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Exploitation of natural resources of the “dehesa” for meat production

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RESUME – *“Exploitation des ressources naturelles de la “dehesa” pour la production de viande”. Dans les 20 dernières années, l'exploitation des ressources naturelles du “dehesa” (la région boisée de la Méditerranée) située au sud-ouest de la Péninsule Ibérique, a changé d'un système économique de subsistance (la production de bétail de famille, le bois de chauffage, le charbon de bois, la chasse, etc.) à un système intégré visant le bénéfice économique. La grande source de richesse du “dehesa” est basée la production annuelle généreuse de fruits (des glands de chêne) dans un écosystème caractérisé par un sol pauvre et une pluviométrie faible. En raison de la composition en lipides, avec d’hautes pourcentages d'acides gras mono-nonsaturés, les glands sont le régime d'alimentation parfait pour des animaux abattus aux hauts poids et orientés pour élaborer les produits de grande qualité. La large présence de forêt de Chêne au nord de l'Afrique, avec les mêmes caractéristiques que la forêt de “dehesa” ibérien, peut être une bonne raison pour mettre en oeuvre des programmes de collaboration entre des régions géographiques à potentiel comparable. Le but final de ces programmes doit être d améliorer le niveau de revenu de la population rurale et forestière.*

Mots-clès : Quercus*, “dehesa”, ressources naturelles, production de viande.*

Extensive systems of livestock production

The extensive systems of livestock production are supported on the use of stockbreeding species of zootechnical interest. Species which are able to use the natural resources efficiently through grazing. Generally, the exploited stockbreeding species correspond to adapted local genotypes, particularly, to the limiting and ecological factors proper of the natural background. Extensive stockbreeding, as well as the spreading of its productions, present common characteristics, of ecological interest regarding its role in the preservation of nature, but with certain productive and commercial limitations:

a) Importance of it census.
b) Outstanding source of nutrient contribution to the soil by means of the animals defecation.
c) It can coexist, correctly managed, with the fauna and flora, making up an ordinary element within the ecosystem.
d) The grazing in the mountain represents an effective element to prevent forest fires.
e) It generates high quality products, which are well appreciated by the consumers.
g) The profitability levels are low, therefore financial help is needed for the capitalisation of exploitations as well as compensation for income losses.

The extensive livestock systems must be managed in a suitable way and get the balance production-preservation. All in all, the levels of livestock must be adequate to the availability of the background resources. In this way, overgrazing and subgrazing are ecological disadvantages, as result of unsuitable management. The livestock over the level of sustainability produce a degradation of the local flora, with the apparition of the soil erosion phenomena. The subgrazing derives into the apparition of vegetal species of poor interest, with few nutrient requirement and palatability. The invasion of species with grazing of low interest produces loss of pasture quality, translated into a greater risk of forest fires in the stockbreeding exploitations.

The “dehesa”

The “dehesa” systems in the Iberian Peninsula make up the most representative models of extensive exploitations in the Mediterranean area. The “dehesa” are extensive and semiarid systems

of soil uses where the perennial vegetation (trees and shrub-likes) grow in the exploitations with the marginal agricultural farming and the animals (domestic and hunting ones), and among such components there are economic and environmental interactions. It means that, it is possible to characterise the “dehesa” globally as an farming-forest system whose woody, grazing, stockbreeding and farming components interact in a beneficial way regarding commercial and environmental terms under certain managing circumstances. The “dehesa” is characterised by having large extensions of surface assigned to animal grazing, where stockbreeding species are exploited. These species are adapted to the limiting conditions proper of the production marked by the background. Due to the adverse agricultural and climatic factors which limit the getting of a generalised farming practice in the space and time, the stockbreeding makes up, with any doubt, the greatest commercial production of the “dehesa” in Spain, aspect which has been supported by the importance of the stockbreeding census location in this area. The stockbreeding productions are supplemented with farming and forest use, the ones which are replaced, at high percentage, in the animals feeding.

