

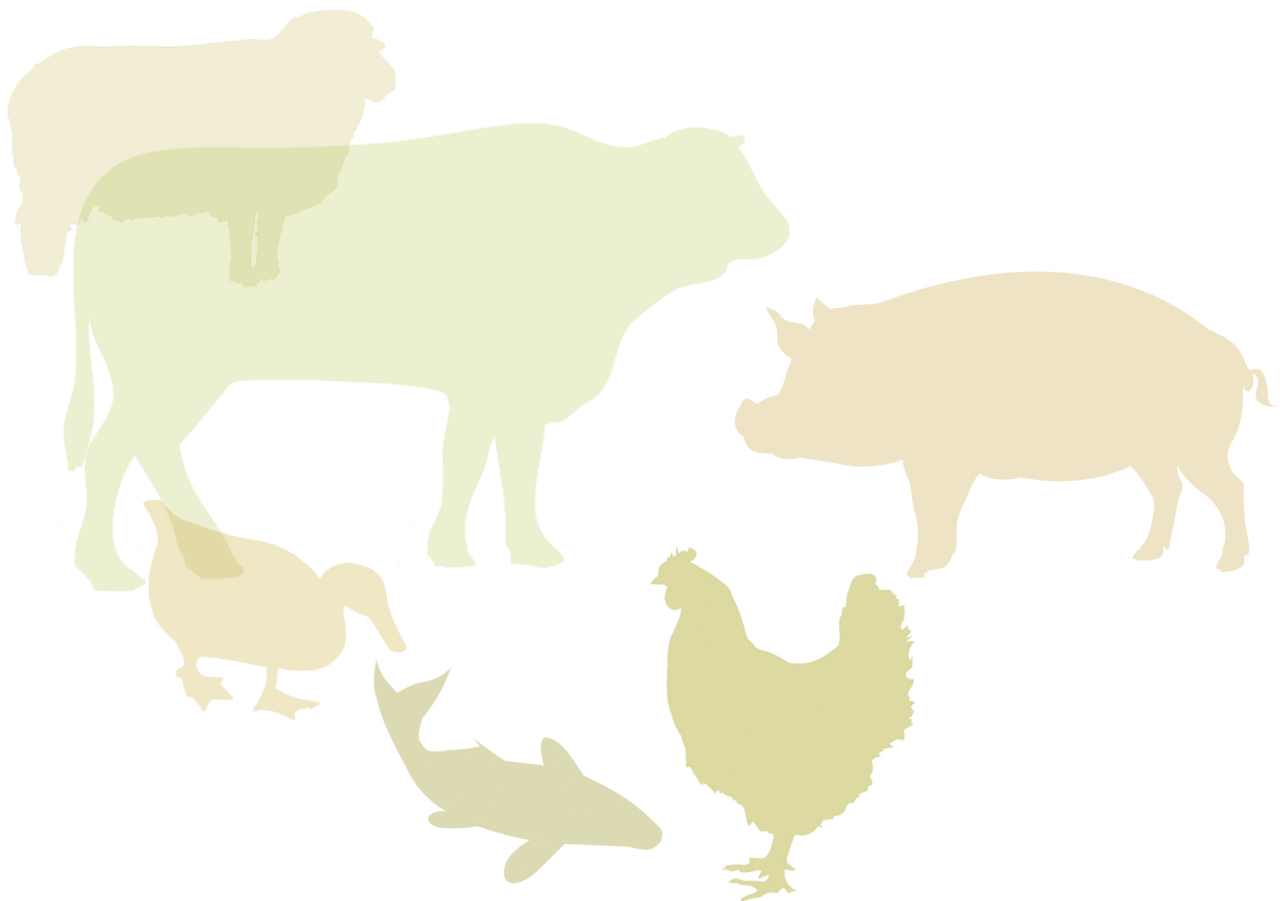


ISSN 1006-267X
CN 11-5461/S

动物营养学报

CHINESE JOURNAL OF ANIMAL NUTRITION

www.ChinaJAN.com



Vol.30 No.9
2018

中国畜牧兽医学会
CHINESE ASSOCIATION OF
ANIMAL SCIENCE AND VETERINARY MEDICINE

万方数据

动物营养学报

第三十卷

第九期

二〇一八年

中国畜牧兽医学会

动物营养学报

DONGWU YINGYANG XUEBAO

百种中国杰出学术期刊 中国精品科技期刊 中国科学引文数据库(CSCD)核心库来源期刊
中文核心期刊 中国科技核心期刊 中国科学评价研究中心权威期刊(A⁺级)
英国 CAB Abstracts 收录期刊 美国 Chemical Abstracts 收录期刊

