Incidence of Agro-Climate Variability over Grass-Fed Cattle Markets

(Selected Poster # 10313)

Bruno A. Lanfranco¹ & José Pedro Castaño²

1- Senior Researcher (PhD). Agricultural & Applied Economics. National Agriculture Research Institute of Uruguay (INIA)

2- Assistant Researcher. Research Unit of Climate and Geographic Systems (GRAS). National Agriculture Research Institute of Uruguay (INIA)


Copyright 2010 by Bruno A. Lanfranco and José P. Castaño. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.
INCIDENCE OF AGRO-CLIMATE VARIABILITY OVER GRASS-FED CATTLE MARKETS
Bruno A. Lanfranco - Jóse P. Castrão
INIA-Uruguay - bruno@inia.org.uy

Background

Climate and seasonal climate variability is an important source of economic risk to agricultural producers. The effects of this variability can vary greatly across different agro-ecological regions and can impact via different mechanisms, such as rainfall patterns, temperature, and access to water. In Uruguay, this variability can be significant, affecting the availability and quality of pastures for cattle. Various studies have assessed the welfare impacts of climate variability and change in livestock markets using live cattle auctions. In this study, the impacts of climate variables on cattle prices are examined, providing insight into the economic importance of climate variability in this context.

Methods

A hedonic price analysis is used, where the price of cattle is regressed on a set of variables capturing agro-climatic conditions. The explanatory variables include indicators of soil productivity (CONEAT), water holding capacity (WHC), state of vegetation (NDVI), potential available water (PAW), and surface runoff water (SRW). These variables are used to assess the impact on cattle price and their relative importance. The analysis also considers the presence of unexpected climatic changes, which can affect short-term supply and demand of live cattle. The results are discussed in the context of climate change and its implications for livestock markets.

Results

Climate variability has a significant impact on cattle prices, with soil productivity and water holding capacity being the most important variables. The results also highlight the importance of unexpected changes in climate, which can lead to price differentials between cattle lots from different locations. The study provides evidence of the need for adaptive strategies by producers and policy makers to deal with the economic impacts of climate variability.

Concluding Remarks

Understanding the impacts of climate variability on cattle markets is crucial for developing effective adaptation strategies. The results of this study can inform policymakers and producers on how to better manage the economic risks associated with climate variability. Future research could focus on extending the analysis to different regions and considering other variables, such as market structure and policy interventions.