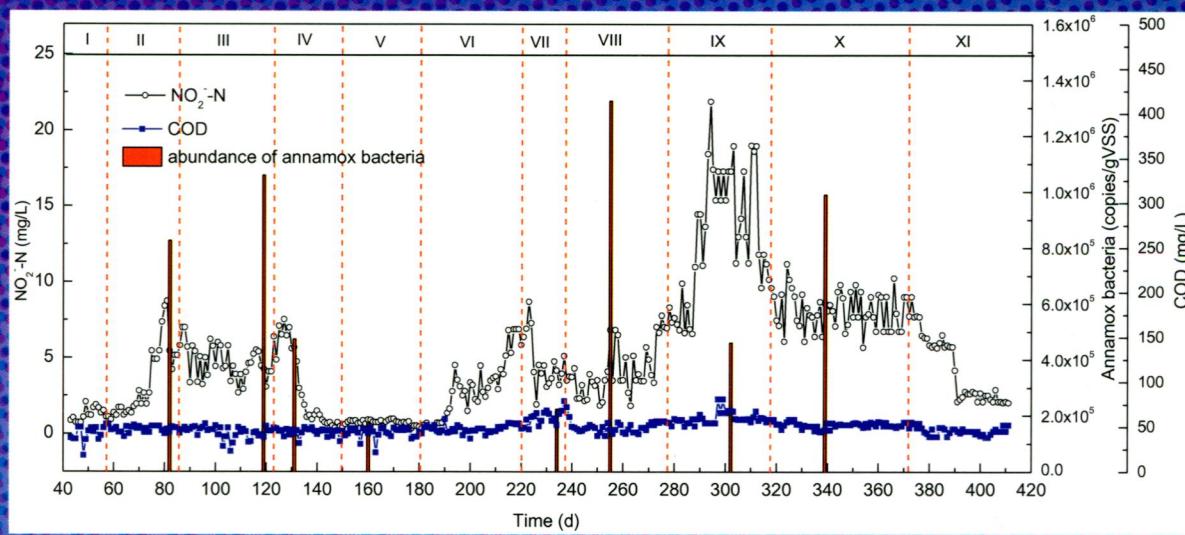


BIORESOURCE TECHNOLOGY

applied microbiology ■ bioconversion/biocatalysis ■ biofuels ■
biological engineering ■ biological waste treatment ■ biomass ■
bioprocesses ■ thermo-chemical treatment



Available online at www.sciencedirect.com

ScienceDirect



0960-8524(201411)172:C;1-9

(Abstracted/Indexed in: AGRICOLA database; Agricultural Engineering Abstracts; Analytical Abstracts (Royal Society of Chemistry Information Services); BIOSIS (Biological Abstracts); CAB Abstracts database; Elsevier BIOBASE/Current Awareness in Biological Sciences; Cambridge Scientific Abstracts; Chemical Abstracts; Current Contents/Agriculture, Biology and Environmental Sciences; Ecological Abstracts; Energy from Biomass and Municipal Wastes; Energy Information Abstracts; Engineering Index; Environmental Periodicals Bibliography; EMBASE/Excerpta Medica; Forestry Abstracts; Fuel and Energy Abstracts; Gas Abstracts; GEOBASE; Science Citation Index; SciSearch; Selected Water Resources Abstracts). Also covered in the abstract and citation database Scopus®. Full text available on ScienceDirect®.

For a full and complete Guide for Authors, please go to: <http://www.elsevier.com/locate/biotech>

CONTENTS

Volume 172, November 2014

Review

- 403 Pretreatment of microalgae to improve biogas production: A review
F. PASSOS, E. UGGETTI (Spain), H. CARRÈRE (France) & I. FERRER (Spain)

