

CONTENTS

ENVIRONMENT, WELL-BEING, AND BEHAVIOR

- Redirected behavior in learning tasks: The commercial laying hen (*Gallus gallus domesticus*) as model
F. Kuhne, S. Adler, and A. F. C. Sauerbrey..... 1859
- Effects of incubation temperature on the bone development of broilers
M. Y. Shim and G. M. Pesti..... 1867
- Effects of stocking density on the growth performance and digestive microbiota of broiler chickens
S. Guardia, B. Konsak, S. Combes, F. Levenez, L. Cauquil, J.-F. Guillot,
C. Moreau-Vauzelle, M. Lessire, H. Juin, and I. Gabriel 1878
- Heat and moisture production by broilers during simulated cold weather transport
J. M. Watts, L. J. Graff, M. L. Strawford, T. G. Crowe, N. A. Burlingette,
H. L. Classen, and P. J. Shand 1890
- Does early antipredator training increase the suitability of captive red-legged partridges (*Alectoris rufa*)
for releasing?
V. R. Gaudioso, C. Sánchez-García, J. A. Pérez, P. L. Rodríguez, J. A. Armenteros,
and M. E. Alonso 1900

GENETICS

- Quantitative trait loci associated with the humoral innate immune response in chickens were confirmed
in a cross between Green-Legged Partridge-like and White Leghorn
A. Sławińska, A. Witkowski, M. Nieuwland, G. Minozzi, M. Bednarczyk, and M. Siwek 1909

IMMUNOLOGY, HEALTH, AND DISEASE

- The effect of dietary protein level on performance characteristics of coccidiosis vaccinated
and nonvaccinated broilers following mixed-species *Eimeria* challenge
J. T. Lee, N. H. Eckert, K. A. Ameiss, S. M. Stevens, P. N. Anderson, S. M. Anderson,
A. Barri, A. P. McElroy, H. D. Danforth, and D. J. Caldwell 1916
- Conjugated linoleic acids alleviate infectious bursal disease virus-induced immunosuppression
in broiler chickens
F. Y. Long, Y. M. Guo, Z. Wang, D. Liu, B. K. Zhang, and X. Yang 1926
- Meta-analytical study of productive and nutritional interactions of mycotoxins in broilers
I. Andretta, M. Kipper, C. R. Lehnen, L. Hauschild, M. M. Vale, and P. A. Lovatto 1934
- Polymorphisms of chicken toll-like receptor 1 type 1 and type 2 in different breeds
W. K. Ruan and S. J. Zheng..... 1941
- Characterization of *Escherichia coli* isolates from laying hens with colibacillosis on 2 commercial
egg-producing farms in Korea
J. Y. Oh, M. S. Kang, J. M. Kim, B. K. An, E. A. Song, J. Y. Kim, E. G. Shin,
M. J. Kim, J. H. Kwon, and Y. K. Kwon 1948

Research Note

- Enhancement of humoral immune responses to inactivated Newcastle disease and avian influenza
vaccines by oral administration of ginseng stem-and-leaf saponins in chickens
L. Zhai, Y. Li, W. Wang, and S. Hu 1955

METABOLISM AND NUTRITION

- Dried distillers grains with solubles in laying hen diets
M. K. Masa'deh, S. E. Purdum, and K. J. Hanford 1960
- The effects of dietary fluoride on growth and bone mineralization in broiler chicks
M. Y. Shim, C. Parr, and G. M. Pesti 1967

