



**INTERNATIONAL WORKSHOP:
OLIVE RESILIENCE TO CLIMATE CHANGE
Lisbon/Évora (Portugal), 27-30 September 2022**

With roughly 11.5 million hectares of cultivated land around the world, the olive tree can be found growing in more than 50 countries, mostly in the Mediterranean region.

About 3.2 million tonnes of olive oil and about 2.8 million tonnes of table olives are produced every year, but production fluctuates wildly from one year to the next. This is mainly due to adverse weather conditions, in particular droughts and high temperatures during flowering. Storms, hail and high winds as well as forest fires, which have intensified in recent years, all exacerbate this fluctuation and can decimate olive production.

Unfortunately, these phenomena can all be attributed to climate change. In fact, in some traditional olive growing areas, especially in North Africa, the olive tree is becoming a marginal crop and is migrating north due to climate change.

Another issue facing olive growing is the emergence of new diseases and pests in places that are not adapted to them. On top of the damage caused by conventional biotic aggressors, such as verticillium wilt and olive fly, the new threat of *Xylella fastidiosa* is destroying vast swathes of olive cultivation land.

And as if this were not enough, genetic erosion is also a danger to the sector – today, only 5% of the world's olive varieties are exploited commercially.

All these issues call into question the sustainability of the olive tree, especially in traditional cultivation areas where production systems are extensive.

Soil erosion and water scarcity, alongside intensifying agricultural practices, also challenge the sustainability of agro-forestry systems in general, and of olive production systems in particular.



Public authorities, civil society, and the International Olive Council (IOC) alike are all increasingly concerned about just how sustainable the current agricultural systems are.

However, the olive tree is well known for its resilience. The crop is known to be capable of self-preservation and adapting to highly changeable conditions. This is fundamental to coping with the unpredictable nature of climate change. Studies into this flexibility and these survival techniques are currently underway, and may lead us to new ideas about the sustainability of the olive crop.

Delving into olive genetic resources could provide ways of expanding this resilience, but this area of study remains largely untapped due to pre-breeding activities being underdeveloped.

Stakeholders from the sector and from around the world are looking for ways to encourage the sustainable development of ecosystems, protect limited resources by reducing inputs and water consumption, improve soil balance by maintaining plant cover, find varieties that are better adapted to different climatic changes and mitigate the effects of global warming.

Sustainably developing systems for producing olive oil and table olives in ways that consider the environmental, economic, and social factors involved in a constantly changing environment requires an intensification of these systems, which is another of the challenges facing the sector. The increasing demand for large quantities of high-quality, healthy olive products make preserving local know-how and traditions ever more difficult.

Fierce competition from alternative products, which may not be as good for human health but are cheaper to produce, could threaten the profitability of the olive sector and therefore its existence, especially in marginal areas.

This is why sustainability that includes adaptability and resilience is so important to maintaining olive production and its structures, especially when faced with the shocks of today.

This workshop on the resilience of olive production systems therefore aims to give an overview of several aspects related to the sustainability of the olive oil and table olive value chain, opening our minds up to new ways of 'sustainable thinking'.



In recent years, important consortia of universities and research institutions, as well as private entities, have conducted research and research-development projects at national, regional, and international levels, all aiming to boost resilience in olive growing and thus shore up its sustainability. These projects receive substantial funding from various donors, and many have the institutional support of the IOC.

Different aspects are covered by these initiatives, including:

- Preserving the genetic resources of the olive tree and research into varieties that can tolerate different biotic and abiotic stresses
- Sustainable olive farming and preserving biodiversity in olive groves
- Olive growing in the face of climatic changes: chilling, drought, etc.
- Assessing the carbon balance
- The rational use of water
- The economics of small and medium olive farms
- Raising awareness of olive tree by-products...

The objective of this workshop is to gather the coordinators of projects related to the sustainability and resilience of olive production systems and to:

- Acknowledge the progress, methodologies and results of the different projects;
- Provide opportunities for stakeholders to network and share experiences;
- Create new consortia, with the support of the IOC, to develop new research projects and research and development strategies;
- Develop horizontal projects; and
- Coordinate and follow up on olive resilience and sustainability.