



# **COVER CROPS IN WOODY CROPS**

**AGRICULTURAL AND ENVIRONMENTAL IMPORTANCE**



# Agricultural and Environmental Importance.

For decades, the need for soil tillage in woody crop fields (olive trees, citrus, fruit trees, etc.) has been justified for several reasons:

- I. To air and loosen the soil.
- II. To submerge fertilizers and organic matter.
- III. And to increase the water infiltration capacity.
- IV. But most importantly to control weeds.

**However recent studies have shown that it is advisable not to plough the soil at all or to plough it as little as possible. And why is that?**

- Through frequent tillage, the soil is left bare all year round, making it sensitive to runoff generation processes.
- Carrying sediment by runoff is the main cause of surface water pollution with fertilizers and phytosanitary products.
- This practice also eliminates the tree's shallowest roots. Consequently, the surface absorption of nutrients and crop protection products is blocked, favouring their leakage, and causing pollution of groundwater as well.

**As an alternative to frequent tillage, cover crops, sometimes managed with herbicides, are considered a more sustainable practice.**





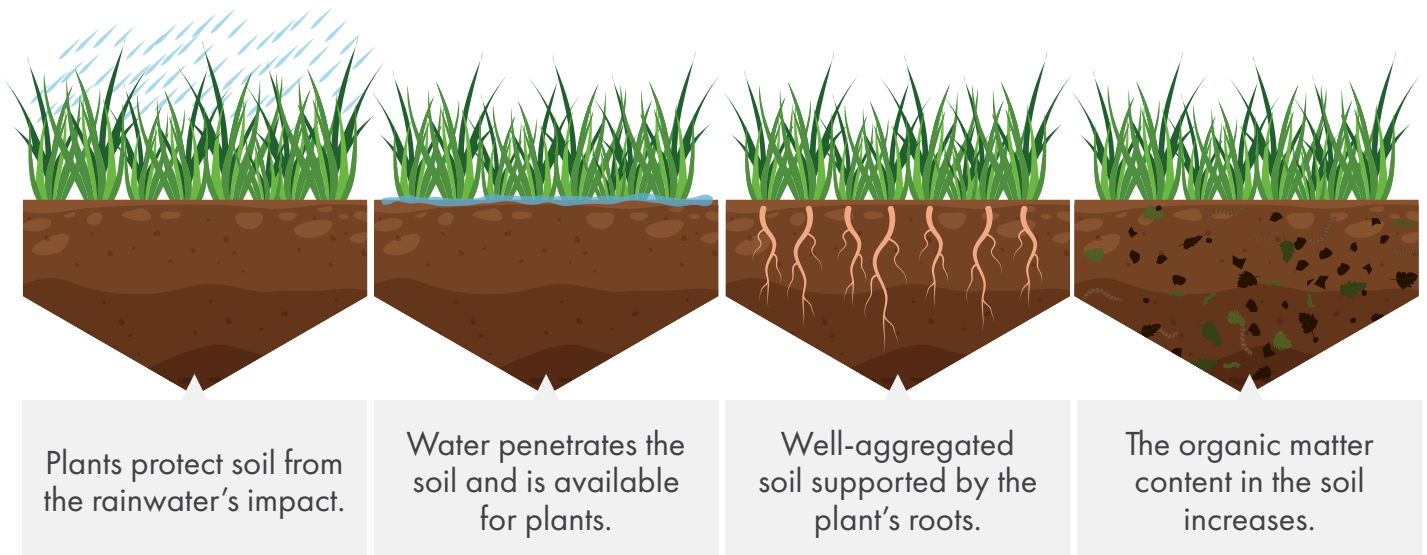
## But what are Cover Crops?

- I. Cover crops are a very important practice to solve the problems of soil loss in woody crops and to improve rainwater infiltration.
- II. Maintaining a cover crop consists of leaving the ground covered with herbaceous plants, cultivated or spontaneous, in the centre of the lanes, between rows of trees, as a “green strip”.
- III. This cover should be established and kept alive during autumn and winter, when the soil receives most of the rainfall.

