BIOTECHNOLOGY COVERAGE IN FSTA®

Trusted by researchers, scientists, students and government bodies in over 150 countries across the globe, FSTA is the definitive way to search over fifty years of historic and emerging research in the sciences of food and health.

Covering a wide range of interdisciplinary material, FSTA includes a wealth of international biotechnology content including:

All aspects of biotechnology as relevant to the food industry

General articles, such as:

- Safety and regulatory control of genetically modified foods
- Consumer attitudes towards biotechnologically derived foods

Genetics, molecular biology, recombinant DNA technology and associated techniques

- Genetics of food grade organisms
- Protein and exopolysaccharide secretion pathways
- Gene cloning and expression, cloning vectors, transformation and cell immobilization

Enzyme systems

- Native or recombinant food-relevant enzymes, including enzyme immobilization, crystallization data and enzyme inhibitors
- Development of biosensors

Protein engineering

- Chemical or genetic modification e.g. site-directed mutagenesis
- Protein metabolic engineering

Production of food-relevant products using biotechnological processes (microbial fermentations, plant and tissue culture systems)

- Vitamins, flavour compounds, food-grade bacteriocins, biomass, amino acids and fatty acids, cultured meat

Bioremediation and valorization of food-industry wastes

Fermentation technology

- Equipment - bioreactors/fermenters
- Online process control and monitoring of fermentation parameters, fermentation modelling
- Downstream processing techniques

USING FSTA FOR YOUR BIOTECHNOLOGY RESEARCH

Example search questions

- Can genetic modification of soybeans impact their allergenicity?
- Does immobilization of D-psicose 3-epimerase improve the bioconversion efficiency for D-psicose production?
- What factors affect the supercritical carbon dioxide extraction of astaxanthin from Haematococcus pluvialis?
- What are ecologically-sound methods for lactic acid production? *(Sample record on following page)*
- What by-products are useful as source products for biodegradable novel packaging?

SOURCE EXAMPLES

Biotechnology content is drawn from a wide variety of sources including journals, patents, books, reports and more. Here are just some of the many biotechnology-focused journals included within FSTA, chosen to illustrate the diversity and breadth of content:

- Bioresource Technology
- Food and Fermentation Industries
- Applied Microbiology and Biotechnology
- Journal of Food Science and Biotechnology
- Bioprocess and Biosystems Engineering
- Enzyme and Microbial Technology
- Journal of Chemical Technology and Biotechnology
- Biocatalysis and Biotransformation
- Plant Biotechnology Journal
- Biotechnology & Biotechnological Equipment

SAMPLE FSTA RECORD FOCUSED ON BIOTECHNOLOGY

Non-carbon loss long-term continuous lactic acid production from mixed sugars using thermophilic Enterococcus faecium QU 50.

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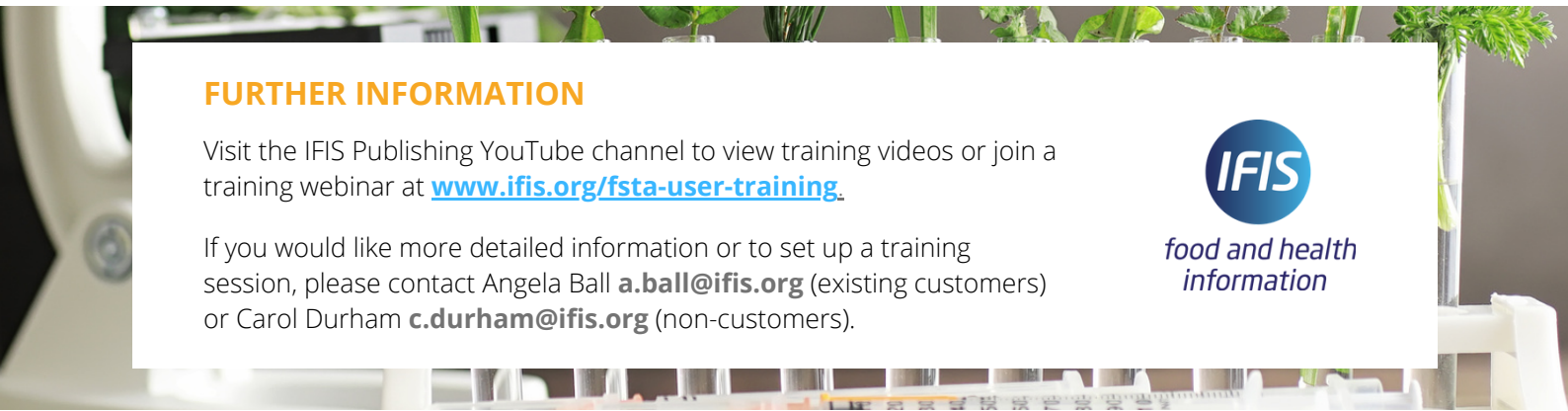
Source: Biotechnology and Bioengineering, Volume: 117, Issue: 6, Pages: 1673-1683
DOI: 10.1002/bit.27313
Published: 2020
Document Type: Journal Article

Abstract: In this study, a non-sterile (open) continuous fermentation (OCF) process with no-carbon loss was developed to improve lactic acid (LA) productivity and operational stability from the co-utilization of lignocellulose-derived sugars by thermophilic Enterococcus faecium QU 50. The effects of different sugar mixtures on LA production were firstly investigated in conventional OCF at 50 °C, pH 6.5 and a dilution rate of 0.20hr -1. The xylose consumption ratio was greatly lower than that of glucose in fermentations with glucose/xylose mixtures, indicating apparent carbon catabolite repression (CCR). However, CCR could be efficiently eliminated by feeding solutions containing the cellobiose/xylose mixture. In OCF at a dilution rate ca. 0.10hr -1, strain QU 50 produced 42.6gL -1 of l-LA with a yield of 0.912gg -1-consumed sugars, LA yield of 0.655gg -1 based on mixed sugar-loaded, and a productivity of 4.31gL -1hr -1 from simulated energy cane hydrolyzate. In OCF with high cell density by cell recycling, simultaneous and complete co-utilization of sugars was achieved with stable LA production at 60.13.25gL -1 with LA yield of 0.944gg -1-consumed sugar and LA productivity of 6.490.357gL -1hr -1. Besides this, a dramatic increase in LA yield of 0.927gg -1 based on mixed sugar-loaded with prolonged operational stability for at least 500hr (>20 days) was established. This robust system demonstrates an initial green step with a no-carbon loss under energy-saving toward the feasibility of sustainable LA production from lignocellulosic sugars. *© 2020 Wiley Periodicals, Inc.*

Keywords: CELLOBIOSE; DISACCHARIDES; ENTEROCOCCUS; ENTEROCOCCUS FAECIUM; FERMENTATION; FERMENTATION PRODUCTS; GLUCOSE; LACTIC ACID; MONOSACCHARIDES; STABILITY; XYLOSE



FURTHER INFORMATION

Visit the IFIS Publishing YouTube channel to view training videos or join a training webinar at www.ifis.org/fsta-user-training.

If you would like more detailed information or to set up a training session, please contact Angela Ball **a.ball@ifis.org** (existing customers) or Carol Durham **c.durham@ifis.org** (non-customers).

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