

## ITC CONFERENCE GRANT SCIENTIFIC REPORT

This report is submitted for approval by the grant to the MC Chair.

**Action number: CA15224**

**Conference title: The 2019 Layer Feed Quality Conference**

**Conference start and end date: 17/10/2019 to 18/10/2019**

**Conference attendance start and end date: 17/10/2019 to 18/10/2019**

**Grantee name: Dr. Nikola Puvača**

### ACTIVITIES DURING YOUR ATTENDANCE AT THIS CONFERENCE:

(max.500 words)

During the 2019 Layer Feed Quality Conference, which was held between 17<sup>th</sup> and 18<sup>th</sup> October 2019 in Kuala Lumpur, Malaysia, the following activities were carried out:

1. A scientific report was presented on the topic "*DIETARY INFLUENCE OF ESSENTIAL OILS ON PRODUCTIVE PERFORMANCE AND KEEL BONE DAMAGE REDUCTION IN LAYING HENS*". After the presentation discussion was started and questions led in a way of the influence of tea tree (*Melaleuca alternifolia*), rosemary (*Rosmarinus officinalis*), eucalyptus (*Eucalyptus oblique*), and lavender (*Lavandula angustifolia*), and their effects on fat metabolism in laying hens. The discussion takes focus on bone fragility of laying hens as one of the most important welfare and economic problem in laying hens production, while the occurrence of osteoporosis has been indicated during a discussion to lead to the high intensity of extremities breaks, as well as keel bone. The quick loss of calcium in the body during the lay period leads to prone osteoporosis, was one of the comment confirming our statement, but also disorders in the metabolism of fat and its deposition in the bone marrow make bone weaker and prone to fractures, was also the theme of further discussion. The audience was very interested in our results which have shown that laying hens diets supplemented with essential oils recorded significantly improved hen-day egg production. The addition of essential oils increased keel bone brake force, decreased fat concentration in the marrow, and increased calcium concentration. Very interesting was our conclusion that the decrease of keel bone brakes directly has improved hens welfare, having in mind that also spontaneous fractures greatly increased trauma and causes higher pain in birds. The presented research was in the precise scope of the Action CA15224 and has gained lots of attention.
2. The scientific sessions of the conference were divided into two days, with a quite number of different topics. The scientific sessions of the conference regarding the thematic of the COST Action CA15224 were attended.
3. During two congress days, programs detailing the latest relevant research with practical take-home messages to help egg producers and feed producers improve productivity and profit margins. All meetings were held with scientists working in the field primarily of poultry nutrition, animal sciences, animal welfare, poultry industry, veterinary medicine, and agricultural business.



4. The activities and capabilities of the COST Action CA15224 “*Identifying causes and solutions of keel bone damage in laying hens*” have been popularized, and very well accepted.



**IMPACT ON YOUR RESEARCH AND FUTURE COLLABORATIONS (if applicable)**

(max.500 words)

During the conference, I had the opportunity to meet with scientists working in the field of poultry nutrition, animal welfare, poultry industry, veterinary medicine, and agricultural business. During these meetings, the activities and capabilities of the COST Action CA15224 “*Identifying causes and solutions of keel bone damage in laying hens*” have been very well accepted and popularized and gained very large interest from the scientific side, as well from SME side of the participants. Very interesting presentation by Dr. Luiz Mazzon on “*Animal welfare certification and the food industry: How will this impact your business*”, as well by Dr. Doug Korver on “*Calcium as it relates to flock longevity, particularly in the transition to early lay period*”, was attended. Besides the Universities, Faculties, and Institutes participating at the congress, also a large number of private companies or sectors were attending the congress as well, so interesting presentation by Mr. Ramirez from DSM, on “*Setting the scene for a productive lay*”, was also very well received by the participants.

Also, there were good discussions with colleagues from other countries like Canada, Brazil, Singapore, Philippines, Italy, Austria, Germany, and etc., to share the best practices and lessons learned.

As, up to now, I think that the network at the congress provided the possibility to improve cooperation. The possibility to attend the “*The 2019 Layer Feed Quality Conference*” meeting was very important and valuable for me as it supported very much my research activities.

I hope that part of these new contacts will lead to future collaboration and joint projects, having in mind the interest of other scientists in my presenting COST Action CA15224 “*Identifying causes and solutions of keel bone damage in laying hens*”.