

Reproduction in Domestic Animals

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Editor-in-Chief: Heriberto Rodriguez-Mártinez

Proceedings of the 25th Annual Conference of the
European Society for Domestic Animal Reproduction (ESDAR)

28. September – 2. October 2022, Thessaloniki, Greece

Guest Editors: Constantinos Boscós and
Aristotelis G. Lymberopoulos

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Official Organ of
European Society for Domestic Animal Reproduction
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Editorial

On behalf of the local organizing committee, I would like to invite you to join the 25th Annual Conference of ESDAR in Thessaloniki, Greece, 28 September–2 October 2022. The Annual ESDAR conference has been organized by many European countries since 1997, but this is the first time that Greece will host the 'ESDAR family'.

The scientific conference programme includes four plenary lectures by distinguished researchers, eight workshops which cover several species and a variety of interesting topics. From the submitted abstracts, 8 have been selected for the young scientists' competition, 32 have been selected for oral communications, and 105 are presented as posters. Although there will be a broad spectrum of basic research presented, we were also focusing on clinical (applied) scientific presentations. Main topics will be puberty, inflammation and infertility, obstetrics, gene editing, assisted biotechnology, cycle blockade, sperm quality and a special focus will be on mastitis.

Thessaloniki is the second-largest city in Greece, with over 1 million inhabitants in its metropolitan area, and the capital of the administrative region of Central Macedonia and the Decentralized Administration of Macedonia and Thrace. Thessaloniki is located on the Thermaikos Gulf, at the north-west corner of the Aegean Sea. It is bounded on the west by the delta of the Axios River. The city was founded in 315 BC by Cassandros king of Macedonia, who named it after his wife Thessaloniki, daughter of Philip II of Macedonia and sister of Alexander the Great. An important metropolis by the Roman period, Thessaloniki was the second-largest and wealthiest city of the Byzantine Empire. It was conquered by the Ottomans in 1430 and remained an important seaport and multi-ethnic metropolis during the nearly five centuries of Turkish rule. It passed from the Ottoman Empire to the Kingdom of Greece on 8 November 1912. Thessaloniki

exhibits Byzantine architecture, including numerous Paleochristian and Byzantine monuments, a World Heritage Site, as well as several Roman, Ottoman and Sephardic Jewish structures. The city's main University, Aristotle University, is the largest in Greece and the Balkans. The municipality of Thessaloniki, the historical centre, had a population of 325,182 in 2011, while the Thessaloniki metropolitan area had 1,030,338 inhabitants in the same year (2011). It is Greece's second major economic, industrial, commercial and political centre; it is a major transportation hub for Greece and south-eastern Europe, notably through the Port of Thessaloniki. The city is renowned for its festivals, events and vibrant cultural life in general and is considered to be Greece's cultural capital. Events such as the Thessaloniki International Fair and the Thessaloniki International Film Festival are held annually. In the 2014 was the European Youth Capital. In 2013, *National Geographic Magazine* included Thessaloniki in its top tourist destinations worldwide.

Enjoy the 25th Annual Conference of ESDAR which will give you the opportunity to meet colleagues from many other countries in a friendly atmosphere.

You are warmly welcome to this wonderful meeting in our lovely city. We are looking forward to seeing you here!

CONFLICT OF INTEREST

None of the authors have any conflict of interest to declare.

Constantinos Boscov
Aristotelis G. Lymberopoulos

determine mRNA and protein expression of PNX-14 and its receptor GPR173 in luteal cells and secondly PNX-14 plasma concentration during the estrous cycle in pigs on days: 2–3, 10–12, 14–16. Thirdly, we investigated the in vitro effects of PNX-14 on luteal cell proliferation and expression of proliferating cell nuclear antigen (PCNA). Our data showed a variable expression profile dependent on the phase of the estrous cycle: both transcript and protein levels of PNX-14 increased during the estrous cycle, as also protein expression of GPR173, while mRNA decreased. Immunohistochemical staining showed their presence in both small and large luteal cells. We noted that level of PNX-14 in serum was highest on days 2–3 of estrous cycle. Furthermore, PNX-14 in a dose-dependent manner stimulated in vitro luteal cells proliferation after 24, 48 and 72 h of incubation as well as expression of PCNA after 72 h of incubation. Taken together, our data demonstrated for the first time expression of PNX-14 and GPR173 in the porcine corpus luteum and a potential role of PNX-14 on luteal function – cell proliferation. Supported by National Science Centre, Poland (2020/37/N/NZ9/00981).

