

Tropical Animal Science Journal

Thyme (*Thymus vulgaris*) as a Natural Feed Additive in Poultry Nutrition: Enhancing Performance, Health, and Carcass Traits

A. Abd El-Aziz, G. Buonaiuto, A. Yıldırım, & K. El-Sabroun

Supplementation of Palmitic and Omega-3 Fatty Acid Concentrate Flushing During Late Gestation Enhances Ewe and Lamb Performance

M. Shofiah, L. Khotijah, D. M. Fassah, Y. Pujiawati, K. Komalasari, B. Bakrie, E. S. Rohaeni, S. N. Ahmad, & D. A. Astuti

Bentonite-Yeast Binder Mitigates the Adverse Effects of Aflatoxin B₁ on Intestinal Integrity and Performance in Broiler Chickens

A. S. Wahyudi, N. Hidayaturohman, A. Agus, B. Ariyadi, F. F. Akbar, I. H. M. Noor, & M. A. Anas

Evaluation of Inferior Quality Pellets on the Growth Performance, Carcass Parameters, and Digestive Organs of Broiler Chickens

A. A. Çenesiz & İ. Çiftçi

Risk Perception Management and Development Challenges in Micro and Small-Scale Dairy Cattle Farming in West Java

M. S. Andrianto, U. Sumarwan, M. Sarma, & D. Indrawan

Non-genetic Effects and Genetic Parameters Estimation on Growth Traits of Indonesian Etawah Grade Goats

A. R. Nugroho, C. Sumantri, A. Sutanto, M. F. Ulum, & A. Gunawan

Putative Blood Biomarkers on Tropical Resilience in Philippine Native and Crossbred Heifers

E. M. I. Pandangan, J. M. D. Dominguez, K. I. B. Turaja, G. F. Guadayo, N. H. N. Sumaya, S. R. M. Tabugo, A. N. Del Barrio, K. S. Kim, & C. S. O. Moneva

Animal Welfare Status and Meat Quality Attributes of Finishing Pigs Across Diverse Farm Production Scales

A. T. N. Dang, D. T. Do, T. T. K. Pham, A. T. N. Dang, K. N. Duong, & H. T. Nguyen

Free-Range Rearing as a Welfare-Oriented System: Enhances Growth, Digestibility, and Lipid Traits of Cobb500 Broilers in Tropical Conditions

A. M. Safwat, L. Sarmiento-Franco, C. Sandoval-Castro, R. Santos-Ricalde, & M. M. Sayedahmed

Increased Occurrence of Antimicrobial Resistance and Virulence Genes in *Escherichia coli* from Broilers in the Central Highlands of Vietnam

H. T. A. Phuong, L. T. H. Yen, & L. D. Hai



SJR



Dimensions



EBSCO PUBLISHING



GARUDA GARBA RUJUKAN DIGITAL

Tropical Animal Science Journal

Accredited by Directorate General of Higher Education, Research, and Technology
Ministry of Education, Culture, Research, and Technology, Republic of Indonesia
No: 225/E/KPT/2022

EDITORIAL TEAM

CHIEF EDITOR

Komang G. Wiryawan, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 7801509481)

ASSOCIATE EDITORS

Luki Abdullah, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 56745076500)

Jakaria, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 57031826400)

Sri Mulatsih, Faculty of Economics and Management, IPB University, Indonesia (Scopus ID: 57202135016)

Sri Suharti, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 57195329169)

Tuti Suryati, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 55972366100)

INTERNATIONAL ADVISORY EDITORS

Abdul Razak Alimon, Faculty of Agriculture, Universiti Putra Malaysia, Malaysia (Scopus ID: 6603104909)

Jong K. Ha, Seoul National University, South Korea (Scopus ID: 7202103302)

Metha Wanapat, Faculty of Agriculture, Khon Kaen University, Thailand (Scopus ID: 35611069000)

EDITORIAL BOARDS

Anuraga Jayanegara, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 36967556600)

Arief Boediono, School of Veterinary Medicine and Biomedical Sciences, IPB University, Indonesia (Scopus ID: 9040094200)

Asep Gunawan, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 57217603625)

A. K. Thiruvenkadan, Tamil Nadu Veterinary and Animal Sciences University, India (Scopus ID: 6603017632)

Beob Gyun Kim, Department of Animal Science and Technology, Konkuk University, South Korea (Scopus ID: 26654167200)

Brandon Smith, College of Agriculture, Department of Animal Sciences, Auburn University, United States, (Scopus ID: 57203073324)

Budi Santoso, Faculty of Animal Science, University of Papua, Indonesia (Scopus ID: 56349607800)

