

More sustainable, resilient, and competitive food systems through the development of intermediate food value chains



PRACTICE ABSTRACT No: 29

Potential use of apple stillage vinegar to improve young apple tree growth

The application of 200ml of draff vinegar produced by Cogiterre directly at the base of young trees shows positive effects on tree growth. Those effects differ depending on the pluviometry, the soil type and the apple variety. Better growth of the young trees during the season, and faster leaf production with increased photosynthesis, were observed after vinegar addition.

The apple draff vinegar is produced with an acidity of approximately 6,4% and is then diluted with water to get a lower concentration. An acidity from 2,5% is sufficient to produce the biostimulation tendency. The latter is similar to the effects produced by an undiluted vinegar with an acidity of 5%. This acidity is the standard acid concentration of table vinegar.

The effect of vinegar has only been seen in some sites, which is probably caused by the differences in the soil type. A soil with a high quantity of limestone can especially profit from an addition of organic acids, which are particularly present in vinegar.

The identification of key biostimulating substances requires additional experiments and should help define optimal application conditions.

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End Users

Farmer & Cooperative,
Industry & Retail, consumer

Country

Worldwide



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ABOUT FAIRCHAIN

The FAIRCHAIN project launched in 2020 and coordinated by INRAE, is developing intermediate food value chains in the fruits and vegetable and dairy sectors. Through technological, organizational and social innovations and by developing business models FAIRCHAIN will enable small and mid-size stakeholders to scale up to supply fresh, sustainable and high-quality food products to consumers at a regional level.

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