

# Accepted Manuscript

Improving environmental performance of post-harvest supply chains of fruits and vegetables in Europe: Potential contribution from ultrasonic humidification

Serena Fabbri, Stig Irving Olsen, Mikołaj Owsianiak



PII: S0959-6526(18)30179-3

DOI: [10.1016/j.jclepro.2018.01.157](https://doi.org/10.1016/j.jclepro.2018.01.157)

Reference: JCLP 11837

To appear in: *Journal of Cleaner Production*

Received Date: 25 May 2017

Revised Date: 19 December 2017

Accepted Date: 19 January 2018

Please cite this article as: Fabbri S, Olsen SI, Owsianiak Mikołaj, Improving environmental performance of post-harvest supply chains of fruits and vegetables in Europe: Potential contribution from ultrasonic humidification, *Journal of Cleaner Production* (2018), doi: 10.1016/j.jclepro.2018.01.157.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Abstract

Post-harvest losses of fruits and vegetables during refrigerated storage, transportation and retail are an important contributor to total environmental impacts of food supply chains in Europe. Ultrasonic humidification can reduce these post-harvest losses, but it is currently unknown whether implementing the technology in practice improves the environmental performance of the supply chains. Here, using life cycle assessment we showed that ultrasonic humidification has the potential to reduce environmental impacts, including climate change impacts, of selected fruits and vegetables in Europe by up to 23% compared to conventional supply chains. The greatest potential is obtained when humidifiers are applied to fruits and vegetables chains with total inherent losses higher than 24% and when humidifiers allow reducing post-harvest losses in each post-harvest stage by 20% or more. Our results suggest that humidification may be an attractive technology for making supply chain management more sustainable.

Download English Version:

<https://daneshyari.com/en/article/8097245>

Download Persian Version:

<https://daneshyari.com/article/8097245>

[Daneshyari.com](https://daneshyari.com)