

recovery and soundness were achieved in 10 of the diseased claws within 15 to 25 days. Results showed that among the other surgical options such as digital amputation, navicular bursa resection, drilling and flushing, Coring is more feasible and less expensive, technique with no need of paraneural broad spectrum antibiotic therapy can be applied under field condition.

Distribution of different hoof lesions in different hoof trimming timings

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Lameness in dairy cattle is a major source of economic loss. These losses not only include treatment costs, but also reduced milk production and fertility and are increased culling rate. Besides the economic losses concerned with lameness, claw disorders also have a serious impact on animal welfare. Claw disorders are frequently reported in dairy cattle all over the world as 90% of all lameness incidents are due to these disorders. Claw disorders are distinguished at clinical level (i.e. being lame) and at subclinical level (i.e. digital disorders recognizable at hoof trimming). Study was done in a dairy herd with 800 milking cows. The cows were trimmed on a regular basis in five groups. Cows were trimmed 120 days after parturition (Group I), immediately before drying off (Group II), High locomotion scored cows (Group III), reproductive delayed cows (Group IV) and visually detected cows (Group V). Incidence of sole ulcer as the most important non infectious claw disorder and Interdigital Phlegmone as the most important infectious claw disorder was recorded in each of the above mentioned group and compared descriptively. 5.76 & 1.02 % of cows in group I, 2.58 & 0.73% of cows in Group II, 24.32 & 5.85% of cows in group III, 5.4 & 0.9% of cows in group IV and 20.97 & 8.7 % of cows in group V showed sole ulcer in Zone 4 and Interdigital Phlegmone in Zone O of the hoof respectively. Results shows that in clinical normal groups like groups I, II and IV still some cows got the sever lesion in their digits. It is obvious that any of these lesions will make their economical losses and just by doing a general hoof trimming program, access to all lesions is possible. Otherwise farmer should wait until the injuries change to sever ones and changing the locomotion of the cow. In other hand locomotion scoring is not always the method of choice in detecting

all lesions. More sole ulcers were detected by locomotion scoring; anyway this method was not as potent as visual detection in Interdigital Phlegmone. Maybe more severe nature of the later made it more prevalent among visually detected lesions.

Distribution of hoof lesions by sex, breed, management, and laminitis related or non related lesions in sheep in Shiraz area

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Hoof lesions and lameness leads to reduce milk and wool production, infertility, increase treatment costs, and early culling in the herd. Since most of researches have been focused on cows, therefore, this study was planned to evaluate the lesions of the hooves of sheep in farms around the Shiraz area to analyze the sex, breed, management condition and laminitis related or non related lesions. For this study one hundred live sheep were selected randomly in 10 different farms. Also the legs of fifty sheep were collected from the slaughter house. Live sheep from both sexes and three breed (Ghesel, Mehraban, and mix) and different management condition were studied. The sheep were restrained, then the hooves of forelimbs and hind limbs were trimmed and the lesions were recorded. The hooves from slaughter house were from both sexes too. They were trimmed and lesions were recorded. Contrast media was injected and radiographs were obtained from the lesions in lateral, plantarodorsal and palmarodorsal position. Laminitis not related lesions were considered to be hoof crack, inward growth of toe, heel expansion, heel horn erosion, and foot rot. The Mehraban breed showed significantly ($P \leq 0/05$) higher laminitis not related lesions in the forelimbs. Heel expansion was higher in indoor raised sheep, but hoof cracks were higher in outdoor raised sheep. Heel horn erosion and inward growth of toe were only in indoor raised sheep. Heel expansion and heel horn erosion were higher in male but hoof crack was only in female. Laminitis related lesions were classified as sole hemorrhage, sole ulcer, white line disease, cork screw, poor quality horn, double sole and excess growth of lateral wall. Sole hemorrhage was higher in Ghesel. Sole hemorrhage and white line diseases were higher in male and in indoor raised sheep, also excess growth of lateral wall was higher in male sheep. According to results of this study hoof trimming should be performed in the sheep flock once or twice a year. A planned hoof care is required for sheep.

