Official Journal of the Animal Science and Production Association (ASPA)

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ISSN: 1828-051X

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http://www.tandfonline.com/tjas

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Italian Journal of Animal Science

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volume 18

supplement 1

2018

italian journal of animal science

ASPA 23rd CONGRESS

Sorrento, June 11–14, 2019

Book of Abstracts

Guest Editors: Fulvia Bovera (Coordinator), Marzia Albenzio, Mariangela Caroprese, Rosaria Marino, Gianluca Neglia, Giovanni Piccolo, Angela Salzano.

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Acknowledgements
This research is funded within the framework of the 'FARM-INN' AGER project [Grant 2017-1130].

P059

Investigation on the 'Club Foot' disorder in Arabian Pureblood horses reared in Italy

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Horses used in equestrian disciplines are subjected to intense exertion, making the athlete's physical integrity a vital point, in order to optimise performance as well as to limit the onset of traumatic disorders. Several parameters are involved in choosing a subject for sport activities, one of the most decisive being the absence of any disorder or malformation of the limbs. The aim of this research was to detect the incidence of the disorder commonly referred to as 'Club Foot' or 'Mismatched Foot' in Arabian Pureblood horses, attempting to understand its causes. In this breed, the pathology is widespread because, in their environment of origin, the rocky desert, a hard and almost goat's hoof is not disabling so selection against this disorder has never been done. The 'Club Foot' is defined as acquired or congenital flexural deformity of the distal interphalangeal joint, caused by a shortening of the musculotendinous unit of the deep digital flexor tendon. The hoof capsule is distorted and the palmar angle of the third phalanx increases to 60° or more, and the horse is forced to walk on his toes. Most commonly, this condition affects the forelimbs, one or both. In the congenital forms, the newborn is unable to extend the joint of the distal limb, it cannot place the foot on the ground and subsequently tries to walk on the toe. One hundred forty adult Arabian Pureblood horses (51 males and 90 females) belonging to 8 Italian different farms during the period 1982–2017 were considered. For each horse we observed the presence or absence of the disorder following these criteria: alignment of the front hooves, recognition of pathological signs through analysis of hoof axis, presence of dishing on the anterior hoof wall from the coronary band to the toe, hoof width, heel height, frog atrophy, presence of laminitis symptoms. Four grades of deformity were esteemed. Moreover, we considered the environmental condition of each farm: box stalls, paddocks, nutrition, orientation and other observations. The chi-square test was applied. Two grades of deformity were observed (I and II) with 20 females and 14 males (24.11% of the examined horses) displaying the disorder. No differences between males and females or between shod (59%) and unshod (41%) were observed. Environmental conditions do not influence the rate of pathology in the different farms, with a prevalence of the disorder ranging from 7.69% in one farm to 66.67% in two farms. Future works may include a larger number of animals.

Acknowledgements
This research was supported by grant OD University of Pisa (Fondi Ateneo – Prof.ssa F. Cecchi).

P060

Larvicidal activity of neem oil (*Azadirachta indica*) formulation against larva of *Aedes albopictus* mosquitoes to improve animal welfare

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Aside from their importance as vectors of disease agents of animals, mosquitoes are a cause of irritation, blood loss, and allergic reactions. They can also disrupt normal behaviour of livestock. For cattle, mosquito bites can result in decreased weight gains and milk production. *Aedes albopictus*, known as 'tiger mosquito', is an Asian insect, widespread in all continents and also recorded in Italy. The mosquito fight is directed especially against larvae. This is because the fight against adults is temporary, unsatisfied and polluting for the environment, while larval treatment is more localised in time and space, resulting less dangerous. The aim of our work is to develop new natural anti-mosquito formulations (the neem oil, p.a. azadirachtin). Among various tested substances the neem oil has shown good activity. The neem oil (AZ: 0.3%) was tested at different concentrations: 0.005 g; 0.01 g; 0.025 g; 0.05 g, 0.075 g on larvae at the L1–L2 stage and control. Four replicas were performed. The conditions were a 14-hour photoperiod and an average water temperature of 25 °C.
At the lowest doses (0.05 g and 0.01 g) the mean total death larvae compared to the control is not statistically significant. The doses 0.025 g, 0.05 g and 0.075 g are all equally effective, completely eliminating the larvae. Highly significant differences were found between the last 3 doses and the control. Analysing the results up to the eighth day of treatment, that is the day when the larvae in the control tests were either completely transformed into adults (48%) or dead (52%), differences in the timing of elimination of larvae between different doses were recorded. At the dose of 0.005 g at the eighth day, 48% were dead and another 1% died within 17 days. At the dose of 0.01g at the eighth day, 61% of the larvae were dead, 10% died within 56 days. At the dose of 0.025 g