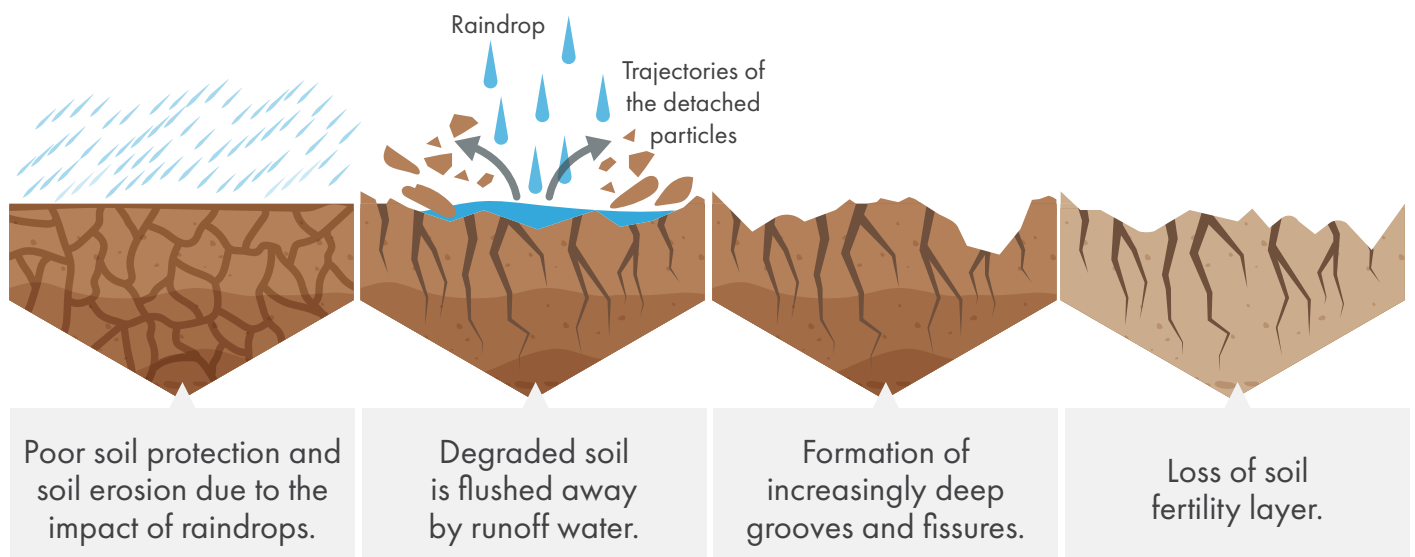


# Let's find out more about the advantages of this technique

## WITH COVER CROPS



## NO COVER CROPS





# Cover crop types

## Non-selected accidental

This type of cover has the advantage of the flora biodiversity and does not need to be planted. **However, it needs a more complex control of chemical herbicides, requiring high doses of herbicides.** In addition, some species may appear hard to control.

## Spontaneous cover grass

**Consists of letting the spontaneous grass grow and eliminating the leafy species.** This process can be done with selective herbicides or with a brush cutter.

## Cover sown species

It involves the annual sowing of herbaceous plants in the olive tree lanes. This should be done in the autumn, with the first rains.

**The best performing species are:**

**Grasses:** *Hordeum vulgare* (barley), *Avena sativa* (oats), *Triticum spp* (wheat).

**Leguminous plants:** *Vicia sativa* (vetch), *Vicia ervilla* (yero), *Trifolium sp* (clover).

The leguminous remains are less durable in the soil compared to grasses, but the advantage of leguminous cover crops is that they fix atmospheric nitrogen in the soil (green fertilizer).



