg). Furthermore, the feed conversion efficiency (FE) of T04 pigs (2.41 kg feed/kg gain) was significantly ($P < 0.05$) better than that of T01 pigs (2.66 kg feed/kg gain) and not different ($P > 0.05$) from that of T06 (2.24 kg feed/kg gain). The medium-high lysine diet (T04) provided the best combination of ADG and FE within the IC male groups, also carcass quality and % carcass lean.

Key Words: performance, immunological castration, lysine