

The TDN content of the ration had a positive correlation of 0.56 with days on test and negative correlation of -0.47 with initial weight. The correlation of level of roughage in the ration with the various feed items were the same in magnitude but reverse in sign from those for TDN. This follows from the negative correlation between TDN and roughage content of the rations.

Coefficients of particular interest are those pertaining to level of citrus products in the rations. All cattle except Lot 1, fed ground snapped corn, received citrus feed. In general, the level of total citrus products fed showed a slight positive correlation with feedlot performance.

Partial Regression Coefficients

Of greater utility than simple correlation coefficients in the interpretation of results were the partial regression coefficients obtained in considering simultaneously the most important factors influencing daily gain, feed conversion, TDN conversion, dressing per cent, and carcass grade. A step-wise multiple regression program was employed which showed the order of importance of the variables affecting performance, as well as their partial regression coefficients when the interrelationships of the variables are considered. The results from this study are shown in Table 2.

Daily Gain

Three factors pertaining to the ration had a significant influence on daily gain. These were in order of importance, (1) per cent TDN in the ration, (2) daily feed intake, and (3) per cent molasses in the ration. The correlations were positive in all cases.

That per cent TDN in the ration and daily intake had a favorable influence on gain is, of course, to be expected since it confirms well established principles of beef cattle feeding. Of particular significance for this study was the favorable effect of citrus molasses even when per cent TDN and food intake were held constant statistically. This would suggest that citrus molasses has a favorable effect over and above its contribution to TDN of the ration. These results are in agreement with feeding trials conducted by Baker (2), which have shown citrus molasses to enhance feedlot gains.

It should be noted, however, that the multiple correlation