

Accepted Manuscript

Effect of ozone treatment on the quality of grain products

Fan Zhu

PII: S0308-8146(18)30842-2

DOI: <https://doi.org/10.1016/j.foodchem.2018.05.047>

Reference: FOCH 22880

To appear in: *Food Chemistry*

Received Date: 13 February 2018

Revised Date: 1 May 2018

Accepted Date: 8 May 2018



Please cite this article as: Zhu, F., Effect of ozone treatment on the quality of grain products, *Food Chemistry* (2018), doi: <https://doi.org/10.1016/j.foodchem.2018.05.047>

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.

Effect of ozone treatment on the quality of grain products

Fan Zhu *

*School of Chemical Sciences, University of Auckland, Private Bag 92019, Auckland 1142,
New Zealand*

** Corresponding author, email: fzhu5@yahoo.com; telephone: +64 9 923 5997*

Abstract

Ozone is a strong oxidant and has different food applications to ensure food safety. Ozone treatment is considered an eco-friendly and cost-effective food processing technique. In this mini-review, the impact of ozone treatment on the composition (e.g., mycotoxins) and physicochemical properties of components (e.g., starch and protein) of different food grains (e.g., wheat, rice and maize) is summarised. The rheology, color, storage, and germination capacity of the grains/flours affected by ozone are reviewed. The quality attributes (e.g., texture) of food products (e.g., bread, noodle, and cake) made from ozone treated cereals are also examined. It becomes evident that ozone has great potential to improve the functionalities of grain products while ensuring food safety.

Keywords: gluten; starch; bread; deoxynivalenol; dough rheology; cereal; noodle; wheat

1. Introduction

Ozone (O₃) is a powerful oxidant and has the GRAS (Generally recognized as safe) status (Gaou et al., 2005). It has found different applications in food industry (Guzel-Seydima et al.,

Download English Version:

<https://daneshyari.com/en/article/7584762>

Download Persian Version:

<https://daneshyari.com/article/7584762>

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