

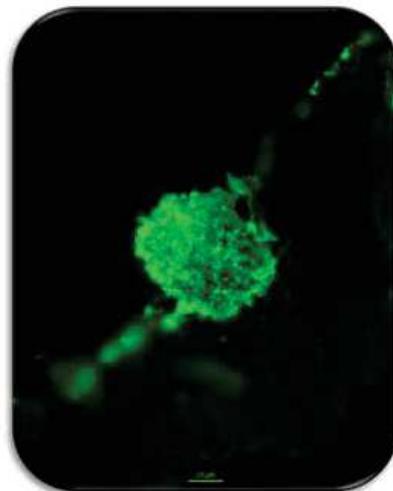
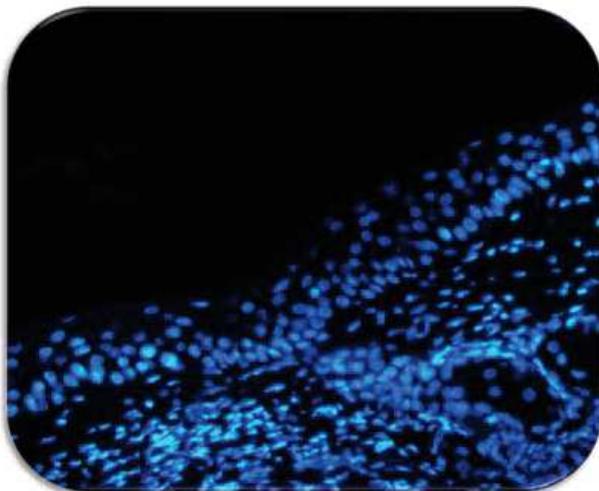
# **Proceedings of the 12<sup>th</sup> FARAH-Day**

**Faculty of Veterinary Medicine  
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*One Health*

L'Animal et l'Homme, une même santé



## Posters

### 19. Modulation of hatchability and embryo survival by *in ovo* delivery of rosemary essential oil in Japanese Quail (*Coturnix coturnix japonica*)

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Heat stress during incubation can adversely affect embryo development, hatchability, and post-hatch performance in poultry. The use of natural antioxidants such as essential oils is gaining interest as a potential strategy to mitigate these effects. The objective of this study was to investigate the effects of air sac injection of rosemary essential oil at different *in ovo* concentrations in quail eggs on hatching rate, relative chick weight at hatching, and embryonic mortality rate. A total of 288 fertilized eggs were injected on day 13 of incubation and allocated into four groups: negative control (non-injected), positive control (30 µL sterile distilled water/egg), and two treatments groups receiving 0.1 µL and 0.5 µL/egg. The hatching rate was higher with 0.5 µL (61.36%) and 0.1 µL (56.41%) compared to the negative and positive controls with 48.83% and 44.19%, respectively. At hatch, there was no significant difference in relative weight between treated groups (67.67% for 0.5 µL and 65.26% for 0.1 µL) compared to the negative control (71.60%). Embryonic mortality was reduced in treated groups 0.5 µL (38.63%) and 0.1 µL (43.58%) groups compared to the negative and positive control groups with 51.16% and 55.81%, respectively. Our observations support an important role of rosemary essential oil in both hatchability and embryonic survival.

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### 20. Phytogetic resources as feed additives for ruminants: Evaluation of phenolic composition

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Ruminant production plays an essential role in ensuring food security worldwide. Growing pressure for higher productivity and environmental sustainability highlights the need for natural and efficient feed alternatives. Among these, phytogetic additives, derived from aromatic and medicinal plants, are gaining attention for their potential to improve digestion and animal performance. The present work focused on comparing the phenolic composition and secondary metabolites of two promising plants, fenugreek (*Trigonella foenum-graecum*) and rosemary (*Rosmarinus officinalis*). Several parameters were analyzed, including total phenols, total tannins, condensed tannins, and hydrolysable tannins, to assess their potential use in ruminant feeding. The analysis revealed that rosemary exhibited higher total phenolic content (6.5%), with a predominance of non-tannic phenols (5.8%) and hydrolysable tannins (0.61%), with 0.09% condensed tannins, while fenugreek showed lower levels (1.8% total phenols, 0.66% total tannins, and 0.14% condensed tannins). These differences suggest a stronger antioxidant and antimicrobial activity for rosemary, which could enhance rumen fermentation, nutrient absorption, and the quality of animal products. Fenugreek, despite its lower phenolic content, may contribute other beneficial bioactive compounds. Further chemical characterization is ongoing to explore additional secondary metabolites before conducting *vivo* evaluation in ruminants.