



# CARBON SEQUESTRATION



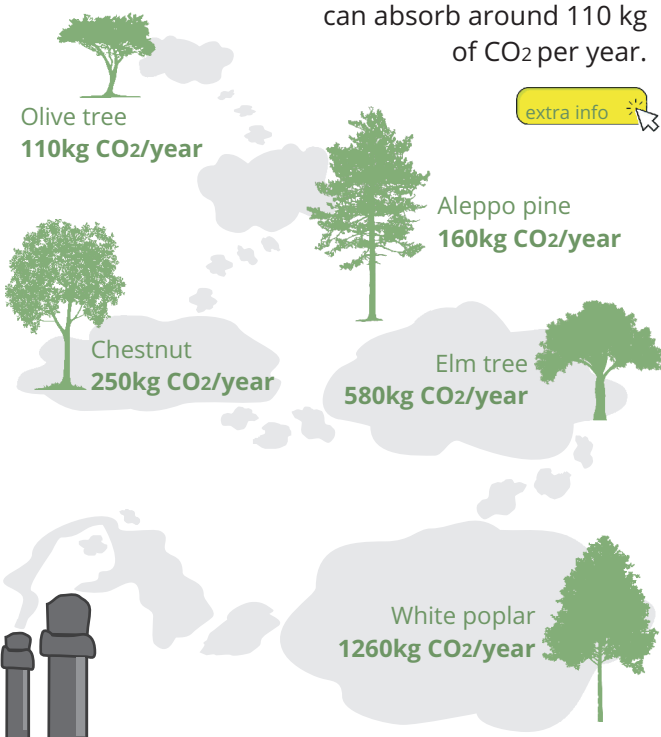
## A PROBLEM THAT AFFECTS EVERYONE

We need to decarbonize the global economy; in other words, progressively reduce greenhouse gas emissions, especially carbon dioxide (CO<sub>2</sub>). To do this, productive activities must generate less carbon dioxide than they consume.

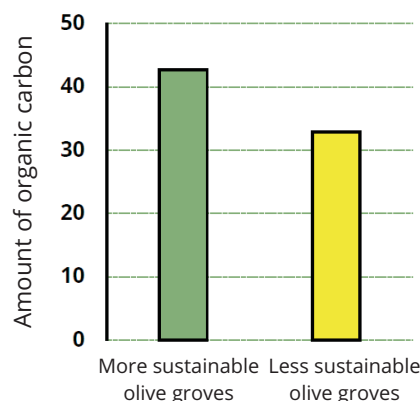


## A GREAT ALLY

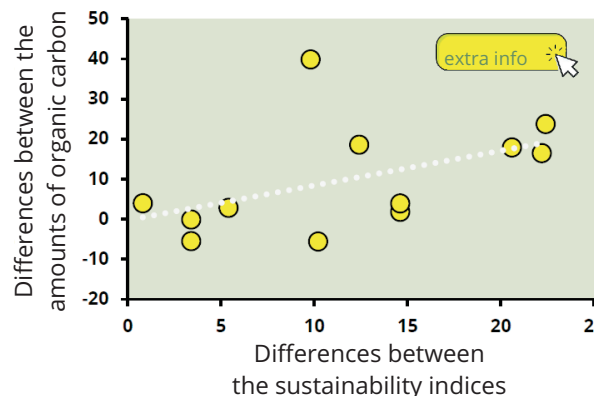
Thanks to photosynthesis, the olive tree is able to extract CO<sub>2</sub> from the atmosphere and transport it to the ground, where it is trapped. Specifically, it has been estimated that a 40 year old olive tree can absorb around 110 kg of CO<sub>2</sub> per year.



[extra info](#)



Amount of organic carbon in the topsoil of SUSTAINOLIVE experimental plots in Spain (in tons per hectare)



Differences in the amount of organic carbon in the topsoil versus differences in the sustainability index for SUSTAINOLIVE experimental plots in Spain

When conventional olive groves are compared with others that apply sustainable management practices, it is found that the greater the difference in the sustainability index, the greater the difference in the amount of organic carbon stored in the topsoil.