Effect of tail docking on breast health and cleanliness in dairy cattle

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Tail docking in dairy cattle from previous years as the traditional method for increasing health and breast health in the world and Iran has spread. The purpose of this study was to determine the little or no proper review the suitability of this method. To evaluate cutting tails on cows clean and healthy breast in a free stall system, tail of 10 dairy cattle were cut by wire Horn cutter and 10 other dairy cows that had not cut their tails and during the eight weeks were control (the number of experimental cows with tails cut at the end of the study reduced to nine cows, and control group reduced to eight cows uncut tail). Cow's cleanliness observed in two regions. Paravertebral and haunch regions near the tail evaluated in 1-2-3-5-8 weeks after docking. Cleansing evaluated on a 0-3 scale by counting regions which had been soiled and considering the amount of getting soiled. Also, udder neatness graded with the same scale and counting quarters debris. Udder health evaluated by counting somatic cells, two milk samples and mastitis suffering milkers. Finally, after performed studies, we found no therapeutic differences between four neatness and between two udder health scales. However, docking the tail had a considerable rule in milking facilitation, meanwhile, cow's cleanliness was changing through passing the time and analysis a sub collection of cows showed distinct differences in cleanliness. We don't think tail docking process is useful, due to its disadvantages and lack of udder cleansing and healthiness. Remarkable diversities between cows show that cattle behavior improvement, efficient hygienic management and proper place utilization may leave more effects on cleansing. More these effects studies can show neatness improvement techniques.

Effects of Formalin and Copper Sulfate on water content of the bovine hoof samples

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Water content of hooves seems to be one of the most determinant factors in hoof softness that may

result in higher susceptibility to digital lesions. Formalin and Copper sulfate known by hoof hardening effects. In this current study in vitro effect of formalin and copper sulfate on hoof water content was investigated. Forelimbs of six male (6 months to two years old) Holstein-Friesian cows were cut in slaughterhouse and transferred to lab. Hooves of the left forelimbs used as treatment group, and right forelimbs used as control positive and negative. Three samples, toe (T), sole (S) and Heel (H) were cut using surgical trephine (8mm). Samples of Medial claws of the treatment group soaked in copper sulfate 5% (Cu) solution for 30 minutes and the samples of lateral claws soaked in formaldehyde 5% (Fld) solution for 30 minutes. Tap water used as positive control and in negative control group claws didn't receive any treatment. Samples were weighted and incubated in 102 degree oven to get dry and each 24 hours weighted again until the difference between two measurements reduce to 0.04 grams. Weights were corrected in according to the smallest sample. Statistical analysis was done by three way ANOVA, and p values less than 0.05 revealed as significant. No significant difference recorded between Cu and Fld groups in T, S and H regions (P<0.05). The water content of T, S and H regions were different in both Cu and Fld groups, this difference were continued in time 24 for Cu group but was diminished in Fld group significantly (P<0.05). The water content of all samples were decreased significantly during time (P<0.05). Results indicates that the water content of different parts of the hoof are different as the highest content is in H region (0.227 - 0.034) because of highest weight loss and the lowest in T region (0.199 ± 0.022) region because of the lowest weight loss. Although no significant difference was recorded between groups under study in different times, but it seems that more rapid water deprivation in Fld group indicates lower amount of the water in this group.

