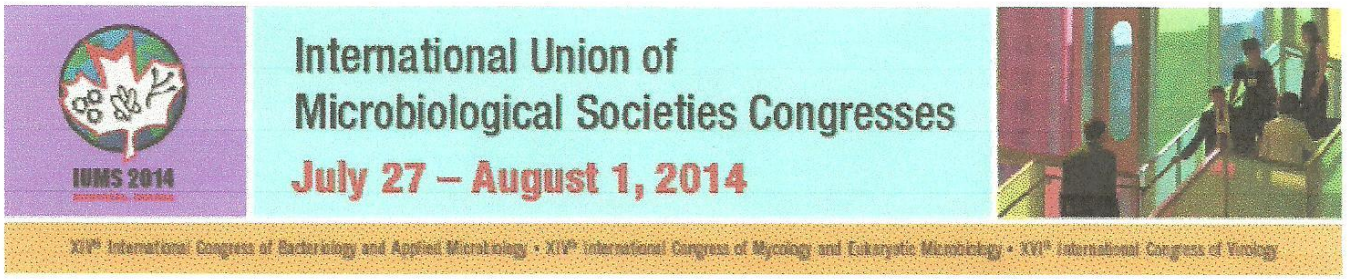
International Union of Microbiological Societies (IUMS 2014) – XIVth International Congress of Bacteriology and Applied Microbiology, XIVth International Congress of Mycology and Eukaryotic Microbiology, XVIth International Congress of Virology



Preview of Abstract

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Edit submission

Abstract Title: Controlling the growth of Dekkera bruxellensis by using potassium metabisulphite in recycled fermentations for fuel alcohol production

Abstract Short Title: *Dekkera bruxellensis in ethanolic fermentations*

Presentation Type: *Poster or Oral Presentation*

Onsite Presenting Author (Speaker or Poster Presenter): *Sandra Regina*[Ceccato-Antonini]

Co-Author(s): *Sandra Regina*[Ceccato-Antonini] *, Anna Livia*[Paraiuppi] *, Ana Paula Guarnieri*[Bassi] *, Vanda Renata*[Reis]

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Abstract:
Sulphite treatment is the most common way to prevent grape must spoilage in winemaking because the yeast Saccharomyces cerevisiae is particularly resistant to this chemical whereas for non-Saccharomyces it is highly toxic. The use of potassium metabisulphite (PMB) in alcoholic fermentation for fuel alcohol production to control yeast contaminants was not reported earlier. In this work, we evaluated the effect of adding PMB in the concentration of 250 mg/L (which was optimized in previous work) to control the growth of Dekkera bruxellensis, one of the most important contaminant yeasts of the alcoholic process, utilizing recycled fermentation. Pure and co-cultures of S. cerevisiae (industrial strain PE-2) and D. bruxellensis (strain CCA155) were utilized in flask fermentations with sugar cane juice as substrate along six fermentation cycles lasting 12 h each. Cells were centrifuged after each fermentative cycle and inoculated in a new fermentation medium. PMB was added at the start of each fermentation cycle. Growth was monitored by plating the samples in YPD without and with actidione to estimate the colony numbers of S. cerevisiae and D. bruxellensis, respectively. Analysis of alcohol production, pH and residual sugars were also taken. In the initial fermentation cycles, the colony number of S. cerevisiae decreased but at the end of all cycles, the colony number was higher than the initial value when PMB was added. However, the colony number of D. bruxellensis was reduced by half. In co-culture without addition of PMB, the colony number of D. bruxellensis increased 100 times along the fermentative cycles. Although the growth of the contaminant yeast may be controlled by the usage of PMB, without great impact on the growth of S. cerevisiae, the alcohol production decreased significantly in fermentation with PMB, around 30% when compared to pure fermentation of S. cerevisiae without PMB. Support: Fapesp (2011/17928-0; 2012/03401-3).

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QUESTIONS?

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Sandra Antonini

De: "IUMS 2014 Abstracts" <ium s14abstracts@legendconferences.com>
Data: quarta-feira, 9 de abril de 2014 18:39
Para: <antonini@cca.ufscar.br>
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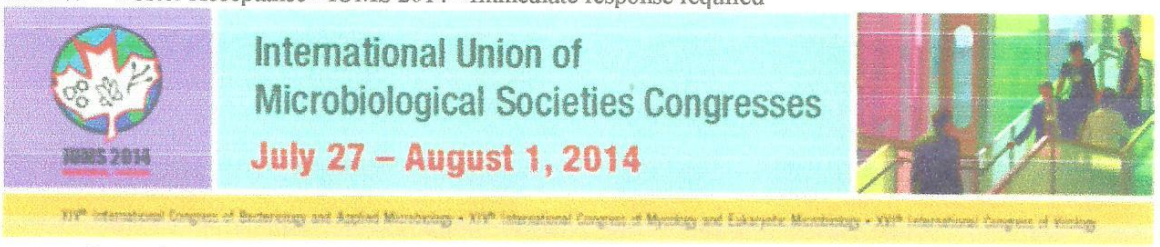

Sandra Ceccato-Antonini
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Date: April 6, 2014

Re: #50019 - Controlling the growth of Dekkera bruxellensis by using potassium metabisulphite in recycled fermentations for fuel alcohol production
Presenting Author: Sandra Regina Ceccato-Antonini

Dear Sandra Ceccato-Antonini:

Thank you for submitting your abstract for consideration for International Union of Microbiological Societies (IUMS 2014) XIVth International Congress of Bacteriology and Applied Microbiology, XIVth International Congress of Mycology and Eukaryotic Microbiology and XVIth International Congress of Virology. The Scientific Program Committee has accepted your paper for inclusion as a poster presentation.

We received a large number of excellent oral abstracts and were not able to accept all for oral presentations. Should there be any withdrawals from the oral presentation program prior to the Congresses, we may contact you to request your abstract to be moved from poster to an oral presentation.

To help us finalize an accurate schedule, please confirm that you intend to register to the Congress, by **replying immediately** to this e-mail. We will confirm the session, date and time of your poster presentation at a later date.

Please note that in order to present your work at the Congress, you must register no later than **May 1, 2014**. If you have not already registered, please click on the link below to access the registration site. This ***personalized*** link will ensure that your registration will be properly attached to the abstract you have already submitted.
https://www.csoconferences.org/ei/getdemo.ei?id=234&s=_68W0KCMMK&key=YXK67GM2CM

Further instructions related to your poster presentation will be available at a later date on our website.

On behalf of the IUMS 2014 Scientific Program Committee, I would like to thank you for being part of this international event and we look forward to your contribution at the International Union of Microbiological Societies Congresses. If you have any questions, please email iums2014@nrc-cnrc.gc.ca or call 1 613 993 0414.

Sincerely yours,

Pierre Belhumeur
Scientific Program Committee
IUMS 2014 Congresses