**Cover crop**

- Shredding pruning remains
- Manure or olive mill pomace
- Minimum tillage

**Bare soil**

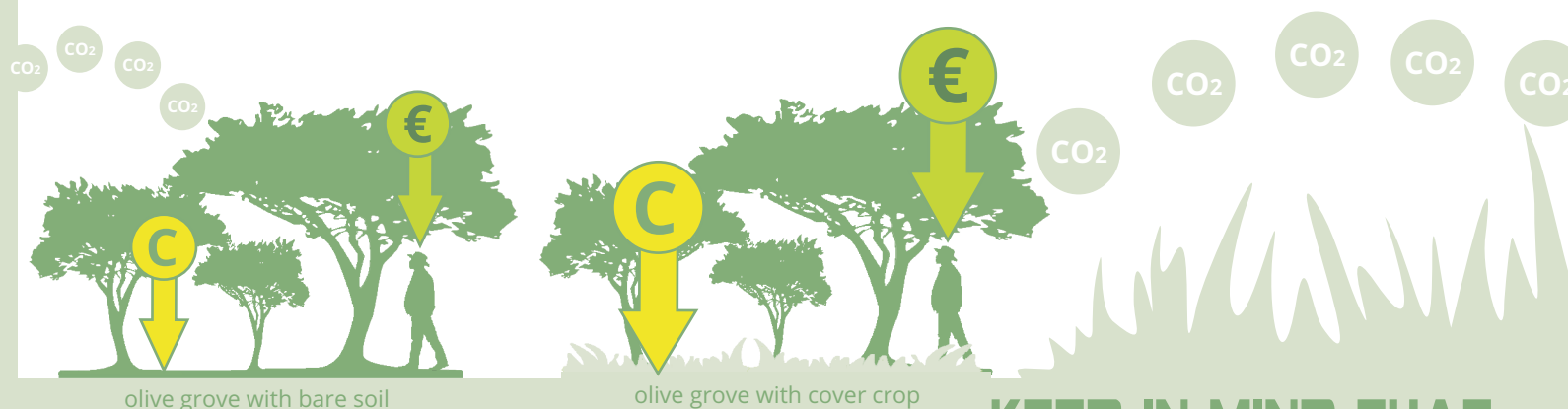
- Burning pruning remains
- Chemical fertilizers
- Intensive tillage

## DID YOU KNOW THAT...

during January 2022, a ton of captured CO<sub>2</sub> was paid at € 84 in the international emissions market ?

Sooner or later, agriculture will be incorporated into the global emissions market, so that farmers will be financially compensated for carrying out practices that retain and fix CO<sub>2</sub> in their soils.

According to our estimate, **olive farmers who have implemented sustainable management practices** on their farms in recent years, especially the maintenance of cover crops, could receive an average of **€ 190 more per hectare** than those who applied a conventional model. It is the award for their contribution to storing carbon in the soil and, therefore, to **mitigate the process of climate change**.



## IF WE LOOK AT THE NUMBERS...

the amount of CO<sub>2</sub> removed from the atmosphere in one year by all the olive trees on the planet (around 1.500 million), could be estimated at approximately **855 million tons, which is equivalent to 3 times the CO<sub>2</sub> emissions of the entire Spain during 2020.**

## KEEP IN MIND THAT...

soil has been shown to be one of the largest carbon reservoirs in terrestrial ecosystems. In the olive grove, the maintenance of a **herbaceous cover crop**, the input of organic fertilizers (**composted olive mill pomaces, manure**), the **shredding of pruning remains** and the **reduction of soil tillage** are practices that considerably enhance soil carbon sequestration in the form of organic matter. In fact, 1.7 extra million tons of CO<sub>2</sub> would be retained by soils if all the Andalusian olive groves implemented these good practices, which is equivalent to the CO<sub>2</sub> that would be emitted if all European cars drove for 40 km.