

acp-2016-447 Screening of cloud microorganisms isolated at the puy de Dôme (France) station for the production of biosurfactants

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Referee 1 #'s comments

The authors have sufficiently addressed the comments of the reviewers and it is recommended that this work be published after some minor revisions:

Page 1, Line 26. The paragraph on human health has been removed based on Referee #2's comments, so the reference to human health in the abstract should also be removed.

Page 8, Line 12. I recommend replacing "a more or less strong" with something like "a noticeable" or "an appreciable" for clarity, though this more of a personal preference.

Page 9, Line 14. I think you mean the 45 mN m⁻¹ limit, as mentioned in the author's response to Referee #2, not the 55 mN m⁻¹ limit.

Page 12, Line 3. Since the statistical analysis based on air mass origins has been removed, this paragraph, especially the comment regarding the Northwest-North sector, is out of context. Please revise.

Author's answer

We thank the reviewer for his comments. We have corrected the revised manuscript accordingly

Author's changes

The changes are highlighted in yellow in the revised manuscript

P1: "Moreover, the potential impact of the production of biosurfactants by cloud microorganisms on atmospheric processes is discussed."

P 8: "As expected, a noticeable reduction of the surface tension values was observed when the microorganisms produced biosurfactants in the culture medium."

P9: "The 45 mN m⁻¹ limit is often considered the threshold in terms of the surface tension decrease originating from HULIS..."

P 12: "For example, French regions characterized by uniform monocultures (Ministère de l'Agriculture, de l'Agroalimentaire et de la Forêt, 2014) could be extremely favorable to plant pathogens, such as *Pseudomonas syringae* (McDonald and Linde, 2002)."