

**Effect of immunocastration of male pigs on instrumental and chemical traits of Teruel dry-cured hams**L. Pérez-Ciria<sup>1</sup>, G. Ripoll<sup>2</sup>, D. Allueva<sup>1</sup>, M. Blanco<sup>2</sup>, F.J. Miana-Mena<sup>1</sup> and M.A. Latorre<sup>1</sup><sup>1</sup>Universidad de Zaragoza-IA2, C/ Miguel Servet 177, 50013 Zaragoza, Spain, <sup>2</sup>CITA de Aragón-IA2, Avda. Montañana 930, 50059 Zaragoza, Spain; leticiapcgm@gmail.com

Pigs intended for Teruel dry-cured ham elaboration must reach a high slaughter weight (around 130 kg) to meet the desirable quality. Therefore, castration of male pigs is necessary to avoid boar taint. Traditionally, it has been carried out surgically, but considering piglet welfare, alternatives are being researched; among them, immunisation against GnRH stands out. Thus, a study was carried out with 14 dry-cured hams of Duroc × (Landrace × Large White) male pigs to evaluate the impact of immunocastration on weight losses during the dry-curing process and on instrumental and chemical characteristics. Half of them belonged to surgical castrated males (SCM) -during the first week of life- and the other half to immunocastrated males (IM) -by three doses of Improvac<sup>®</sup> at approximately 20, 60 and 80 kg of body weight-. All animals received the same management in the farm and in the abattoir. Hams were weighted several times during the dry-curing process (lasted 19 months). Once cured, colour, texture and chemical composition by near-infrared spectroscopy (NIR) and by classical analyses were determined in the *Biceps femoris* muscle. Data were analysed using the GLM procedure of SAS. The fresh-ham weight and the dry-cured-ham weight were used, when significant, as covariates for weight losses and for instrumental and chemical characteristics, respectively. There were no differences in weight losses during the dry-curing process (salting, post-salting, drying, aging and total period), neither in chemical composition (moisture, ash, protein and intramuscular fat proportions) nor in Warner-Bratzler shear force (hardness) between hams from IM and those from SCM ( $P > 0.10$ ). Only some colour variables were affected; yellowness ( $P = 0.045$ ) and chroma ( $P = 0.015$ ) were lower in IM than in SCM. Under our experimental conditions, it can be concluded that the type of castration has scarce influence on the quality of Teruel dry-cured hams of male pigs. This work was funded by MINECO (Project AGL2016-78532-R) and by FITE and FEDER, through the operative programs 'Construyendo Europa desde Aragón'.

**Scrotal morphometry of Bísaro pig males treated with two or three administrations of Improvac<sup>®</sup>**G. Paixão<sup>1</sup>, J. Marques<sup>2</sup>, S. Botelho<sup>1</sup>, A. Esteves<sup>1</sup>, R. Charneca<sup>2</sup> and R. Payan-Carreira<sup>2</sup><sup>1</sup>CECAV, Animal and Veterinary Research Centre, University of Trás-os-Montes e Alto Douro, Quinta dos Prados, 5000-801 Vila Real, Portugal, <sup>2</sup>MED – Mediterranean Institute for Agriculture, Environment and Development, University of Évora, Ap 94, 7006-554 Évora, Portugal; rmcc@uevora.pt

Seventeen male Bísaro (BI) pigs were treated from 13 weeks of age with two (n=6; Grp1) or three injections (n=11; Grp2) of Improvac<sup>®</sup> (Zoetis), 4-weeks apart. Animals were reared in intensive conditions and fed *ad libitum*, until 29 (Grp1) and 33 (Grp2) weeks of age. Scrotal dimensions (total width; average height and width of the left and right scrotal sac) were measured every 4 weeks from the first injection (FI) until the 16<sup>th</sup> week post-administration, and the variation between every measurement were calculated in order to surveil the immunosuppressive effects of the vaccination protocols. Variation were also compared with the normal scrotal growth in non-treated, age-matched animals (GrpC; n=24). Variation of scrotal dimensions did not differ significantly between treated and control groups, from the first to the 2<sup>nd</sup> administration of Improvac. After the 2<sup>nd</sup> injection, however, the variation and the absolute scrotal dimensions differ between treated and control groups ( $P \leq 0.001$ ). When comparing between treated groups, the decrease was higher in Grp1 for total width ( $P = 0.074$ ) and average height ( $P = 0.0025$ ). The decrease is reverted between the 8<sup>th</sup> and the 12<sup>th</sup> week post FI for Grp1, even though the overall dimensions of the scrotum remained significantly lower than in Grp2 and GrpC, and below the initial values for the group. Animals in Grp2 continuously registered a decrease in the scrotal width until the last observation (16 weeks after FI). The size of the scrotum for both treatment groups remained significantly lower than the control group by the end of the evaluation. This study showed that in prepubertal Bísaro pigs, the immunocastration protocol with three administrations of Improvac allows a more consistent and prolonged suppression of the reproductive axis, as reflected by the subsequent decrease in the scrotal dimensions. This protocol seems to better match the foreseen for the Bísaro system, where producers sought to attain one-year old animals at the time of slaughter.