

CONTENTS

Breeding and genetics

- Berry, D. P., Meade K. G., Mullen, M. P., Butler, S., Diskin, M. G., Morris, D. and Creevey, C. J.*
The integration of 'omic' disciplines and systems biology in cattle breeding (*review*) 493

Purzyc, H., Kobryńczuk, F. and Bojarski, J.

- Sexual dimorphism in Hucul horses using discriminant analysis 506

Nutrition

Van Ranst, G., Lee, M. R. F. and Fievez, V.

- Red clover polyphenol oxidase and lipid metabolism (*review*) 512

Nikkhah, A., Ehsanbakhsh, F., Zahmatkesh, D. and Amanlou, H.

- Prepartal wheat grain feeding improves energy and calcium status of periparturient Holstein heifers 522

Hildebrand, B., Boguhn, J. and Rodehutschord, M.

- Effect of maize silage to grass silage ratio and feed particle size on ruminal fermentation *in vitro* 528

Hildebrand, B., Boguhn, J. and Rodehutschord, M.

- Effect of maize silage to grass silage ratio and feed particle size on protein synthesis and amino acid profile in different microbial fractions in a semi-continuous rumen simulation 537

Barea, R., Nieto, R., Vitari, F., Domeneghini, C. and Aguilera, J. F.

- Effects of pig genotype (Iberian v. Landrace × Large White) on nutrient digestibility, relative organ weight and small intestine structure at two stages of growth 547

Ivarsson, E., Frankow-Lindberg, B. E., Andersson, H. K. and Lindberg, J. E.

- Growth performance, digestibility and faecal coliform bacteria in weaned piglets fed a cereal-based diet including either chicory (*Cichorium intybus* L) or ribwort (*Plantago lanceolata* L) forage 558

Physiology and functional biology of systems

Petr, J., Krejčová, M., Rajmon, R. and Jílek, F.

- Activation of protein kinase C suppresses fragmentation of pig oocytes aged *in vitro* 565

Ben Chedly, H., Lacasse, P., Marnet, P.-G., Komara, M., Marion, S. and Boutinaud, M.

- Use of milk epithelial cells to study regulation of cell activity and apoptosis during once-daily milking in goats 572

Behaviour, welfare and health

Baxter, E. M., Lawrence, A. B. and Edwards, S. A.

- Alternative farrowing systems: design criteria for farrowing systems based on the biological needs of sows and piglets (*review*) 580

Zonderland, J. J., Kemp, B., Bracke, M. B. M., den Hartog, L. A. and Spoolder, H. A. M.

- Individual piglets' contribution to the development of tail biting 601

Bickell, S., Poindron, P., Nowak, R., Ferguson, D., Blackberry, M. and Blache, D.

- Maternal behaviour and peripartum levels of oestradiol and progesterone show little difference in Merino ewes selected for calm or nervous temperament under indoor housing conditions 608

Farming systems and environment

Leenhouders, J. I., Ten Napel, J., Hanenberg, E. H. A. T. and Merks, J. W. M.

- Breeding replacement gilts for organic pig herds (*review*) 615

Jarret, G., Martinez, J. and Dourmad, J.-Y.

- Effect of biofuel co-products in pig diets on the excretory patterns of N and C and on the subsequent ammonia and methane emissions from pig effluent 622

Hansson, H., Szczensa-Rundberg, M. and Nielsen, C.

- Which preventive measures against mastitis can increase the technical efficiency of dairy farms? 632

Serrano, E., Cornu, A., Kondjoyan, N., Agabriel, J. and Micol, D.

- Traceability of grass feeding in beef: terpenes, 2,3-octanedione and skatole accumulation in adipose tissue of young bulls 641