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Sustainable production of high quality beef and pork in Slovenia – focus on SLO-ACE project

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Sustainable food production is one of key priorities in the national strategy of Slovenia, as it is a very small country with limited resources and agricultural land availability. Over half of its territory is covered by forests, 3/4 of agricultural land is categorized as less favorable areas with 2/3 of permanent grassland. The country is mainly hilly and despite its small size has diverse climates (Mediterranean, alpine to continental). This specific geo-agro-climatic context provides favourable conditions for cattle breeding, which is the most important agricultural segment. While dairy sector productivity has progressed in the past decades, the beef sector remains unexploited and its innovation potential needs to be increased to improve its sustainability. The sector is characterized by predominance of double-purpose breeds with emphasis on milk production, leading to unexploited meat potential with low growth intensity (<900 g/day) and carcass conformation (over half in class R) and low fatness (60% in class 2). The key challenges are to better exploit the potentials of traditional breeds and permanent grassland, to include meat quality in the breeding programs, and to better consider consumer and societal expectations regarding meat quality, animal welfare, and environment. Pork is the primary meat consumed in Slovenia (40 kg/capita). However, self-sufficiency has dropped from 80 to 35% in the last 20 years, leading to high importations for consumption and domestic transformation. Current challenge is to increase domestic pig production and transformation of added-value pork products. Recently approved H2020 coordination and support action project SLO-ACE will pursue these challenges and endeavour to improve the structural organization, human resources and knowledge transfer capacity needed for high impact research devoted to sustainable high quality beef and pork production in Slovenia. On this area of research, SLO-ACE will be supported and mentored by the French institute INRA. SLO-ACE is financed through H2020 program (grant agreement no.763655).

Session 33

Poster 13

Factors affecting growth of suckling Angus calves

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The objective of this study was to evaluate suckling performance of Angus calves in different regions of Germany in relation to traits of their mothers. Data of 600 single born calves in four herds were collected in northeast lowlands and in low mountain ranges of Germany. The mean weights at birth and at day 200 were 36.2 kg (± 4.1 kg) and 232.0 kg (± 33.5 kg), respectively. Average daily gain from birth to the 200th day of life was 1,139.4 g (± 164.0 g). Udder volume and teat circumference were derived from 316 German and Aberdeen Angus cows. Both traits were classified in 3 categories according to volume and circumference, respectively. In statistical model 1, the fixed factors herd (4), calving season (2) and parity (3) had a significant influence on birth weight. Calves of the lowland herd and the warmer calving season showed the lower birth weight. First parity cows gave birth to the lightest calves (35.5 vs 37.5 and 37.9 kg). Statistical models 2 and 3 included the fixed effects of herd, calving season, parity, birth weight in 3 classes and udder volume (model 2) or teat circumference (model 3). A heavier birth weight led to an increased daily gain ($P < 0.05$) and a higher weight at day 200 by trend ($P > 0.05$). Udder volume had a significant influence on daily gain and medium-sized udders led to the highest daily gain (1,108.2 vs 1,062.3 and 1,079.1 g). A similar result was found for the weight on day 200 but the influence of the udder volume was not significant. Higher teat circumferences led to higher daily gain and weaning weight but results were not significant. According to the present results, breeding for a medium-sized udder could influence growth of calves positively without any obvious disadvantage as opposed to breeding for higher birth weights or teat circumferences. Increased birth weights could adversely affect calving ease, and greater teat circumferences could make suckling/sucking more difficult. Region, calving season and parity of cows influenced growth of calves. It could be concluded that medium-sized udders led to an increased growth rate which could be implemented in breeding programmes.