

ISSN

Print: 2345-6604

On line: 2345-6566



Gorgan University of Agricultural  
Sciences and Natural Resources

# Poultry Science Journal



Summer / Autumn 2015, Volume 3, Number 2

<http://psj.gau.ac.ir>

# POULTRY SCIENCE JOURNAL (PSJ)



Gorgan University of Agricultural  
Sciences and Natural Resources  
(GUASNR)

**Executive Director:**

Najafinejad, A., President of GUASNR, Gorgan, Iran

**Editor-in-Chief:**

Zerehdaran S., GUASNR, Gorgan, Iran

**Associate Editor:**

Dastar B., GUASNR, Gorgan, Iran

**Managing Editor:**

Mirshekar R., GUASNR, Gorgan, Iran

**Editorial Board Members:** (*Alphabetically*)

Dastar B.,	Professor of Poultry Nutrition, GUASNR, Iran
Golian A.,	Professor of Poultry Nutrition, Ferdowsi University of Mashhad, Iran
Hair-Bejo M.,	Professor of Poultry Pathology, Universiti Putra Malaysia, Malaysia
Iji PA.,	Associate Professor of Poultry Nutrition, University of New England, Australia
Khajali F.,	Professor of Poultry Nutrition, Shahrekord University, Iran
Loh TC.,	Associate Professor of Poultry Nutrition, Universiti Putra Malaysia, Malaysia
Pakdel A.,	Associate Professor of Poultry Breeding and Genetics, Isfahan University of Technology, Iran
Rajion MA.,	Professor of Poultry Physiology, Universiti Putra Malaysia, Malaysia
Rezaei M.,	Professor of Poultry Nutrition, Sari Agricultural Sciences and Natural Resources University, Iran
Roberts J.,	Associate Professor of Poultry Physiology, University of New England, Australia
Shams Shargh M.,	Associate Professor of Poultry Nutrition, GUASNR, Iran
Wideman RF.,	Professor of Poultry Physiology, University of Arkansas, USA
Yalcin S., Ege	Professor of Poultry Sciences, University, Turkey
Zerehdaran, S.,	Professor of Poultry Breeding and Genetics, Ferdowsi University of Mashhad, Iran

**Aims and Scope:** Poultry Science Journal (PSJ) is an international scientific journal published by Gorgan University of Agricultural Sciences and Natural Resources (GUSNR), Gorgan, Iran. PSJ is an open journal that publishes original papers, research notes, and reviews of basic sciences as applied to poultry. Subjects are included all disciplines engaged in the field of poultry science and researches:

- Genetics and Biotechnology
- Hatchery Management
- Meat and Egg Quality
- Nutrition and Metabolism
- Physiology and Reproduction
- Production and Management

Preference is certainly given to papers from experimental and observational researches at the field, local, regional and global levels. The journal also features rapid publication of short communications.

Papers should be original, unpublished and not being considered for publication elsewhere. Papers based on limited data or of local importance and results from routine experiments will not normally be considered for publication.

**Publishing plan:** PSJ is published in yearly volumes of two issues on Winter / Spring and Summer / Autumn.

**Contact information:** Journals Office, Vice-Presidency for Research and Technology, Gorgan University of Agricultural Sciences and Natural Resources, Gorgan, Iran. Postal code: 49138-15739.

Website: <http://psj.gau.ac.ir>, Email: [psj@gau.ac.ir](mailto:psj@gau.ac.ir), Tel/Fax: 0098-17-32440093



## Table of Contents

- 105-111 **Effect of Different Levels of L-Carnitine on the Productive Performance, Egg Quality, Blood Parameters and Egg Yolk Cholesterol in Laying Hens**  
*Kazemi-Fard M, Yousefi S, Dirandeh E & Rezaei M*
- 113-120 **Effects of Lipotropic Products on Productive Performance, Liver Lipid and Enzymes Activity in Broiler Chickens**  
*Khosravinia H, Chethen PS, Umakantha B & Nourmohammadi R*
- 121-127 **Effects of Enalapril on Growth Performance, Ascites Mortality, Antioxidant Status and Blood Parameters in Broiler Chickens Under Cold-Induced Ascites**  
*Fathi M, Haydari M & Tanha T*
- 129-134 **The Use of Sweet Almond Meal as a Protein Source in Japanese Quails Diets**  
*Arjomandi MA, Salarmoini M & Asadikaram G*
- 135-141 **Effects of Dietary Threonine and a Multi Strains Probiotic (Primalac) Supplementation on Growth Performance, Blood Metabolites and Carcass Characteristics in Japanese Quails**  
*Rezaeipour V, Valizadeh A, Abdollahpour R & Sadeghi AR*
- 143-149 **Genetic Properties of Some Economic Traits in Isfahan Native Fowl Using Bayesian and REML Methods**  
*Salehinasab M, Latifi M, Zerehdaran S & Alijani S*
- 151-158 **Effect of Chicory Plant (*Cichorium intybus* L.) Extract on Performance and Blood Parameters in Broilers Exposed to Heat Stress with Emphasis on Antibacterial Properties**  
*Taraz Z, Shams Shargh M, Samadi F, Ebrahimi P & Zerehdaran S*
- 159-164 **Performance and Serum Hepatic Enzymes of Hy-Line W-36 Laying Hens Intoxicated with Dietary Carbon Tetrachloride**  
*Hadavi A, Kermanshahi H, Nassiri Moghaddam H & Golian A*
- 165-172 **The Impact of *in ovo* Injection of Silver Nanoparticles, Thyme and Savory Extracts in Broiler Breeder eggs on Growth Performance, Lymphoid-Organ Weights, and Blood and Immune Parameters of Broiler Chicks**  
*Saki AA & Salary J*