Full Length Articles

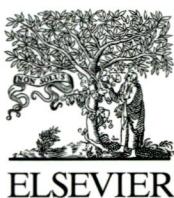
Biological Waste Treatment

- 8 Compound bioflocculant and polyaluminum chloride in kaolin-humic acid coagulation: Factors influencing coagulation performance and floc characteristics
R. LI, B. GAO, X. HUANG, H. DONG, X. LI, Q. YUE, Y. WANG & Q. LI (People's Republic of China)
- 22 Startup pattern and performance enhancement of pilot-scale biofilm process for raw water pretreatment
G.-F. YANG, L.-J. FENG, Q. YANG, L. ZHU, J. XU & X.-Y. XU (China)
- 50 The performance of high-loading composite anammox reactor and its long-term recovery from extreme substrates inhibition
J. ZHAO, J. ZUO, P. LI & J. LIN (China)
- 68 Anaerobic co-digestion of cattle manure and alternative crops for the substitution of maize in South Europe
S. D. KALAMARAS & T. A. KOTSOPoulos (Greece)
- 83 Comparison of metabolomic profiles of microbial communities between stable and deteriorated methanogenic processes
D. SASAKI, K. SASAKI, Y. TSUGE, M. MORITA & A. KONDO (Japan)
- 150 Sequential operation of a hybrid anaerobic reactor using a lignocellulosic biomass as biofilm support
M. A. WAHAB (Tunisia, France), F. HABOUZIT, N. BERNET, J.-P. STEYER (France), N. JEDIDI (Tunisia) & R. ESCUDIÉ (France)
- 226 Autotrophic nitrogen removal process in a potable water treatment biofilter that simultaneously removes Mn and NH₄⁺-N
Y. CAI, D. LI, Y. LIANG, H. ZENG & J. ZHANG (China)
- 232 Reactor performance and microbial community dynamics during anaerobic co-digestion of municipal wastewater sludge with restaurant grease waste at steady state and overloading stages
V. RAZAVIARANI & I. D. BUCHANAN (Canada)

(Continued on inside back cover)

For further information about *Bioresource Technology* or other Elsevier products, why not access the COMPLETE ELSEVIER CATALOGUE via the INTERNET?

WWW: <http://www.elsevier.com>



CONTENTS (continued from outside back cover)

- 253 Recovery and removal of ammonia-nitrogen and phosphate from swine wastewater by internal recycling of struvite chlorination product
H. HUANG, J. YANG & D. LI (PR China)
- 290 Survival strategies of polyphosphate accumulating organisms and glycogen accumulating organisms under conditions of low organic loading
M. CARVALHEIRA, A. OEHMEN, G. CARVALHO & M. A. M. REIS (Portugal)
- 297 Microaeration for hydrogen sulfide removal in UASB reactor
L. KRAYZEOVA, J. BARTACEK (Czech Republic), N. KOLESAROVA (Slovakia) & P. JENICEK (Czech Republic)
- 321 Membrane fouling control using a rotary disk in a submerged anaerobic membrane sponge bioreactor
J. KIM, J. SHIN, H. KIM, J.-Y. LEE, M.-H. YOON, S. WON, B.-C. LEE & K. G. SONG (Republic of Korea)
- 328 Effects of a nutrient additive on the density of functional bacteria and the microbial community structure of bioorganic fertilizer
L. LIU, T. LI, X. WEI, B. JIANG & P. FANG (PR China)
- 335 Biochar enables anaerobic digestion of aqueous phase from intermediate pyrolysis of biomass
C. TORRI & D. FABBRI (Italy)
- 349 The effect of trace element addition to mono-digestion of grass silage at high organic loading rates
D. M. WALL, E. ALLEN (Ireland), B. STRACCIALINI (Italy), P. O'KIELY & J. D. MURPHY (Ireland)
- 356 Integration of denitrifying phosphorus removal via nitrite pathway, simultaneous nitritation-denitrification and anammox treating carbon-limited municipal sewage
W. ZENG, B. LI, X. WANG, X. BAI & Y. PENG (China)
- 373 Sequential *in situ* hydrotalcite precipitation and biological denitrification for the treatment of high-nitrate industrial effluent
K. Y. CHENG, A. H. KAKSONEN & G. B. DOUGLAS (Australia)
- 391 Effects of filtration modes on membrane fouling behavior and treatment in submerged membrane bioreactor
T. MAQBOOL, S. J. KHAN (Pakistan) & C.-H. LEE (Republic of Korea)

