

**LISTA PUBLICAȚIILOR REZULTATE ÎN URMA CERCETĂRII DOCTORALE,
PUBLICATE SAU ACCEPTATE SPRE PUBLICARE, SUB AFILIERE UPT**

Ing. Mădălina-Gabriela IVANOVICI student doctorand

1. Lucrări științifice publicate în reviste indexate Web of Science-WoS (ISI)

1. A.E. Cioablă, M. Ivanovici, G.-A. Dumitrel, L.-V. Ordodi, D.-G. Călinoiu, G. Trif-Tordai, V. Pode, “Mathematical Approach for Pilot-Scale Experiment Setup on Biogas Production”, *STUDIA UBB CHEMIA*, vol. LXV, no. 1, pp. 245-252, March 2020 (WOS: 000526912600020)
2. M. Ivanovici, A.-E. Cioabla, G.-A. Dumitrel, A.-M. Pana, L.-V. Ordodi, “Experimental Lab-Scale Biogas Production by Anaerobic Co-Digestion of Agricultural Residues and Brewery Wastewater”, *STUDIA UBB CHEMIA*, vol. LXVIII, no. 1, pp. 239-250, January 2023 (WOS: 000973917200015)
3. M. Ivanovici, G.-A. Dumitrel, V. D. Gherman, T. Todinca, A.-M. Pana and V. L. Ordodi, “Anaerobic Digestion of Food Waste and Granular Inoculum: Study on Temperature Effect and Substrate-to-Inoculum Ratio on Biogas Production”, *Fermentation*, vol. 11, no. 6, pp. 348 (WOS:001515660400001)

2. Lucrări științifice publicate în volumele unor manifestări științifice (Proceedings) indexate Web of Science-WoS (ISI) Proceedings

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2. -

3. Lucrări științifice publicate în reviste de specialitate indexate BDI (cu specificarea BDI)

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4. Lucrări științifice publicate în volumele unor manifestări științifice (Proceedings) indexate BDI (cu specificarea BDI)

1. M. Ivanovici, A. E. Cioabla, D. Lelea, F. Popescu, L. I. Dungan and L.V. Ordodi, “Biogas production on lab-scale: utilization of wastewater from Hunedoara treatment plant” in *Journal of Physics: Conference Series, proc. of International Conference on Applied Sciences (ICAS 2020), Hunedoara, Romania, May 2020, vol. 1781, no. 1, p. 012069*

5. Lucrări științifice publicate în volumele unor manifestări științifice internaționale (Proceedings) din străinătate

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6. Lucrări științifice publicate în volumele unor manifestări științifice

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Data: 14.04.2026

AVIZAT, Conducător științific	ÎNTOCMIT, Student doctorand
Prof.univ.dr.ing. Teodor TODINCA	ing. Madalina-Gabriela IVANOVICI

ANEXE atașate obligatorii

A) Pentru Lucrări publicate indexate din Web of Science-WoS (ISI) (secțiunile 1-2), cu indicarea *WoS number* ex. WOS:000316957600003.

