

Jennings

# Livestock Production in Unfavourable Economic Environments

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Strategies for Attaining Sustained  
Competitive Advantage

P.G.A. Jennings



BlackStar

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**Livestock Production in Unfavourable Economic Environments: Strategies for Attaining Sustained Competitive Advantage**

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**Cover: Jamaica Hope cows grazing lush African Stargrass pasture.  
Courtesy of Serge Island Farms Ltd., Seaforth, St. Thomas,  
Jamaica.**

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## **DEDICATED**

To the memory of

**Amy**

**Enid x Edgar**

who begat

ME

and to

**Annaleise**

Progenitor of the **generations to come.**



## ABOUT THE AUTHOR



**Dr. Paul Jennings** is Chief Executive Officer of the Jamaica Dairy Development Board, the arm of the Ministry of Agriculture charged with transforming the local dairy industry into a sustainable, internationally competitive sector of the Jamaican economy.

Prior to this he served in a succession of capacities within the Research and Development Division of the Ministry of Agriculture starting as Livestock Research Officer in 1974; rising ultimately to the position of Director, Research and Development. Between 1993 and 1996 he worked in the Jamaican Private Sector as General Manager, Serge Island Farms Ltd. and as Research Consultant with the Jamaica Agricultural Development Foundation.

Dr. Jennings is by vocation an Animal Nutritionist. A graduate of the Faculty of Agriculture of the University of the West Indies (UWI), St. Augustine, he is the holder of a Doctorate in Applied Ruminant Nutrition from the University of London (Wye College) and a Masters in Business Administration, UWI, Mona. He was a participant in the 6<sup>th</sup> International Course on Dairy Cattle Husbandry held at Wageningen, The Netherlands, from March to June 1978.

He has written extensively in the field of Dairy Cattle Nutrition and Husbandry as well as on the inter-relationship between technology, public policy and business strategy in livestock development; the latter, his principal current field of interest.

Dr. Jennings had his early education at the North Street Congregational School, Kingston and Meadowbrook High School, St. Andrew, Jamaica. He is a life-member and past president of the Jamaican Society for Agricultural Sciences.

Married since 1974, to Marcia, they are proud parents of three daughters.

## PREFACE

Forecasts by the World Bank have projected that by 2020 livestock production would have accounted for as much as 30 percent of global agricultural output (de Haan *et al.*, 2001). Developing countries are projected to become the main suppliers of the anticipated increases in global demand for milk and meat; consumption by 2020 estimated at 648 million and 327 million tonnes respectively; increases of 53 and 56 percent above consumption levels of 2000.

Already the 2005 forecast of total meat exports by the leading world suppliers is projected at a record 18.6 million tonnes (USDA-FAS, July 2005). Similarly milk production in the main dairy producing countries has been projected at 411.4 million tonnes; an increase of nearly 8 percent above the levels achieved in 2000.

Developing countries, including Jamaica, have over the past 15 years been harshly confronted by the challenge of improving the competitiveness of their traditional livestock production systems in order to retain their domestic markets within a liberalized global economy. This will require acceleration, by producers, in the adoption of more economically efficient systems of production and marketing in order to achieve the required sustainable competitive advantage to capitalise on the clearly unfolding opportunities.

Like many other countries of the Latin American and Caribbean Region, Jamaica is particularly well endowed to take advantage of these emerging markets for ruminant livestock products, given that nearly one-half of its land area is classified as being highly suited to the production of improved pasture. In addition, in the Jamaica Hope breed of dairy cattle and the three outstanding native breeds of beef cattle, Jamaican farmers possess invaluable assets which confer advantages not only for improved domestic production of meat and milk but also for exploiting the inevitable increased global demand for highly productive tropical animal genetics.

The author has been engaged over the past three decades, in Livestock Research with particular emphasis on the nutrition of the grazing dairy cow. Since 1999 he has focused on the important interaction between public policy and business strategy on the sustainable exploitation of technology in cattle production systems.

This text represents a compilation of publications by the author over the past three decades. Its essential thesis is that the global economic realignments of the past two decades have largely invalidated production systems, developed over the preceding years, which were aimed at mitigating the effects of the **adverse climatic environment** of most developing countries, in pursuit of maximum individual animal production. With respect to dairy cattle, the main focus of this body of work, the author posits the view that the imperative of achieving **sustained international competitiveness** has

interposed as the major challenge to milk producers in tropical countries like Jamaica, the overcoming of the **adverse economic environment**. This will require a refocusing of milk production systems toward optimizing individual animal output. The same, arguably, applies equally to other ruminant and non-ruminant livestock production systems.

The scope of the text, in addition to dairy cattle, also encompasses beef cattle and small ruminants as well as pigs and should be of interest to livestock producers generally, researchers, advisory staffs, planners and students of livestock production and developmental agriculture alike.

To improve its coherence, the book has been subdivided thematically into six sections:

- **The Future of the Jamaican Dairy Industry: Policy and Strategic Issues**
- **Productivity of Pasture and the Role of Concentrate Feeds in Milk Production by the Grazing Dairy Cow**
- **A Guide to the Strategic Feeding of Dairy Cattle**
- **The value of other tropical forages for livestock production**
- **Beef and other Livestock Production Systems**
- **Technology and organization within the Jamaican Dairy Industry**

The 23 chapters have been allocated based on their congruence with each theme. Two Power Point presentations are appended, the first, a summation of Chapter 3, which addresses the issue of achieving sustainable competitive advantage in milk production, while Appendix 2 reproduces a recent presentation on options for competitive beef production. A third appendix tabulates annual average exchange rates of the Jamaican versus the US dollar to give context to the fairly liberal use of financial data across a wide span of years.

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Paul Jennings

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