Burhanudin Sundu, Faculty of Agriculture, Tadulako University, Indonesia (Scopus ID: 12807405800)

Cahyo Budiman, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 30367583300)

Cece Sumantri, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 6601992915)

Damiano Cavallini, Department of Veterinary Medical Science, University of Bologna, Italy (Scopus ID: 57202249924)

Despal, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 57190671699)

Elizabeth Wina, Indonesian Research Institute for Animal Production, Indonesia (Scopus ID: 8566020700)

Epi Taufik, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 54944538500)

Irma Isnafia Arief, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 56355088400)

Karim El-Sabrouh, Alexandria University, Egypt (Scopus ID: 57039206200)

Loh Teck Chwen, Faculty of Agriculture, Universiti Putra Malaysia, Malaysia (Scopus ID: 57212574896)

Lucia Cyrilla, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 57190664471)

Mehmet Ulas Cinar, Erciyes University, Turkey, (Scopus ID: 57193642818)

Mulyoto Pangestu, Faculty of Medicine, Nursing and Health Sciences, Monash University, Australia (Scopus ID: 35488897500)

Myunggi Baik, College of Agriculture and Life Sciences, Seoul National University, South Korea (Scopus ID: 7006971317)

Nahrowi, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 6603628066)

Neelesh Sharma, Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu (SKUAST-J), India (Scopus ID: 57205213244)

Nur Rochmah Kumalasari, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 57221274012)

Retno Murwani, Faculty of Animal and Agricultural Sciences, Diponegoro University, Indonesia, (Scopus ID: 6508023811)

Rita Mutia, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 57188699936)

Rudi Afnan, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 57188706534)

Sumiati, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 55977116500)

Vincent Niderkorn, French National Institute for Agriculture, Food, and Environment (INRAE), France (Scopus ID: 14619705100)

Wasmen Manalu, School of Veterinary Medicine and Biomedical Sciences, IPB University, Indonesia (Scopus ID: 6701769736)

Windi Al Zahra, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 56331223100)

Yuan-Yu Lin, Department of Animal Science and Technology, National Taiwan University, Taiwan (R.O.C.) (Scopus ID: 55749317700)

TECHNICAL EDITORS

Irma Nuranthy Purnama, Faculty of Animal Science, IPB University, Indonesia

Yuni Cahya Endrawati, Faculty of Animal Science, IPB University, Indonesia (Scopus ID: 57224529281)

Tropical Animal Science *Journal*

Accredited by Directorate General of Higher Education, Research, and Technology
Ministry of Education, Culture, Research, and Technology, Republic of Indonesia
No: 225/E/KPT/2022

PUBLISHER

Faculty of Animal Science, IPB University associated with Animal Scientist's Society of Indonesia

SCOPE OF JOURNAL

Tropical Animal Science Journal receives original manuscripts encompass a broad range of research topics in tropical animal sciences: breeding and genetics, reproduction and physiology, nutrition, feed sciences, agrostology, animal products, biotechnology, behaviour, welfare, health and veterinary, livestock farming system, socio-economic, animal waste management, and policy.

Authors have to prepare the manuscripts according to Tropical Animal Science Journal's guidelines. Manuscript and statement of originality and copyright release form (Form A) should be submitted via online submission through journal website: <https://journal.ipb.ac.id/index.php/tasj>.

ABOUT JOURNAL

Tropical Animal Science Journal (Trop. Anim. Sci. J.), previously Media Peternakan, is a scientific journal covering broad aspects of tropical animal sciences. Starting in 2018, the title was changed from Media Peternakan to develop and expand the distribution and increase the journal's visibility. The journal is published SIX times a year in January, March, May, July, September, and November by the Faculty of Animal Science, IPB University, and is associated with the Animal Scientist's Society of Indonesia.

Tropical Animal Science Journal is a peer-reviewed journal that has been indexed and abstracted in Elsevier products (Scopus, Reaxys), Clarivate Analytics product (Emerging Sources Citation Index), Scimago Journal Rank, DOAJ, Dimensions-Digital Science, CABI, EBSCO, Science and Technology Index (SINTA), and other scientific databases. The journal also uses Similarity Check to prevent suspected plagiarism in the manuscripts.