第30卷 第9期 2018年9月

目次

磷营养与饲料专栏

- | | | | | |
|--|-----|-----|-----|-----|
| 3329 “饲料-畜禽-粪尿”链中磷高效利用与减排研究 | 郭勇庆 | 屠 焰 | 柏兆海 | 马 林 |
| 3337 饲用高水溶性磷酸一二钙对断奶仔猪生长性能、饲粮消化率、血清和骨骼指标的影响 | 吕小康 | 柴建民 | 王 杰 | 司丙文 |
| | 崔 凯 | 王世琴 | 屠 焰 | 刁其玉 |
| | 张乃锋 | | | |
| 3353 磷酸一二钙对肉仔鸡相对生物学利用率的研究 | 万敏艳 | 张保海 | 王宏博 | 唐德富 |
| 3364 磷酸一二钙对肉鸭相对生物学利用率的研究 | 李文静 | 常文环 | 陈志敏 | 郑爱娟 |
| | 刘国华 | | | |
| 3377 大口黑鲈对磷的最适需求量以及高水溶性磷酸一二钙的相对生物学利用率研究 | 时 博 | 郁欢欢 | 郑银桦 | 吴秀峰 |
| | 陈 沛 | 梁旭方 | 薛 敏 | |

综述

- | | | | | |
|-----------------------------|-----|-----|-----|-----|
| 3388 棕榈仁粕在家禽饲料中的营养价值与应用 | 彭运智 | 谭会泽 | 刘松柏 | 陈 丹 |
| | 邹 轶 | | | |
| 3394 胃饥饿素对鱼类摄食调控的研究进展 | 张 鑫 | 齐锦雯 | 唐 妮 | 陈德芳 |
| | 李志琼 | | | |
| 3403 反刍动物对磷的利用 | 刘 阳 | 杨昕润 | 杜红方 | 陈书琴 |
| | 王永华 | 解祥学 | | |
| 3410 宿主防御肽调节动物肠道屏障功能的研究进展 | 王 鑫 | 张萌萌 | 姜 宁 | 张爱忠 |
| 3417 艾草的生物学功能及在畜牧生产上的应用 | 刘超齐 | 常 娟 | 王 平 | 尹清强 |
| | 党晓伟 | 高天增 | | |
| 3423 不同形式氧化锌对断奶仔猪肠道健康的影响 | 魏婧雅 | 郝丽媛 | 单 强 | 马峰涛 |
| | 孙 鹏 | | | |
| 3432 鸡沙门氏菌病的生物预防和控制研究进展 | 阚刘刚 | 赵丽杰 | 李秀业 | 曾 丹 |
| | 王 忠 | | | |
| 3444 体况评分在奶牛生产中的研究进展 | 王玉洁 | 霍鹏举 | 孙雨坤 | 张永根 |
| 3453 玉米赤霉烯酮毒性研究 | 闫昭明 | 陈清华 | 陈凤鸣 | |
| 3459 Klotho 蛋白对氧化应激的影响及可能机制 | 常雅琦 | 文 敏 | 赵 华 | 陈小玲 |
| | 田 刚 | 刘光芒 | 蔡景义 | 贾 刚 |
| 3466 肠道菌群与胆汁酸代谢的互作关系 | 范哲于 | 王进波 | 齐莉莉 | 李振彪 |

协 办 单 位

(2018年度,排名不分先后)

动物营养学国家重点实验室 播恩集团管理总部
上海美农生物科技股份有限公司

猪营养

- 3473 苜蓿草粉对育肥猪肉品质、肌肉氨基酸和脂肪酸含量的影响 朱晓艳 吕先召 邱晓东 刘伯帅
贾泽统 史莹华 王成章

禽营养

- 3483 小麦-豆粕型饲料中亚油酸水平对雏鹅生长性能、脂类代谢、抗氧化功能及免疫机能的影响 葛文华 王宝维 张洋洋 龙建华
史雪萍 张名爱 岳 斌
3494 饲料锌水平对肉鸡生长性能、屠宰性能、血清免疫指标及锌排放的影响 陈志敏 刘国华 蔡辉益 常文环
郑爱娟 张 姝

