CIRSEE

BIORESOURCELab

BIORESOURCELab is a technological platform dedicated to organic wastes that enables SUEZ to transform them into materials, energies and agronomic products to limit their impact on the environment

600 m²
of experimental areas

5000 kg
of domestic waste sampled during each field characterization campaign

2 000
waste samples referenced and characterized

27
formulations tested as new fertilizers

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suez

expertise

Qualification of non hazardous waste

- study the agronomic value of organic waste
- identify fractions that can be recycled as secondary resources (metals, salts, construction materials, plastics...)
- determine energy potential of waste in view of producing solid fuels and bioenergies (heat, electricity, biomethane, ...)

Evaluation of waste recovery routes

- identify suitable treatment processes
- assess the performance of treatment and recovery technologies
- optimize treatment lines through field diagnoses and modeling
- participate in the development of innovative treatment solutions for waste recovery

assessing the actual biodegradability of compostable plastics

sorting and characterization of household waste

agronomic tests in plant growth chamber

achievements

Bio-depackaging of supermarkets' unsold goods

comparison of 17 mechanical pre-processing technologies by on-site audits

Alternative feedstocks for biorefinery

identification of the most promising residual materials and technology lines to produce green chemistry platform molecules
[European project BIOFOREVER]

Demonstration of a short loop urban food waste management solution

pilot-scale implementation of a local urban food waste collection scheme, decentralized micro-methanisation and fertilization of urban farms
[European project DECISIVE]

Securing the performance of waste methanisation facilities

anticipation of mass balances and quality of digestates by simulations and laboratory tests; recommendations of optimized recipes limiting the risk of inhibition

tools

Pilots

- mobile unit for on-site characterization of mixed wastes
- mobile organic waste methanization unit (including a hygienisation stage)
- mobile composting unit under controlled conditions

Bench units

- plant growth chamber to evaluate the agronomic potential of organic products
- devices to measure aerobic and anaerobic biodegradability of solid substrates
- biological reactors to optimize performance and conversion yields into molecules of interest
- tailor-made testing units to evaluate new recovery routes

Laboratories

- characterization and pretreatment tools (drying, calcination, lyophilization, grinding, screening, pulping...)
- analytical instruments (mineral and organic content, infrared profile...)
- device to determine the self-heating temperature of organic materials
- incubation and culture chambers for microbial strains and consortia