IL-1β. Moreover, the expression of TLR4, Myd88, and IKKβ phosphyorlation were enhanced by antibiotics use, suggesting the activation of TLR4 signaling pathway. However, Actigen supplemented diet had no effect on the TLR4 signaling pathway. In conclusion, compared with the control and antibiotics groups, Actigen supplemented diet had the similar or improved effects on growth performance, intestinal barrier functions and inflammation in weaned piglets.

**Key Words:** Actigen, intestinal barrier functions and inflammation, weaned piglets

**PSXIII-26** **Are consumers' culinary skills related to their purchasing attitudes towards pork?** Imma Argemí-Armengol[1], Daniel Villalba[2], Guillermo Ripoll[3], Alfredo Teixeira[4], María Ángeles Latorre[5], Javier Álvarez-Rodríguez[6], [1]*Universitat de Lleida. Deparment de Ciència Animal,* [2]*Universitat de Lleida. Deparment de Ciència Animal,* [3]*IA2-CITA de Aragón,* [4]*Escola Superior Agrária. Instituto Politécnico de Bragança-Centro de Investigação de Montanha (CIMO),* [5]*IA2-Universidad de Zaragoza,* [6]*Universitat de Lleida. Deparment de Ciència Animal*

Consumers' food-related lifestyles may affect purchasing attitudes towards meat. This study aimed to evaluate the impact of consumers' culinary skills on their attitudes towards pork in two country regions of North-Eastern Spain and Portugal. Survey data were collected through an on-line questionnaire (Catalonia, n = 442; Aragon, n = 342; Northern Portugal, n = 190; all of whom consumed pork). Each respondent was asked questions regarding consumer purchasing habits that were used to segment the consumers through hierarchical clustering according to their culinary skills. A 5-point Likert scale was used to assess the importance of intrinsic and extrinsic cues towards pork (20 questions). Wilcoxon tests with pair-wise comparisons were conducted to cross consumer clusters with their purchasing drivers. Two optimal clusters were identified: "uninvolved" consumers that liked cooking to a lesser extent ($P < 0.001$), normally ate out on working days ($P < 0.001$), considered traditional recipes best ($P = 0.008$), spent less time cooking ($P < 0.001$), did not like changes in their meals ($P < 0.001$), considered less important meal planning for family nutrition ($P < 0.001$), enjoyed to a lesser extent shopping for food ($P < 0.001$), payed less attention to advertisements ($P = 0.03$) and food label information ($P < 0.001$) than "innovative cook lovers." Interestingly, the two clusters did not differ in enjoying social eating out, following a shopping list, preferring butchers rather than supermarkets, or over the counter purchases rather than packaged meat. "Best before date," "safety" and "appeal (colour, drip loss)" were the most important criteria for purchase decision in both clusters. The "price" importance was greater ($P < 0.05$) whereas "cooking ease" was less valued ($P = 0.04$) by "innovative cook lovers" than by "uninvolved" consumers. The least rated driver was "slaughter method," although it was scored greater by "innovative cook lovers" than by "uninvolved" consumers ($P = 0.04$). In summary, innovative cook lovers may be more exigent consumers (price and animal welfare sensitive).

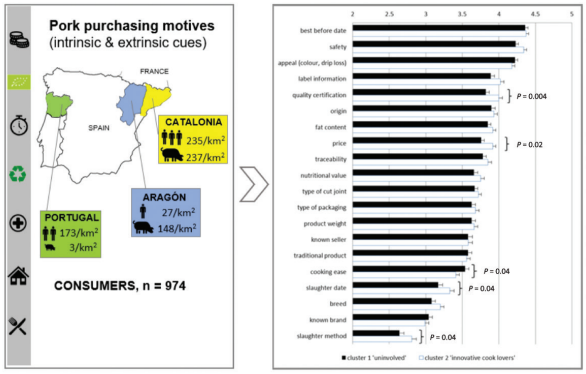


Figure caption.

Figure 1. Consumers' survey framework (left) and pork purchasing motives (right) in North-eastern Spain in Northern Portugal

**Key Words:** consumer perception, meat

**PSXIII-27** **Meat and fat quality of gilts intended for Spanish dry-cured ham: effect of immunocastration and feeding.** Leticia Pérez-Ciria[1], Francisco Javier Miana-Mena[2], Guillermo Ripoll[3], María Ángeles Latorre[4], [1]*IA2-Universidad de Zaragoza,* [2]*IA2-Universidad de Zaragoza,* [3]*IA2-CITA de Aragón,* [4]*IA2-Universidad de Zaragoza*

Currently, gilts intended for Spanish high quality dry-cured ham are characterized by lack of fatness detected at backfat depth covering the ham and also in the intramuscular fat content, necessary for an optimum dry-curing process and for the consumer acceptability, respectively. Trying to solve it, a trial was carried out with 90 Duroc x (Landrace x Large White) females to assess the impact of immunocastration and different diets on meat and fat quality. Half of gilts were entire

