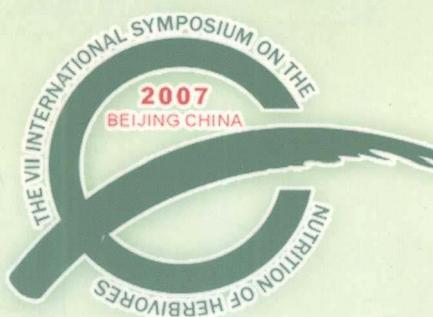


# Proceedings of the 7th International Symposium on the Nutrition of Herbivores

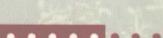
## Herbivore Nutrition for the Development of Efficient, Safe and Sustainable Livestock Production



Plenary Paper and Poster Abstracts

Editors:

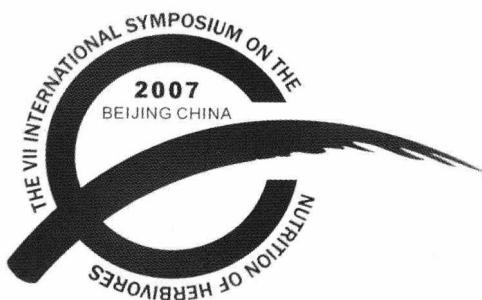
Q.X. Meng, L.P. Ren, and Z.J. Cao



China Agricultural University Press

# **Proceedings of the 7th International Symposium on the Nutrition of Herbivores**

**Herbivore Nutrition for the Development of Efficient,  
Safe and Sustainable Livestock Production**



**Editors:**

Qingxiang Meng, Liping Ren, and Zhijun Cao



China Agricultural University Press

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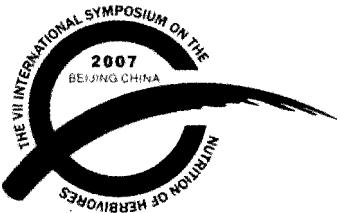
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Organized by  
The Chinese Association of Animal Science and Veterinary Medicine (CAAV)

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## **Forward**

It is my pleasure to welcome you to The Seventh International Symposium on the Nutrition of Herbivores (ISNH-7). The objectives of the International Advisory Committee (IAC) are “to provide a forum for development, exchange and promotion of knowledge on the nutrition of terrestrial herbivores in captive and free-living environments”. Managing herbivores in commercial and wildlife systems is about more than simply meeting nutrient requirements or manipulating production through nutrition, important as that is. The meeting traverses a spectrum of research which advances the nutritional sciences through novel molecular approaches to problems while promoting their application in the management of the productivity and health of herbivores and the mitigation their impact on the environment. Increasingly, the human health benefits and otherwise of animal food products are a consumer concern and special recognition of the opportunities to enhance food quality through animal nutrition is a new feature of the scope of the plenary programme.

In the current global environment herbivores, because of their unique digestive systems, come under intense scrutiny for their “contribution to greenhouse” gases. What often goes unstated is their ability to harvest biomass otherwise unavailable as a human food source without inputs of fossil fuel an attribute which surely secures their importance for the future well-being of mankind.

The breadth of scientific expertise at this conference is a unique feature of the Symposium Series. Make the most of it, and enjoy the kindness and culture of our hosts.

In this volume, you can find the plenary papers and poster abstracts presented at ISNH-7. The 6-page short papers have been published in the Journal of Animal Feed and Sciences, as special issue (Volume 16, Supplement 2, 2007).

On behalf of the International Advisory Committee, we wish to thank The Chinese Association of Animal Science and Veterinary Medicine (CAAV) for organizing this symposium in Beijing. The committee members also express their special appreciation to Dr Qingxiang Meng and his colleagues at the China Agricultural University to whom we are indebted for their magnificent work during the last 4 years in bringing this scientific programme and conference together.

Finally, we wish to thank all the participants at the symposium for their comments, questions and criticisms. Their input has resulted in significant improvements in the papers presented in this symposium.

Dr. Andrew R Sykes  
Chairman  
International Advisory Committee

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# **Plenary Papers**

## **SESSION 1**

**The Role of Herbivores in Mixed/Integrated  
Agriculture and Agro-Forestry  
Systems in Asian Countries**

