

average milk production. Hoof care programs including hoof trimming, hoof bathing, Bedding management, Locomotion scoring and nutritional management were done. Data of hoof trimming chute activities recorded by different zones of the hooves (Zones 1-12) by a professional hoof trimmer and veterinarian. Injuries in zones 1-3 recorded as white line injuries and its distribution analyzes in a two year study started at July 2012.

**Results-** Total of 6271 hoof cares were done during the study, among which 1085 cows (17.72%) showed the incidence of new lameness. Amongst the new lameness cases, 9 cows (0.82%) showed the injury in zone 1, 16 cows (1.47%) in zone 2, and 62 cows in zone 3 (5.71%). The highest incidence of injuries was observed in the medial digit of right forelimb (31 cows) and the lowest was seen in lateral digit of the left forelimb (1 cow). Furthermore, the incidence of injuries were recorded as 28, 23, 17 and 29 for spring, summer, autumn and winter respectively.

**Conclusion and Clinical Relevance-** Considering the possibility of more weight gaining of cow, higher occurrence of the injuries in zone 3 is not unusual and it has also been emphasized in previous studies. However higher incidence of injuries in forelimb is slightly different from the usual findings about occurrence of digital injuries in dairy cows, although this difference was not statistically significant, it indicates the necessity of paying more attention to forelimbs when studying the incidence of this problem. Besides, higher incidence of this problem is expected after summer and heat stress, while the findings of current study indicate the lower incidence of this problem during autumn.

**Key Words-** White line zone, Distribution, Bovine

## References

1. Najafpour AR, Gholizadeh FJ. Frequency of hoof diseases in dairy cows at the slaughter house floor area of Urmia. *Journal of veterinary clinical research*.1389.1(2):113-123.
2. Barker ZE, Amory JR, Wright JL, et al. Risk factors for increased rates of sole ulcers, white line disease, and digital dermatitis in dairy cattle from twenty-seven farms in England and Wales. *J Dairy Sci*. 2009 May;92(5):1971-8.

Poster Presentation

## Comparison of the Host Immune Response to the Footrot Pathogenic Bacteria in Different Genotypes of Katahdin Sheep

Samaneh Azarpajouh\*

PhD candidate of Animal Sciences Genetics, University of Missouri, Columbia, MO, USA.  
Email: sa7q9@mail.missouri.edu

**Objective-** To compare the host immune response by IgG to *Dichelobacter nodosus* in footrot resistant vs. susceptible genotype for sheep.

**Design-** Polymorphism at the DQA2 and DQA2-like loci located within the Major Histocompatibility Complex (MHC) was utilized to develop gene marker screening test to identify resistant vs. susceptible genotype for Katahdin ewes (Escayg et al., 1997). Ewes were divided into control and treatment groups. Cultures of *D. nodosus* were inoculated to the inter-digital skin of the treatment group and held there with bandages for 4 days. Blood samples were collected for 5 weeks to measure the immune response.

**Animals-** Fifty four Katahdin ewes, 18 in each of high resistant footrot gene markers (HR), medium resistance (MR) and low resistance (LR) were selected.

**Procedures-** The blood collected in a vacutainer (10 ml) from the jugular vein of sheep in both control and treatment groups during footrot pathogenic challenge was centrifuged at 2000 RPM for 5 min to separate the serum. The IgG level (mg/ml) was measured by using an Enzyme-linked immunosorbent assay (ELISA) kit (GenWay, Biotech, Inc.). The data were analyzed by using mixed model procedures of SAS and  $P < 0.05$  was considered as significant.

**Results-** The IgG level was significantly different ( $P < 0.0001$ ) between control and treatment groups but there was no significant difference ( $P = 0.26$ ) among different genotypes.

**Conclusions and Clinical Relevance-** The IgG level remained in the normal range (7.6-40mg/ml) during footrot pathogenic challenge, as hair sheep breeds, such as Katahdin, are reputed to have better disease resistance.

**Key Words-** Foot rot, Sheep, Immune response

## References

1. Escayg, A.P., Hickford, J.G.H., Bullock, D.W. Association between alleles of the ovine major histocompatibility complex and resistance to footrot. *Research in Vet Sci*. 1997, 63 (3): 283-287.

Poster Presentation

## Epidemiological Study of Lameness Incidence in a Dairy Herd in Isfahan

Amirhosein Farajnejhad, Shima Khalilifard

DVM

Email: amirhosein\_vet83@yahoo.com

**Objective-** To measure the annual incidence of lameness, type of lesions involved and seasonal incidence

**Design-** Epidemiological Study

**Animals-** The study was performed in a dairy herd with 1300 milking cows in Isfahan, Iran.

**Procedures-** The study was done in one year starting on April 2013. The hoof care program was done in this herd consisting of hoof trimming, locomotion scoring, stall management and other important criteria. Data of the cows in hoof trimming chute recorded by the affected digit, limb, region of the digit and type of lesion by a professional hoof trimmer and veterinarian.

**Results-** Total of 1300 cows and 4578 referred to hoof trimming chute with the average of 3.5 times for each cow. Eight hundred and ninety three cows recorded as new cases of lameness (68.6%). Incidence of digital dermatitis, interdigital phlegmon, sole ulcer and white line disease recorded as 550, 49, 92 and 62 cases, respectively. Seasonal incidence of lameness recorded as 412 (46.1%), 231 (25.8%), 127 (14.2%) and 123 (13.7%) in spring, summer, autumn and winter, respectively.

**Conclusion and Clinical Relevance-** Digital dermatitis allocated the most incidence of lameness significantly ( $p < 0.05$ ). Incidence of lameness was significantly more in spring ( $p < 0.05$ ).

**Key Words-** Lameness, Sole ulcer, White line disease, Digital dermatitis, Interdigital flegmon

## References

1. Kossaibati MA, and Esslemont RJ, The incidence of lameness in 50 dairy herds in England. *International Conference on Lameness* (Parma, Italy), September 2000.
2. Clarkson MJ, Downham DY, Faull WB et al. Incidence and prevalence of lameness in dairy cattle. *Veterinary Record* 1996;138:563-567.
3. Whitaker DA, Kelly JM, Smith EJ, Incidence of lameness in dairy cows. *The Veterinary Record* 1983, 113:60-62.