

Accepted Manuscript

Spirulina (*Arthrospira platensis*) supplementation improves growth performance, feed utilization, immune response, and relieves oxidative stress in Nile tilapia (*Oreochromis niloticus*) challenged with *Pseudomonas fluorescens*

Manal M.A. Mahmoud, Maather M.M. El-Lamie, Omnia E. Kilany, Amina A. Dessouki



PII: S1050-4648(17)30683-6

DOI: [10.1016/j.fsi.2017.11.006](https://doi.org/10.1016/j.fsi.2017.11.006)

Reference: YFSIM 4940

To appear in: *Fish and Shellfish Immunology*

Received Date: 8 August 2017

Revised Date: 29 October 2017

Accepted Date: 3 November 2017

Please cite this article as: Mahmoud MMA, El-Lamie MMM, Kilany OE, Dessouki AA, *Spirulina* (*Arthrospira platensis*) supplementation improves growth performance, feed utilization, immune response, and relieves oxidative stress in Nile tilapia (*Oreochromis niloticus*) challenged with *Pseudomonas fluorescens*, *Fish and Shellfish Immunology* (2017), doi: 10.1016/j.fsi.2017.11.006.

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.

Spirulina* (*Arthrospira platensis*) Supplementation Improves Growth Performance, Feed Utilization, Immune Response, and Relieves Oxidative Stress in Nile tilapia (*Oreochromis niloticus*) Challenged with *Pseudomonas fluorescens

**Manal M. A. Mahmoud^a, Maather M.M. El-Lamie^b, Omnia E. Kilany^{c, *},
Amina A. Dessouki^d**

^a Department of Nutrition and Clinical Nutrition, Faculty of veterinary medicine, Suez Canal University, Ismailia 41522, Egypt.

^b Fish Diseases and Management Department, Faculty of Veterinary Medicine, Suez Canal University, Ismailia 41522, Egypt.

^c Clinical Pathology Department. Faculty of Veterinary Medicine, Suez Canal University, Ismailia 41522, Egypt.

^d Pathology Department. Faculty of Veterinary Medicine, Suez Canal University, Ismailia 41522, Egypt.

***Corresponding author:** Omnia Kilany

Tel:00201225701114

Fax: 0020-0643207052

E-mail address: omniakilany@vet.suez.edu.eg

ABSTRACT

Download English Version:

<https://daneshyari.com/en/article/8498862>

Download Persian Version:

<https://daneshyari.com/article/8498862>

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