反刍动物营养

- 3507 Meta 分析研究饲料中性洗涤纤维与淀粉比值对奶牛生产性能和乳成分合成的影响 牛俊丽 王 典 赵 勳 张文举
卜登攀 马 露
3517 二乙烯三胺/一氧化氮聚合物诱导的奶牛外周血单个核细胞氧化损伤模型的建立 郑亚光 齐敬宇 张博綦 史彬林
闫素梅
3524 不同泌乳阶段奶牛血清营养状况指标与抗氧化指标的检测及其多元回归分析 秦 敏 张 辉 史彬林 郭晓宇
闫素梅
3535 饲料中棉秆比例对绵羊生长性能和消化性能的影响 张俊瑜 桑断疾 张志军 苏玲玲
郭同军 王文奇
3543 饲料中非纤维性碳水化合物/中性洗涤纤维对绒山羊羔羊生长性能、屠宰性能及器官指数的影响 刘树林 温 琦 张永胜
包斯琴高娃 王 雪 郭晓宇
闫素梅
3551 绒山羊羔羊和成年羊前体脂肪细胞的原代培养及传代方法 张清月 王 雪 刘树林 于 洋
郭晓宇 闫素梅

水产营养

- 3559 饲料中脂肪水平对团头鲂幼鱼生长性能、血清生化指标及黏蛋白基因表达的影响 刁丙文 陆春云 任鸣春 米海峰
谢 骏
3567 饲料花生四烯酸水平对珍珠龙胆石斑鱼幼鱼生长性能、抗氧化能力、血清生化指标以及肝脏和肌肉脂肪酸组成的影响 王成强 王际英 黄炳山 李宝山
孙永智 王晓艳 马长兴
3581 投喂频率对虎斑乌贼生长性能、体成分、消化酶活性、组织脂肪酸和氨基酸含量的影响 朱婷婷 李晨晨 陆 游 金 敏
王学习 罗嘉翔 周歧存

分子营养

- 3593 赖氨酸对奶牛乳腺上皮细胞内乳糖合成相关基因表达的影响 陈 璐 赵艳丽 郭晓宇 史彬林
闫素梅
3599 饲料中添加亚麻籽对延边黄牛肌肉组织及皮下脂肪中脂肪酸组成及其相关基因表达的影响 闫 研 于 伽 王钧艺 严昌国
李香子
3609 脂多糖致炎时间对小鼠血液免疫与肠道组织形态的影响 贾军峰 王梦竹 崔一喆 王秋菊
武 瑞

实验方法

- 3617 不同实验室间单胃动物仿生消化系统消化条件与酶水解物能值测定再现性的研究 高庆涛 张 虎 赵 峰 王钰明
杜青之 邓耀辉

饲料营养

- 3626 钩吻提取物对生长猪生长性能、肠道形态和盲肠菌群的影响 陈小军 王 宇 王帅帅 伍 勇
万方数据 李元义 孙志良

3634	β -葡聚糖对生长育肥猪生长性能、胴体性能和肉品质的影响	杜建虞	陈代文	余冰	何军
3643	高剂量乙氧基喹啉对生长育肥猪生长性能、血清生化指标、抗氧化性能、脏器指数和肉品质的影响	盖向荣	何东亭	杨文军	韩苗苗
3652	苯甲酸、凝结芽孢杆菌和牛至油复合添加剂对大肠杆菌攻毒仔猪生长性能、抗氧化能力和空肠消化吸收功能的影响	来文晴	张丽英		
3662	刺蒺藜提取物对断奶仔猪生长性能和血清抗氧化指标的影响	蒲俊宁	陈代文	田刚	何军
3670	蒙脱石和酵母培养复合物对断奶仔猪生长性能、血清生化指标、免疫功能及抗氧化能力的影响	郑萍	毛湘冰	虞洁	黄志清
3681	饲料加工工艺和复合微生态制剂对肉鸡生长性能和免疫功能的影响	罗钧秋	罗玉衡	朱玲	余冰
3693	枯草芽孢杆菌、蒙脱石及其互作对产蛋鸡生产性能、养分表观利用率和肠黏膜养分转运载体基因表达的影响	李泽磊	李美荃	刘水灵	车丽涛
3702	沙葱总黄酮对脂多糖诱导的小鼠腹腔巨噬细胞炎症介质的影响	蒋晓旭	郭荣富		
3710	6种酚类化合物及胡桃醌的体外抑菌活性	唐小懿	马杰	张富群	陈清华
		季方	陈文斌	王冰	
		葛春雨	李军国	段海涛	杨洁
		韩晴	张嘉琦	秦玉昌	
		陈继发	朱瑾	康克浪	曲湘勇
		薛宏宇	周学彬		
		王特日格乐		王翠芳	丹妮
		萨茹丽	杜红喜	郭春利	
		哈斯额尔敦		曹琪娜	敖长金
		杨光	包晓玮	陈勇	吴莹
		马菁菁			