These systems exploitation has been carried out, generally, through farming, stockbreeding and forest uses all together. The alternative use of the pieces of land for farming and pastures has always been a common feature in these exploitations. In the last years, the stockbreeding orientation of the “dehesa” exploitations has been strengthened to the detriment of the farming. On one hand, this has provoked the proliferation and invasion of shrub-like species due to the decrease of soil ploughing up but on the other, it has contributed to the recovery of the soil organic richness.

The potential surface of “dehesa” in the Spanish west and south-west is slightly superior to 7 million of hectare, from which the oak tree occupies 1,900,000 ha and the cork oak 230,000 ha, approximately. These figures show that on one hand, the unwooded “dehesa” represents two third parts of the “dehesa” area. On the other had, the “dehesa” means more than one third of the pastures surface in Spain. The pasture area of Extremadura is of 2.4 million of ha, a 34% of the total “dehesa”.

The absence or presence of the wooded stratum in the “dehesa” will determine the uses and exploitations that can be carried out on it so, the wooded exploitation allows, regarding the soil, a varied use of its productions. The oak and cork oak wood is dedicated to direct consumption or to the elaboration of vegetal coal. The branches cut after pruning are used, firstly, as food for the animals and finally for the elaboration of “picón” (little pieces of coal used to heat). The production of acorns is used for the Iberian pig feeding and the cork represents a considerable source of incomes in the cork oak exploitations. As it can be checked, the wooded area represents a key factor for the “dehesa”, which determines the productive orientation of the exploitations and it leads to present a higher level in the diversity or uses. This aspect is typical of the extensive systems in the Spanish Southwest, where the most determining factor, regarding the productive and technical-economic orientations are the biophysics limitations of the background; even more than the effects of the possible prices variations in the marketing of different products generated in the “dehesa”.

The “dehesa” systems cannot be understood without the socioeconomic implications of their rural background, where the traditional cultural functions have made possible, since old times, the farming practices in balance with the environmental features. The productive diversity of the “dehesa” is characterised by the presence of commercial functions. These functions are directly valued by the market, as well as by the items and services of environmental character, which nowadays are important social demands.

Due to the debate and demand of the different social sectors in favour of the natural preservation, it is necessary to assume the maintenance of a farming production that generates enough incomes and in a sustainable way makes possible the protection and rational use of the natural resources. It is foreseeable, due to the competitiveness of these exploitations, a regulation of their production devoted to the obtaining of high quality products, assigned to limited markets of high purchasing power. Producing also an increase in the offer of enjoyment and environmental services.

In the farming systems the dissociation, after the green revolution, from the traditional productive function, has meant important technological innovations and increase of the farming incomes, but everything associated to a poor rural development: the loss of natural resources as background items, the lack of replacement of renewable items and as result, a decrease of environmental quality. Even certain traditional farming systems not only do not damage the natural resources, but they mean a defence or improvement for them. However there is the risk of a progressive isolation due to their

limited profitability as it happened a few years ago regarding the extensive farming systems or the maintenance of local breeds as base of the extensive stockbreeding. These factors can derive into an important damage on the biological diversity of the farming systems and into considerable economic and social connotations.

Equally, the spreading of farming systems and particularly the spreading of stockbreeding productions must provide a suitable formation about set of methods and techniques that contribute to combine the farming activity with the nature preservation. Therefore, preserving nature runs in parallel with the necessity of fostering the inner rural development through the possibility of increasing the productive offer of the farming systems.

Currently, the varied regulation and the farming-environmental measures taken by the Public Administrations (European Union, Spanish and Local Community Governments) support clearly the production extensive systems; they support particularly those systems which make possible the income level improvement of the rural populations, avoiding the field isolation and the emigration to urban areas. The production of stockbreeding products of high quality plays a key role within this process (cattle, ship and goat meat from animals bred in the country and fed with natural products; cured products of Iberian pig, rural chicken, rabbits, etc).

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