

**Date of poster presentation: 13 April 2022**

## **Urban microfarms in a circular bioeconomy: use of organic wastes and soil organic carbon storage**

B.J-P. Grard(1\*), L. Vieublé Gonod(1), C. Aubry(2), G. Séré(5), C. Chenu(1)

- 1) Université Paris-Saclay, INRAE, AgroParisTech, 78 850 Thiverval-Grignon, France
- 2) Université Paris-Saclay, INRAE, AgroParisTech, UMR SAD-APT, Université Paris-Saclay, 75231 Paris
- 3) Laboratoire Sols et Environnement, UMR 1120, INRAE, Université de Lorraine F-54505 Vandoeuvre-lès-Nancy, France

\*present address: ISARA 69364 LYON CEDEX 07

---

Urban micro-farms are nowadays experiencing an increasing development driven by an associative movement and a support by citizen and local politics. In urban environments, micro-farm are small scale farm (less than 1.5EFT per ha), involve often volunteers in their economic model and generate a diversity of activity. The different function expected from them (food provisioning, pedagogical, social and cultural activity, water retention, valorization of waste, landscape...) are directly linked to a diversity of ecosystem services that they can deliver. In particular, urban micro-farms could may a significant role in the urban circular economy, as a common practice is to use organic wastes from the city to amend the soils, which can be either located on the ground or on rooftops. We evaluated the ecosystem services delivered by urban micro-farms, using seven micro-farms located in Paris area. Here we focused on the use of urban waste and carbon stocks. We found that very diverse sources of organic wastes were used, often with local circuits being created. Soil organic carbon stocks were in average of 14 kgm<sup>-2</sup> for the urban micro-farms developed on the ground and of 14 kgm<sup>-2</sup> for the urban micro-farms developed on rooftops. These very high values show that implementing urban micro-farms provides regulatory ecosystem services in the city, within a circular economy.

---

*Keywords: soil, carbon, organic wastes, ecosystem services, urban microfarms*