Biofuels and Biorefineries

- 41 Enrichment and optimization of anaerobic bacterial mixed culture for conversion of syngas to ethanol
A. SINGLA, D. VERMA, B. LAL & P. M. SARMA (India)
- 58 Characterisation and evaluation of a novel feedstock, *Manihot glaziovii*, Muell. Arg. for production of bioenergy carriers: Bioethanol and biogas
A. P. MOSHI (Sweden, Tanzania), C. F. CRESPO, M. BADSHAH (Sweden), K. M. M. HOSEA, A. M. MSHANDETE, E. ELISANTE (Tanzania) & B. MATTIASSEN (Sweden)
- 76 Enhanced butanol production by immobilized *Clostridium beijerinckii* TISTR 1461 using zeolite 13X as a carrier
R. VICHUVIWAT, A. BOONSOMBUTI, A. LUENGNARUEMITCHAI & S. WONGKASEMJIT (Thailand)
- 91 Methane production from wheat straw with anaerobic sludge by heme supplementation
Y. XI, Z. CHANG, X. YE, R. XU, J. DU & G. CHEN (China)
- 104 Stimulative mineralization of *p*-fluoronitrobenzene in biocathode microbial electrolysis cell with an oxygen-limited environment
D. SHEN, X. ZHANG, H. FENG, K. ZHANG, K. WANG, Y. LONG, M. WANG & Y. WANG (China)
- 112 Monitoring lignocellulosic bioethanol production processes using Raman spectroscopy
J. A. IVERSEN & B. K. AHRING
- 121 Sunflower-based biorefinery: Poly(3-hydroxybutyrate) and poly(3-hydroxybutyrate-co-3-hydroxyvalerate) production from crude glycerol, sunflower meal and levulinic acid
V. KACHRIMANIDOU, N. KOPSAHELIS, S. PAPANIKOLAOU, I. K. KOOKOS (Greece), M. DE BRUYN, J. H. CLARK (UK) & A. A. KOUTINAS (Greece)

(Continued on facing page)

CONTENTS (continued from inside back cover)

- 143 Highly-efficient enzymatic conversion of crude algal oils into biodiesel
Y. WANG (China, United States), J. LIU, H. GERKEN (United States), C. ZHANG, Q. HU (China) & Y. LI (United States)
- 156 Spray-on polyvinyl alcohol separators and impact on power production in air-cathode microbial fuel cells with different solution conductivities
D. L. HOSKINS (USA), X. ZHANG (USA, PR China), M. A. HICKNER & B. E. LOGAN (USA)
- 169 Joint production of biodiesel and bioethanol from filamentous oleaginous microalgae *Tribonema* sp.
H. WANG, C. JI, S. BI, P. ZHOU, L. CHEN & T. LIU (PR China)
- 194 Process design and evaluation of production of bioethanol and β -lactam antibiotic from lignocellulosic biomass
S. B. KIM, C. PARK & S. W. KIM (Republic of Korea)
- 201 A process economic assessment of hydrocarbon biofuels production using chemoautotrophic organisms
N. E. KHAN, J. A. MYERS, A. L. TUERK & W. R. CURTIS (USA)
- 241 Ethanol and lignin production from Brazilian empty fruit bunch biomass
J. K. RAMAN & E. GNANSOUNOU (Switzerland)
- 276 Acetone, butanol, and ethanol production from gelatinized cassava flour by a new isolates with high butanol tolerance
H.-G. LI, F. K. OFOSU, K.-T. LI, Q.-Y. GU, Q. WANG & X.-B. YU (China)
- 303 Kinetic modeling of multi-feed simultaneous saccharification and co-fermentation of pretreated birch to ethanol
R. WANG, R. KOPPRAM, L. OLSSON & C. J. FRANZÉN (Sweden)
- 365 Intermittent load implementation in microbial fuel cells improves power performance
X. A. WALTER, J. GREENMAN & I. A. IEROPOULOS (United Kingdom)
- 382 Effect of short-time hydrothermal pretreatment of kitchen waste on biohydrogen production: Fluorescence spectroscopy coupled with parallel factor analysis
M. LI, T. XIA, C. ZHU, B. XI, X. JIA, Z. WEI & J. ZHU (China)
- 396 Effect of substrate pretreatment on particle size distribution in a full-scale research biogas plant
H.-J. NAEGELE, M. MÖNCH-TEGEDER, N. L. HAAG & H. OECHSNER (Germany)

