

EFFECT OF SELLING SYSTEM FOR STORE STEERS ON LIVELWEIGHT
AND SUBSEQUENT PERFORMANCE IN A FEEDLOT

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SUMMARY

Different fasting treatments simulating either paddock sale or saleyard auction of store steers prior to fattening in a feedlot were compared with an unfasted control in three groups of 20 crossbred steers. When steers were denied feed continually and water periodically for 32 h (paddock sale) or 56 h (saleyard auction), initial live weight decreased by 7.1% and 9.3% respectively. Paddock sale steers recovered their initial live weight after 10 d while the auction group took 17 d. Differences in live weight between paddock sale and control steers ceased to be significant ($P > 0.05$) after 14 d and these two groups were heavier ($P < 0.05$) than the auction group for another 60 d. Final liveweights were similar ($P > 0.05$) though the auction group tended to be lighter ($P < 0.10$). We therefore advise that the period off feed and water be minimized and suggest that water be available whenever possible during both selling systems.

INTRODUCTION

In Australia, store (non-slaughter) cattle are normally sold on a per animal basis either by private negotiation in the paddock or by auction at a saleyard. For both methods, animals are without feed and water for various periods during transit and sale. As these activities may continue for as long as 2 d for paddock sales and 3 d for saleyard auction, substantial liveweight losses can be expected. Weight loss occurs rapidly in the first 12 h animals are off pasture and continues more slowly thereafter, whether or not water is available (Truscott and Gilbert 1978; Wythes *et al.* 1980). The latter authors recorded losses of 6.0, 7.6 and 11.4% of initial live weight when steers were denied feed and water for 12, 24 and 48 h respectively. In addition, they found that after grazing native pasture for 16 d, only those steers fasted for 12 h had regained their former live weight, while R. Tyler (*pers. comm.*) measured recovery after only 7 d following an 18 h fast. Any detrimental carry-over effect of selling method on subsequent weight gain is particularly important to feedlot operators, since total feed costs and time on feed are critical to profitability.

While it would seem advisable to minimize the time that store cattle are without feed and water during transit and sale, there is no information on the effect of method of sale on subsequent performance of cattle in a feedlot. In this study the effect of simulated paddock sale and saleyard auction systems on the live weight of store steers and subsequent liveweight gains in a feedlot were measured at 'Brian Pastures' Pasture Research Station, Gayndah, south-east Queensland, from June to September 1980.

MATERIALS AND METHODS

Sixty 20-month-old $3/8$ Sahiwal $5/8$ Hereford steers with mean initial live weight of 309 ± 4 kg (\pm SE) were yarded at 0900 h from 10 ha of sorghum stubble and weighed immediately (hour 0). They were then allocated by stratification on the basis of initial unfasted live weight and previous history (Robbins and Addison 1980) to three groups of 20 animals. For treatments 2 and 3 various periods off feed and water were imposed before animals entered the feedlot to simulate selling by paddock sale and saleyard auction methods, respectively, beginning with a 6 h period off water to mimic the time spent mustering and weighing

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DISCUSSION

These results demonstrate the impact which the selling system of store steers can have on liveweight and subsequent gains in a feedlot. The extent of liveweight loss during simulated transit and sale, and its subsequent recovery, depended on the duration of the fasting period. Cattle sold in the paddock lost less weight and recovered more rapidly than those sold by auction. However at the conclusion of the 100 d fattening period, final liveweights were similar ($P > 0.05$) for all groups.

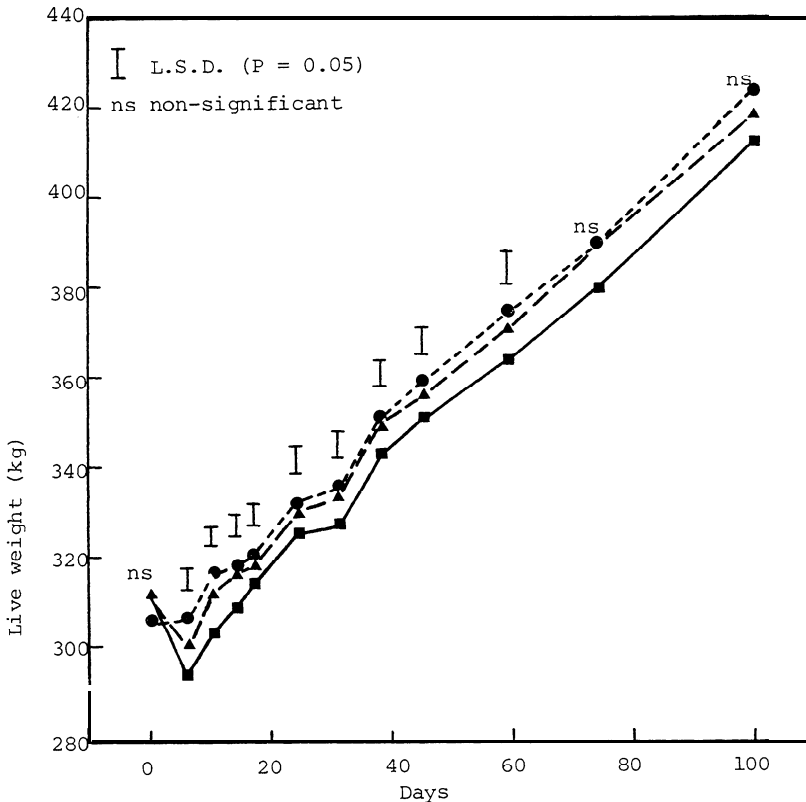


Fig. 1. Liveweight change of store steers subjected to simulated paddock sale (A--A) and saleyard auction (■--■), and subsequent liveweight change in a feedlot. Controls are shown ●--●

In this experiment, live weight of the cattle decreased by 6.4% after 25 h, regardless of selling treatment imposed. This is greater than the 3.1-4.7% reductions measured after 24 h for cattle denied feed but not water (Carr *et al.* 1971; Kirton *et al.* 1972), though less than the 7.6% reduction for steers denied both feed and water in other studies (Wythes *et al.* 1980). These results, for cattle given access to water for 3 h during the first day, suggests that even a short period on water can reduce the loss of liveweight. While the additional effect of transportation on liveweight losses is unknown for this study, other reports suggest it would be small (van den Heever *et al.* 1967; Wythes *et al.* 1981). Neither daily temperature nor humidity is likely to have accelerated liveweight loss.

Recovery to initial liveweight was influenced by method of sale, since the paddock sale group took 10 d and the auction group 17 d. Wythes et al. (1980) measured recovery when weighed 16 d after a 12 h fast. In their experiment the recovery period was probably less, though not recorded, since the weight loss was similar to that in our paddock sale treatment (23 v 22 kg).

Compared with the control group the setback following paddock sale was no longer significant after 14 d, but an additional 60 d was required to overcome the effects of auction selling, despite the latter group needing only an extra week to regain their initial liveweight. Hence there was a marked impact of the further 24 h fast on the performance of steers sold by auction in this study.

It is concluded that both the paddock sale and saleyard auction methods of selling store cattle had no permanent effect on liveweight performance of steers in a feedlot for 100 d. Nevertheless it is emphasised that steers sold by auction tended to be the lightest after 100 d which suggests that a longer fast could produce residual deleterious effects on liveweight gain. Further investigation would seem warranted, in view of the sample size and length of the feeding period in this study. However, it is advised that the period without feed and water be minimized and that water be provided whenever possible for cattle in any selling system, not only for humane reasons, but also to reduce the amount of weight loss.

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