SECRETARIAT OF TROPICAL ANIMAL SCIENCE JOURNAL

Faculty of Animal Science Building, IPB University
Jalan Agatis, Kampus IPB Dramaga, Bogor 16680, West Java, Indonesia
E-mail: mediapeternakan@apps.ipb.ac.id; mediapeternakan@yahoo.co.id
Website: <https://journal.ipb.ac.id/index.php/tasj>

Tropical Animal Science *Journal*

Accredited by Directorate General of Higher Education, Research, and Technology
Ministry of Education, Culture, Research, and Technology, Republic of Indonesia
No: 225/E/KPT/2022

HISTORY

Tropical Animal Science Journal (Trop. Anim. Sci. J.) (p-ISSN 2615-787X and e-ISSN 2615-790X) previously Media Peternakan (published from 1967-2017 with p-ISSN 0126-0476 and e-ISSN 2087-4634) is a scientific journal covering broad aspects of tropical animal sciences. The journal is published by the Faculty of Animal Science, IPB University, associated with the Animal Scientist's Society of Indonesia. Starting in 2018, the title was changed from Media Peternakan to develop and expand the distribution and increase the journal's visibility.

The first edition with the new title was published in April 2018 (Vol 41 No 1 2018), while the previous edition (up to 2017) still uses Media Peternakan as the title. The online version of Tropical Animal Science Journal can be accessed on the new website (<http://journal.ipb.ac.id/index.php/tasj>), and the previous editions are available on the old website (<http://medpet.journal.ipb.ac.id/>).

There are several adjustments in the publication frequency: THREE times (April, August, December) in 2018-2019, FOUR times (March, June, September, and December) in 2020-2024, and starting in 2025, it is published SIX times a year in January, March, May, July, September, and November.

Tropical Animal Science Journal has been indexed and abstracted in Elsevier products (Scopus, Reaxys), Clarivate Analytics products (Emerging Sources Citation Index), Scimago Journal Rank, ASEAN Citation Index, DOAJ, Dimensions-Digital Science, CABI, EBSCO, Science and Technology Index (SINTA), Google Scholar, and other scientific databases. The journal also uses Similarity Check to prevent suspected plagiarism in the manuscripts.

Tropical Animal Science Journal

Accredited by Directorate General of Higher Education, Research, and Technology
Ministry of Education, Culture, Research, and Technology, Republic of Indonesia
No: 225/E/KPT/2022

LIST OF CONTENT

Thyme (<i>Thymus vulgaris</i>) as a Natural Feed Additive in Poultry Nutrition: Enhancing Performance, Health, and Carcass Traits A. Abd El-Aziz, G. Buonaiuto, A. Yıldırım, & K. El-Sabrouh	277
Supplementation of Palmitic and Omega-3 Fatty Acid Concentrate Flushing During Late Gestation Enhances Ewe and Lamb Performance M. Shofiah, L. Khotijah, D. M. Fassah, Y. Pujiawati, K. Komalasari, B. Bakrie, E. S. Rohaeni, S. N. Ahmad, & D. A. Astuti	292
Bentonite-Yeast Binder Mitigates the Adverse Effects of Aflatoxin B₁ on Intestinal Integrity and Performance in Broiler Chickens A. S. Wahyudi, N. Hidayaturrohmah, A. Agus, B. Ariyadi, F. F. Akbar, I. H. M. Noor, & M. A. Anas	303
Evaluation of Inferior Quality Pellets on the Growth Performance, Carcass Parameters, and Digestive Organs of Broiler Chickens A. A. Çenesiz & İ. Çiftci	314
Risk Perception Management and Development Challenges in Micro and Small-Scale Dairy Cattle Farming in West Java M. S. Andrianto, U. Sumarwan, M. Sarma, & D. Indrawan	323
Non-genetic Effects and Genetic Parameters Estimation on Growth Traits of Indonesian Etawah Grade Goats A. R. Nugroho, C. Sumantri, A. Sutanto, M. F. Ulum, & A. Gunawan	333
Putative Blood Biomarkers on Tropical Resilience in Philippine Native and Crossbred Heifers E. M. I. Pandangan, J. M. D. Dominguez, K. I B. Turaja, G. F. Guadayo, N. H. N. Sumaya, S. R. M. Tabugo, A. N. Del Barrio, K. S. Kim, & C. S. O. Moneva	344
Animal Welfare Status and Meat Quality Attributes of Finishing Pigs Across Diverse Farm Production Scales A. T. N. Dang, D. T. Do, T. T. K. Pham, A. T. N. Dang, K. N. Duong, & H. T. Nguyen	354
Free-Range Rearing as a Welfare-Oriented System: Enhances Growth, Digestibility, and Lipid Traits of Cobb500 Broilers in Tropical Conditions A. M. Safwat, L. Sarmiento-Franco, C. Sandoval-Castro, R. Santos-Ricalde, & M. M. Sayedahmed	364
Increased Occurrence of Antimicrobial Resistance and Virulence Genes in <i>Escherichia coli</i> from Broilers in the Central Highlands of Vietnam H. T. A. Phuong, L. T. H. Yen, & L. D. Hai	372