



## Evaluation of Freestall Design in Mashhad Dairy Farms

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Housing systems and design is selected depending on the farmer's needs, available knowledge, facilities and other necessities. Several major housing systems include pasture, freestall, tiestall and loose housing (Straw yards) barns. Freestalls were used to provide easier and better management, including easier management of manure, accessing higher density, better hygiene by separation of cows. Stall is a metal cubicle that is surrounded by two divider rails, a brisket board, a neck rail and is located about 20 cm above the ground level. Manure of the lying cows drop outside the stall, which keeps the cow clean and healthy. Current study was done to evaluate structure of freestalls in Mashhad dairy farms. Farms sampled by convenience sampling and based on the membership of farms in the dairy farmers cooperative unit of Mashhad, farms with more than 100 lactating cows were selected. Stall width, stall length, stall bed length, brisket board height, lunging space, neck rail height, length from rear crub to neck rail, rear crub height and diagonal distance of the neck rail were measured. In each barn 6-7 stalls were measured. The freestall sampling pattern was done according to the protocols of Dairy Farmers of Canada. Eighteen farms were selected, which only 12 farms were available and willing to cooperate. Among these, 9 farms were equipped with free stall system which were included in this study. Mean  $\pm$  SD (Centimeter) of these measurements are as follows: stall width ( $124.5 \pm 9.4$ ), stall length ( $252 \pm 17.4$ ), bed length ( $233.3 \pm 29.3$ ), brisket board height ( $11.2 \pm 10.8$ ), lunging space ( $82.7 \pm 25.5$ ), neck rail height ( $120.4 \pm 10.4$ ), length from rear crub to neck rail ( $169.8 \pm 20.1$ ), rear crub height ( $16.9 \pm 4.7$ )



and the oblique distance of the neck rail ( $203.3 \pm 13$ ). Almost average of all dimensions were within the standard range, except for the brisket board. More detail examination of the stall dimensions should be done in order to find any possible freestall design risk factor for cow lying and comfort.

**Key words:** Free stall, stall, stall length, neck rail height, lunging space

### References

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## Detecting Claw Horn Lesions in High Locomotion Scored Cows

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Lameness is one of the most important health problems of dairy cows. Economic losses from lameness include reduced milk production, fertility reduction and reduced cattle economic life, and increased herd culling rates. For this reason, diagnosis and treatment of lameness in cattle is very important. Locomotion scoring system is one of the most practical methods in determining the severity, persistence and prevalence of lameness and is very important in early identification of lame