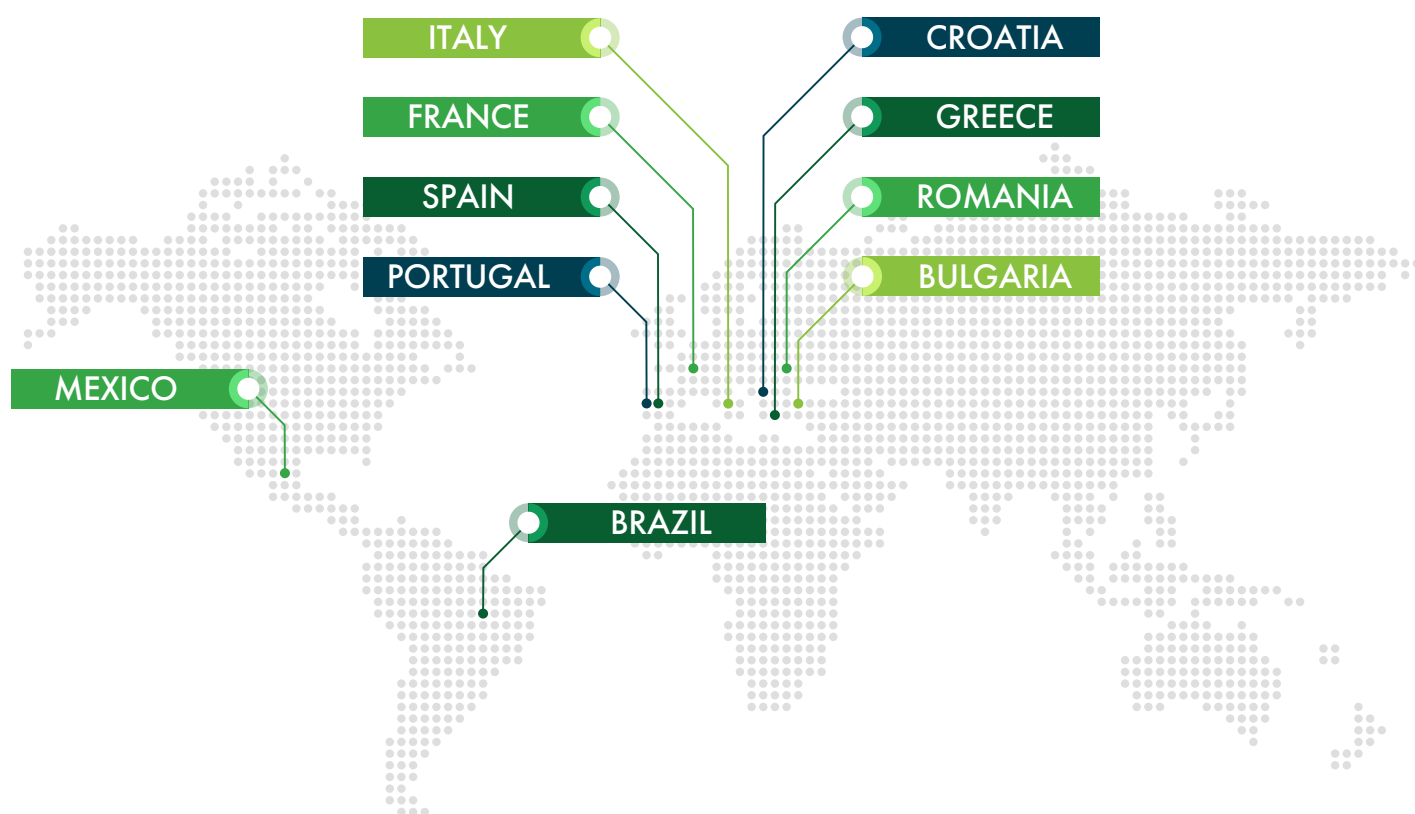
# Cover management tips

- I. Extract the cover crop in spring if there is a strong dispute for water with the plant.
- II. The use of a brush cutter is recommended to avoid a possible “flora inversion” for herbicide resistant species.
- III. It is essential to leave the plant on the ground so that it can continue to perform its function.
- IV. To keep the rows or the crop rows or the planting strip free of weeds and tillage, it is advisable to use herbicides. The pre-emergence herbicide treatment in strips under the tree crown is a general practice and is compatible with the use of live tree crowns. This option is almost mandatory when an irrigation system is installed on the surface next to the tree stump, as it prevents work being carried out perpendicular to the trunk branches.





## Get to know ASCENZA's herbicides portfolio, available in your country






**Additionally, about cover crop management, the fertilization topic is also relevant.**  
**Do not forget that:**

- You should avoid land silting on plots located on steep slopes, as, in addition to totally or partially doing away with the cover of plants already formed, it causes the topsoil layer to be removed. With the first rains, the fertile surface could be washed away and then lost.
- Controlling furrows is important to avoid that their width and depth increase over time. For this control you can use systems like Biorolls or Stone Gabions.





A close-up photograph of a hand holding a stalk of wheat. The hand is positioned on the left side of the frame, with fingers gently gripping the wheat. The wheat stalks are golden-brown and hang down from the hand. The background is a vast field of similar wheat stalks, stretching towards a clear blue sky. The overall lighting is soft, suggesting a late afternoon or early morning setting.

**At ASCENZA we know how to take care  
of plants, people, and the planet.  
What about you?**

[www.ascenza.com](http://www.ascenza.com)