

# ANIMAL PRODUCTION SCIENCE

**CONTENTS** Volume 60, Issue 9, 2020, 1123–1226

## Review

Meat quality traits and feeding distillers grains to cattle: a review

*M. Merayo, D. Pighin and G. Grigioni* 1123–1135

## Genetics and Genomics

Application of single-step GBLUP in New Zealand Romney sheep

*M. A. Nilforooshan* 1136–1144

Identification and copy number profiling of sex chromosome specific gene fragments in crossbred pigs with numerically normal karyotype

*Vandana Yadav, Nihar Ranjan Sahoo, Pushpendra Kumar, G. K. Gaur, A. P. Sahoo, G. V. P. P. S. Ravikumar and K. P. Singh* 1145–1152

## Nutrition and Metabolism

Short-term feed intake regulation of dairy cows fed a total mixed ration or grazing forage oats

*J. P. Soutto, M. Carriquiry, P. Chilbroste, A. L. Astessiano, M. Garcia-Roche and A. I. Trujillo* 1153–1162

## Feed Quality, Nutritional Value and Toxicology

Composition and characterisation of kafirin, the dominant protein fraction in grain sorghum

*Peter H. Selle, Bernard V. McInerney, Leon R. McQuade, Ali Khoddami, Peter V. Chrystal, Robert J. Hughes and Sonia Yun Liu* 1163–1172

Effects of replacing starch with three sugars in a concentrate and forage diet on *in vitro* rumen fermentation, fatty acid composition and related bacteria

*X. Q. Sun, Y. P. Wang, R. Y. Wei, B. Chen and X. Zhao* 1173–1182

Impact of a tannin extract on animal performance and nitrogen excretion of dairy cows grazing a tropical pasture

*T. Orlandi, C. A. Pozo, J. Schiavo, L. Oliveira and G. V. Kozloski* 1183–1188

Potential of walnut (*Juglans regia*) leave ethanolic extract to modify ruminal fermentation, microbial populations and mitigate methane emission

*M. Sahebi Ala, R. Pirmohammadi, H. Khalilvandi-Behroozyar and E. Anassori* 1189–1200

## Production Systems, Environment and Management

How do animal performance and methane emissions vary with forage management intensification and supplementation?

*J. F. W. Koscheck, E. P. Romanzini, R. P. Barbero, L. M. Delevatti, A. C. Ferrari, J. T. Mulliniks, C. J. Mousquer, T. T. Berchielli and R. A. Reis* 1201–1209

## Meat Science and Product Quality

Wine grape pomace flour in broiler diets effects growth and some meat characteristics

*Paola Reyes, Inés Urquiaga, Guadalupe Echeverría, Emerson Durán, María Sol Morales and Carolina Valenzuela* 1210–1216

## Technology and Education

Potential for autonomous detection of lambing using global navigation satellite system technology

*Eloise S. Fogarty, David L. Swain, Greg M. Cronin, Luis E. Moraes, Derek W. Bailey and Mark G. Trotter* 1217–1226