

## “OLTRE.BIO - Oltre il bio: gestione innovativa della cerasicoltura e viticoltura da tavola biologica”

### Applicability box

#### Geographical coverage

Global

#### Required time

About 5—10 days

#### Equipment

Bioextractor, water, aeration device, large bag in nylon mesh, or jute/hemp bag

#### Period of impact and best in

Entire year, all farming systems



**Figure 1:** Compost tea distribution trial in an organic sweet cherry orchard

### About this PA and OLTRE.BIO

This practice abstract was elaborated in the frame of the OLTRE.BIO project. The project is running from August 2020 to February 2024, and is to contribute to manage soil fertility, in organic cherry orchards and vineyards, by using green manure, compost and compost tea produced on-farm.

#### Project website:

<https://feder.bio/progetti/oltre-bio/>

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### PROBLEM

In organic sweet cherry orchards and in vineyards, farmers are frequently facing the challenge to efficiently manage soil fertility and crop production quality, at the same time solving residues and by-products disposing problems, in a circular economy perspective.

### SOLUTION

To carry out a sustainable valorization of farm wastes (e.g. cover crops residues and pruning residues), at a low cost, by easily producing and applying “compost tea” at farm level. Compost tea is a liquid suspension generally obtained from the oxygenation of compost soaked in water. It can allow to manage soil fertility in organic farming, since organic molecules and inorganic elements (N, P, K and other ions) in solution can produce a quick nutritional effect. This is combined with the effects of biostimulation, induced by molecules with hormone-like activity. Compost tea can also have suppressive effects against crop pathogens, mainly due to antagonistic microorganisms.

### PRACTICAL RECOMMENDATIONS

- The compost tea production process involves the use of a bioextractor (containing water), that is a tank equipped with an aeration device (pump).
- The on-farm compost is placed in a filter bag (hemp or nylon) and soaked in the water.
- Oxygenation is obtained by activating the recirculation of the aqueous medium of extraction via a pump.
- The extraction is carried out with a ratio of 1:5 v/v (20%). In order to ensure proper oxygenation, the timer should be set to a value of 15 minutes (on) every 3 hours (off). A further dilution can be necessary, after measuring the electrical conductivity, up to a ratio of 1:15 v/v, before using compost tea in soil (and on crop leaves).
- In sweet cherry orchards and in vineyards compost tea must be provided about three times during each season.



**Figure 2:** Bioextractor and aeration device to produce *compost tea* directly in the farm