

Baltic pilot presentation

Main results / outcomes

Baltic Sea pilot develops bokashi fermentation technology, which is currently available for home users, into a community scale biowaste recycling solution. It also combines this technology with vermicomposting and granulation. An aim is to achieve an economically viable model.

Practical recommendations

The technology aims to replace the conventionally used technology of regular composting, thus reducing GHG emissions and providing products with more active microbiology to enhance soil biology. The key features are use of single screw extruder for granulation instead of matrix method and solar-powered tumbler dryer as an environmentally friendly alternative. In addition, a 10 m³ mixing unit was selected to handle pre-granulation and pre-vermicomposting mass with capacity of 20 000L per month. Vermicomposting unit was enhanced by infrared lights to keep temperature warm with minimal cost and impact.

The following side-stream raw materials were selected for the production: fish waste (salmon scraps: heads, bones, collars, cheeks, spines and bellies); food waste from HORECA; tree leaves; wood burning ash. As a result, BBF-s foliar spray, bokashi granule, vermicompost and IP ferment have been produced.



Figure 1: Field trial with granules



Figure 2: Mixing unit of the pilot plant

Further information

<https://fb.watch/d6WJsQy9z8/>; https://www.youtube.com/watch?v=lk9q1y_PEl;
<https://nutrilooop.org/horizon2020-sea2land/>; <https://nutrilooop.org/producing-advanced-bio-based-fertilizers/>

About this abstract

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SEA2LAND project is a collaborative Innovation Action (IA) funded by the EU in the frame of the Horizon 2020 programme. The project aims to provide solutions to help overcome challenges related to food production, climate change and waste reuse. Based on the circular economy model, SEA2LAND promotes the production of large-scale fertilisers in the EU from own raw materials. This solution is expected to reduce the soil nutrient imbalance in Europe.

The project is running from January 2021 to December 2024.

Website: www.sea2landproject.eu



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Läänemere piloodi esitlus

Tulemused

Läänemere piloodi eesmärk on arendada välja majanduslikult äratasuv mudel biojätmete (sh kalajäätmete) bokashi fermenteerimiseks, granuleerimiseks ja vermikompostimiseks, et asendada tavapärane kompostimine keskkonnasõbralikuma alternatiiviga.

Praktilised soovitused

Hetkel on see tehnoloogia kättesaadav peamiselt kodukasutajatele, kuid piloodis lisatakse kogukondlikule skaalale vastav tööstuslik aste. Selle tulemusel valmisid kolm biopõhist väetist – graanulid, vedelväetis ja vermikompost, millest graanulid valiti välja ka põldkatsete jaoks (vt foto 1). Toormaterjalidest kasutati kalatööstuse jääke (lõhe pead, luud, sisikond), restorani biojätmeid, puidupõletuse tuhka ja puulehti. Tehnoloogiline lahendus hõlmas tavapärase maatriksi meetodi asemel toiduainetööstuse jaoks mõeldud ühe kruviga ekstruuderi kasutamist granuleerimisel ning päikeseenergiaga trummel-kuivati kasutamist niiskuse eemaldamiseks. Eesmärk oli igas tootmisetapis säilitada bokashi fermenteerimise abil saavutatud rikkalik mikrobioloogia. Kasutusele võeti ka suuremate koguste segamiseks sobilik mikser, tootlikkusega kuni 20 000L kuus (vt foto 2). Vermikompostimisel kasutati vajaliku soojuse hoidmiseks infrapunalampe.



Foto 1: Põldkatsed METKis



Foto 2: Substraadi segamine

Lisainfo

<https://fb.watch/d6WJsQy9z8/>; https://www.youtube.com/watch?v=Ik9q1y_PEl;
<https://nutriloop.org/et/osaleme-koos-est-aiimekasvatuse-instituudiga-horizon2020-sea2land-4-aastases-rahvusvahelises-projektis/>; <https://nutriloop.org/wp-content/uploads/biopohiste-vaetiste-tootmine.pdf>

Uudiskirja kohta

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Kuupäev: Detsember 2023

SEA2LAND on koostööpõhine innovatsiooniprojekt, mida rahastatakse Euroopa Liidu poolt Horizon 2020 raames. Projekti eesmärk on pakkuda lahendusi, mis aitavad ületada toidutootmise, kliimamuutuste ja jäätmete taaskasutamisega seotud väljakutseid. Ringamajanduspõhisest mudelist lähtuvalt edendab SEA2LAND Euroopa Liidu suuremahuliste väetiste tootmist kohalikust toorainest. Seeläbi loodetakse vähendada Euroopa muldades esinevat toitainete tasakaalustamatust. Projekt kestab detsembrini 2024a.

Veebileht: www.sea2landproject.eu



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