CONTENTS

2016 PSA Informal Nutrition Symposium	
Informal nutrition symposium: critical update on net energy research and implementation status in poultry D. R. Korver and C. R. Angel	497
Net energy in poultry: Its merits and limits J. D. van der Klis and A. J. M. Jansman	499
Critical Review of the Procedures Used for Estimation of the Energy Content of Diets and Ingredients in Poultry G. G. Mateos, L. Cámara, G. Fondevila, and R. P. Lázaro	506
Determination of Nutrient Values for Commercial Amino Acids P. B. Tillman	526
2017 PSA Symposium: Relevance of Starch in Poultry Diets	
The Relevance of Starch and Protein Digestive Dynamics in Poultry Peter H. Selle and Sonia Yun Liu	531
Intestinal Passage and Its Relation to Digestive Processes Birger Svihus and Khaled Itani	546
Exogenous Microbial Amylase in the Diets of Poultry: What do We Know? A. J. Cowieson, S. L. Vieira, and C. Stefanello	556
Starch: Granule, Amylose-Amylopectin, Feed Preparation, and Recovery by the Fowl's Gastrointestinal Tract Edwin T. Moran, Jr	566
Review Article	
Dietary Enzyme Supplementation in Duck Nutrition: A Review Jungwoo Park and John B. Carey	587
Research Reports	
Effect of Tapioca Flour on Physicochemical Properties and Sensory Descriptive Profiles of Chicken Breast Meat Patties D. Chatterjee, G. Sanchez Brambila, B. C. Bowker, and H. Zhuang	598
Effects of Dietary Energy and Protein Levels on Free Force-Feed Peking Ducks Yuqin Wu, Jiangfeng Liu, Muhammad Suhaib Shahid, Zhibin Xiao, Xiaoyu Dong, Dafei Yin, and Jianmin Yuan	606
Interactive Effects of High or Low Feed Form and Phase of Feeding on Performance of Ross x Ross 708 Male Broilers Throughout a 46 d Growout Mark E. Lemons, Christopher D. McDaniel, Joseph S. Moritz, and	
Kelley G. S. Wamsley	616

Safety of Corn-Expressed Carbohydrase When Fed to Broilers at a High Dietary Level	
J. N. Broomhead, X. Li, and R. M. Raab	631
Efficacy of a Mono-Component Exogenous Protease in the Presence of a High Concentration of Exogenous Phytase on Growth Performance of Broiler Chickens A. J. Cowieson, A. Smith, J. O. B. Sorbara, G. Pappenberger, and O. A. Olukosi	638
Substitution of Zea mays by Sorghum bicolor on Performance and Gut Histo-Morphology of Ross 308 Broiler Chickens Aged 1-42 d T. G. Manyelo, J. W. Ng'ambi, D. Norris, and M. Mabelebele	647
Continual Selection for Increased 16 wk Body Weight on Turkey Growth and Meat Quality: 50 Generation Update Daniel L. Clark, Karl E. Nestor, and Sandra G. Velleman	658
Relationship Between Plasma GH, Metabolites, Lipogenic Genes, and MMP3 Expression in PD3 Chicken Line and Role of Fermented Yeast Culture in Alleviating Heat Stress	
Anand Laxmi Nidamanuri, Leslie Leo Prince Lawerence, Rama Subbaiah Kothamidde, and Rama Krishna Mahapatra	669
Impact of Choline Supplementation on Hepatic Histopathology, Phospholipid Content, and Tocopherol Status in Layer Hens Fed Flaxseed A. E Aziza, W. Awadin, and G. Cherian	679
The Effect of Phytase on Production Performance, Egg Quality, Calcium and Phosphorus Excretion, and Fatty Acids and Cholesterol Concentration in Hy-Line Layers Fed Diets Containing Rice Bran Mojtaba Habibollahi, Masoud Arab Abousadi, and Peyman Nakhaee	688
Evaluation of Drinking Water Antimicrobial Interventions on Water Usage, Feed Consumption, and Salmonella Retention in Broilers Following Feed and Water Withdrawal C. E. Harris, L. N. Bartenfeld Josselson, D. V. Bourassa, B. D. Fairchild, B. H. Kiepper, and R. J. Buhr	699
The Growth Performance, Meat Quality, and Gut Bacteria of Broilers Raised with or without Antibiotics and Green Tea Powder Xingyong Chen, Wenjun Zhu, Xue Liu, Tao Li, Zhaoyu Geng, and Xiaochun Wan	712
Effects of Extra-Dosing Phytase in Combination with Multi-Carbohydrase on Growth Performance and Bone Mineralization Using Dual-Energy X-Ray Absorptiometry in Broilers J. Wang, R. Patterson, and W. K. Kim	722
Effects of Dietary Energy and Amino Acid Density During Finisher and Withdrawal Phases on Live Performance and Carcass Characteristics of Cobb $MV \times 700$ Broilers	729
C. W. Maynard, R. E. Latham, R. Brister, C. M. Owens, and S. J. Rochell	129
Partial Replacement of Dietary Cholecalciferol with 25-Hydroxycholecalciferol on Broiler Chickens Subjected to a Coccidiosis Vaccine Challenge Hector Leyva-Jimenez, Kimberly Gardner, Yansoon AL-Jumaa, John C. Padgett, and Christopher A. Bailey	743

...

Blackhead Disease: Recovery of Layer Flock After Disease Challenge	
C. S. Sigmon, R. D. Malheiros, K. E. Anderson, J. A. Payne, and R. B. Beckstead	755
Field Report	
Prevalence and Characterization of Plasmid Mediated Quinolone Resistance	
Genes and Class 1 Integrons Among Multidrug-Resistant Escherichia coli	
Isolates from Chicken Meat	
Kwang Won Seo and Young Ju Lee	761

というできるのかまでの 一番の