Effects of xylanase and citric acid on the performance, nutrient retention, and characteristics of gastrointestinal tract of broilers fed low-phosphorus wheat-based diets O. Esmaeilipour, M. Shivazad, H. Moravej, S. Aminzadeh, M. Rezaian, and M. M. van Krimpen.....	1975
Evaluation of an indigenous source of rock phosphate as a supplement for broiler chickens M. Tahir, A. B. Lughmani, and G. M. Pesti	1983
Effects of the free fatty acid content in yellow grease on performance, carcass characteristics, and serum lipids in broilers H. Wu, L. M. Gong, L. Guo, L. Y. Zhang, and J. T. Li.....	1992
Energy determination of corn co-products fed to broiler chicks from 15 to 24 days of age, and use of composition analysis to predict nitrogen-corrected apparent metabolizable energy S. J. Rochell, B. J. Kerr, and W. A. Dozier III.....	1999

Research Note

The influence of different levels of micronized insoluble fiber on broiler performance and litter moisture M. Rezaei, M. A. Karimi Torshizi, and Y. Rouzbehan.....	2008
---	------

Review

Recent advances in research on enzymes for poultry diets B. A. Slominski	2013
---	------

MOLECULAR, CELLULAR, AND DEVELOPMENTAL BIOLOGY

Comparison of adipose tissue cellularity in chicken lines divergently selected for fatness L. Guo, B. Sun, Z. Shang, L. Leng, Y. Wang, N. Wang, and H. Li	2024
--	------

PHYSIOLOGY, ENDOCRINOLOGY, AND REPRODUCTION

Steroid hormone content of seminal plasma influences fertilizing ability of sperm in White Leghorns E. M. Anderson and K. J. Navara	2035
Intestinal physiology and regulatory T cell response to immediate or delayed access to feed and water in Pekin ducklings A. H. Loudon, R. Shanmugasundaram, M. S. Lilburn, and R. K. Selvaraj.....	2041
Semen cryopreservation for the creation of a Spanish poultry breeds cryobank: Optimization of freezing rate and equilibration time J. Santiago-Moreno, C. Castaño, A. Toledano-Díaz, M. A. Coloma, A. López-Sebastián, M. T. Prieto, and J. L. Campo.....	2047
Effects of lipopolysaccharide on the expression of proinflammatory cytokines and chemokines and influx of leukocytes in the hen ovary M. Abdelsalam, N. Isobe, and Y. Yoshimura	2054

PROCESSING, PRODUCTS, AND FOOD SAFETY

Comparison of environmental and egg microbiology associated with conventional and free-range laying hen management D. R. Jones, K. E. Anderson, and M. T. Musgrove	2063
Comparison of lipid oxidation, messenger ribonucleic acid levels of avian uncoupling protein, avian adenine nucleotide translocator, and avian peroxisome proliferator-activated receptor- γ coactivator-1 α in skeletal muscles from electrical- and gas-stunned broilers L. Xu, S. G. Wu, H. J. Zhang, L. Zhang, H. Y. Yue, F. Ji, and G. H. Qi	2069
Gas mixtures approach to improve turkey meat shelf life under modified atmosphere packaging: The effect of carbon monoxide M. J. Fraqueza and A. S. Barreto.....	2076

PRODUCTION, MODELING, AND EDUCATION

Response surface and neural network models for performance of broiler chicks fed diets varying in digestible protein and critical amino acids from 11 to 17 days of age H. Ahmadi and A. Golian	2085
--	------

SYMPOSIUM

Emerging Issues: Social Sustainability of Egg Production Symposium

Values and public acceptability dimensions of sustainable egg production

**P. B. Thompson, M. Appleby, L. Busch, L. Kalof, M. Miele, B. F. Norwood,
and E. Pajor..... 2097**

Integration: Valuing stakeholder input in setting priorities for socially sustainable egg production

J. C. Swanson, Y. Lee, P. B. Thompson, R. Bawden, and J. A. Mench 2110

ERRATUM

Erratum to “Color values and other meat quality characteristics of breast muscles collected from 3 broiler genetic lines slaughtered at 2 ages” (Poult. Sci. 90:1774–1781)

S. Janisch, C. Krischek, and M. Wicke..... 2122

ASSOCIATION NOTES

Nunc Dimittis **2123**

Positions Available **2124**