Effects of Formalin and Copper Sulfate on water content of the bovine hooves

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Water content of hooves seems to be one of the most determinant factors in hoof softness that may result in higher susceptibility to digital lesions. Hoof bath used in order to increase hardness of the claws in addition to disinfectant role of some bath agents. Formalin and copper sulfate known as their effects on hoof hardening. In this current study in vitro effect of

formalin and copper sulfate on hoof water content was investigated. Forelimbs of six male (6 months to two years old) Holstein-Friesian cows were cut in slaughterhouse and transferred to lab. Hooves of the left forelimbs used as treatment group, and right forelimbs used as control positive and negative. Medial claws of the treatment group soaked in copper sulfate 5% (Cu) solution for 30 minutes and lateral claws soaked in formaldehyde 5% (F1d) solution for 30 minutes. Tap water used as positive control and in negative control group claws didn't receive any treatment. After soaking three samples, toe (T), sole (S) and Heel (H) were cut using surgical trephine (8mm). All samples were weighted and incubated in 102 degree oven to get dry and each 24 hours samples weighted again until the difference between two measurements reduce to 0.04 grams. Weights were corrected in according to the smallest sample and analyzed using two way ANOVA. P values of 0.05 and less revealed significant. Statistical analysis revealed significant changes during time in different groups from 0 to 48 hours after incubation ($P < 0.05$). No significant difference among different groups and regions were revealed in any given times ($P < 0.05$). Hardening of hooves reported to be one of the results of formalin bathing that regarding to current findings: it seems to be a consequence of another process except water extraction from the claw horn tissue.

Evaluation of formaldehyde concentration in foot baths

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Foot baths are widely used to disinfect feet for the prevention of claw infectious lesions such as digital dermatitis, heel horn erosions and foot rot. Formaldehyde is one of the most common disinfectants used in the foot baths. Regarding to experimental studies, the effective minimum concentration of formalin in foot baths is 2% w/w. In this study, the effect of number of cows passing through foot bath on formaldehyde concentration has been evaluated. This study was carry out in an industrial dairy farm with a population of 2500 Holstein cows. The foot bath (7.40meters long and 1.21 meter wide) was filling to a depth of 9 cm with tap water and commercial 40% formalin to reach a 4 per cent concentration of disinfectant. Sampling was performed six times between

August and September 2010. The temperature was $30 \pm 4^\circ\text{C}$ during the experiment. Samples were collected before any cow had passed through foot bath and then immediately after passing every 50 cows. Formaldehyde concentrations of samples were assayed chemically. The foot bath formaldehyde concentration before passing cows was $2.98\% \pm 0.33$. However, the formaldehyde contents of foot bath were reduced to 2.91 ± 0.57 , 2 ± 0.79 , 2 ± 0.9 and 1.49 ± 0.46 after passing 50, 100, 150 and 200 cows respectively. We found a variation in the formaldehyde content of foot bath during different times of sampling. In samples were collected before passing cows, these variations may come from insufficient mixing of formaldehyde and water or miscalculations by a person who prepared the bath. On the other hand, environment temperature can play an important role in this variation. It is well known that every 10°C increase in environment temperature cause to increase formaldehyde evaporation two to three folds. The concentration of formaldehyde decreased in the presence of relatively constant amounts of foot bath solution, it seems that the reduced solution by passing cows have been replaced by feces, urine and dirt. Regarding to these finding, foot bath formaldehyde concentrations were less than 2% after passing 150 cows and it should be refresh to reach effective concentrations of disinfectant.

Evaluation of serum bone specific alkaline phosphatase activity in dairy cows with sole ulcer

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Sole ulcer is the most frequently encountered lesion in lame cattle. It is a circumscribed loss of horny sole that exposes the corium. Lameness can be severe and is worse when the granulation tissue protrudes or if deeper tissues are involved. Serum bone specific alkaline phosphatase (BALP) is one of the most sensitive and specific biomarkers of bone metabolism. In present study, serum BALP activity has been assessed in cows with sole ulcers. This study was performed in an industrial dairy farm in Shahrekord, Iran. Animals were housed in a loose-stall system. Sole ulcers diagnosis was carried out by a veterinary practitioner. Venous blood samples were collected from venus caudalis mediana in evacuated tubes without any additives. Blood samples also were taken from the same number of healthy cows.