LOCOMOTION, CONFORMATION, CLAW- AND LEG HEALTH IN HEIFERS AND FIRST CALVERS REARED AND HOUSED IN SOFT AND HARD FLOORING SYSTEMS IN A SWEDISH DAIRY HERD

Christer Bergsten¹,², Evgenij Telezhenko¹, Michael Ventorp³

¹Animal Environment and Health, Swedish University of Agriculture, ²Swedish Dairy Association, Skara, ³Swedish University of Agriculture, Rural Buildings and Animal Husbandry, Alnarp, Sweden

Heifers were studied from 12 months of age through their first lactation regarding claw conformation, locomotion, claw disease and leg lesions, to evaluate importance of soft and hard flooring systems. The study was made in an organic 330 cow dairy herd and followed two heifers groups, in total 170 individuals, during three years through their first lactation. The hypothesis was that a change in flooring system could alter claw and leg health. The 12 months old calves were blocked according to breed and age, and allocated either to deep straw bedding or concreted cubicles, both systems with a scraped concrete alley in front of the feeding platform. After the housing period the heifers were trimmed and grazed together for four months. The following housing season all pregnant heifers were introduced to a cubicle system with feed stalls several weeks before expected calving. Half of each flooring system group from the previous housing period was allocated to either concrete slats or slatted rubber mat flooring in the alleys. Otherwise all animals, management and feeding were identical. Leg injuries and locomotion was scored monthly when housed. Claw lesions were scored and claw measurements (growth and wear) were recorded at trimming in the beginning and at the end of each housing season.

No leg injuries were observed in heifers housed in the deep straw bedding system. Claw wear was less on deep straw which resulted in over grown claws while wear was considerably larger in the cubicles. This probable resulted in the higher prevalence of sole hemorrhages found in heifers in the cubicle system. After four months grazing and trimming no differences in claw health was seen. After calving the most prominent finding was a higher odds for LAMENESS (OR=3.8; P< 0.01), sole ulcers and sole hemorrhages (OR=2.2; P< 0.05), and white line hemorrhages (OR=2.8; P< 0.01) in animals on concrete slats compared to slatted rubber. Although not significant, animals originating from deep straw bedding had a higher prevalence of sole hemorrhages and sole ulcers after calving than those from the cubicles especially when moved to the concrete slats compared to slatted rubber. Although all lactating heifers had comfortable mattresses first calving heifers on concrete slats had more leg injuries (OR=2.6; P< 0.02) than those on slatted rubber flooring, probable because of lying more due to the uncomfortable concrete flooring.