

## **Dr Rafat Al Jassim**

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Dr Al Jassim is a Nutrition Biochemist and Gut Microbiologist who is holding an Honorary Associate Professor position at the *Centre of Animal Science, Queensland Alliance for Agriculture and Food Innovation* and at the *Australian Institute for Bioengineering and Nanotechnologies (AIBN)*.

Dr Rafat Al Jassim is an animal scientist with specialisation in Nutrition Biochemistry and Gut Microbiology and their application to bovine, equine and camel husbandry. He has more than 30 years' experience in nutrition research especially of the ruminant animals.

### **Abstract**

#### **NUTRIENT REQUIREMENTS FOR CAMELS**

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*The aim of this presentation is to shed some light on certain aspects of nutrition and feeding of camels and to attempt to provide estimates for energy and protein requirements for maintenance and milk production of camels.*

*Little information is available on the correct nutrition of camels for the different production systems. This is partly due to the fact that nutrient requirements for camels have not been determined and only a few requirement studies are available. Some recommendations are available but unfortunately these estimates were derived from beef cattle requirements. Our knowledge of the anatomical, physiological and feeding differences between camels and cattle make the reliability of such estimates far from realistic or accurate. Despite the differences, there are many similarities between the two species and the simplest way to establish a sound understanding of camel nutrition would be to conduct a systematic comparison of camels and cattle in a variety of nutritional situations.*

*Energy and protein requirements for maintenance and growth of camels were derived from an indirect calorimetric study and a factorial analysis of results from feeding and nitrogen balance trials, reported during the 1990s. Estimates for energy requirements for maintenance ranged between 0.314 and 0.374 MJ/kg<sup>0.75</sup>. On the other hand, protein requirement for maintenance was averaged at 2.18 g/kg<sup>0.75</sup> of digestible crude protein.*

*This is not satisfactory and there is an urgent need to start a structured program to measure the requirements for energy, protein and other nutrients for breeding, growing and dairy camels.*