饲料资源开发

3720	汽爆与汽爆后发酵对棉花秸秆营养价值的影响	张志军	郭同军	赵洁	桑断疾
		石勇	崔继文		

饲料安全

3726	脱氧雪腐镰刀菌烯醇暴露对仔猪海马神经细胞神经递质、脂质过氧化及钙稳态的影响	王希春	储小燕	张娅菲	朱雷
3734	二氢杨梅素-镍配合物的合成及其细胞毒性初探	范梦雪	冯士彬	李玉	吴金节
		张慧	郭清泉	舒绪刚	谢宇
		谭威	刘迪	张亚楠	

饲料检测

3740	伏马毒素 B ₁ 适配体的筛选及其快速定量检测方法的建立	周妍	刁晨曦	张圆圆	陆涛峰
		赵丽丽	陈洪岩		

研究简报

3751	高温热处理粉料对产蛋鸡生产性能、蛋品质及鸡蛋卫生指标的影响	杨洁	秦玉昌	李俊	李军国
3759	不同饲料添加剂对杜寒杂交肉羊体脂脂肪酸组成和氧化稳定性的影响	牛力斌	董颖超		
3772	糖皮质激素和饲粮脂肪水平对肉鸡脂肪代谢的影响	刘旺景	敖长金	丁赫	
3781	饮用酵母发酵菌液对矮脚黄肉鸡生长性能、消化酶活性和盲肠菌落结构的影响	哈斯额尔敦		丹妮	李书仪
3791	不同淀粉源对獭兔内源氮和内源能损失的影响	李英	张佐忠		
	万方数据	王明会	刘志梅	王昊棋	官家家
		胡庆美	王晓鹃		
		李璐琳	曹珍	钟珊	廖新佛
		王燕	吴银宝		
		杨新宇	曹宁坤	吴峰洋	崔嘉
		陈宝江			

Volume 30 Number 9 September 2018

CONTENTS

SPECIAL SECTION: PHOSPHORUS NUTRITION AND FEED

- 3329 Study on High Efficiency Utilization and Emission Reduction of Phosphorus in Feed-Animal-Manure Chain
- 3337 Effects of High Water-Soluble Mono-Calcium and Di-Calcium Phosphate on Growth Performance, Dietary Digestibility, Serum and Bone Indices of Weaned Piglets
- 3353 A Study of Relative Bioavailability of Mono-Dicalcium Phosphate on Broilers
- 3364 A Study of Relative Bioavailability of Mono-Dicalcium Phosphate on Meat Ducks
- 3377 Study on Optimum Requirement for Phosphorus and Relative Biological Availability of High Soluble Monodicalcium Phosphate of Largemouth Bass (*Micropterus salmoides*)

GUO Yongqing, TU Yan, BAI Zhaohai, MA Lin
LYU Xiaokang, CHAI Jianmin, WANG Jie, SI Bingwen, CUI Kai, WANG Shiqin, TU Yan, DIAO Qiyu, ZHANG Naifeng
WAN Minyan, ZHANG Baohai, WANG Hongbo, TANG Defu
LI Wenjing, CHANG Wenhuan, CHEN Zhimin, ZHENG Aijuan, LIU Guohua
SHI Bo, YU Huanhuan, ZHENG Yinhua, WU Xiufeng, CHEN Pei, LIANG Xufang, XUE Min