P(St)4 | The influence of a single dose of azaperone administered at weaning on circulating concentrations of cortisol, insulin and glucose in sows: A retrospective study

P. Bartlewski¹; B. Ahmadi¹; H. Wilcox¹; T. Schwarz²; R. Tuz²; J. Nowicki²; M. Malopolska³; M. Murawski⁴

¹Department of Biomedical Sciences, Ontario Veterinary College, University of Guelph, Guelph, Canada; ²Department of Genetics, Animal Breeding and Ethology, Faculty of Animal Science, University of Agriculture in Kraków, Kraków, Kraków, Poland; ³Department of Pig Breeding, National Research Institute of Animal Production, Balice, Poland; ⁴Department of Animal Nutrition and Biotechnology, and Fisheries, Faculty of Animal Science, University of Agriculture in Kraków, Kraków, Poland

Azaperone is a sedative neuroleptic used to control aggressive behaviour and stress in farmed pigs. In a recent study of $n = 24$ second-parity sows, the interval from weaning to estrus and ovulation, mean ovulation rate and litter size were all greater in animals treated with azaperone at the time of weaning compared with untreated controls. Mean daily growth rates of antral follicles throughout the weaning-to-ovulation interval was less in azaperone-treated sows. Glucose can affect ovarian function both indirectly (by modulating insulin and cortisol secretion) and directly (via suppression of facultative and inducible insulin-dependent glucose transporters in the granulosa cells). Therefore, we retrospectively analysed circulating concentrations of cortisol, insulin and glucose during the 6-day post-weaning period in Polish Large White \times Polish Landrace sows with or without a single i.m. injection of azaperone (2 mg/kg b.w.) at weaning on day 28 of lactation. Blood samples were drawn every 10 min during first hour post-treatment, then hourly for 24 h and once a day until day 6 via indwelling jugular catheters inserted surgically 5 days before weaning. Serial endocrine data were analysed using two-way

repeated-measures ANOVA and Fisher's protected LSD test. There was a suppression in both glucose and insulin concentrations following azaperone administration that lasted from approximately 20 min to 2 h post-injection, followed by a transient spike ($p < 0.05$) at 3 h post-treatment. Cortisol levels decreased at 10 and 30 min and rose above the control group levels ($p < 0.05$) at 2 h, 4 h and 6 days following azaperone injection. These results indicate that azaperone given at weaning temporarily alters circulating levels of glucoregulatory cortisol and insulin and of glucose itself.

P(St)5 | Pregnancy rate in problem cows treated using OvSynch or CIDR/PRID programs

G. Wozniak¹; S. Graczyk¹; A. Grzeczka¹; S. Kulynycz²; B. Jaśkowski³; M. Gehrke⁴; J. Jaśkowski⁴

¹Student Scientific Association of Bujatry „Res Ruminantiae” IMW, UMK, Poland, IVSA Department in Nicolaus Copernicus University, Toruń, Poland; ²Poltava State University, Poltava, Ukraine;

³Department of Reproduction and Clinic of Farm Animals, Faculty of Veterinary Medicine, Wrocław University of Environmental and Life Sciences, Wrocław, Poland; ⁴Department of Diagnostics and Clinical Sciences, Institute of Veterinary Medicine, Nicolaus Copernicus University, Toruń, Poland

The aim of the study was to compare the pregnancy rate (PR) in cows with various forms of fertility disorders treated with the use of OvSynch or progesterone (CIDR/PRID) inserts. The research was carried out for 3 years in 23 farms diversified in terms of the maintenance and production intensity. Holstein-Friesian cows ($n = 1056$) were included, $n = 692$ of them were treated with CIDR/PRID inserts (A; day 0 – insert, day 7 – removal, prostaglandin injection, artificial insemination [AI] on heat symptoms), remaining $n = 364$ were subjected to the OvSynch (B). Additionally, females were divided into three categories (I–III) including cows with postpartum anestrus – lack of ovarian activity more than 70 days after parturition (I; A: $n = 356$, B: $n = 310$), non-pregnant cows with negative pregnancy diagnosis without palpable ovarian activity (II; A: $n = 62$, B: $n = 21$) and repeat breeders (III; A: $n = 274$, B: $n = 33$). Pregnancy diagnosis was performed twice on days 28 and 56 after AI using the iScan (Draminski) ultrasound equipped with a 7.5 MHz linear probe. Statistical analysis was performed using ANOVA. The PR was comparable in both groups of treated cows (31.6% for OvSynch and 34.0% for PRID/CIDR; $p > 0.05$). In group A, the PR did not differ significantly (34.8%, 37.1% and 32.1%, for cows from categories I to III, respectively; $p > 0.05$). In group B, the PR was higher in category II cows than in cows from categories I and III (52.4% vs. 33.3%, and 30%, respectively; $p < 0.05$). Both methods of treatment in cows with fertility disorders resulted in comparable calving rates. The treatment method seems to be of secondary importance, the cost of the program applied should also be taken into account.