

REGENERATIVE TRUFFLE FARMING



AIM

For years, we've been thinking about finding the best way to adapt some regenerative agriculture concepts to truffle farming.

We previously believed that truffles preferred soils poor in both nutrients and organic matter (OM), as we were trying to replicate nature, and that's what wild truffle farms were like. But over the years, we've developed truffle farming projects on other continents and in very different climate and soil conditions. Some of them, for example, in Chile and Australia, have been very successful and have been developed in very rich soils, some with OM percentages between 8-15%, which generate loose soil where truffles can easily grow and where "working" the soil becomes an option.

With this goal, we seek to increase the fertility of soils in the Mediterranean region, which typically have just 1-3% OM. The problem is that, in these poor soils, many of which are highly prone to compaction, if we don't work the soil under the trees, their development is stunted in the first few years. Later, when we enter the productive phase, we need to mechanically loosen the soil if we want the truffles to develop properly.

Here we describe a possible route and the necessary tools for establishing cover-crops in truffle plantations.



PHASE I, FROM PLANTING TO YEAR 4



1m each side of trees run in-row blade + spring harrow with just 2-3 legs

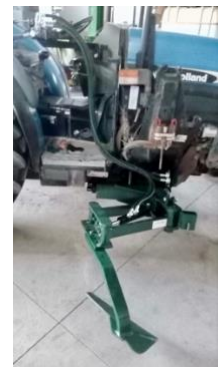
Between rows allow cover crop to grow and in April we run a roller (or mow it)

This is the inter-row weed control blade we use + a cultivator in the rear. But the idea is to leave only 2-3 arms to work 80-100 cm wide on each side of the tree instead of using the whole cultivator at the rear. We normally leave one arm at the other end of the cultivator to dig in and prevent the tractor from going against the side of the trees as we drive:

https://youtu.be/oMWWyoCCy_Q

<https://youtu.be/o2iPoAjApbY>

Luckily, there are several offset implements on the market today that allow you to work under the tree without stepping on it. This work usually needs to be repeated every 6-8 weeks from April to October in the northern hemisphere.



PHASE II > YEAR 4

Once we begin making nests or trenches with substrate and spores, management changes.

In March-April, we would do the same work as in Phase I, including making the nests with substrate. From that point on, weed control should be done with a weed whacker or off-set mower. But another option is with an implement that only works the top few centimeters of soil, so as not to disturb the development of the truffles deeper inside the nests. A good implement for this would be the Rinieri short vertical tiller. We used the vertical tiller in the following videos; next summer though, we will leave only the three outer blades to avoid disturbing the cover-crop.

<https://www.youtube.com/shorts/pQoXdoDWuZ8>

<https://youtube.com/shorts/Q6j60iWEbls>



We must keep in mind that by doing this work very superficially, at 4-8 cm, in the middle of summer, we will thin out any shallow truffle primordia, which are generally of poorer quality (damaged by frost or insects, etc.). The idea is for the tree to allocate sugars to feed the deeper truffles in the nests. If you don't wanna do that, just mow over productive area. There are many off-set mowers with rubber strips that does not damage irrigation pipes like:

<https://youtu.be/92lszUCgPOo?feature=shared>



As the active truffiere expands, we want to loosen the soil thoroughly, so every one or two years we use a subsoiler along the leading edge of the brules and over the cover-crop. The best option would be a Yeomans type:

Here a video how we do it in our own farms: <https://youtu.be/T6dhRnHtWYS>

We hope this post help many other truffle growers to move to allow green cover in their orchards.

All the best from the micofora team