Determination of Vitamin B12 in meat products by RP-HPLC after enrichment and purification on an immunoaffinity column

D. Guggisberg, M.C. Risse, R. Hadorn

Highlights

► A method for the determination of Vitamin B12 in meat products was developed.
► The new method was compared to the reference method.
Vitamin B12 was analyzed after purification and enrichment on an immunoaffinity column. The method was validated at three different concentration levels.
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<td>Relationship between muscle antioxidant status, forms of polyunsaturated fatty acids and functionality (retail colou meat in lambs</td>
<td>297-303</td>
<td>Eric N. Ponnampalam, Kym L. Butler, Matthew B. McDonagh, L. Jacobs, David L. Hopkins</td>
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<td>6</td>
<td>Investigation on the presence of sulphites in fresh meat preparations: Estimation of an allowable maximum limit</td>
<td>304-308</td>
<td>Marco Iammarino, Aurelia Di Taranto, Marilena Muscarella</td>
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**Highlights**

- Pork loins from Berkshire pigs show better technological ε properties compared to other breeds.
- Variations of pork quality can be explained by the presence of IIB fibers.
- Pork quality traits can explain a large proportion of the quality traits of fat pork patties.
- Surimi-like material (SLM) made from the porcine longissimus dorsi muscle can be used as a fat replacer.
- SLM also improves the physicochemical and functional characteristics of low-fat pork patties.
- These results may be useful for the food industry.
- We examine the relationship between muscle biochemical properties and low-fat pork patties.
- Polyunsaturated fatty acids in muscle do not play a major role in the quality of meat, as they are not related to redness in meat.
- The presence of sulphites in fresh meat preparations is estimated.

- In fresh meat preparations, a natural presence of sulphites has been proposed.
Numerous cases of not allowed sulphite additions were verified. Allergenic effects a strong contrast action could be necessary.

7 The effects of two alleles of IGF2 on fat content in pig carcasses and pork
Pages 309-313
Carmen Burgos, Almudena Galve, Carlos Moreno, Juan Altab, Raquel Reina, Carmen Garcia, Pascual Lopez-Buesa

Show preview | Related articles | Related reference work

Highlights

► IGF2 G allele has strong adipogenic effects at subcutaneous fat content. G allele does not enhance intramuscular fat content. ► IGF2 fat content in ham. ► Introgression of IGF2 G allele could improve reproduction.

8 Identification of chemical markers for the sensory shelf-life of saveloy
Pages 314-322
E.S. Holm, A. Schäfer, T. Skov, A. G. Koch, M. A. Petersen

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Highlights

► Microbially produced aroma compounds can predict the specific aroma compounds were identified as chemical markers. Sensory spoilage varied between the three tested slicing locales.

9 Effects of high pressure application (400 and 900 MPa) on refrigerated storage time on the oxidative stability of slice skin vacuum packed dry-cured ham
Pages 323-329
Maria Clariana, Luis Guerrero, Carmen Sáraga, José A. García Regueiro

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Highlights

► Pressurization at 900 MPa decreased the activity of some E content was increased with pressurization at 900 MPa. ► MPa had no effect on physicochemical parameters. ► Pressurization at 900 MPa had no effect on sensory attributes.

10 Acceptability of entire male pork with various levels of androstenone and skatole by consumers according to their sensitivity to androstenone
Pages 330-337
M. Bonneau, P. Chevillon

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Highlights

► Consumer acceptability of entire male pork at eating. ► E skatole and androstenone levels as good as gilt pork. ► Bos
consumers that smell pure androstenone as unpleasant. ► I
androstenone acceptability threshold is about 2–3 μg/g.

11 Lean meat prediction with HGP, CGM and CSB-Image-Me
with prediction accuracy evaluated for different proporti
of gilts, boars and castrated boars in the pig population
Pages 338-344
B. Engel, E. Lambooij, W.G. Buist, P. Vereijken
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Highlights

► Lean meat prediction of pig carcasses. ► Prediction accura
instruments. ► Different scenarios for proportions of the sexe
Accuracy of prediction is robust against changes in the propx
instruments are in compliance with the EC regulations.

