

# Effects of dietary grain content on performance and morbidity of newly received beef heifers

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## Introduction

Feedlot performance is negatively affected by the onset of infection and disease. The role of receiving calf diet composition in the development of clinical disease is debatable. This study was conducted to compare the effects of a low-concentrate diet with those of a high-concentrate diet on the performance and health of newly received heifer calves.

## Materials and Methods

Lightweight, high-risk beef heifers (mean  $\pm$  SD weight, 447 $\pm$ 26.0 lb; n = 120) sourced from South Texas arrived in New Mexico in June. Calves were systematically allotted to 1 of 12 pens, and each pen randomly assigned to 1 of 2 treatments (low- or high-concentrate diet). Each pen contained 10 heifers, and there were 6 pens per treatment. Treatment diets consisted of either 15% (low-concentrate diet) or 30% steam-flaked corn (SFC; high-concentrate diet). A 74:26 blend of wet corn gluten feed: dried distiller's grains was included at either 65% or 50% of the low- and high-concentrate diets, respectively; all diets contained 15% ground corn stalks. Heifers were fed to appetite, twice daily, for 56 days. Daily health monitoring was performed; pulls were identified on the basis of signs of depression, de-

creased appetite, increased respiration, and evidence of elevated temperature (D.A.R.T. system). If warranted, calves were treated in accordance with a predetermined protocol.

## Results

Body weight at 56 days-on-feed, average daily gain (low-concentrate diet, 3.06 lb [1.39 kg]/d; high-concentrate diet, 3.21 lb [1.45 kg]/d), dry matter intake (low-concentrate diet, 15.03 lb [6.83 kg]/d; high-concentrate diet, 15.3 lb [6.95 kg]/d), and feed efficiency did not differ significantly ( $P < 0.05$ ) between the 2 diets. Additionally, the morbidity rate did not differ between the 2 treatments, as evidenced by no significant differences in the percentage of calves pulled once or pulled twice or more between the treatments.

## Significance

Findings suggested that the newly received feedlot heifers of this study performed similarly when fed either a 15% SFC (low-concentrate) or 30% SFC (high-concentrate) diet. Overall, health status of the study calves was better than expected, as evidenced by ADGs in excess of 3 lb [1.36 kg]/d for both treatment groups.