

CONTENTS

ANIMAL WELL-BEING AND BEHAVIOR

- Investigation of the prevalence and severity of foot pad dermatitis at the slaughterhouse in fattening turkeys reared in organic production systems in Germany
D. Freihold, T. Bartels, S. Bergmann, J. Berk, F. Deerberg, A. Dressel,
M. H. Erhard, O. Ermakow, M. Huchler, M.-E. Krautwald-Junghanns,
B. Spindler, S. Thieme, and H. M. Hafez 1559
- Differences in prevalence of welfare indicators in male and female turkey flocks
(*Meleagris gallopavo*)
Valentina Ferrante, Susanna Lolli, Lorenzo Ferrari, Tatiane Terumi Negrão Watanabe,
Carlo Tremolada, Joanna Marchewka, and Inma Estevez 1568
- The utility of infrared thermography for evaluating lameness attributable to bacterial chondronecrosis with osteomyelitis
Shawna L. Weimer, Robert F. Wideman, Colin G. Scanes,
Andy Mauromoustakos, Karen D. Christensen, and Yvonne Vizzier-Thaxton 1575
- Keel bone fractures affect egg laying performance but not egg quality in laying hens housed in a commercial aviary system
Christina Rufener, Sarah Baur, Ariane Stratmann, and Michael J. Toscano 1589

GENETICS AND GENOMICS

- Bayesian hierarchical model for comparison of different nonlinear function and genetic parameter estimates of meat quails
Ariane Gonçalves Gotuzzo, Miriam Piles, Raquel Pillon Della-Flora,
Jerusa Martins Germano, Janaina Scaglioni Reis, Darilene Ursula Tyska,
and Nelson José Laurino Dionello 1601
- Whole-genome multilocus sequence typing of closely related broiler chicken meat origin
Campylobacter jejuni ST-5 isolates
Mihkel Mäesaar and Mati Roasto 1610

IMMUNOLOGY, HEALTH, AND DISEASE

- Eimeria* challenge adversely affected long bone attributes linked to increased resorption in 14-day-old broiler chickens
R. Akbari Moghaddam Kakhki, Z. Lu, A. Thanabalan, H. Leung,
M. Mohammadigheisar, and E. Kiarie 1615
- Responses of broiler chickens to *Eimeria* challenge when fed a nucleotide-rich yeast extract
H. Leung, A. Yitbarek, R. Snyder, R. Patterson, J. R. Barta, N. Karrow,
and E. Kiarie 1622
- Deciphering desirable immune responses from disease models with resistant and susceptible chickens
Leon J. Broom and Michael H. Kogut 1634
- Effects of beta-1,3-glucan (Aleta™) on vaccination response in broiler chickens
G. Horst, R. Levine, R. Chick, and C. Hofacre 1643
- The anti-inflammatory and antioxidant effects of leonurine hydrochloride after lipopolysaccharide challenge in broiler chicks
Li Yang, Gang Liu, Xiaoqing Zhu, Yan Luo, Yunxia Shang, and Xin-Li Gu 1648
- Identification and characterization of infectious bursal disease virus subviral particles by capillary zone electrophoresis: potential application for vaccine production and quality control
Ming-Kun Hsieh, Chi-Hsuan Sung, Pei-Fang Hsieh, Pai-Feng Hsiao, Bo-Yi Wu,
and Chi-Chung Chou 1658

MANAGEMENT AND PRODUCTION

- Effects of litter floor access and inclusion of experienced hens in aviary housing on floor eggs, litter condition, air quality, and hen welfare
Jofran L. Oliveira, Hongwei Xin, Lilong Chai, and Suzanne T. Millman.....1664
- Comparison of slaughter yields and some meat quality parameters in broilers reared on sepiolite-supplemented wood shavings and rice hulls
Özlem Varol Avcılar, Suzan Yalçın, E. Ebru Onbaşilar, and M. Shazaib Ramay.....1678
- Age and sex-related differences in performance, carcass traits, hemato–biochemical parameters, and meat quality in Japanese quails
D. E. Abou-Kassem, M. S. El-Kholy, M. Alagawany, V. Laudadio, and V. Tufarelli.....1684
- Estimating the impact of administration of dewormers on smallholder chickens in Odisha State, India
Paul R Bessell, Ranjit Dash, Sanjay Prasad, Lamyaa Al-Riyami, Neil Gammon, Kristin Stuke, Roy Woolley, and Miftahul Islam Barbaruah.....1692

METABOLISM AND NUTRITION

- Effects of supplementation with different rapeseed oil sources and levels on production performance, egg quality, and serum parameters in laying hens
N. Yuan, J. P. Wang, X. M. Ding, S. P. Bai, Q. F. Zeng, Z. W. Su, Y. Xuan, H. W. Peng, G. S. Fraley, and K. Y. Zhang1697
- Determining the digestible lysine requirement of 22- to 47-week-old Lohmann laying hens using an increasing protein titration methodology
H. Spangler, P. Utterback, C. M. Parsons, and P. Tillman1706
- L-Arginine supplementation enhances growth performance, lean muscle, and bone density but not fat in broiler chickens
F. L. S. Castro, S. Su, H. Choi, E. Koo, and W. K. Kim.....1716
- Further evaluation of a slope-ratio precision-fed rooster assay and a limit-fed broiler chicken growth assay for relative metabolizable energy and relative bioavailable energy values of fats and oils
P. von Schaumburg, P. Utterback, and C. M. Parsons1723
- Feeding high-oleic peanuts to layer hens enhances egg yolk color and oleic fatty acid content in shell eggs
Ondulla T. Toomer, Amanda M. Hulse-Kemp, Lisa L. Dean, Deborah L. Boykin, Ramon Malheiros, and Kenneth E. Anderson.....1732
- Oil source and peroxidation status interactively affect growth performance and oxidative status in broilers from 4 to 25 d of age
S. C. Lindblom, N. K. Gabler, E. A. Bobeck, and B. J. Kerr1749
- Lack of a relationship between plasma fibroblast growth factor-23 and phosphate utilization in young chicks
Maria Horvat-Gordon, Jill A. Hadley, Kahina Ghanem, and Roland M. Leach, Jr.....1762

