

The purpose of this study was to introduce a new source of antioxidants obtained from grape pomace as well as aronia and blueberry and engages them in preparation of a new yoghurt product in order to be last – longer and more beneficial for human health than the traditional one. Totally, grape pomaces from 4 varieties (Zupjanka, Prokupec, Kadinal and Vranec) as well as blueberry and aronia, were used. For the extraction of polyphenols, liquid-liquid extraction with ethanol/water/acetic acid was used in order to concentrate phenols and introduce them into the milk. Three different concentrates of each sample (18 in total) were applied on milk together with lactic bacteria in order to study the influence of polyphenols during the fermentation; as well as, 18 other extracts applied on milk after the fermentation (into the obtained yoghurt). The pH value of the newly generated yoghurts was analyzed during the fermentation and storage. All yoghurt samples containing polyphenolics applied before the fermentation, presented higher pH value compared to the control and samples with polyphenolics applied after fermentation.



Zorana Andonovic  
Violeta Ivanova-Petropulos  
Vladan Andonovic

Zorana Andonovic was born in 1997, in Kumanovo, R. Macedonia. Currently, she is a student at fourth year in secondary school Yahya Kemal College, Skopje, R. Macedonia. Dr. Violeta Ivanova-Petropulos is working as Assistant Professor at Faculty of Agriculture, University "Goce Delcev", Stip, R. Macedonia.

# Grape pomace: from waste to natural food supplement and biodiesel



978-3-659-57235-7

**Zorana Andonovic  
Violeta Ivanova-Petropulos  
Vladan Andonovic**

**Grape pomace: from waste to natural food supplement and biodiesel**



**Zorana Andonovic  
Violeta Ivanova-Petropulos  
Vladan Andonovic**

**Grape pomace: from waste to natural  
food supplement and biodiesel**

**LAP LAMBERT Academic Publishing**

**Impressum / Imprint**

Bibliografische Information der Deutschen Nationalbibliothek: Die Deutsche Nationalbibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliografie; detaillierte bibliografische Daten sind im Internet über <http://dnb.d-nb.de> abrufbar.

Alle in diesem Buch genannten Marken und Produktnamen unterliegen warenzeichen-, marken- oder patentrechtlichem Schutz bzw. sind Warenzeichen oder eingetragene Warenzeichen der jeweiligen Inhaber. Die Wiedergabe von Marken, Produktnamen, Gebrauchsnamen, Handelsnamen, Warenbezeichnungen u.s.w. in diesem Werk berechtigt auch ohne besondere Kennzeichnung nicht zu der Annahme, dass solche Namen im Sinne der Warenzeichen- und Markenschutzgesetzgebung als frei zu betrachten wären und daher von jedermann benutzt werden dürften.

Bibliographic information published by the Deutsche Nationalbibliothek: The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at <http://dnb.d-nb.de>.

Any brand names and product names mentioned in this book are subject to trademark, brand or patent protection and are trademarks or registered trademarks of their respective holders. The use of brand names, product names, common names, trade names, product descriptions etc. even without a particular marking in this works is in no way to be construed to mean that such names may be regarded as unrestricted in respect of trademark and brand protection legislation and could thus be used by anyone.

Coverbild / Cover image: [www.ingimage.com](http://www.ingimage.com)

Verlag / Publisher:

LAP LAMBERT Academic Publishing

ist ein Imprint der / is a trademark of

OmniScriptum GmbH & Co. KG

Heinrich-Böcking-Str. 6-8, 66121 Saarbrücken, Deutschland / Germany

Email: [info@lap-publishing.com](mailto:info@lap-publishing.com)

Herstellung: siehe letzte Seite /

Printed at: see last page

**ISBN: 978-3-659-57235-7**

Copyright © 2014 OmniScriptum GmbH & Co. KG

Alle Rechte vorbehalten. / All rights reserved. Saarbrücken 2014

**Zorana Andonovic, Violeta Ivanova-Petropulos,  
Vladan Andonovic**

# **GRAPE POMACE: FROM WASTE TO NATURAL FOOD SUPPLEMENT AND BIODIESEL**

