

JAÉN'S OLIVE MONOCULTURE: FROM PRODUCTIVITY TO SUSTAINABILITY?

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I. THE BUILDING OF A PRODUCTIVIST MODEL WITH DIFFERENT AGRONOMICAL-LANDSCAPE TYPE VARIATIONS

In general terms, the olive grove has become the most significant crop in the Andalusian agricultural scene. The case of the province of Jaén is particularly impressive: more than 570,000 ha., 84.88% of its total cultivated land is equivalent to a third of Andalusia's whole olive crop. This physical growth is the result of recent favourable and successive historical circumstances. Especially interesting has been its growth in the last two decades, a process linked closely to the positive economic effects upon this sector ensuing from Spain's membership in the European Common Market. As important as the growth of the gross cultivated land surface is the development of strategies for productive densification and intensification within what is called the new oliveculture (Guerrero García, 2003). These initiatives have given rise to a significant rise in biomass which, with the help of a systematic dose of nutrients of fossil origin and the spread of irrigation, have allowed for extraordinary harvests.

In the new plantations (called as such since those appearing from 1986) the number of trees has doubled and even tripled the traditional number (between 80 and 100 per ha.). The most intensive version of all olive groves appears, however, in the closely-knit, hedge-like or superintensive plantations, with more than 1,000 trees per ha. The key to understanding this olive grove fever is the abovementioned logic of productivity behind the Common Agricultural Policy (CAP). The Common Market Organisation for vegetable fats, whose first version was passed in 1966, created, as a basic tool, a guaranteed minimum price which was higher than that of world markets, as well as putting into effect systems of direct subsidies for production and consumption. However, it also set up mechanisms for customs protection and export refunds. If these strategies were not enough to assure producers' profits, and just

in case surplus harvests were generated, producers were also able to limit their offer through storage contracts. The idea was to assure that all produce was sold at reasonable prices.

These changes have evidently brought about a diversification of the pre-existing situation but have far from created a unique landscape. In the heart of the olive grove monoculture, which has an apparently uniform appearance, one can in fact distinguish very different types of plantations as regards the use of natural resources or their social and economical effects. If we were to summarise the situation, we would point out four big typologies of olive groves depending on different levels of productive intensity: extensive, semi-intensive, intensive and superintensive (Araque, Gallego and Sánchez, 2002).

II. THE UNDESIRED EFFECTS OF PRODUCTIVE INTENSIFICATION.

The noteworthy increase in harvests, together with farmers' profits from these, has had a costly toll on the environment.

2.1. Soil erosion

Despite the existence of adverse conditions, such as high slopes or torrential rain, the primary cause of erosion in olive groves is the systematic destruction of spontaneous vegetation. The maintenance of permanently bare soil has been, until recently, one of the obsessions and agronomic maxims of all olive farmers who have prided themselves on knowing how to obtain the maximum production from their plantations. The result, in many cases, has been the appearance of strong run-offs, ravines, and consequently, the loss of organic material and nutrients as well as doubtful management of rainfall water. Indeed, it has been estimated that an average of 80 tons of soil per hectare per year have been lost (Pastor and Castro, 1995), which, in turn, allows us to calculate total annual losses being higher than 45 million tons in the whole stretch of olive groves in the province. In order to combat this problem the trend of recommending farming with the manipulation of spontaneous vegetation or cover crops has been put into practice, a method which, when used correctly, could prove to be an ideal solution. In general, farmers who opt for this method keep the space beneath the tree's crown free of plants at all moments, limiting the cover crop to the lanes in between rows of trees. It is here where vegetal strips arise, forming protective screens which are produced either from the cultivation of spontaneous vegetation (and in the case of the olive tree, from the leaves which are renewed periodically and the shredded remains of pruning), or strips of cover crops introduced with this aim in mind (cereals and legumes).

2.2. Overexploitation and deterioration of water resources

The spread of irrigated olive groves is a phenomenon which is both recent and intense. It is of course linked to the European Community's productivity stimulus, but it is also the result of dramatic lessons learnt by olive farmers during the great drought period of the last decade, which caused a drastic fall in production during the worst campaigns (1994/95 and 1995/96). The irrigated olive grove has tripled since 1986. From then on irrigation has been used in more olive groves than the corresponding number of plantations. The water

needs of the olive tree are modest if we compare them to any other crop. Watering at the right moment between 1,500 and 2,000 m³/ha./year, is enough to regulate and increase production by doubling, on average, the harvests of unirrigated olive groves. The pressure on this resource, despite everything, brings about significant inconveniences and dysfunctions. The olive grove crop has become the largest water consumer in the Guadalquivir Basin (Confederación Hidrográfica del Guadalquivir, 2005) and tension between the administration and olive farmers and between the latter and farmers of other crops in the region is becoming frequent. The overexploitation of aquifers is now a fact and the quality of water has suffered due to the systematic use of chemical products, which has become routine and is generally superfluous to the objective needs of the crops.

