

Memorial

Editorial

- 1 — Editorial — Unforeseen enemy: African swine fever
Cheol-Heui Yun (Korea)

Animal Breeding and Genetics

- 4 Effects of puerarin on the Akt signaling pathway in bovine preadipocyte differentiation
Jinyan Yun, Yongsheng Yu, Guoli Zhou, Xiaotong Luo, Haiguo Jin, Yumin Zhao, Yang Ca (China)
- 12 A double-labeling marker-based method for estimating inbreeding and parental genomic components in a population under conservation
Wenting Li, Mengmeng Zhang, Kejun Wang, Yunfeng Lu, Hui Tang, Keliang Wu (China)

Ruminant Nutrition and Forage Utilization

- 24 Comparison of *in vitro* digestibility and chemical composition among four crop straws treated by *Pleurotus ostreatus*
Haitao Nie, Ziyu Wang, Jihao You, Gang Zhu, Hengchang Wang, Feng Wang (China)
- 35 Nutritional and performance viability of cactus *Opuntia*-based diets with different concentrate levels for Girolando lactating dairy cows
Jonas Gomes Inácio, Maria Gabriela da Conceição, Djalma Cordeiro dos Santos, Júlio César Vieira de Oliveira, Juana Catarina Cariri Chagas, Gláucia Sabrine de Oliveira Moraes, Evannielly Thuanny dos Santos Silva, Marcelo de Andrade Ferreira (Sweden)
- 44 Relationship of mineral elements in sheep grazing in the highland agro-ecosystem
Qingshan Fan, Zhaofeng Wang, Shenghua Chang, Zechen Peng, Metha Wanapat, Saman Bowatte, Fujiang Hou (China)
- 53 Effect of different fat and protein levels in calf ration on performance of Sahiwal calves
Bharti Sharma, Prapti Nimje, S. K. Tomar, Dipak Dey, Santu Mondal, S. S. Kundu (India)
- 61 Illumina MiSeq sequencing reveals the effects of grape seed procyanidin on rumen archaeal communities *in vitro*
Hua Zhang, Jinjin Tong, Zun Wang, Benhai Xiong, Linshu Jiang (China)
- 69 The effect of finishing diet supplemented with methionine/lysine and methionine/α-tocopherol on performance, carcass traits and meat quality of Hanwoo steers
Farouq Heidar Barido, Dicky Tri Utama, Hae Seong Jeong, Juntae Kim, Chang Woo Lee, Yeon Soo Park, Sung Ki Lee (Korea)
- 79 Metabolomics reveals potential biomarkers in the rumen fluid of dairy cows with different levels of milk production
Hua Zhang, Jinjin Tong, Yonghong Zhang, Benhai Xiong, Linshu Jiang (China)
- 91 Administration of encapsulated L-tryptophan improves duodenal starch digestion and increases gastrointestinal hormones secretions in beef cattle
Sang-Bum Lee, Kyung-Won Lee, Tao Wang, Jae-Sung Lee, U-Suk Jung, Jalil Ghassemi Nejad, Young-Kyo Oh, Youl-Chang Baek, Kyoung Hoon Kim, Hong-Gu Lee (Korea)
- 100 Characteristics of proteolytic microorganisms and their effects on proteolysis in total mixed ration silages of soybean curd residue
Wei Hao, Pengjiao Tian, Mingli Zheng, Huili Wang, Chuncheng Xu (China)

**Nonruminant
Nutrition and
Feed Processing**

- 111** Dietary supplementation with combined extracts from garlic (*Allium sativum*), brown seaweed (*Undaria pinnatifida*), and pinecone (*Pinus koraiensis*) improves milk production in Holstein cows under heat stress conditions
Jae-Sung Lee, Sukyung Kang, Min-Jeong Kim, Sung-Gu Han, Hong-Gu Lee (Korea)
-

Animal Products

- 120** Effects of dietary supplementation with *Pediococcus acidilactici* ZPA017 on reproductive performance, fecal microbial flora and serum indices in sows during late gestation and lactation
Hui Liu, Sixin Wang, Dongyan Zhang, Jing Wang, Wei Zhang, Yamin Wang, Haifeng Ji (China)
- 127** Catalytic properties of wheat phytase that favorably degrades long-chain inorganic polyphosphate
Jeongmin An, Jaesoon Cho (Korea)
- 132** Effects of low-dose organic trace minerals on performance, mineral status, and fecal mineral excretion of sows
Lianxiang Ma, Junna He, Xintao Lu, Jialing Qiu, Chuanchuan Hou, Bing Liu, Gang Lin, Dongyou Yu (China)
-
- 139** Quality comparison of retorted Samgyetang made from white semi-broilers, commercial broilers, Korean native chickens, and old laying hens
Hae Seong Jeong, Dicky Tri Utama, Juntae Kim, Farouq Heidar Barido, Sung Ki Lee (Korea)
- 148** Chemical-nutritional characteristics and aromatic profile of milk and related dairy products obtained from goats fed with extruded linseed
Francesca Bennato, Andrea Ianni, Denise Innosa, Lisa Grotta, Andrea D'Onofrio, Giuseppe Martino (Italy)
- 157** Comparison of meat quality, fatty acid composition and aroma volatiles of dry-aged beef from Hanwoo cows slaughtered at 60 or 80 months old
Dicky Tri Utama, Yeong Jong Kim, Hae Seong Jeong, Juntae Kim, Farouq Heidar Barido, Sung Ki Lee (Korea)
-

**Animal
Biotechnology**

- 166** L-arginine and N-carbamoylglutamic acid supplementation enhance young rabbit growth and immunity by regulating intestinal microbial community
Xiaoming Sun, Jinglin Shen, Chang Liu, Sheng Li, Yanxia Peng, Chengzhen Chen, Bao Yuan, Yan Gao, Xianmei Meng, Hao Jiang, Jiabao Zhang (China)
-

**Animal Behavior
and Welfare**

- 177** Relationship between inclusion level of *Vachellia tortilis* leaf meal and behavioral activities of finishing pigs
Fortune Thabethe, Mbongeni Khanyile, Cyprial Ndumiso Ncobela, Michael Chimonyo (South Africa)
-