i) *Extras listat din Web of Science cu lucrări indexate (ISI).*

MATHEMATICAL APPROACH FOR PILOT-SCALE EXPERIMENT SETUP ON BIOGAS PRODUCTION

By	Giabla, AE (Ciobla, Adrian Eugen) ; Ivanović, M (Ivanović, Madalina) ; Dumitrel, GA (Dumitrel, Gabriela Alina) ; Ordođi, LV (Ordođi, Laurentiu Valentin) ; Calinoiu, DG (Calinoiu, Delia Gabriela) ; Trif-Tordai, G (Trif-Tordai, Gavrilă) ; Pode, V (Pode, Vasile) View Web of Science ResearcherID and ORCID (provided by Clarivate)
Source	STUDIA UNIVERSITATIS BABES-BOLYAI CHEMIA Volume: 65 Issue: 1 Page: 245-252 DOI: 10.24193/subchem.2020.1.19
Published	2020
Indexed	2020-04-30
Document Type	Article
Abstract	In this work, pilot scale experiments were carried to evaluate the biogas production through anaerobic co-digestion for two different mixtures of feedstock based on agricultural biomass and agricultural waste. The first mixture consisted of degraded row barley and wastewater from treatment plant and the second mixture contained wheat, corn grains and shell sunflower seeds with wastewater from treatment plant. The temperature, pH, pressure and the amount of the produced biogas were daily monitored for 26 days and the results of the two experimental charges were assessed and compared using statistical analysis: the box plot method and summary statistics. The latter feedstock mixture showed a better production of biogas for which the mean value of produced biogas amount is 18.43 m³, whereas the mean value of the biogas generated for the former feedstock mixture was 14.95 m³.
Keywords	Author Keywords: biogas production; agricultural biomass; pilot scale; co-digestion; statistics Keywords Plus: ANAEROBIC CO-DIGESTION; BIODEGRADABILITY; MANURE
Addresses	¹ Politehn Univ Timisoara, Fac Mech Engrn, 1 Mihai Viteazu Blvd, RO 300222 Timisoara, Romania ² Politehn Univ Timisoara, 2 Piata Victoriei, RO 300006 Timisoara, Romania ³ Natl Inst Res & Dev Electrochem & Condensed Matte, 144 Aurel Paunescu Podoanu Str, RO 300569 Timisoara, Romania ⁴ Politehn Univ Timisoara, Fac Ind Chem & Environm Engrn, 6 Vasile Parvan Blvd, RO 300223 Timisoara, Romania ⁵ Politehn Univ Timisoara, Fac Elect & Power Engrn, 6 Vasile Parvan Blvd, RO 300223 Timisoara, Romania
Categories/Classification	Research Areas: Chemistry Citation Topics: 3 Agriculture, Environment & Ecology • 3.83 Bioengineering • 3.83.416 Anaerobic Digestion Sustainable Development Goals: 06 Clean Water and Sanitation , 07 Affordable and Clean Energy , 12 Responsible Consumption and Production
Web of Science Categories	Chemistry, Multidisciplinary
Language	English
Accession Number	WOS:000526912600020

Citation Network

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EXPERIMENTAL LAB-SCALE ... EXPERIMENTAL LAB-SCALE BIOGAS PRODUCTION BY ANAEROBIC CO-DIGES...

EXPERIMENTAL LAB-SCALE BIOGAS PRODUCTION BY ANAEROBIC CO-DIGESTION OF AGRICULTURAL RESIDUES AND BREWERY WASTEWATER

By	Ivanović, M (Ivanović, Madalina) ; Giabla, AE (Ciobla, Adrian Eugen) ; Dumitrel, GA (Dumitrel, Gabriela Alina) ; Pana, AM (Pana, Ana-Maria) ; Ordođi, LV (Ordođi, Laurentiu Valentin) View Web of Science ResearcherID and ORCID (provided by Clarivate)
Source	STUDIA UNIVERSITATIS BABES-BOLYAI CHEMIA Volume: 68 Issue: 1 Page: 239-250 DOI: 10.24193/subchem.2023.1.17
Published	2023
Indexed	2023-05-21
Document Type	Article
Abstract	As a result of environmental and economic concerns, anaerobic co-digestion process has gained increasing interest as a viable technology for both energy production and waste treatment. In this work, anaerobic co-digestion of agricultural residues (animal slurry and corn grains) and wastewater from a local brewery plant was studied using a laboratory scale experimental installation. Multiple batch experiments (T_{bat} 18h) were carried out in which the influence of the substrate mixture ratio, the temperature and the purging of N₂ of the reactor on the process was analyzed. Batch anaerobic digestion experiments were performed at initial pH values between 7.5 divided by 7.9 and at two temperature regimes (thermophilic and mesophilic) and the substrates involved in the experiments were characterized by determining the CH₄, CO₂, and H₂S fraction over time. The best results were obtained when nitrogen purging was used to minimize the exposure of the substrate mixture to oxygen at an operating temperature of 45 degrees C and a volume ratio of animal slurry to wastewater of 3:1 and 150 g of corn grain. Higher operating temperature and N₂ purging had a positive impact by increasing biogas production and decreasing the H₂S fraction of the total produced gas.
Keywords	Author Keywords: biogas production; agricultural residues; lab-scale experiments; N ₂ purging Keywords Plus: CHALLENGES
Addresses	¹ Politehn Univ Timisoara, Fac Ind Chem & Environm Engrn, 6 Vasile Parvan Blvd, RO 300223 Timisoara, Romania ² Politehn Univ Timisoara, Fac Mech Engrn, 1 Mihai Viteazu Blvd, RO 300222 Timisoara, Romania
Categories/Classification	Research Areas: Chemistry Citation Topics: 3 Agriculture, Environment & Ecology • 3.83 Bioengineering • 3.83.416 Anaerobic Digestion Sustainable Development Goals: 12 Responsible Consumption and Production , 06 Clean Water and Sanitation , 07 Affordable and Clean Energy

