

Simulation of the economic response of three integrated crop-livestock production systems

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Abstract: The advance of agriculture under livestock production areas in Rio Grande do Sul (RS) has been leading the breeding herds to areas of lower quality. Consequently, the rearing and fattening management of these herds has been carried out in pasture areas in succession to soybean crops. The objective of this study was to evaluate, through a simulation model using electronic spreadsheets, the economic viability of three production scenarios with or without the sale of calves acquired in the off-season, after grazing in ryegrass

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pasture, in winter, in an area of crop integration livestock in the municipality of Dom Pedrito, RS. The evaluated scenarios were: i) SA (ryegrass and soybean): ryegrass pasture in winter and soybean crop in summer; ii) ASConf (ryegrass, soybeans and confinement): ryegrass pasture in winter and soybean farming and summer confinement; and iii) ASud (ryegrass and soy/sudan): ryegrass pasture in winter and part of the area with soybeans and another part with Sudan grass. It was evident that, in this simulation, high investments do not necessarily generate greater profitability. Therefore, it is necessary to conduct a technical and careful analysis to define in which situation each methodology should be applied, considering the market behavior and the availability of financial capital..

Keywords: Integrated crop-livestock systems. Economic viability. Profit.