2.3. Loss of biodiversity and the drabness of landscape

Despite the efforts of certain organisms to present olive grove plantations as ecosystems or even as paradigmatic examples of nature being improved by man, and despite the fact that their virtues have been happily compared to those of the *dehesas* (not a completely ridiculous idea but only in certain traditionally extensive olive groves), the fact is that olive groves have mainly become a kind of “green desert”. The disappearance of the cover of vegetation, the pollution of water, the use of such aggressive chemicals such as *dimetoate* (Beaufoy, 2001) and the harm suffered by the soil, have all lead to an enormous deterioration of the quantity and diversity of animal species which live in them.

III. THE NEW SITUATION INTRODUCED BY THE REFORMS OF 2004: THE EUROPEAN COMMUNITY'S SUSTAINABLE PARADIGM IN THE OLIVE GROVE

The inclusion of environmental objectives in the CAP began in the 90s, amid a post-productive strategy where aspects such as rural development or the production of healthy and safe foodstuffs were to increasingly gain in importance. The 1992 reforms had already marked a changing point when the guaranteed minimum prices of cereals and beef were lowered and when productive limits were imposed (Lamo de Espinosa, 1998). The 1999 reform, part of a set of reforms known as “Agenda 2000”, concerned the CAP's budget and allowed three new concepts to be put into force: conditionality, the decoupling of subsidies and modulation of direct payments. The 2003 reform has merely reinforced these principles. In the specific case of olive groves, it was during the 2005/2006 campaign that this sector's specific reform was put into force.

This new scheme implies the granting of subsidies for the production of olive oil as a unique payment. Producers, from that moment onwards, receive a set amount which, however, is linked to the fulfilling of certain conditions, and which is calculated by the average of the subsidies received during the 1999/2000 to the 2002/2003 campaigns. Another sum linked to olive grove production is given for the preservation of olive groves of recognised environmental or social worth. The truth is that this system has only minimally distorted the economic benefit of the receivers of these subsidies, but the latter are largely obtained without having stimulated a rise in production, something which is now only encouraged exclusively through market mechanisms.

IV. ALTERNATIVE PRODUCTIVE SYSTEMS: INTEGRATED AND ORGANIC

The compliance to basic environmental norms is, as we have seen, a necessary condition to not lose part or the whole of the direct subsidies. Nevertheless, the adoption of an agreement to surpass these minimal good agricultural practices allows the farmer to apply for agroenvironmental programmes which include complementary payments.

4.1. Integrated production in the olive grove

Integrated agriculture aims to obtain high quality organoleptic and safe foodstuffs. The key lies in choosing and adequately applying different technologies which could be of a biological, agronomical, chemical or mechanical nature. What is highly limited is the use of products of chemical synthesis, which are only used when strictly necessary. As regards quality control, this is achieved by being able to trace the whole process of the product's lifespan, manipulation and commercialisation, which are audited and identified through a Government-certified guarantee. The tendency shown by this system of cultivation is of strong growth. At this moment, despite the short time it has been able to count on support from the Administration, it already represents a significant portion of Jaén's olive grove surface area (23,548 ha.) although it is expected to reach much higher levels in the near future. This is foreseeable precisely because it implies a soft landing from conventional methods which are more accessible in economic and agronomic terms for farmers.

4.2. The organic olive grove

Organic agriculture strives to achieve foodstuffs of a maximum quality, whilst respecting the environment and preserving the soil's fertility through the correct use of natural resources and the complete exclusion of products of chemical synthesis. The organic olive grove tries to favour the natural regulation processes of plagues, fertility and other factors which assure productivity and profit in agrarian activity. The realisation of obligatory practises by organic olive cultivators imply an additional income of 266.85 /ha. What is more, and despite generalised reticence among producers, some comparisons between conventional and organic production even show economic advantages for the latter (Alonso, Guzmán and Serrano, 2002). Nonetheless, recent tendencies show that there has been a considerable decrease in surface area cultivated with this system and its significance in the province of Jaén is far below that which it has in global terms throughout the region. Among the reasons which could explain this process is the lack of premises to crush olives near to the producers who are interested in reconverting their plantations, the lower production that arises when the farmer does not know the appropriate techniques and products for correct reconversion and the slow reduction in the price differences between conventional and organic olive oils.

V. CONCLUSIONS

It appears terribly complicated to accept the idea that a monoculture can become sustainable, although this of course depends on what we understand by the term

“sustainability”. Whichever way one looks at it, the threats facing Jaén’s olive groves are, from all perspectives, very worrying: a sustained drop in the farmer’s profits due to factors such as the impact of the new superintensive plantations and the rise in production costs; a deterioration of organic resources; the disappearance of European Community subsidies and the consumers loss of confidence in the product.

Faced with all this, the remedies which up to now have been offered include the reconversion of production methods rather than reducing the surface area of olive groves and diversifying of crops. However, progress has been modest: according to data on this subject, integrated production and organic production scarcely come to more than 5% of the whole. The slowness in adopting this type of change reflects the enormous burden left to farmers from the productivity phase of the CAP.