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Anaerobic Digestion of Food Waste and Granular Inoculum: Study on Temperature Effect and Substrate-to-Inoculum Ratio on Biogas Production

By Ivanovici, M (Ivanovici, Madalina) ; Dumitrel, GA (Dumitrel, Gabriela-Alina) ; Gherman, VD (Gherman, Vasile Daniel) ; Todinca, T (Todinca, Teodor) ; Pana, AM (Pana, Ana-Maria) ; Ordodi, VL (Ordodi, Valentin Laurentiu)

View Web of Science ResearcherID and ORCID (provided by Clarivate)

Source FERMENTATION-BASEL
Volume: 11 Issue: 6
DOI: 10.3390/fermentation11060348

Article Number 348

Published JUN 15 2025

Indexed 2025-06-29

Document Type Article

Abstract The development of food waste anaerobic digestion (AD) is a contemporary research topic addressed in the scientific community to meet the requirements of food waste valorization and proper substrate configuration for an efficient AD process. In this study, multiple AD experiments were performed on food waste together with industrial inoculum using laboratory-scale bioreactors. Food waste consisted mainly of fruits and vegetables (80.9%) and boiled rice (19.1%). The effect of operating temperature (33 degrees C, 37 degrees C, 41 degrees C, 45 degrees C) and the ratio between food waste mixture and inoculum-FIR (1:1, 3:2 and 2:1, w/w) on the production and composition of biogas, and the conversion yield for CH4 and organic carbon, were investigated. The best results were obtained at

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B) Pentru Lucrări nepublicate, trimise la Reviste indexate Web of Science (ISI) și acceptate final (secțiunea 1):

- Accept final de publicare trimis de editor,
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C) Pentru Lucrări publicate în Proceedings de conferințe care nu apar încă indexate în Web of Science (ISI), dar cu lucrări indexate la conferința anterioară (secțiunea 2):

- Extras listat din Web of Science (ISI) care atestă că lucrările conferinței anterioare au fost indexate,
- Copertă și Cuprins Proceedings sau Program conferință cu evidențierea lucrării în speță.

Lucrările se vor regăsi la secțiunea 2 cu mențiunea la final referinței – (în curs de indexare WoS; conferința anterioare (- ex. 2015) indexată WoS).

D) Pentru Lucrări publicate în alte BDI (secțiunile 3-4):

- Extrase listate din alte BDI cu lucrări publicate indexate, specifice domeniului de doctorat, cu specificarea BDI la finalul referinței (Ex. BDI: Scopus, IEEE Xplore, ScienceDirect, SpringerLink).

BDI: Scopus:

scopus.com/results/results.uri?st1=https%3A%2F%2Fdoi.org%2F10.3390%2Ffermentation11060348&st2=8&s=DOI%2810.1088%2F1742-6596%2F1781%2F1%2...

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In the present work, the potential of wastewater procured from a local treatment plant situated in Hunedoara in order to produce biogas was assessed in anaerobic co-digestion process. Finding appropriate combinations of feedstocks involved in the process represents a key factor in obtaining high biogas amounts and also high quality of biogas. Therefore, a case study was carried out in a lab-scale installation for biogas production using a suspension consisting of wastewater, animal (cow and chicken) slurry and degraded corn. The wastewater and animal slurry were selected as the main feedstock, providing for the microbial community required in the anaerobic digestion, in a volume ratio of 3:1 animal slurry to wastewater. Moreover, the feedstocks were subjected to several characterization methods: determination of total content of carbon, hydrogen and nitrogen and the content of volatile matter using European Standards. The process was performed in thermophilic conditions and controlled mixing of the suspension for a period of 24 days. The performances were appreciated by monitoring the amount of the produced biogas and the main gaseous components of the biogas: CH₄, CO₂ and H₂S.