



# THE PRUNING LEFTOVERS

use of resources

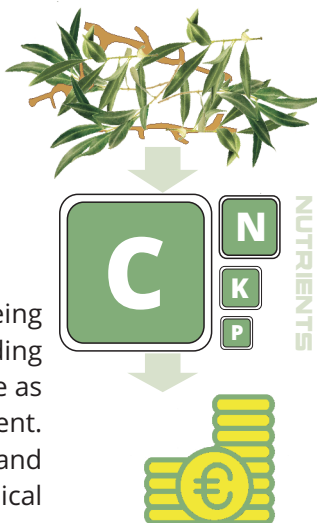


THE RESULTS OF SUSTAINOLIVE

## THE TRADITION

Along the cold winter mornings, the grey smoke rising within olive groves attested that farmers were burning their pruning leftovers.

Lately, this practice is being replaced by the shredding of these materials for use as organic soil amendment. This reduces fire risks and the demand for chemical fertilizers.



## BENEFITS OF APPLYING PRUNING LEFTOVERS

- ✓ They provide microhabitats for soil organisms
- ✓ They provide organic matter to the soil
- ✓ They help tackle soil erosion
- ✓ They increase water infiltration
- ✓ They reduce water loss by evaporation
- ✓ They act as buffer for oscillations in soil temperatures

## COMMON SENSE

In alignment of the firm commitment by the European Union, via the **Green Deal (2019-2024)**, to achieving a **Circular Agricultural Economy**, the multiple actors profiting from agricultural by-products will become **favorably placed in view of future public funds**.

[extra info](#)

## DID YOU KNOW THAT...

In Andalusia alone, olive groves generate around **2.5 million tons** of pruning leftovers annually, the equivalent to the weight of **170 Towers of Pisa**?

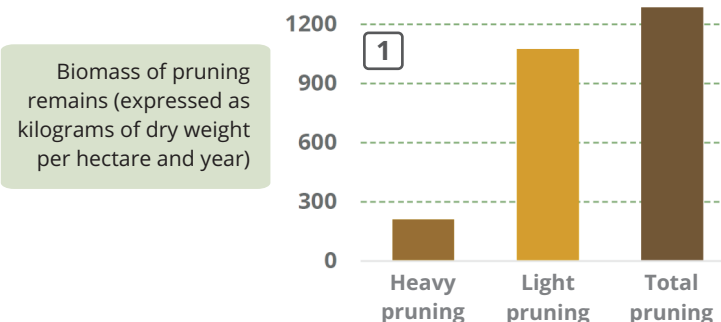
Applying this organic matter to the soils of olive groves would result in **savings from nitrogen fertilizers worth over 18 million euros**.

Burning the leftovers of pruning means that all that money, equivalent to **324.000 olive days of work**, vanishes into the atmosphere.



## BACK TO THE SOIL

In the following graphs we show diverse parameters related to pruning leftovers, as measured in 12 experimental olive plots in Spain.

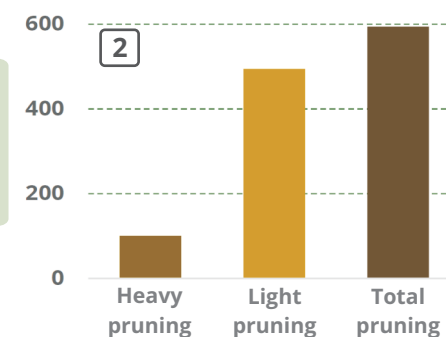


Our olive groves delivered a total of over 1.200 kg of pruning leftovers per hectare and year (graph 1), which is equivalent to circa **600 kg per hectare** and year of organic carbon (graph 2). That amount of carbon would be similar to what would be provided by a **cow manure amendment of about 4.000 kg per hectare**.

The amount of CO<sub>2</sub> retained in the pruning leftovers (graph 3) from 3 hectares of olive groves would be equivalent to the CO<sub>2</sub> emitted by **a car after crossing the whole equator. And it would still have more 5.000 Km of CO<sub>2</sub> to spare**.

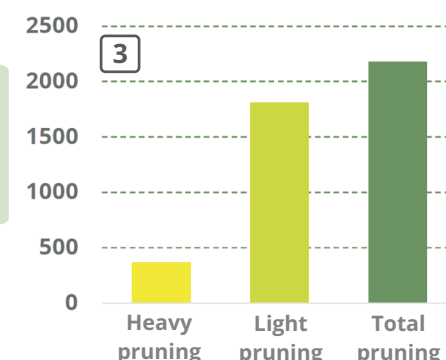
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kilograms of organic carbon contained in dry pruning leftovers per hectare and year



3

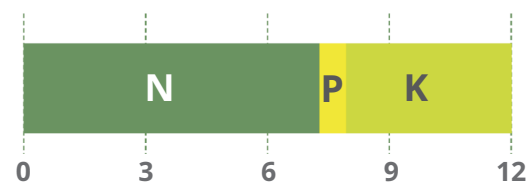
kilograms of carbon dioxide (CO<sub>2</sub>) captured in dry pruning leftovers per hectare and year



How much would the olive farmer earn per hectare if the CO<sub>2</sub> retained in pruning leftovers were quoted on the international emissions market?

**183 €**

## A NON NEGLIGIBLE FERTILIZER

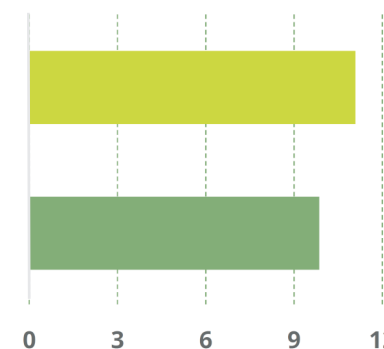


Accumulated amounts of nitrogen (N), phosphorus (P) and potassium (K) from the shredding of light pruning (expressed as kilograms per hectare and year) contributing to soil fertility and health

What savings in nitrogen fertilization can be expected if the pruning leftovers are shredded and added to the soil of the olive grove?

TOP bar. Euros per hectare and year (considering €1.5/kg as the reference price for nitrogenous fertilizer)

BOTTOM bar. Percentage per hectare and year (compared to a reference level of 75 kg/ha)



## TRULY IMPORTANT:

When **any symptoms of diseases** are detected in your olive trees, you should not **store or shred** your pruning leftovers. In such case, burning your pruning leftovers is strongly recommended to prevent the spread of diseases.



ONE REMARK

Phosphorus and potassium do not have gaseous molecular forms, so these nutrients remain in the soil after pruning leftovers are burned. On the contrary, nitrogen produce volatile gases that are released into the atmosphere when pruning leftovers are burned.

## KEEP IN MIND THAT...

due to the average savings in nitrogenous fertilizers (€11 per hectare), a 20-hectare olive grove could **financially pay off the acquisition of an olive branch shredder** valued at €2.300 in just 10 years.

In addition, **further benefits** could be obtained from the use of this machinery.

