BIRA2109 Agrarian systems and management of agricultural faming

[75h+0h exercises] 6 credits

Teacher(s): Michel Focant, Jean-François Ledent, Alain Peeters
Language: French
Level: Second cycle

Aims

Part 1. Description of the main farming systems of the World and study methodology of these systems. The main part of the course is a description and a detailed analysis of these systems, chosen on the basis of their pedo-climatic and socio-economic representation. Time and space functioning of the systems is described in a very concrete and synthetic manner; their evolution is analysed and replaced in the context of climate changes, of human population evolution and nutritional state of people.The impact of farming systems on natural resources and the sustainability of these systems are analysed at the plot and farm levels.
Part 2. Holding types, crop rotations and cropping patterns, activity calendar, cattle management, crop/animal husbandry interactions, management of quotas and premium. Integration of farm activities into food production chains.
Agri-environmental legislations.
Part 3.
Part 4.

Main themes

Part 1. Description of the main farming systems of the World and study methodology of these systems. The main part of the course is a description and a detailed analysis of these systems, chosen on the basis of their pedo-climatic and socio-economic representation. Time and space functioning of the systems is described in a very concrete and synthetic manner; their evolution is analysed and replaced in the context of climate changes, of human population evolution and nutritional state of people.
The impact of farming systems on natural resources and the sustainability of these systems are analysed at the plot and farm levels.
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Content and teaching methods

Part 1. Content:
Origin and dispersal of agriculture, crops and domestic animals. Principles of the evolution between natural resources gathering to the management of plant and animal productions, food and non-food, and relations with land use planning.
Main types of the world farming systems, in temperate and tropical areas.
Concepts of sustainable, integrated and organic farming.
Energy consumption and nutrient balance of agricultural production.
Impact of farming systems on landscape and biodiversity.
Relation between production systems and food quality.
Perspectives of agricultural production and human population feeding.
Study methodology of the dynamic of farming systems, of their equilibrium and misfunctioning.
Part 2. Description of agronomy principles and functioning of farms in time and space. Matter and nutrient cycles in specialised farms in arable crops or in animal husbandry and in mixed farming.Study methodology of farm management.
Part 3.
Part 4.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings,

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Precursory courses Chemistry, physics, biology, ecology, soil science
Supplemental courses Plant (crop and forage) and animal productions
Evaluation Oral, at the end of the cycle
Support Text, notes taken during the lecture, Powerpoint presentation, CD Rom of the file
Teaching team Teacher