

Title (en)
SYSTEM FOR MANAGEMENT OF YEAST TO FACILITATE THE PRODUCTION OF ETHANOL

Title (de)
SYSTEM ZUR VERWALTUNG VON HEFE FÜR ERLEICHTERTE ETHANOLHERSTELLUNG

Title (fr)
SYSTÈME DE GESTION DE LEVURE POUR FACILITER LA PRODUCTION D'ÉTHANOL

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Application
EP 13885981 A 20130528

Priority
US 2013042927 W 20130528

Abstract (en)
[origin: WO2014193344A1] A system and method for managing an ethanologen for use in biorefinery is disclosed. The method for propagating ethanologen for use in the production of a fermentation product from biomass comprises the steps of providing a medium for propagation of ethanologen; supplying a first cell mass of ethanologen to the medium; supplying xylose to the medium as a carbon source for the ethanologen; and maintaining the medium comprising the first cell mass of ethanologen at a pH of between about 5.0 and 6.0 and at a temperature of between about 26 and About 37 degrees Celsius so that the first cell mass of ethanologen is propagated into a second cell mass of ethanologen. The second cell mass of ethanologen is larger than the first cell mass of ethanologen. The system for propagating ethanologen for use in the production of a fermentation product from biomass comprises a first stage comprising a first vessel configured to maintain a medium comprising ethanologen; a second stage comprising a second vessel configured to maintain a medium supplied from the first stage; a source of xylose to be provided to the medium as a carbon source for ethanologen in the first stage; and a source of xylose to be provided to the medium as a carbon source for the ethanologen in the second stage. The ethanologen has a first cell mass when supplied to the first stage and the ethanologen has a second cell mass when supplied from the first stage to the second stage and the ethanologen has a third cell mass when supplied from the second stage. The second cell mass is at least 200 times larger than the first cell mass The third cell mass is at least 20 times larger than the second cell mass.

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Citation (search report)

- [X] WO 2009155633 A1 20091230 - MICROBIOGEN PTY LTD [AU], et al
- [E] WO 2014159529 A1 20141002 - POET RES INC [US]
- [E] WO 2014072232 A1 20140515 - DSM IP ASSETS BV [NL]
- [E] US 8450094 B1 20130528 - NARENDRANATH NEELAKANTAM V [US], et al
- [A] WO 2012067571 A1 20120524 - SCANDINAVIAN TECHNOLOGY GROUP AB [SE], et al
- [A] WO 2010102063 A2 20100910 - POET RES INC [US], et al
- [X] BLANCO CARLOS A ET AL: "Improving industrial full-scale production of baker's yeast by optimizing aeration control", JOURNAL OF AOAC INTERNATIONAL, vol. 91, no. 3, 1 May 2008 (2008-05-01), pages 607 - 613, XP008182454, ISSN: 1060-3271, [retrieved on 20080501]
- [X] DATABASE WPI Week 201015, Derwent World Patents Index; AN 2010-B59989, XP002764774
- [A] SCHUMM J J: "Cumulative effects of propagation, fermentation media, and inoculum size on the fermentation and economic performance of glucose and xylose co-fermentation by *Saccharomyces cerevisiae* 424a(LNH-ST)", 1 May 2009 (2009-05-01), pages Cover,i - ix,1-104, XP002758004, Retrieved from the Internet <URL:http://search.proquest.com/docview/304990054> [retrieved on 20160524]
- [T] DOS SANTOS LEANDRO VIEIRA ET AL: "Second-Generation Ethanol: The Need is Becoming a Reality", INDUSTRIAL BIOTECHNOLOGY, vol. 12, no. 1, 16 February 2016 (2016-02-16), pages 40 - 57, XP002757510, ISSN: 1550-9087, DOI: 10.1089/IND.2015.0017
- See references of WO 2014193344A1

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