

# ANIMAL PRODUCTION SCIENCE

## CONTENTS Volume 60, Issue 5, 2020, 603–731

### Review

Prospects for the utilisation of cocoyam corm meal in poultry feeding  
*S. S. Diarra* 603–609

### Nutrition and Metabolism

Managing plasma P concentrations in beef heifers with a slow release vitamin D supplementation  
*N. W. Tomkins, R. Elliott, J. J. McGrath and T. Schatz* 610–617

Dietary supplemental chromium and niacin influence the growth performance and fat deposition in lambs  
*K. Hashemian, M. A. Norouzi and A. Mohammadi-Sangcheshmeh* 618–624

Use of *Bacillus subtilis* PB6 enriched with choline to improve growth performance, immune status, histological parameters and intestinal microbiota of broiler chickens  
*Katarzyna Abramowicz, Magdalena Krauze and Katarzyna Ognik* 625–634

### Feed Quality, Nutritional Value and Toxicology

*In vivo* digestibility of a range of silages in cattle compared with sheep  
*K. L. Bailes, J. W. Piltz and D. M. McNeill* 635–642

Temporal variations in leaf traits, chemical composition and *in vitro* true digestibility of four temperate fodder tree species

*Simone Ravetto Enri, Massimiliano Probo, Manuela Renna, Eleonora Caro, Carola Lussiana, Luca M. Battaglini, Giampiero Lombardi and Michele Lonati* 643–658

*In vitro* rumen gas production kinetics, hydrocyanic acid concentration and fermentation characteristics of fresh cassava root and feed block sulfur concentration  
*Gamonmas Dagaew, Anusorn Cherdthong, Metha Wanapat and Pin Chanjula* 659–664

Methane emission, ruminal fermentation parameters and fatty acid profile of meat in Santa Inês lambs fed the legume macrotiloma

*Paulo de Mello Tavares Lima, Adibe Luiz Abdalla Filho, Juliano Issakowicz, Egon Hion Ieda, Patrícia Spoto Corrêa, Waldssimiler Teixeira de Mattos, Luciana Gerdes, ConceptaMcManus, Adibe Luiz Abdalla and Helder Louvandini* 665–673

### Biosecurity and Health

Understanding farmers' biosecurity beliefs and behaviours related to antimicrobial resistant bacteria in Michigan, USA

*Jessica D. Garcia, Andrew G. Huff and Emily S. Huff* 674–682

### Production Systems, Environment and Management

The economics of phosphorus supplementation of beef cattle grazing northern Australian rangelands  
*M. K. Bowen, F. Chudleigh, R. M. Dixon, M. T. Sullivan, T. Schatz and T. Oxley* 683–693

Production and quality of the silage of sorghum intercropped with Paiaguas palisadegrass in different forage systems and at different maturity stages

*Suelen Soares Oliveira, Kátia Aparecida de Pinho Costa, Wender Ferreira de Souza, Charles Barbosa dos Santos, Daniel Augusto Alves Teixeira and Victor Costa e Silva* 694–704

### Production Systems in Transition

Variant forms of qualitative traits of indigenous chickens reared under extensive system in Tolon District, Ghana  
*Peter T. Birteeb and Thomas Boakye* 705–712

## **Meat Science and Product Quality**

Effects of aging and dietary supplementation with polyphenols from *Pinus taeda* hydrolysed lignin on quality parameters, fatty acid profile and oxidative stability of beef

*A. Maggiolino, J. M. Lorenzo, A. Salzano, M. Faccia, F. Blando, M. P. Serrano, M. A. Latorre, J. Quiñones and P. De Palo* 713–724

Castration age and growth, meat production and meat quality of Nellore male cattle

*R. J. Anaruma, L. G. Reis, P. E. de Felício, S. B. Pflanze, S. Rossi, M. A. Zanetti, N. R. B. Cônsolo, S. L. Silva and A. Saran Netto* 725–731