MICROBIOLOGY AND FOOD SAFETY

- Characteristics of third-generation cephalosporin-resistant *Salmonella* from retail chicken meat produced by integrated broiler operations
Hy Young Jeon, Kwang Won Seo, Yeong Bin Kim, Dong Kyu Kim, Shin Woo Kim, and Young Ju Lee.....1766
- Cuticle deposition improves the biosecurity of eggs through the laying cycle and can be measured on hatching eggs without compromising embryonic development
Maureen M. Bain, Jiangxia Zheng, Melissa Zigler, Natasha Whenham, Fiona Quinlan-Pluck, Anita C. Jones, Mark Roberts, Wiebke Icken, Victor E. Olori, and Ian C. Dunn1775
- Colonization of internal organs by *Salmonella Enteritidis* in experimentally infected laying hens of four commercial genetic lines in conventional cages and enriched colony housing
Richard K. Gast, Prafulla Regmi, Rupa Guraya, Deana R. Jones, Kenneth E. Anderson, and Darrin M. Karcher1785

| | |
|--|------|
| The application of antibiotics in broiler production and the resulting antibiotic resistance in <i>Escherichia coli</i> : A global overview Nataliya Roth, Annemarie Käsbohrer, Sigrid Mayrhofer, Ulrike Zitz, Charles Hofacre, and Konrad J. Domig..... | 1791 |
|--|------|

MOLECULAR AND CELLULAR BIOLOGY

| | |
|--|------|
| Effects of pre-hatch thermal manipulation and post-hatch acute heat stress on the mRNA expression of interleukin-6 and genes involved in its induction pathways in 2 broiler chicken breeds Mohammad Borhan Al-Zghoul, Khaled Musa Saleh, and Mustafa Mohammad Kheer Ababneh..... | 1805 |
| In vitro culture and characterization of duck primordial germ cells Yi-Chen Chen, Shau-Ping Lin, Yi-Ying Chang, Wei-Peng Chang, Liang-Yuan Wei, Hsiu-Chou Liu, Jeng-Fang Huang, Bertrand Pain, and Shinn-Chih Wu..... | 1820 |
| Differential proteomic analysis to identify proteins associated with beak deformity in chickens Yanyan Sun, Nian Liu, Hao Bai, Yunlei Li, Fuguang Xue, Jianhua Ye, Hui Ma, He En, and Jilan Chen..... | 1833 |
| Prolactin induces lipid synthesis of organ-cultured pigeon crops X. P. Wan, P. Xie, Z. Bu, X. T. Zou, and D. Q. Gong..... | 1842 |
| 3-(4-methoxyl)-1-(2-(4-coumarin)prop)-2-en-1-one inhibits the differentiation of Gaoyou duck embryonic osteoclasts in vitro Yingxiao Fu, Yihui Wang, Dequn Niu, Baoding Tang, Yingji Mao, Xishuai Tong, Honggang Dai, Xianfu Liu, Chuang Li, Xuemin Sun, Zheng Gong, Xue Li, Yinjiu Huang, and Wei Xue..... | 1854 |
| Effect of early neonatal development and delayed feeding post-hatch on jejunal and ileal calcium and phosphorus transporter genes expression in broiler chickens Monika Proszkowiec-Weglarcz, Lori L. Schreier, Katarzyna B. Miska, Roselina Angel, Stanislaw Kahl, and Beverly Russell | 1861 |

PHYSIOLOGY AND REPRODUCTION

| | |
|---|------|
| Expression and secretion of albumin in male turkey (<i>Meleagris gallopavo</i>) reproductive tract in relation to yellow semen syndrome M. Słowińska, A. Hejmej, J. Bukowska, E. Liszewska, B. Bilińska, P. Hliwa, K. Kozłowski, J. Jankowski, and A. Ciereszko | 1872 |
| Development and growth of digestive system organs of European and Japanese quail at 14 days post-hatch F. K. Cruz, I. N. Kaneko, C. D. N. Figueroa, J. S. Bezerra Júnior, G. A. Craveiro, R. M. Rossi, A. E. Murakami, and T. C. Santos..... | 1883 |
| The effect of nutrient restriction on the proliferation and differentiation of turkey pectoralis major satellite cells differing in age and growth rate Sandra G. Velleman, Daniel L. Clark, and Jeffrey R. Tonniges | 1893 |
| Frequent double ovipositions in two flocks of laying hens Kristen J. Navara and Elizabeth R. Wrobel | 1903 |

PROCESSING AND PRODUCTS

| | |
|---|------|
| Genistein increases progesterone secretion by elevating related enzymes in chicken granulosa cells Y. Q. Xiao, D. Shao, H. B. Tong, and S. R. Shi..... | 1911 |
| Rice protein coating in extending the shelf-life of conventional eggs P. G. S. Pires, G. S. Machado, C. H. Franceschi, L. Kindlein, and I. Andretta..... | 1918 |
| Effect of different time of ultrasound treatment on physicochemical, thermal, and antioxidant properties of chicken plasma protein Y. Zou, H. Yang, P. P. Li, M. H. Zhang, X. X. Zhang, W. M. Xu, and D. Y. Wang | 1925 |

ASSOCIATION NOTES

| | |
|--------------------------|------|
| Positions Available..... | 1934 |
|--------------------------|------|