REVIEW

- 3388 Nutritive Value and Application of Palm Kernel Meal in Poultry Feed
- 3394 Research Progress of Ghrelin on Feeding Regulation in Fish Species
- 3403 Phosphorus Utilization in Ruminants
- 3410 Research Progress in Regulation of Animal Intestinal Barrier Function by Host Defense Peptides
- 3417 *Artemisia argyi*: Biological Function and Application in Animal Production
- 3423 Effects of Different Form of Zinc Oxide on Intestinal Health in Weaned Piglets
- 3432 Progress on Biological Prevention and Control Strategies in Avian *Salmonellosis*
- 3444 Research Progress of Body Condition Score in Dairy Cow Production
- 3453 Study on Toxicity of Zearalenone
- 3459 Effects and Possible Mechanisms of Klotho Protein on Oxidative Stress
- 3466 Interacting Relationship between Intestinal Microflora and Bile Acid Metabolism

PENG Yunzhi, TAN Huize, LIU Songbai, CHEN Dan, ZOU Yi
ZHANG Xin, QI Jinwen, TANG Ni, CHEN Defang, LI Zhiqiong
LIU Yang, YANG Xinjian, DU Hongfang, CHEN Shuqin, WANG Yonghua, XIE Xiangxue
WANG Xin, ZHANG Mengmeng, JIANG Ning, ZHANG Aizhong
LIU Chaoqi, CHANG Juan, WANG Ping, YIN Qingqiang, DANG Xiaowei, GAO Tianzeng
WEI Jingya, HAO Liyuan, SHAN Qiang, MA Fengtao, SUN Peng
KAN Liugang, ZHAO Lijie, LI Xiuye, ZENG Dan, WANG Zhong
WANG Yujie, HUO Pengju, SUN Yukun, ZHANG Yonggen
YAN Zhaoming, CHEN Qinghua, CHEN Fengming
CHANG Yaqi, WEN Min, ZHAO Hua, CHEN Xiaoling, TIAN Gang, LIU Guangmang, CAI Jingyi, JIA Gang
FAN Zheyu, WANG Jinbo, QI Lili, LI Zhenbiao

SUPPORTED FROM

(2018, in no particular order)

State Key Laboratory of Animal Nutrition The Management Headquarter of Boen Corporation
Shanghai Menon Animal Nutrition Technology Co., Ltd.

SWINE NUTRITION

3473 Effects of Alfalfa Meal on Meat Quality, Muscle Amino Acids and Fatty Acids Contents of Finishing Pigs

POULTRY NUTRITION

3483 Effects of Linoleic Acid Level in Wheat and Soybean Meal Type Diet on Growth Performance, Lipid Metabolism, Antioxidant Capacity and Immune Function of Goslings

3494 Effects of Dietary Zinc Level on Growth Performance, Slaughter Performance, Serum Immune Indexes and Zinc Emissions of Broilers

RUMINANT NUTRITION

3507 Effects of Dietary Neutral Detergent Fiber to Starch Ratio on Performance and Milk Component Synthesis in Dairy Cows: A Meta-Analysis

3517 Establishment of Oxidative Damage Model of Dairy Cow Peripheral Blood Mononuclear Cells Induced by Diethylenetriamine/Nitric Oxide Adduct

3524 Multiple Regression Analysis on Serum Nutritional Status Indexes and Antioxidant Indexes in Different Lactation Stages of Dairy Cows

3535 Effects of Cotton Stalk Ratio in Diets on Growth and Digestive Performance of Sheep

3543 Effects of Diets with Different NFC/NDF on Growth Performance, Slaughter Performance and Organ Indexes of Kid Goats

3551 Primary Culture and Passage Method of Preadipocytes of Cashmere Lambs and Adult Goats

AQUACULTURE NUTRITION

3559 Dietary Lipid Level Affects Growth Performance, Serum Biochemical Indexes and Mucin Gene Expression of Juvenile Blunt Snout Bream (*Megalobrama amblycephala*)

3567 Effects of Dietary Arachidonic Acid Level on Growth Performance, Antioxidant Ability, Serum Biochemical Parameters and Fatty Acid Composition in Liver and Muscle of Juvenile Hybrid Grouper (*Epinephelus fuscoguttatus* ♀ × *Epinephelus lanceolatus* ♂)

3581 Effects of Feeding Frequency on Growth Performance, Body Composition, Digestive Enzyme Activities, Tissue Fatty Acid and Amino Acid Compositions of *Sepia pharaonis*

