

On-farm production and application of Compost tea

Challenge

The challenge is represented by the management of soil fertility patterns of Mediterranean crops to improve water efficiency, photosynthetic activity, nutrient balance and fruit quality.

Solution

Compost tea production constitutes an on-farm practice that requires collecting and recycling organic by-products associated with other soil improvement techniques (mulching, green manuring, etc.). Adequate knowledge of all the processes, product application, and crop cycles is fundamental to achieve good results.

Benefits

Using compost tea can significantly contribute to maintaining soil organic matter quality, increasing the farmers' money savings, and enhancing biodiversity and on-farm adaptation to climate change.

Applicability box

Theme

- agricultural by-product
- biodiversity
- climate change adaptation
- organic fertilization

Context

It's a general technique that optimises development in extensive and organic farms, where nutrient cycles are fundamental.

Application time

Almost all year according to crop needs.

Required implementation time

Between two and three months, starting from raw material.

Period of impact

Medium (crop effects) or long (soil) term period according to the parameters considered.

Equipment

bioextractor, oxygen pump, timer

Practical recommendation



The production process involves using mature compost in a capacious bag made of mesh, placed in a bioextractor with a robust tank capable of containing the liquid mass and equipped with an aeration device.





What has been done in the OG Oltrebio?

The extraction was performed with a 1:5 v/v ratio (20%). The timer was set to 15 minutes (on) every 3 hours (off) to guarantee the right oxygenation. The process lasted five days and, before administration, a further dilution was opted for after measuring the electrical conductivity up to a ratio of 1:15 v/v.



- Cherry orchard: 3l/plant in soil + 250 ml/plant by foliar application. Distribution in three phases: start to bloom, post set, and veraison.
- Vineyards: 1.5l / plant. Distribution in three phases: shoot length of approximately 15 cm, post fruit setting, and veraison.



What are the benefits of compost tea?



SUPPRESSIVITY

It can partially substitute fungicides, having oppressive properties due to antagonistic microorganisms and the abiotic component.



NUTRITIVE ACTION

Contains organic molecules and inorganic elements in solution that can exert a fast-acting nutritive action in combination with biostimulant effects

Further information

Videos

- [Oltre.Bio. The new organic challenge](#) (Italian language)
- [Oltre.Bio: Discover the results of the project](#) (Italian language)
- [How to get Compost and Compost Tea. Oltre.Bio project demonstration day on 29/04/2022](#) (Italian language)

Web links

- <https://feder.bio/progetti/oltre-bio/> (Italian language)
- https://feder.bio/wp-content/uploads/2022/04/Programma-oltrebio-29-aprile_DEF-005.pdf (Italian language)
- <https://feder.bio/compost-compost-tea-risorse-sostenibili-la-produzione-bio-ciliegie-uva-tavola/> (Italian language)
- <https://feder.bio/wp-content/uploads/2017/07/Compost-ed-estratti-per-la-sostenibilita-dei-sistemi-agricoli.pdf> (Italian language)



- <https://feder.bio/wp-content/uploads/2017/07/Poster-Oltrebio-23012023-2.pdf> (Italian language)

Further reading

2 Phytosanitary management notebooks :

- [Phytosanitary protection of the cherry tree in organic farming](#) (Italian language)
- [Phytosanitary protection of table grapes in organic farming](#) (Italian language)

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