(EG) and the other half were immunocastrated (IG) by two injections of Vacsincel® at 58 and 76 kg of body weight (BW). Three diets were tested (76–134 kg BW) in both groups: A=control, B=high net energy content and C=low lysine level. A sample of meat from each carcass (n = 15) and 48 samples of subcutaneous fat chosen at random (n = 8) were analyzed. Data were processed as a factorial 2 (sexes) x 3 (diets) using the GLM procedure of SAS. Meat from IG showed lower moisture ($P$ = 0.04) and higher intramuscular fat content ($P$ = 0.01) than that from EG. Fat from IG presented higher proportion of saturated fatty acids (SFA) ($P$ = 0.002) and lower of polyunsaturated (PUFA) ($P$ = 0.02) and PUFA:SFA ratio ($P$ = 0.007) than that from EG, but the n6:n3 ratio was not influenced. About feeding, the only effects observed were that in IG, diet C and B increased the water holding capacity ($P$ < 0.01). It can be concluded that immunocastration improved the chemical composition of meat, but feeding had scarce effects on pork quality. Besides, fat from EG seems healthier but fat from IG would be fitter for technological processes, such as curing. This work (Project AGL2016-78532-R) was funded by MINECO.

**Key Words:** immunocastration, gilts

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**PSXIII-17 Impact of Ambitine® Feed Additive on late finishing pig growth performance: A meta-analysis.** Benjamin Bass[1], Stacie Crowder[2], Murali Raghavendra Rao[3], [1]*Land O'Lakes,* [2]*Purina Animal Nutrition,* [3]*Purina Animal Nutrition*

Ambitine Feed Additive (AMB), a proprietary blend of phytogenics and acidifiers (PMI, Arden Hills, MN), is formulated to help mitigate late finishing stress in pigs. Several studies using AMB in the late finishing period resulted in improved pig performance. A meta-analytic method used 13 studies (3 studies with ractopamine and 10 studies without) to determine the overall impact of AMB on average daily gain, average daily feed intake, and feed conversion. The combined data were considered a randomized complete block design. Analysis of variance was completed using the GLIMMIX procedure of SAS (9.4; Cary, NC) and least squares means were compared using Fisher's least significant difference ($P$ < 0.05). In the analysis of 10 studies with no added ractopamine (73 pens/treatment of 5 to 10 pigs/pen and 48 pens/treatment of 17 to 20 pigs/pen), pigs provided AMB had higher average daily gain (0.90 vs 0.86 kg/d; $P$ < 0.05), increased average daily feed intake (2.99 vs 2.94 kg/d; $P$ < 0.05), and improved feed efficiency (0.30 vs 0.29 kg gain/kg feed intake; $P$ < 0.05) compared to pigs fed control diets. Additionally, when pigs were provided AMB in addition to ractopamine (3 studies; 33 pens/treatment of 18 to 22 pigs/pen), average daily gain was increased 4.7% (1.206 vs 1.152 kg/d; $P$ < 0.05) and feed efficiency was improved 5.3% (0.40 vs 0.38 kg gain/kg feed intake; $P$ < 0.05) compared to pigs provided only ractopamine, with no difference in feed intake. Pigs provided AMB in addition to ractopamine had increased hot carcass weight and dressing percentage ($P$ < 0.05) compared to those provided ractopamine alone. In conclusion, providing AMB to pigs in late finishing improved ADG and feed efficiency and the improvement was maintained when ractopamine was included in the diets.

**Key Words:** Ambitine, phytogenics, finishing pig performance

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**PSXIII-23 Dietary glutamine, glutamate, and aspartate supplementation improves morphology and intercellular junction of small intestine in piglets.** Jing Wang[1], BI E TAN[2], Jianjun Li[3], Ming Qi[4], Wenkai Ren[5], Yulong Yin[6], [1]*Hunan normal university,* [2]*University of California davis,* [3]*institute of subtropical agriculture,* [4]*institute of subtropical agriculture, University of Chinese Academy of Sciences,* [5]*institute of subtropical agriculture, University of Chinese Academy of Sciences,* [6]*Institute of Subtropical Agriculture, Chinese Academy of Science*

Weaning-stress decreases the digestive and absorptive capacity of small intestine in piglets, resulting in reduction in energy intake for intestine cells and defects in epithelial structure. As glutamine (Gln), glutamate (Glu), and aspartate (Asp) are major energy sources for small intestine; thus, this study was conducted to test the hypotheses that supplementation with Gln, Glu, and Asp in diets will improve the intestinal morphology and tight junction in weaning piglets. 198 weaned piglets were assigned to the following treatments: i) Control (Basal diet + 1.59% L-Alanine); ii) T1 (Basal diet + 1% L-Glutamine + 0.5% L-Glutamate + 0.1% L-Aspartate); iii) T2 (Low energy diet + 1% L-Glutamine + 0.5% L-Glutamate + 0.1% L-Aspartate). The small intestinal samples were obtained on 5 or 21-day-post-weaning. The results showed that basal dietary supplementation with Gln, Glu, and Asp in basal diet improved the final body weight (BW), average daily gain (ADG) of piglets on 21-day of post-weaning. Supplementation with Gln, Glu, and Asp in diet with low energy decreased the villus height and crypt depth in ileum of piglets on 5-day-post-weaning, but increased villus height and