MOLECULAR NUTRITION

3593 Effects of Lysine on Expression of Genes Related to Lactose Synthesis in Bovine Mammary Epithelial Cells

3599 Effects of Dietary Flax Seed on Fatty Acid Composition and Related Genes Expression in Muscle Tissue and Subcutaneous Fat of *Yanbian* Yellow Cattle

3609 Effects of Lipopolysaccharide Inflammation Time on Blood Immunity and Intestinal Morphology of Mice

EXPERIMENTAL METHODS

3617 Laboratory Reproducibility of Digestion Condition and Enzymatic Hydrolysate Gross Energy in Simulated Digestion System for Monogastric Animals

FEED SCIENCE AND TECHNOLOGY

3626 Effects of *Gelsemium elegans* Extracts on Growth Performance, Intestinal Morphology and Caecal Microflora in Growing Pigs

ZHU Xiaoyan, LYU Xianzhao, QIU Xiaodong, LIU Boshuai, JIA Zetong, SHI Yinghua, WANG Chengzhang

GE Wenhua, WANG Baowei, ZHANG Yangyang, LONG Jianhua, SHI Xueping, ZHANG Ming'ai, YUE Bin
CHEN Zhimin, LIU Guohua, CAI Huiyi, CHANG Wenhuan, ZHENG Aijuan, ZHANG Shu

NIU Junli, WANG Dian, ZHAO Meng, ZHANG Wenju, BU Dengpan, MA Lu
ZHENG Yaguang, QI Jingyu, ZHANG Boqi, SHI Binlin, YAN Sumei
QIN Min, ZHANG Hui, SHI Binlin, GUO Xiaoyu, YAN Sumei

ZHANG Junyu, SANG Duanji, ZHANG Zhijun, SU Lingling, GUO Tongjun, WANG Wenqi
LIU Shulin, WEN Qi, ZHANG Yongsheng, BAO Siqingaowa, WANG Xue, GUO Xiaoyu, Yan Sumei
ZHANG Qingyue, WANG Xue, LIU Shulin, YU Yang, GUO Xiaoyu, YAN Sumei

XI Bingwen, LU Chunyun, REN Mingchun, MI Haifeng, XIE Jun

WANG Chengqiang, WANG Jiyi, HUANG Bingshan, LI Baoshan, SUN Yongzhi, WANG Xiaoyan, MA Changxing

ZHU Tingting, LI Chenchen, LU You, JIN Min, WANG Xuexi, LUO Jiaxiang, ZHOU Qicun

CHEN Lu, ZHAO Yanli, GUO Xiaoyu, SHI Binlin, YAN Sumei
YAN Yan, YU Jia, WANG Junyi, YAN Changguo, LI Xiangzi

JIA Junfeng, WANG Mengzhu, CUI Yizhe, WANG Qiuju, WU Rui

GAO Qingtao, ZHANG Hu, ZHAO Feng, WANG Yuming, DU Qingzhi, DENG Yaohui

CHEN Xiaojun, WANG Yu, WANG Shuaishuai, WU Yong, LI Yuanyi, SUN Zhiliang

- 3634 Effects of β -Glucan on Growth Performance, Carcass Performance and Meat Quality of Growing-Finishing Pigs
- 3643 Effects of High Dose of Ethoxyquin on Growth Performance, Serum Biochemical Indices, Antioxidant Capacity, Organ Index and Meat Quality of Growing-Finishing Pigs
- 3652 Effects of Compound Additive with Benzoic acid, *Bacillus coagulans* and Oregano Oil on Growth Performance, Antioxidant Capacity and Jejunal Digestion-Absorption Function of Piglets Challenged with Enterotoxigenic *Escherichia coli*
- 3662 Effects of *Tribulus terrestris* Extract on Growth Performance and Serum Antioxidant Indexes of Weaned Piglets
- 3670 Effects of Montmorillonite and Yeast Culture Complex on Growth Performance, Serum Biochemical Indexes, Immunity Function and Antioxidant Capacity of Weaned Piglets
- 3681 Effects of Feed Processing Technology and Compound Probiotics on Growth Performance and Immune Function of Broilers
- 3693 Effects of *Bacillus subtilis*, Montmorillonite and Their Interaction on Performance, Apparent Utilization of Nutrients, and Gene Expression of Nutrient Transporters in Intestinal Mucosa of Laying Hens
- 3702 Effects of Total Flavonoids from *Allium mongolicum* Regel on Inflammatory Mediators induced by Lipopolysaccharide of Mouse Peritoneal Macrophages
- 3710 Antibacterial Activities of Six Phenolic Compounds and Juglone *in Vitro*