Biomass and Feedstock Utilization

- 260 Gaseous emissions in municipal wastes composting: Effect of the bulking agent
C. MAULINI-DURAN, A. ARTOLA, X. FONT & A. SÁNCHEZ (Spain)

Bioprocesses

- 1 Reduction of ethylenediaminetetraacetic acid iron(III) by *Klebsiella* sp. FD-3 immobilized on iron(II, III) oxide poly(styrene-glycidyl methacrylate) magnetic porous microspheres: Effects of inorganic compounds and kinetic study of effective diffusion in porous media
Z.-M. ZHOU, X.-Y. WANG, T.-M. LIN & G.-H. JING (China)
- 16 Lipase immobilized catalytically active membrane for synthesis of lauryl stearate in a pervaporation membrane reactor
W. ZHANG, W. QING, Z. REN, W. LI & J. CHEN (People's Republic of China)
- 32 Potential of *Monoraphidium minutum* for carbon sequestration and lipid production in response to varying growth mode
S. K. PATIDAR, M. MITRA, B. GEORGE, R. SOUNDARYA & S. MISHRA (India)
- 97 Enhancement of microalgae growth and fatty acid content under the influence of phytohormones
E.-S. SALAMA, A. N. KABRA, M.-K. JI, J. R. KIM, B. MIN & B.-H. JEON (South Korea)

(continued on previous page)

CONTENTS (continued from following page)

- 131 Rapid neutral lipid accumulation of the alkali-resistant oleaginous *Monoraphidium dybowskii* LB50 by NaCl induction
H. YANG, Q. HE, J. RONG, L. XIA & C. HU (China)
- 180 Utilization of xylose as a carbon source for mixotrophic growth of *Scenedesmus obliquus*
S. YANG, G. LIU, Y. MENG, P. WANG, S. ZHOU & H. SHANG (PR China)
- 186 A study on large scale cultivation of *Microcystis aeruginosa* under open raceway pond at semi-continuous mode for biodiesel production
V. ASHOKKUMAR (Malaysia), E. AGILA (India), Z. SALAM, M. PONRAJ, M. F. M. DIN & F. N. ANI (Malaysia)
- 342 Discovery of a reductase-producing strain recombinant *E. coli* CCZU-A13 using colorimetric screening and its whole cell-catalyzed biosynthesis of ethyl (*R*)-4-chloro-3-hydroxybutanoate
Y.-C. HE, D.-P. ZHANG, Z.-C. TAO (PR China), X. ZHANG (USA) & Z.-X. YANG (PR China)

Microbial Products

- 174 Enhanced extracellular production of recombinant *Bacillus deramificans* pullulanase in *Escherichia coli* through induction mode optimization and a glycine feeding strategy
C. ZOU, X. DUAN & J. WU
- 269 Production of optically pure D-lactate from glycerol by engineered *Klebsiella pneumoniae* strain
X. FENG, Y. DING, M. XIAN, X. XU, R. ZHANG & G. ZHAO (China)
- 283 Ionic liquid pretreatment to increase succinic acid production from lignocellulosic biomass
C. WANG, D. YAN, Q. LI, W. SUN & J. XING (China)

Physico-Chemical and Thermo-Chemical Processes for Biomass

- 138 Hydrothermal nitric acid treatment for effectual lipid extraction from wet microalgae biomass
I. LEE, J.-Y. PARK, SUN-A. CHOI, Y.-K. OH & J.-I. HAN (Republic of Korea)
- 162 Fast microwave-assisted catalytic pyrolysis of sewage sludge for bio-oil production
Q. XIE, P. PENG, S. LIU, M. MIN (USA), Y. CHENG, Y. WAN (USA, China), Y. LI, X. LIN (USA), Y. LIU (USA, China), P. CHEN (USA) & R. RUAN (USA, China)
- 212 Improving abiotic reducing ability of hydrothermal biochar by low temperature oxidation under air
Y. XU, Z. LOU, P. YI, J. CHEN, X. MA, Y. WANG, M. LI, W. CHEN, Q. LIU, J. ZHOU, J. ZHANG & G. QIAN (China)
- 219 Pyrolysis characteristics of cattle manures using a discrete distributed activation energy model
H. CAO, Y. XIN, D. WANG & Q. YUAN (PR China)
- 249 Liquefaction of sugarcane bagasse for enzyme production
F. M. CUNHA (USA, Brazil), T. KREKE (USA), A. C. BADINO, C. S. FARINAS (Brazil), E. XIMENES & M. R. LADISCH (USA)
- 312 Relationship between thermal behaviour of lignocellulosic components and properties of biomass
C. H. PANG (United Kingdom, China), S. GADDIPATTI, G. TUCKER, E. LESTER (United Kingdom) & T. WU (China)

