PRACTICE ABSTRACT NO. 16

Baltic Sea case study: side-streams characterisation

Main results / outcomes

The raw material used in Baltic Sea case study is fish waste (i.e. salmon heads, bones, collars, cheeks, spines and bellies) coming from the fish filleting companies. These are combined with food waste coming from restaurants, tree leaves/common reed straw and ash, in order to optimize the fertilizer qualities and cost price of the final product, as well as to facilitate the functioning of the technology. Initially, fish sludge was also tested, but later excluded due to low dry matter content (0.5%). Also, the initial use of oil shale ash had to be exchanged to wood burning ash, as EU legislation does not allow the use of former in organic farming. With the help of Estonian Crop Research Institute, physico-chemical composition, contaminants and microbiology of the side-streams were analyzed. The results showed that all raw-material side streams were safe to use in organic farming, i.e. they all were within the allowed range of pathogen microorganisms, heavy-metals and pesticide residuals. They all provide complementary nutrient content for fertilizing purposes. It was also found out that tree litter is preferred over common reed straw due to its beneficial fungi and optimal C/N ratio.

Practical recommendations

Since Baltic Sea case study uses bokashi fermentation technology, which significantly lowers the pH level of the product, adding ash was found to be beneficial for neutralizing this effect. Combining fish waste with tree leaves and restaurant waste reduces the strong unpleasant odor of the fish waste fermentation.

Side streams from the left: fish waste, tree leaves, ash, restaurant food waste

Further information

https://fb.watch/d6WJsQy9z8/ ; https://nutriloop.org/

About this abstract

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Date: June 2022

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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PRACTICE ABSTRACT NO. 16

Läänemere piloodi toormaterjalid: kalatööstuse jt. orgaaniliste jäätmete iseloomustus

Tegevused ja tulemused

Läänemere piloodis kasutati kalatööstuse kõrvalsaadusi (lõhe pead, luud, selgroog jms.) ning toidutööstuses tekkivaid biojäätmed. Lisaks uuriti tööstuses üle jääva tuha ja pilliroo ning haljastusjäätmetena kogutud puulehtede omadusi, et välja selgitada nende võimalik lisandväärtus tootmisprotsessis ja lõpptoote väetusomadustes. Algselt testiti ka kalamuda, kuid selle kasutamisest loobuti madala kuivainesisalduse tõttu (0,5 %). Samuti vahetati välja algselt kasutuses olnud põlevkivi tuhk, mis asendati puidupõletamisel ülejääva tuhaga (põlevkivi tuhk ei ole saanud Komisjoni luba mahepõllumajanduses kasutamiseks). Toormaterjalidele tehti füüsikalis-keemilised, mikrobioloogilised, patogeenide ning amino-, fulvo- ja humiinhapete analüüsid. Lisaks võeti toidujäätmetest ka pestitsiidijääkide proovid. Tulemused näitasid, et kõik toormaterjalid lisavad toitaineväärtust ning on mahepõllumajanduses kasutamiseks ohutud. Puulehtede kasutamisel leiti olevat eelis pilliroo ees kasulike seente sisaldamise tõttu ning tuhk osutus vajalikuks, et neutraliseerida fermenteerimisel madalaks muutunud pH taset.

Praktilised soovitused

Kuna kalajäätmete fermenteerimisel tekib ebameeldiv lõhn, siis tasub neid võimalusel kombineerida teiste toidujäätmetega ning lõpp-tootesse lisada ka puulehti ja tuhka.

Kõrvalvood vasakult: kalajäätmed, puulehed, tuhk, restorani toidujäätmed

Lisainfo

https://fb.watch/d6WJsQy9z8/ ; https://nutriloop.org/

Uudiskirja kohta

Autor: Nutriloop
Kuupäev: Juuni 2022
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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