



## ANIMAL PRODUCTION IN TROPICAL REGIONS

**Study programme: MIMV    Curricular Year: 3º    Semester: 5º    Optional    ECTS: 2,5**

**Docentes:** Luis M A Ferreira (CCP), Rui M H Caldeira, Magda A Fontes, Yolanda M Vaz, Isabel Fonseca, Luis Alfaro Cardoso, Manuel Madeira, André Martinho

**1. Contact hours::** Lectures - 20; Practicals – 6;

### **2. Objectives:**

Inform the students to the size and perspective of livestock production in tropical regions especially to the increase of livestock production in these regions and the continuous decline of animal populations in most developed countries of the temperate regions. Provide students with a body of knowledge about the effects of tropical climates on the animals and on the production of feedstock's to feed them and the consequences of these effects and adaptations in feeding strategies, in the health programs and in the design of production systems used. Describe the general characteristics of production systems and animal populations of cattle, sheep, goats, pigs and birds existing in the tropics.

### **3. Programme:**

Prospect of Animal Production in Tropical Regions. Size and distribution of the various species of livestock. Livestock as economic and sociocultural activity. Constraints and challenges: supply of animal protein to the human population, food security, food quality and animal welfare. Characteristics of climates and production of animal feed in the tropics.

Main types of feed produced in the tropics, conservation technologies and their use by animals. Effects of environmental factors on productive physiology of animals. Animal adaptation to environmental constraints and seasonality of food availability. Anatomical and physiological specificities in various animal species. Constraints of environmental conditions for the development of some production systems. General characteristics of production systems and of animal populations of cattle, sheep, goats, pigs and birds existing in the tropics.

### **4. Bibliography:**

Macdonald, P, Edwards, RA, Greenhalgh, JDF & Morgan, CA, Sinclair, LA, Wilkinson, RG. (2011). *Animal Nutrition*. 7<sup>th</sup> Edition. Prentice Hall.

Payne, J.A.W. & Wilson, R.T. (1999). *An introduction to Animal Husbandry in the Tropics*. Blackwell Science.

Johnson, H. D. (1987). *Bioclimatic & livestock*. World Animal Science. Elsevier Scientific Publishing Company, Oxford. pp 3-16.

Starr, J.R. (1986). *Weather and climate on animal performance*. Commission for agricultural Meteorology, World Meteorological Organization, Geneva.

McDowell, L.R. (eds.) (1985). *Nutrition of grazing ruminants in warm climates*. Academic Press: Orlando.

### **5. Assessment:**

Theoretical and practical subjects are evaluated with a written examination including short answer questions, multiple-choice questions, true and false and incomplete sentences.