© 2011 Universities Federation for Animal Welfare The Old School, Brewhouse Hill, Wheathampstead, Hertfordshire AL4 8AN, UK Animal Welfare 2011, 20: 173-183 ISSN 0962-7286

Does rubber flooring improve welfare and production in growing bulls in fully slatted floor pens?

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Abstract

This study compared the effects of concrete slats (CS), synthetic rubber slats on aluminium profiles (RS) and slotted rubber mats on concrete slats (RM) in fully slatted floor pens on behaviour, claw and leg disorders, claw horn growth, cleanliness and production parameters of growing dairy bulls from 225 to 650 kg average liveweight. Each pen housed five bulls up to 400 kg average liveweight and four bulls thereafter. On CS, lying bouts were less frequent and longer than on RM and RS at 250 kg. Lying down phase I was longest on CS and shortest on RM. Interrupted attempts at lying down occurred twice as often on CS as on the rubber floors. Severity scores for white line haemorrhage and sole haemorrhage were higher in bulls on CS than on RM. Swelling on legs had highest scores on CS, whereas the severity score for heel horn erosion was lowest on CS. Floor type had no effect on dermatitis, leg hairlessness and skin damage. Both claw horn growth and wear were greater on CS than on RS and RM. Bulls on RS and CS were cleanest. Slaughter age tended to be higher and carcase conformation score tended to be lower on CS than on rubber, whereas feed intake, feed efficiency and other carcase traits were unaffected. The results indicate that rubber flooring improves animal welfare compared with concrete.

Keywords: animal welfare, behaviour, cattle, claw health, cleanliness, performance