

ANIMAL PRODUCTION SCIENCE

CONTENTS Volume 55, Issue 5, 2015, 559–690

Whole-grain feeding for chicken-meat production: possible mechanisms driving enhanced energy utilisation and feed conversion

Sonia Yun Liu, Ha H. Truong and Peter H. Selle 559–572

Influence of cardamom essential oils and seeds on growth performance, blood characteristics and immunity of broilers

Mosa Omid, Kamran Taherpour, Javad Cheraghi and Hossein A. Ghasemi 573–579

Effects of feeding various levels of full fat soybean extruded at high temperature on performance, serum components and intestinal morphology of broiler chickens

Safa Zhaleh, Abolghasem Golian, Seyed Ali Mirghelenj, Avisa Akhavan and Abdollah Akbarian 580–586

Micro-encapsulated sodium butyrate attenuates oxidative stress induced by corticosterone exposure and modulates apoptosis in intestinal mucosa of broiler chickens

Y. Jiang, W. H. Zhang, F. Gao and G. H. Zhou 587–594

Monthly metabolisable energy feed requirements of crossbred ewes in accelerated and traditional lamb production systems

N. M. Fogarty 595–602

Effects of duration of salt supplementation of sheep on rumen metabolism and the accumulation of elements

Clive J. C. Phillips, Mohamed O. Mohamed and Paul C. Chiy 603–610

The effects of chronic nitrate supplementation on erythrocytic methaemoglobin reduction in cattle

I. Godwin, L. Li, K. Luijben, N. Oelbrandt, J. Velazco, J. Miller and R. Hegarty 611–616

An animal house study on utilisation of fresh teder (*Bituminaria bituminosa* var. *albomarginata* and *crassiuscula*) by Merino wethers

C. M. Oldham, D. Wood, J. Milton, D. Real, P. Vercoe and A. J. van Burgel 617–624

Effect of soybean roasting and monensin on microbial protein synthesis, ruminal parameters and plasma metabolites of lactating dairy cows

E. Abdi, F. Fatahnia, M. Dehghan Banadaki, A. Azarfar and S. G. Mosavi 625–629

Effects of two different forage sources on mammary gland growth, mammary cell turnover and activity in early lactation dairy cows

Tong Qin, Haoyu Wang, Dengpan Bu, Haisheng Hao, Dong Wang and Huabin Zhu 630–633

Influence of dietary flavours on sheep feeding behaviour and nutrient digestibility

J. J. Villalba, A. Mereu and I. R. Ipharraguerre 634–638

Combining wavelet and linear-regression methods to model the effect of available forage on daily grazing and lying activity of mature *Bos indicus* cows during summer months

M. S. Gadberry, W. Whitworth and G. Montgomery 639–647

Welfare of recently weaned piglets transported on unpaved roads: the effect of age and the use of straw bedding

P. Roldan-Santiago, D. Mota-Rojas, H. Orozco-Gregorio, F. Borderas-Tordesillas, R. Martínez-Rodríguez,

P. Mora-Medina, S. Flores-Peinado, M. Sánchez-Hernández and M. E. Trujillo-Ortega 648–653

Mediterranean river buffalo *CSN1S1* gene: search for polymorphisms and association studies

G. Cosenza, A. Pauciuolo, N. P. P. Macciotta, E. Apicella, R. Steri, A. La Battaglia, L. Jemma, A. Coletta, D. Di Berardino and L. Ramunno 654–660

The association between polymorphism of the *GHI* gene and changes in protein structure and carcass traits in Mehraban sheep (*Ovis aries*)

A. Bahrami, S. R. Miraei-Ashtiani, H. Mehrabani-Yeganeh, H. Banani-Rad and Sh. Behzadi 661–665

Effect of different concentrations of trehalose and glycerol on the freezability of ram semen using soybean lecithin-based diluents

Zh. Bohlool, M. Mohammadi, M. Roostaei-Ali Mehr and N. Ghavi Hossein-Zadeh 666–671

Correlations among various blood parameters at exsanguination and their relationships to pork quality traits

J. H. Choe, M. H. Choi, Y. C. Ryu, K. S. Lim, E. A. Lee, J. H. Kang, K. C. Hong, S. K. Lee,

Y. T. Kim, S. S. Moon, K. W. Lee, M. S. Rhee and B. C. Kim 672–679

Association of carcass weight with quality and functional properties of beef from Hanwoo steers

Dinesh D. Jayasena, Ki Chang Nam, Jong Ju Kim, Hyeonju Ahn and Cheorun Jo 680–690