

Vol. 19, No. 1

CONTENTS

2010

Memorial: Paweł Michał Pisulewski.....	3
Comparative cytogenetic mapping of three genes involved in sex determination in four species of the family <i>Canidae</i> Nowacka-Wozzuk J. and M. Switonski (Poznań, Poland).....	5
Ruminants	
Estimation of substrate-energetic fluxes in lactating cows Cherepanov G.G. and V.I. Agaphonov (Borovsk, Russia)	13
Responses of mammary amino acid metabolism and aminopeptidase N gene expression to duodenal soyabean small peptides and infusion of free amino acids in lactating goats Liu H., L. Wang, L.-B. Wang, S.-L. Li and Z.-J. Cao (Beijing, P.R. China)	24
Monogastrics	
The effect of breed and dietary level of avocado fat on the N and energy balance in young pigs Grageola F. (Nayarit, México), L. Sangines (México City, México), C. Díaz (Havana City, Cuba), A. Gómez (Nayarit, México), M. Cervantes (Baja California, México), C. Lemus (México City, México) and J. Ly (Havana City, Cuba)	37
Lysine efficiency in piglets fed diets with a phytogetic feed additive and conclusion of lysine requirement data Muhl A. and F. Liebert (Goettingen, Germany)	49
Apparent ileal amino acid digestibility and energy utilization in hullless oats (<i>Avena nuda</i> L.) fed to growing pigs Nyachoti C.M., L. Rigaux, T.A. Woyengo and E. Kiarie (Winnipeg, Manitoba, Canada)..	59
Standardized ileal digestibility of amino acids in some cereals, rapeseed products and maize DDGS for broiler chickens at the age of 14 days Szczurek W. (Balice, Poland)	72
Effects of encapsulated and non-encapsulated compound acidifiers on gastrointestinal pH and intestinal morphology and function in weaning piglets Jia G., J.-Y. Yan, J.-Y. Cai and K.-N. Wang (Ya'an, P.R. China)	81

Effects of <i>Echinacea purpurea</i> and <i>Nigella sativa</i> supplementation on broiler performance, carcass and meat quality Nasir Z. and M.A. Grashorn (Stuttgart, Germany)	93
Effects of dietary phytic acid on digestibility of main nutrients and mineral absorption in mink (<i>Mustela vison</i>) Denstadli V., A.T. Romarheim, M. Sørensen, Ø. Ahlstrøm and A. Skrede (Ås, Norway) ..	104
The dietary level of selenite and selenized yeast influences the concentrations of selected fatty acids in the abdominal fat and brain of rats Czauderna M., J. Kowalczyk, K.A. Krajewska and J.P. Michalski (Jabłonna, Poland)	113

Other topics

Chemical composition, fungal microflora and mycotoxin content in maize silages infected by smut (<i>Ustilago maydis</i>) and the effect of biological and chemical additives on silage aerobic stability Potkański A. (Poznań, Poland), J. Grajewski, M. Twarużek (Bydgoszcz, Poland), M. Selwet (Poznań, Poland), B. Miklaszewska, A. Błajet-Kosicka (Bydgoszcz, Poland), M. Szumacher-Strabel, A. Cieślak and K. Raczkowska-Werwińska (Poznań, Poland) ...	130
Editorial news and events	143
Subscription for 2010	145

Vol. 19, No. 2

CONTENTS

2010

The role of animal feeding trials for the nutritional and safety assessment of feeds from genetically modified plants – Present stage and future challenges Flachowsky G. (Braunschweig, Germany) and C. Wenk (Zurich, Switzerland)	149
Endogenous synthesis of ruminic acid in humans and cattle Niwińska B. (Balice, Poland)	171

Ruminants

Evaluation of methods used <i>in vivo</i> to estimate the transfer of amino acids and other substrates into the cells of mammary gland Cherepanov G.G. and Z.N. Makar (Borovsk, Russia)	183
Effect of feeding ensiled maize grain on rumen development and calf rearing performance Sosin-Bzducha E., J. Strzetelski (Balice, Poland), F. Borowiec (Kraków, Poland), J. Kowalczyk (Jabłonna, Poland) and K. Okoń (Kraków, Poland)	195

Effect of a protein level in the diet on fatty acid profile in goat milk
 Czauderna M., J. Kowalczyk and J.P. Michalski (Jabłonna, Poland) 211

Effects of phytogetic products on *in vitro* rumen fermentation and methane emission in goats
 Dong G.Z., X.J. Wang, Z.B. Liu and F. Wang (Chongqing, P.R. China) 218

Monogastrics

An interdisciplinary study on the mode of action of probiotics in pigs
 Simon O. (Berlin, Germany) 230

