PRACTICE ABSTRACT NO. 13

Assessing the Economic Viability of Biostimulant Production as an Innovative Bio-Based Fertiliser

Main results / outcomes

This study assesses the economic feasibility of producing Foliar fertilizer incorporating amino acids, humic extract, and organic matter(FER4) – „biostimulant" in Norway and Italy, utilizing two pricing models: nutrient-based and cost-based model. The nutrient-based pricing model resulted in negative profitability across all scenarios, indicating its impracticality. In contrast, the cost-based pricing model generated positive profitability in both countries, with Norway exhibiting a marginally higher selling price for the bio-based fertilizer (BBF). The findings conclude that the cost-based approach is the only financially viable method for determining the selling price of FER4.

Practical recommendations

The primary benefit of applying these findings for end-users and practitioners is the reduction of financial risks of the establishment of BBF production and enhanced decision-making. By adopting a cost-based pricing strategy, producers can secure profitability and long-term financial stability. These results are particularly relevant for regions with lower operating costs, such as labuor and electricity, where the business model proves more advantageous. Practitioners should prioritize optimizing cost-efficiency, focusing on energy savings and resource management, rather than solely on input sourcing. This approach makes bio-based fertilizers production a more practical and feasible solution within the bioeconomy, supporting circular resource utilization and promoting sustainable agricultural practices.

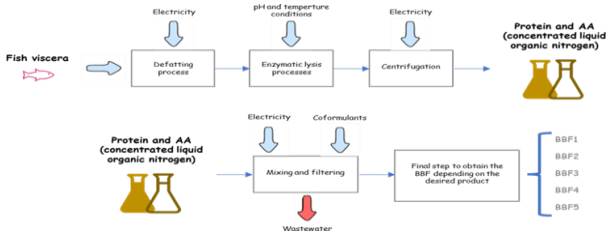


Figure 1: Production scheme of „biostimulant"

Foliar fertilizer with amino acid, humic extract, organic matter (FER4)	Cost method					
	Net profit (EBIT)	Net profit before amortization (EBITDA)	Gross margin (GM)	Return on investment (ROI)	Payback period (PP)	PRICE
Norway						
purchased input	309.222,73	477.392,72	22,04%	12,25%	8,17 years	4.800 eur/ton
own input	312.736,73	480.906,72	29,31%	12,39%	8,07 years	3.650 eur/ton
Italy						
purchased input	314.965,22	483.135,21	24,22%	12,47%	8,02 years	4.450 eur/ton
own input	314.095,02	482.265,01	32,71%	12,44%	8,04 years	3.285 eur/ton

Figure 2: Sum up table for financial indicators of FER4 production

Further information

SEA2LAND project website - https://sea2landproject.eu/

About this abstract

Authors: IPS Konzalting d.o.o. za poslovne usluge
Date: May 2025
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 June 2025.
Website: www.sea2landproject.eu

THIS PROJECT HAS RECEIVED FUNDING FROM THE EUROPEAN UNION'S HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME UNDER GRANT AGREEMENT NO 101000402.

PRACTICE ABSTRACT NO. 13

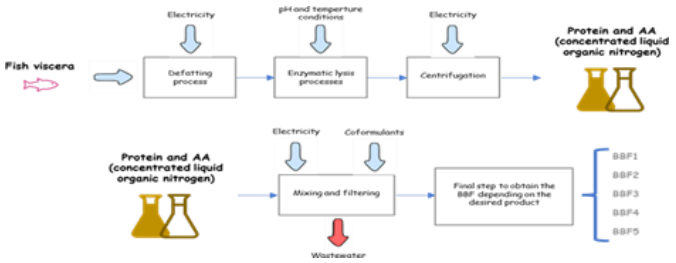
Procjena ekonomske isplativosti proizvodnje biostimulansa kao inovativnog biognojiva

Glavni rezultati/ishodi

Analiza procjenjuje ekonomsku isplativost proizvodnje folijarnog gnojiva koje uključuje aminokiseline, huminske kiselone i organsku tvar – tzv. „biostimulansa" u Norveškoj i Italiji, koristeći dva modela određivanja cijena: na temelju udjela nutrijenata (NPK) i na temelju troškova proizvodnje. Model određivanja cijene proizvoda - biostimulansa na temelju udjela nutrijenata rezultirao je negativnom profitabilnošću u svim scenarijima, što ukazuje na nepraktičnost ove metode. Nasuprot tome, model određivanja cijene koji se temelji na troškovima proizvodnje generirao je pozitivnu profitabilnost u obje zemlje na kojima se temeljio poslovni scenarij, pri čemu je u Norveškoj formirana neznatna viša cijena kao prodajna cijena biostimulansa. Rezultati zaključuju da je pristup temeljen na troškovima jedina financijski održiva metoda za određivanje prodajne cijene biostimulansa.

Preporuke

Uz pomoć dobivenih rezultata potencijalni ulagači mogu smanjiti proizvodne rizike i poboljšati donošenje odluka. Usvajanjem strategije određivanja cijena koja se temelji na troškovima, proizvođači mogu osigurati profitabilnost i dugoročnu financijsku stabilnost. Ovi su rezultati osobito relevantni za regije s nižim operativnim troškovima, poput troška rada i električne energije, gdje se poslovni model proizvodnje pokazao povoljnijim. Ulagači bi trebali dati prednost optimizaciji troškovne učinkovitosti, usredotočujući se na uštedu energije i upravljanje resursima, a ne samo na izvor ulaznih sirovina. Ovaj pristup čini proizvodnju praktičnim i izvedivim rješenjem unutar biogospodarstva, podupirući kružno korištenje resursa i promičući održive poljoprivredne prakse.



Slika 1. Prikaz tijeka proizvodnje „biostimulansa"

Foliar fertilizer with amino acid, humic extract, organic matter (FER4)	Cost method					
	Net profit (EBIT)	Net profit before amortization (EBITDA)	Gross margin (GM)	Return on investment (ROI)	Payback period (PP)	PRICE
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Slika 2. Financijski pokazatelji proizvodnje „biostimulansa"

Više informacija

SEA2LAND projektna stranica - https://sea2landproject.eu/

Opširnije o praktičnom sažetku

Autor: IPS Konzalting d.o.o. za poslovne usluge
Datum: Svibanj 2025

SEA2LAND projekt je suradnička inovacijska akcija (IA) koju financira EU u okviru programa Horizon 2020. Cilj projekta je pružiti rješenja koja će pomoći u prevladavanju izazova povezanih s proizvodnjom hrane, klimatskim promjenama i ponovnom uporabom otpada. Na temelju modela kružnog gospodarstva, SEA2LAND promiče proizvodnju velikih količina gnojiva u EU iz vlastitih sirovina. Očekuje se da će ovo rješenje smanjiti neravnotežu hranjivih tvari u tlu u Europi. Projekt traje od siječnja 2021. do lipnja 2025. godine. Web stranica: www.sea2landproject.eu

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