

Sustainable intensification in Pantanal beef production - a case study.

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Changes in beef demand has been driven by the growth of human population, income and urbanization. The response of livestock systems has been the incorporation of science and technology and the consequent increase in production rates. The Pantanal production system is based on calf-cows systems with rearing of heifers for cows replacement. The main products sold are calves and culled females. To evaluate alternatives for intensifying extensive Pantanal production system, early weaning (with calves supplementary feeding), fixed time artificial insemination (FTAI) and a nutritional strategy for the different categories of cows were introduced in a farm located at the sub region of Abobral, with 9,191 hectares and 2,335 cows. Costs have been calculated for the 2012/2013 to 2013/2014 period, resulting the following cost composition: opportunity costs - Op (34.11%); depreciation - Dep (17.91%); mineral supplementation - SM (11.36%); services - Se (labor, farm consultancy etc., 9.96%); other costs - C (taxes, energy etc., 9.21%); and concentrated and protein enriched salt - RSP (8.63%). When Op (627,599.68 reais) and Dep (329,529.85 reais) are removed from the analysis, SM corresponds to 23.68% of the total cost, due to the nutritional intake of the different categories of females. Variable costs amounted 882,697.00 reais, corresponding to 48% of total costs. Calves, finished culling cows and heifers sold contributed to 47%, 34% e 17% of gross revenue (1.701.902,99 reais), respectively. Gross revenue per hectare was 263.74 reais, while gross margin and operational margin were 819,205.74 reais and 489,675.71 reais, respectively. Nevertheless, when total cost is considered (including depreciation and opportunity costs), profit (gross revenue minus total costs) was negative (-137,923.82 reais). According to such results, the more intensive system pays variable costs and depreciation, that is, it is capable to replace depreciated items, but not to cover interest on own capital. This indicates that the activity is sustainable in the short and medium term, but in the long term adjustments are required in order to remunerate the capital invested.

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