## Accepted Manuscript

The effects of single or combined administration of galactooligosaccharide and *Pediococcus acidilactici* on cutaneous mucus immune parameters, humoral immune responses and immune related genes expression in common carp (*Cyprinus carpio*) fingerlings

Maryam Modanloo, Siavash Soltanian, Mostafa Akhlaghi, Seyed Hossein Hoseinifar

PII: S1050-4648(17)30551-X

DOI: 10.1016/j.fsi.2017.09.032

Reference: YFSIM 4822

To appear in: Fish and Shellfish Immunology

Received Date: 29 June 2017

Revised Date: 7 September 2017

Accepted Date: 9 September 2017

Please cite this article as: Modanloo M, Soltanian S, Akhlaghi M, Hoseinifar SH, The effects of single or combined administration of galactooligosaccharide and *Pediococcus acidilactici* on cutaneous mucus immune parameters, humoral immune responses and immune related genes expression in common carp (*Cyprinus carpio*) fingerlings, *Fish and Shellfish Immunology* (2017), doi: 10.1016/j.fsi.2017.09.032.

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.



## The effects of single or combined administration of galactooligosaccharide and *Pediococcus acidilactici* on cutaneous mucus immune parameters, humoral immune responses and immune related genes expression in common carp (*Cyprinus carpio*) fingerlings

1	Running head: Pro-, Pre, and synbiotic effects on carp immune response
2	Maryam Modanloo <sup>a*</sup> , Siavash Soltanian <sup>a</sup> , Mostafa Akhlaghi <sup>a</sup> , Seyed Hossein Hoseinifar <sup>b</sup> ,
3	
4	<sup>a</sup> Aquatic Animal Health & Diseases Department, School of Veterinary Medicine, Shiraz University, 71441-69155
5	Shiraz, Iran.
6	
7	<sup>b</sup> Department of Fisheries, Faculty of Fisheries and Environmental Sciences, Gorgan University of Agricultural
8	Sciences and Natural Resources, Gorgan, Iran
9	
10	
11	*
12	Corresponding author: Aquatic Animal Health & Diseases Department, School of Veterinary Medicine, Shiraz
13	University, 71441-69155 Shiraz, Iran.
14	E-mail address:
15	
16	Tel: 0098 71 36138906, 0098 9173364632
17	Fax: 0098 71 32286950
18	
19	
20	
21	
22	
23	

Download English Version:

## https://daneshyari.com/en/article/5540292

Download Persian Version:

https://daneshyari.com/article/5540292

Daneshyari.com