

IMPROVED PRODUCTION SYSTEMS TO ENHANCE PERFORMANCE AND CARCASS QUALITY OF CULL COWS IN URUGUAY

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In Uruguay, the fattening of cull cows represent a highly important economic activity for beef cattle farmers, as well as for the whole beef supply chain, since the slaughter of cull cows accounts for 47.3% of the national slaughter. In South America and in particular Uruguay, most research studies have focused on other beef categories, but little effort has been made to generate information on animal performance and product quality of cull cows. The increase of cull cows' productivity and quality has to consider improved forage basis and/or strategic supplementation during autumn and winter in Uruguayan systems. A trial was held at INIA Tacuarembó Experimental Station, located in Northern Uruguay at "La Magnolia" Experimental Unit, on sandy soils. The experiment lasted from 12th May to 12th September 2015 and worked with Braford cull cows (live weight, LW = 453.5 ± 51.3 kg). The forage basis was a mixture of *Avena byzantina* cv. INIA Halley and *Lolium multiflorum* cv. INIA Camaro. Forty cows were randomly assigned to T₁: 2% herbage allowance (HA) % LW, T₂: 4% LW HA, T₃: 2% LW HA + rice bran (RB) (0.6% LW) and T₄: 2% LW HA plus RB (1.2% LW). Final LW was affected by treatments (P < 0.05) being; T₁ (505.9 kg) ≤ T₂ = T₃ (537.3 kg on average) ≤ T₄ (561.6 kg), and so was average daily gain, where T₁ presented 0.258 kg/animal/day and was different (P < 0.01) from the rest of the treatments, which presented an average of 0.747 kg/animal/day. Hot carcass weight was affected by treatments (P < 0.01), being T₁ (237.4 kg) ≤ T₂ (250.1 kg) ≤ T₃ = T₄ (258.5 kg on average). Pistola cut weight was not affected by treatments (63.5 kg on average). Rump and Loin cuts were affected by treatments (P < 0.05), where T₁ was lower (11.4 kg) than all the other treatments (12.7 kg on average). Lowest animal performance was observed for restricted forage allowance and non-supplemented animals (T₁), but animal performance and carcass traits were similar for the rest of the treatments. These results suggest that Uruguayan farmers can successfully implement cull cows' improved fattening processes with medium-high animal performance levels and adequate carcass traits. To achieve these goals, farmers may choose between increasing forage allowance (T₂) or restricting it with the strategic use of low cost/highly nutritive supplements (RB) (T₃ and T₄).

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