Short Communications

- 413 *Candida utilis* assimilates oligomeric sugars in rice straw hydrolysate via the Calcium-Capturing-by-Carbonation (CaCCO) process for glutathione- and cell-biomass production
Y. KOYAMA, R. ZHAO, M. IKE & K. TOKUYASU (Japan)
- 418 Saline storage of aerobic granules and subsequent reactivation
C. WAN (China), D.-J. LEE (China, Taiwan), X. YANG, Y. WANG & L. LIN (China)
- 423 Utilization of waste fruit-peels to inhibit aflatoxins synthesis by *Aspergillus flavus*: A biotreatment of rice for safer storage
R. NASEER, B. SULTANA, M. Z. KHAN, D. NASEER (Pakistan) & P. NIGAM (UK)

(continued on previous page)

CONTENTS (*continued from following page*)

- 429 Percarbonate as a naturally buffering catholyte for microbial fuel cells
C. FORRESTAL, Z. HUANG & Z. J. REN (United States)
- 433 Thermophilic hydrogen production from sludge pretreated by thermophilic bacteria: Analysis of the advantages of microbial community and metabolism
H.-S. ZHENG, W.-Q. GUO, S.-S. YANG, X.-C. FENG, J.-S. DU, X.-J. ZHOU (PR China), J.-S. CHANG (Taiwan) & N.-Q. REN (PR China)
- 438 Optimization of biomass torrefaction conditions by the Gain and Loss method and regression model analysis
S. M. LEE (Republic of Korea, Indonesia) & J.-W. LEE (Republic of Korea)
- 444 A usage of CO₂ hydrate: Convenient method to increase CO₂ concentration in culturing algaee
S. NAKANO, K.-H. CHANG (Republic of Korea), A. SHIJIMA, H. MIYAMOTO, Y. SATO, Y. NOTO, J.-Y. HA & M. SAKAMOTO (Japan)
- 449 Photosynthetic biominerilization of radioactive Sr via microalgal CO₂ absorption
S. Y. LEE, K.-H. JUNG, J. E. LEE, K. A. LEE, S.-H. LEE, J. Y. LEE, J. K. LEE, J. T. JEONG & S.-Y. LEE (Republic of Korea)
- 453 Production of furfural from waste aqueous hemicellulose solution of hardwood over ZSM-5 zeolite
H. GAO, H. LIU, B. PANG, G. YU, J. DU, Y. ZHANG, H. WANG & X. MU (China)
- 457 InCl₃-catalyzed conversion of carbohydrates into 5-hydroxymethylfurfural in biphasic system
Y. SHEN, J. SUN, Y. YI, M. LI, B. WANG, F. XU & R. SUN (PR China)
- 461 Anaerobic digestion of municipal wastewater sludges using anaerobic fluidized bed bioreactor
N. MUSTAFA, E. ELBESHIBISHY, G. NAKHLA & J. ZHU (Canada)

Retraction Notice

- 467 Retraction notice to "Biomass supply chain optimisation for Organosolv-based biorefineries" [Bioresour. Technol. 159 (2014) 387–396]
S. GIAROLA, M. PATEL & N. SHAH (United Kingdom)

Cover figure: Variations of abundance of anammox bacteria, NO₂⁻-N and COD in aerobic zone. See the article "Integration of denitrifying phosphorus removal via nitrite pathway, simultaneous nitritation–denitritation and anammox treating carbon-limited municipal sewage" by W. Zeng et al.