The effect of dietary potassium and sodium on performance, carcass traits, and nitrogen balance and excreta moisture in broiler chicken
 Koreleski J., S. Świątkiewicz and A. Arczewska (Balice, Poland) 244

Effects of dietary bamboo charcoal powder including vinegar liquid on chicken performance and histological alterations of intestine
 Yamauchi K., J. Ruttanavut (Miki-cho, Japan) and S. Takenoyama (Kirishima, Japan) ... 257

Incorporation of nitrogen isotope ¹⁵N into liver DNA during avian embryogenesis. A new approach for measuring the rate of DNA synthesis
 Chwalibog A. (Copenhagen, Denmark) C.C. Metges (Dummerstorf, Germany), E. Sawosz Chwalibóg, M. Grodzik and T. Niemiec (Warsaw, Poland) 269

Nano-nutrition of chicken embryos. Effect of gold and taurine nanoparticles on muscle development
 Zielińska M.K., E. Sawosz (Warsaw, Poland), A. Chwalibog (Copenhagen, Denmark), T. Ostaszewska, M. Kamaszewski, M. Grodzik (Warsaw, Poland) and J. Skomial (Jabłonna, Poland) 277

Can silver nanoparticles affect mineral content, structure and mechanical properties of chicken embryo's bone?
 Sikorska J., M. Szmidi, E. Sawosz Chwalobóg, T. Niemiec, M. Grodzik (Warsaw, Poland) and A. Chwalibog (Copenhagen, Denmark) 286

Other topics

Screening of differentially expressed genes induced by water-soluble extracts from pollen during honeybee caste determination
 Zhou, B., M.H. Ye, K. Zhang, Y.W. Wu and J.T. Ding (Yangzhou, P.R. China) 292

Evaluation of the possibility of horizontal gene transfer and accumulation of transgenic DNA from the diet in the bodies of rats
 Kosieradzka I., V. Vasko, M. Szwacka, A. Przybysz and Sz. Fiedorowicz (Warsaw, Poland) 307

Editorial news and events 316

Potential of phytofactors to mitigate rumen ammonia and methane production Szumacher-Strabel M. and A. Cieślak (Poznań, Poland)	319
Use of phytobiotics in broiler nutrition – an alternative to infeed antibiotics? Grashorn M.A. (Stuttgart, Germany)	338
Ruminants	
The effect of sodium butyrate on calf growth and serum level of β -hydroxybutyric acid Ślusarczyk K., J.A. Strzetelski and I. Furgal-Dierżuk (Balice, Poland)	348
Changes in integrin-positive cells and T cell subpopulations in the peripheral blood and intestine of calves fed soya protein Brna M., V. Revajová, R. Žitňan, M. Levkut Jr., M. Baran and M. Levkut (Košice, Slovak Republic)	358
Carcass quality characteristics of Hair Goat and Saanen \times Hair Goat crossbred kids from intensive production system Yılmaz A., B. Ekiz, M. Özcan (Istanbul, Turkey), C. Kaptan, H. Hanoglu, M. Yildirim (Balıkesir, Turkey) and O. Kocak (Istanbul, Turkey)	368
The effect of intracerebroventricular infusion of leptin on the secretory activity of the somatotrophic axis in fasted prepubertal lambs Wójcik-Gładysz A., M. Wańkowska, T. Misztal (Jabłonna, Poland), D. Szczepankiewicz (Poznań, Poland), K. Romanowicz and J. Polkowska (Jabłonna, Poland)	379
Monogastrics	
The effect of training on plasma L-carnitine metabolism in purebred Arabian horses Kędzierski W. (Lublin, Poland)	398
The effect of dietary energy source on performance and nutrient digestibility in growing pigs Ball M.E.E., E. Magowan, V.E. Beattie, K.J. McCracken, W. Henry, S. Smyth, R. Bradford, F.J. Gordon and C.S. Mayne (Belfast, United Kingdom)	408
The influence of microbial phytase supplementation to diet with high or low native phytase activity on sow reproductive traits and composition of colostrum and milk Grela E.R., J. Matras, A. Czech and W. Krasucki (Lublin, Poland)	418
Intestinal and total tract phytate digestibility and phytase activity in the digestive tract of hens fed a wheat-maize-soyabean diet Marounck M., M. Skřivan, O. Rosero (Prague, Czech Republic) and O. Rop (Zlín, Czech Republic)	430

Effect of dietary fat type on performance, biochemical indices and fatty acids profile in the blood serum of broiler chickens
 Burlikowska K., A. Piotrowska and R. Szymeczko (Bydgoszcz, Poland) 440

