



AGROFORESTRY SYSTEMS: SILVOPASTORAL



Year of foundation	1980
Specialization	Sheep and pig farming
Farm area	130 ha
Number of employees	2
Year of starting agroforestry practices	1980
Location	Camino del Puerto s/n. CP 23110 Pegalajar - Jaén (SPAIN)
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The exploitation is intended for the **breeding and fattening of sheep and pigs** for later sale for **meat use**. It is located in an area dominated by **holm oak**, which is performed maintenance and densification work. Every year the planting of **cereal to feed the cattle of the farm** is carried out. **Livestock is also fed with pastures and cereal residues that exist on the farm.**

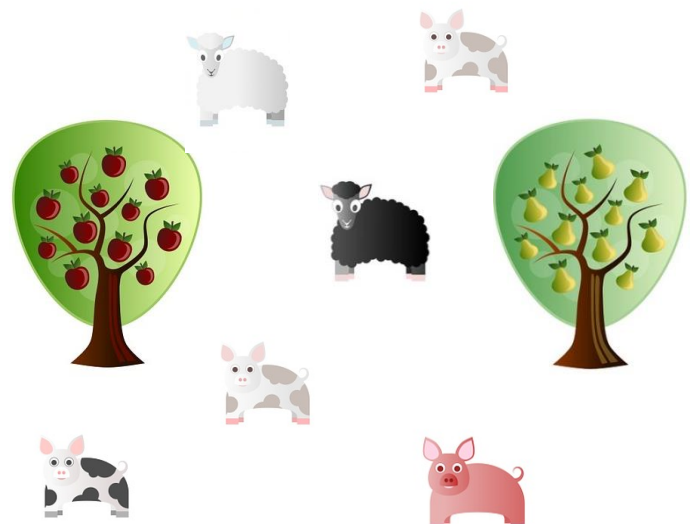


The farm was used for the breeding of goats and dairy cattle before the beginning of their current use. Actions on the woodland have been practiced since the beginning of the operation of the farm itself, **with the pruning of the oak done since the area was adapted centuries ago. This pruning was very abusive in the 70s, irreversibly damaging the oaks. However, the techniques have been adapted to current knowledge about the care of trees that** are transmitted from entities such as IFAPA (Agricultural and Fisheries Research and Training Institute of Andalucía) and UCO (University of Córdoba) to ensure that the trees lasts and produce in good condition.

Currently, **sheep farming is in an ecological regime, taking advantage of the pastures and cereals that are produced on the farm.** The trees, affected by severe pruning and various diseases, are treated with care, putting into practice measures learned in courses and conferences given by experts in the field, giving advice to the personnel who carry out the practices on the oak. Therefore, the most sustainable management possible is sought within the possibilities.



- It is still too early to observe large variations produced by pruning, maintenance work and densification, since this type of tree responds very slowly to changes, and although the practices implemented have been carried out for some years, no changes are detected significant at a general level.
- Nest boxes are used for the reproduction of insectivorous birds that prey on insects and larvae (possible future oak pests). In this livestock exploitation, the use of biological control against the use of phytosanitary products is encouraged, in order to reduce the use of chemical products, negative for both the health of people and the environment.



The system can be said to be inherited with the farm, since basic agroforestry techniques have already been practiced traditionally, although with other techniques and mechanisms. There is a **transfer of information from organizations** such as IFAPA Hinojosa del Duque and Universidad de Córdoba, which update us on new ways of treating woodland to ensure their health and productivity, techniques that are nowadays experimental in some cases, but which are applied in the farm in favor of an improvement of the conditions of the tree mass. There are no administration subsidies for the implementation of these practices (densification, pest control, etc.), it is the owner who decides to assume expenses because he considers these actions necessary. Although, in our case, there is an **initiative of public and private origin, financed by the municipalities and companies in the area that provides assistance for the densification of woodland.**

It is very important to:

- 1. Know your environment well: Not all agroforestry practices are suitable for a specific area.** Knowing the characteristics of the farm well is essential when deciding which practices to apply on it to obtain success in them. For example, you cannot plant cherries inoculated with truffle fungi in acidic soils because they prefer basic soils.
- 2. Master the techniques to perform them correctly:** It is essential to have trained and master the techniques that are going to be carried out in agroforestry management to avoid damaging the resources of the farm. For example, when pruning the oak, proper handling of the tools is needed to avoid damaging the tree and allowing the entry of pathogens through wounds, as well as to allow adequate growth and production.

DESCRIPTION OF USED TECHNICS DURING ESTABLISHING OF AGROFORESTRY SYSTEMS

Within the set of measures carried out on the farm are:

- 1. Pruning of woodland, carried out by chainsaw and tractor with front shovel.**
- 2. Pest control, drilling and defoliating insects.** Non-toxic products and biological control using natural predators are used.
- 3. Densification of the trees: planting in grids of pre-germinated specimens from selected trees within the farm, with a separation of 10-12 meters between plants. Protection with electro-welded mesh cloths 2 m high. Spontaneously born specimens are also protected.**



THREATS/CHALLENGES

- **1. Competition with intensive productions:** Extensive production cannot compete in numbers versus intensive, costs are higher which reduces benefits.
- **2. Administrative support:** There is very little administration support for this type of farms, both economic and technical.
- **3. Markets:** Agreements signed with other countries put our products at a disadvantage, subject to numerous sanitary and quality controls, compared to those coming from abroad, subject to more lax regulations.
- **4. Environmental conditions:** The lack of rainfall and the increasing temperature increase, native and native pests, livestock overload, etc., put these agroecosystems at greater risk.

Agroforestry practices, well carried out and adapted to the conditions of each farm can be very beneficial for the maintenance and improvement of the exploitation. This requires an in-depth study of the possible actions that can be carried out in each area. In this way, and having acquired the necessary knowledge and skills, we can make the most of the resources that the farm offers us, while maintaining a sustainable balance over time.

In this case, as it is a system with a very slow response to change, it is still early to draw conclusions from the actions carried out in the field of agroforestry. However, the advice and training acquired make us hope that the practices adopted will lead to an improvement in the conditions of the farm, generating economic and environmental sustainability.



FUTURE PLANS

The farm is under an ecological regime, being managed under the premises that this type of cataloging entails, although in the future it is likely to be managed under the biodynamic model, taking a further step towards the most environmentally sustainable management possible within profitability parameters.

FINAL RECOMMENDATION

1. Knowledge of regulations As well as of the possible aids. It is necessary to be up to date with the requirements regarding regulations that must be met within each type of exploitation.
2. Training: In any of the aspects that govern the operation of a farm, from the economic to the management of livestock or plant resources.
3. Knowledge of the environment of the farm: To take into account the possibilities offered by the land where we are going to perform our activity and not carry out practices that are unprofitable or deficient due to the lack of adaptation to the characteristics of the farm

Farmer recommendation:

“Before starting any activity related to agroforestry it is essential to know if it has the possibility to prosper over time and thus generate a source of wealth for owners and employees, as well as to be a sustainable system at the environmental level”

KEY WORDS

Silvopastoral, sheep, pig



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