

DENSIFICATION OF THE MOUNTED BY NATURAL REGENERATION AND ARTIFICIAL METHODS AND LIVESTOCK INTEGRATION (ALENTEJO LOCAL PIG BREED)

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Guerreiro da Silva, P. <sup>1)</sup> & Oliveira, A. R. <sup>2)</sup>

<sup>1)</sup> Técnico Superior do Município de Ourique [pmtgsilva@hotmail.com](mailto:pmtgsilva@hotmail.com) <sup>2)</sup> Docente do Instituto Politécnico de Beja [aro@ipbeja.pt](mailto:aro@ipbeja.pt)



ABSTRACT

The density of saplings and protection of natural regeneration of the ecosystem of mounted (holm oak and cork oak) is essential to ensure the sustainability of ecosystem characteristic of the Mediterranean region and central to the Portuguese economy and in particular to the areas of low population density. So, we decided to present in this module technical and scientific aspects of the fundamental methods of natural and artificial regeneration. The purpose of this brief communication is the defense and promotion of ecosystem balance mounted, aimed at integrating livestock species in the ecosystem under study emphasizing the importance of Alentejo local pig breed (*Sus ibericus*, SANSON 1901), as one of the key elements integral to the balance and sustainability of biodiversity of this Mediterranean Ecosystem. This ecosystem, on the one hand combats desertification mainly physical in nature, and secondly promotes carbon sequestration, aimed at mitigating climate change. The role of Alentejo local pig breed in ecosystem balance of mountain is undeniable, being one of the main livestock species that optimizing and promoted of the balance of this ecosystem in order to defense of the environment and natural resources. To emphasize that the integration of agriculture associated with densification of mountain as cultural structure of anthropogenic origin, are also promoting measures to mitigate desertification of Mediterranean Ecosystem in the face of various externalities caused by the phenomenon of global climate change.

**Keywords:** Densification, Mountain, Mediterranean Ecosystem, Mitigation, Climate Change, Agricultural Integration, Alentejo Local Pig Breed.

1. INTRODUCTION

In the context of agroforestry business activity of the strategic challenges is securing the assembled as the guarantor of the Mediterranean ecosystem, promoting sustainable development and mitigating the adverse effects caused by climate change (Guerreiro da Silva, 2012). The density of cork oak (*Quercus suber*, L.) and holmoak (*Quercus rotundifolia*, LAM) a practice promotes the restoration and preservation. Is associated with assembled a wide range of activities, with particular emphasis on production in extensive Alentejo local pig breed ("porco alentejano"). The protection and restoration of mounted ("montado") plays a key role in mitigating desertification and depopulation of areas with low population density, as is the case in some areas of the Alentejo. Thus, the management plan must ensure ridden areas of the regeneration of new trees, ensuring a minimum density per hectare. The regeneration of cork oak and holm oak can be made by natural and artificial processes. The ideal option passes by the junction of the two techniques; that is take advantage of the existing natural regeneration, sending the young trees, and in areas of cleared land, we promote the planting or seeding to ensure the renewal of the territory assembled and value the point of environmental, economic and social. So we decide to undertake this work, we present in the form of poster in this conference.

2. OBJECTIVE

The aim of our study is to demonstrate the importance of techniques and methods of consolidation as a way to promote the protection, restoration and sustainable development of the Mediterranean ecosystem mounted on a perspective of mitigating the effects of climate change, also aimed at integrating livestock, particularly the Alentejo pig breed autochthonous.

3. MATERIAL AND METHODS

To elaborate this study we monitored the practical implementation of densification projects in agroforestry farms in the county of Ourique in 2006, integrated into Kuris Program (Program Development) of the Community Support Framework 2000-2006. Additionally we carried out a survey and literature review, related techniques and methods of natural and artificial regeneration, promoting the densification of the mounted ("montado")

4. MAIN RESULTS

Installation of individual metallic protective order to protect the young trees and livestock integration (Alentejo local pig breed)

In the absence of protecting the young plants are at the mercy of livestock and wildlife species, which can cause its destruction, compromise the rejuvenation of cork forest areas (Fig. 1). So the densification of areas fitted through the use of natural regeneration and / or seeding / planting includes adopting pioneering protection techniques, including the use of individual metallic shields (approximate floor area 0.67 m2), promoters of growth early (Fig. 2 and 3). Additionally it is possible the development of farming, herding this particular agro-forestry-pastoral system (Fig. 4).

Among the livestock species, particularly within Portuguese autochthonous breeds of Alentejo local pig breeds (Figs. 5 and 6), which is registered in Animals Encyclopedia of Food and Agriculture Organization (FAO, 2003) is race, which exploit grazing system in "montanheira" or "dehesa" or monted, is the one that makes better use of local food resources acorn, lande, herb spontaneous grasslands, egg sacs and small molluscs, protein sources of nutritional value, in order to obtain final products (hams and traditional sausages) with certified quality high value added nutritional and food for human consumption (Oliveira, 2000 and Oliveira et al., 2013).



Fig. 1 - Natural regeneration of holmoak tree (*Quercus rotundifolia*, Lam) destroyed



Fig. 2 - Young corkoak tree (*Quercus suber* L.) protected by safety net single



Fig. 3 - Young corkoak tree protected by individual protection network needs pruning



Fig. 4 - Densification mounted in grazing areas of the Alentejo local pig breed

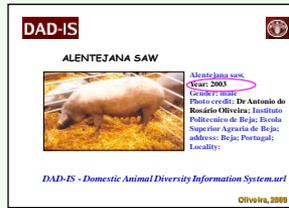


Fig. 5 - Autochthonous Breed Portuguese. Alentejo Breed Sow inscribed in Animals Encyclopedia of FAO, 2003

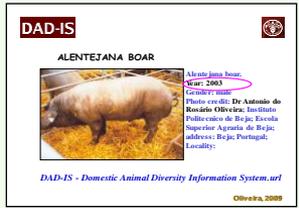


Fig. 6 - Autochthonous Breed Portuguese. Alentejo Breed Boar inscribed in Animals Encyclopedia of FAO, 2003

5. FINAL

The techniques and methods of increasing the density of trees, through the use of natural regeneration, seeding and planting of new trees, help mitigate the sharp decline of the assembled, without compromising the style characteristic of the farming operation south of Portugal, which is best suited to extensive local pig production ("porco alentejano"). The farmer plays a key role in achieving these techniques and methods of densification mounted, with essential technical support perhaps state, to ensure these investments in agroforestry farms, which contribute to mitigate the phenomena of desertification and climate change. It is important and urgent to develop and implement more studies quantifying carbon sequestration at the level of assembled, including the overall balance of input and output of CO2 and its impact on the atmosphere, using simulators.

6. REFERENCES

Contact the Authors through their electronic mail.