Genetic relationships among time of egg formation, clutch traits and traditional selection traits in laying hens
 Wolc A. (Poznań, Poland), M. Bednarczyk (Bydgoszcz, Poland), M. Lisowski (Balice, Poland) and T. Szwaczkowski (Poznań, Poland) 452

The effects of *Carnobacterium divergens* AS7 bacteriocin on gastrointestinal microflora *in vitro* and on nutrient retention in broiler chickens
 Józefiak D., A. Sip, S. Kaczmarek and A. Rutkowski (Poznań, Poland) 460

Effect of diets with different contents of sunflower meal without or with exogenous enzymes supplementation on gastrointestinal tract response of growing turkeys
 Juśkiewicz J., J. Jankowski, A. Lecewicz (Olsztyn, Poland), B. Słominski (Winnipeg, Canada) and Z. Zduńczyk (Olsztyn, Poland) 468

The effect of conjugated linoleic acid decreased serum triacylglycerol and changed fatty acid composition in rat's liver
 Kostogrys R.B. and P.M. Pisulewski (Kraków, Poland) 484

The effect of conjugated linoleic acid isomers, selenite or selenized yeast supplemented to the diet on the fatty acid profile in the pancreas of rats
 Czauderna M., J. Kowalczyk and K.A. Krajewska (Jabłonna, Poland) 495

Vol. 19, No. 4 CONTENTS 2010

The necessity of adequate nutrition with diets containing omega-3 and omega-6 fatty acids for proper brain development, function and delayed aging: Review
 Kochman K. and M. Czauderna (Jabłonna, Poland) 511

Ruminants

Choosing a feed evaluation system - NRC vs INRA - to formulate rations for growing goats using minimum cost linear programming
 Martínez Marín A.L., M. Pérez Hernández, L.M. Pérez Alba and A.G. Gómez Castro (Córdoba, Spain) 525

Monogastrics

The effect of grain polyphenols and the addition of vitamin E to diets enriched with α -linolenic acid on the antioxidant status of pigs
 Flis M., W. Sobotka, Z., Antoszkiewicz, K. Lipiński and Z. Zduńczyk (Olsztyn, Poland) 539

678 CONTENTS OF JOURNAL OF ANIMAL AND FEED SCIENCES, VOLUME 19

Expression of *IGFBP-3* and *IGFBP-5* genes in muscles of pigs representing five different breeds
 Rejduch B., M. Oczkowicz, A. Piestrzyńska-Kajtoch, K. Piórkowska, M. Witoń, M. Rogoz and M. Różycki (Balice, Poland) 554

Polymorphism of the pig *LMX1A* gene, localized within the *FAT1* region, is not associated with growth and fatness
 Chmurzynska, A., M. Grzes, D. Kregielska, and M. Switonski (Poznań, Poland) 564

A new set of endogenous reference genes for gene expression studies of porcine stomach
 Oczkowicz M., M. Różycki, K. Piórkowska, A. Piestrzyńska-Kajtoch and B. Rejduch (Balice, Poland) 570

Effect of antiestrogens on proliferation, differentiation and telomerase activity of pig granulosa cells *in vitro*
 Chronowska E., M. Tomanek and T. Kott (Uhřetěves, Czech Republic) 577

Practical validation of efficacy of the standardized ileal digestible amino acid values in diet formulation for broiler chickens
 Szczurek W. (Balice, Poland) 590

Mannan oligosaccharides or flavomycin in turkeys diets: effect on mucosa-associated microflora and growth performance
 Wasilewska E., J. Ratowska, M. Bielecka, Z. Zdunczyk and J. Jankowski (Olsztyn, Poland) 599

Selenite or selenized yeast or conjugated linoleic acid isomers supplemented to the diet influence the fatty acid profile in the spleen and blood plasma of rats
 Czauderna M., J. Kowalczyk, K.A. Krajewska (Jabłonna, Poland) and L. Leng (Košice, Slovak Republic) 613

Other topics

Possibility of utilization of two *Aegilops* sp. to enhance nutritive value of triticale
 Boros D., M. Ploch (Radzików, Poland) and D. Gruszecka (Lublin, Poland) 628

Fermentation kinetics of carbohydrate fractions of maize grains as determined by *in vitro* gas production curve subtraction technique
 Du J.P., H.S. Xin, R. Wan, F.H. Shi and Q.X. Meng (Beijing, P.R. China) 638

In vitro screening of unconventional feeds and various natural supplements for their ruminal methane mitigation potential when included in a maize-silage based diet
 Staerfl S.M., M. Kreuzer and C.R. Soliva (Zurich, Switzerland) 651

Author index 665

Contents of Journal of Animal and Feed Sciences, Volume 19 673