FEED RESOURCES DEVELOPMENT

- 3720 Effects of Steam Explosion and Fermentation after Steam Explosion on Nutrient Value of Cotton Stalk

FEED SECURITY

- 3726 Effects of Deoxynivalenol Exposure on Neurotransmitter, Lipid Peroxidation and Calcium Homeostasis in Piglet Hippocampal Nerve Cells
- 3734 Synthesis of Dihydromyricetin-Nickel Complex and Preliminary Study on Its Cell Toxicity

FEED DETECTION

- 3740 Screening of Fumonisin B₁ Aptamer and Development of Its Rapid and Quantitative Assay

SHORT COMMUNICATIONS

- 3751 Effects of Heat Treatment Mash Feed on Performance, Egg Quality and Egg Health Indicators of Laying Hens
- 3759 Effects of Different Feed Additives on Fatty Acid Composition and Oxidation Stability of Body Fat in Dorper \times Thin-Tailed *Han* Crossbred Mutton Lambs
- 3772 Effects of Glucocorticoid and Dietary Fat Level on Lipid Metabolism of Broilers
- 3781 Effects of Drinking *Saccharomyces* Fermented Inoculants on Growth Performance, Digestive Enzyme Activities and Cecal Microbiota Structure of Dwarf Yellow Broilers
- 3791 Effects of Different Starch Sources on Endogenous Nitrogen and Endogenous Energy Losses in Rex Rabbits

万方数据

DU Jian, CHEN Daiwen, YU Bing, HE Jun, YU Jie, LUO Junqiu, GAI Xiangrong, HE Dongting, YANG Wenjun, HAN Miaomiao, LAI Wenqing, ZHANG Liying, PU Junning, CHEN Daiwen, TIAN Gang, HE Jun, ZHENG Ping, MAO Xiangbing, YU Jie, HUANG Zhiqing, LUO Junqiu, LUO Yuheng, ZHU Ling, YU Bing, LI Zelei, LI Meiquan, LIU Shuilin, CHE Litao, JIANG Xiaoxu, GUO Rongfu, TANG Xiaoyi, MA Jie, ZHANG Fuqun, CHEN Qinghua, JI Fang, CHEN Wenbin, WANG Bing, GE Chunyu, LI Junguo, DUAN Haitao, YANG Jie, HAN Qing, ZHANG Jiaqi, QIN Yuchang, CHEN Jifa, ZHU Jin, KANG Kelang, QU Xiangyong, XUE Hongyu, ZHOU Xuebin

WANG Terigele, WANG Cuifang, DAN Ni, SA Ruli, DU Hongxi, GUO Chunli, Khas-Erdene, CAO Qina, AO Changjin, YNAG Guang, BAO Xiaowei, CHEN Yong, WU Ying, MA Jingjing

ZHANG Zhijun, GUO Tongjun, ZHAO Jie, SANG Duanji, SHI Yong, CUI Jiwen

WANG Xichun, CHU Xiaoyan, ZHANG Yafei, ZHU Lei, FAN Mengxue, FENG Shibin, LI Yu, WU Jinjie, ZHANG Hui, GUO Qingquan, SHU Xugang, XIE Yu, TAN Wei, LIU Di, ZHANG Ya'nan

ZHOU Yan, DIAO Chenxi, ZHANG Yuanyuan, LU Taofeng, ZHAO Lili, CHEN Hongyan

YANG Jie, QIN Yuchang, LI Jun, LI Junguo, NIU Libin, DONG Yingchao, LIU Wangjing, AO Changjin, DING He, Khaserdene, DAN Ni, LI Shuyi, LI Ying, ZHANG Zuozhong, WANG Minghui, LIU Zhimei, WANG Haoqi, GUAN Jiajia, HU Qingmei, WANG Xiaojuan, LI Lulin, CAO Zhen, ZHONG Shan, LIAO Xindi, WANG Yan, WU Yinbao, YANG Xinyu, CAO Ningkun, WU Fengyang, CUI Jia, CHEN Baojiang