12 Myosin light chain 1 release from myofibrillar fraction d
postmortem aging is a potential indicator of proteolysis
tenderness of beef
Pages 345-351
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Highlights

► Proteomic techniques are useful in identifying proteins to
Myosin Light Chain1 is released into the sarcoplasm early in
Chain 1 is a candidate for predicting early tenderization of be

13 Effect of Maillard reaction products on oxidation produc
ground chicken breast
Pages 352-360
L.T. Miranda, C. Rakovski, L.M.Were
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Highlights

► Melanoidins from glucose/amino acids retarded lipid oxid
of 8 hr presented greater antioxidant activity than 24 hr. ► G
does not involve thermal stress is preferable to purge and tr

14 Biochemical and sensory changes in dry-cured ham sal
with partial replacements of NaCl by other chloride salt
Pages 361-367
Mónica Armenteros, María-Concepción Aristoy, José Manue
Barat, Fidel Toldrá
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Highlights

► Sodium chloride in dry-cured ham reduced with mixtures o
Hams containing 50% of each KCl and NaCl were better rat
substitution of NaCl content did not affect the proteolysis phy
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<td>Arrested blood flow during false aneurysm formation in carotid arteries of cattle slaughtered with and without stunning</td>
<td>N.G. Gregory, P. Schuster, L. Mirabito, R. Kolesar, T. McMann</td>
<td>Some cattle lose consciousness slowly when slaughtered because blood flow is arrested by false aneurysms in the sever at the C1 position in the neck reduces the frequency of this phenomenon.</td>
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<td>Prediction of total viable counts on chilled pork using an electronic nose combined with support vector machine</td>
<td>Danfeng Wang, Xichang Wang, Taiang Liu, Yuan Liu</td>
<td>A positive correlation has been shown between EN signal tool could predict the TVC in pork during chilled storage and was developed for widespread use in meat industry.</td>
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<td>Identification of cattle, llama and horse meat by near infrared reflectance or transflectance spectroscopy</td>
<td>L.W. Mamani-Linares, C. Gallo, D. Alomar</td>
<td>We tested near infrared spectroscopy to discriminate meat species. Reliable VIS–NIRS models recognised meat species with both meat and meat juice, scanned in reflectance and transreflectance, were correctly classified, with a few uncertain and none misclassified.</td>
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<td>Salting, drying and sensory quality of dry-cured hams subjected to different pre-salting treatments: Skin trimming and pressing</td>
<td>N. Garcia-Gil, E. Santos-Garcés, I. Muñoz, E. Fulladosa, J. P. Gou</td>
<td>Skin trimming or pressing before salting increased the average thickness of the skin. Skin trimming nor pressing reduced the variability in the salted part of the ham. With skin trimming, the innermost part of the ham.</td>
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The effect of diet and DHA addition on the sensory quality of goat kid meat
Isabel Moreno-Indias, Davinia Sánchez-Macías, Josué Martí de la Puente, Antonio Morales-del-Nuez, Lorenzo Enrique Hernández-Castellano, Noemí Castro, Anastasio Argüello

Highlights

► Fatty acids profile of muscle tissues have been improved by feeding goat kids cow's milk as a novel source of feeding goat kids animals. ► Diets including DHA at different doses. ► Low doses of DHA perception.

Iridescence in beef caused by multilayer interference from sarcomere discs
H.J. Swatland

Highlights

► Iridescence on roast beef was examined by microscope and was extinguished by crossed polarizers showing it originated from sarcomere discs with strongest interference from the top.

Chemical composition and inherent properties of offal for calves maintained under two production systems
M. Fiorek, Z. Litwińczuk, P. Skalecki, M. Kędzierska-Matysiak Grodzicki

Highlights

► We compared chemical composition and inherent qualities of offal. We analyzed concentration of minerals, fatty acid profile and type and management system influenced properties of calf concerning possible use of offal in meat processing.

Biochemical activities of Brochothrix thermosphacta
Agnieszka Nowak, Małgorzata Piotrowska

Highlights

► Brochothrix thermosphacta show proteolytic activity in a broad range of pH, which is independent of bacterial origin. ► Brochothrix thermosphacta lipases preferred short chain fatty acids.

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<td>Study of variability in antioxidant composition and fatty profile of Longissimus dorsi and Serratus ventralis muscles from Iberian pigs reared in two different Montanera seasons</td>
<td>D. Tejerina, S. García-Torres, M. Cabeza de Vaca, F.M. Vázquez, R. Cava</td>
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<td>Efficacy of trimming chilled beef during fabrication to Escherichia coli O157:H7 surrogates on subsequent subprimals</td>
<td>B.A. Laster, K.B. Harris, L.M. Lucia, A. Castillo, J.W. Savell</td>
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<td>Chemical and physical characteristics of lamb meat related to crossbreeding of Romanov ewes with Suffolk and Charcoal sires</td>
<td>Jan Kuchtík, David Zapletal, Kvetoslava Šustová</td>
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<td>Sensory and texture properties of Italian typical dry-cured hams as related to maturation time and salt content</td>
<td>Riccardo Benedini, Giovanni Parolari, Tania Toscani, Robert Virgili</td>
<td>431-437</td>
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**Highlights**

- Acorn and grass showed variable composition between different Montanera seasons. It was observed a lack of uniformity in antioxidant content and lower oleic acid than... 

- Evaluated trimming of chilled subprimal surfaces to reduce contamination. Inoculated the brisket, plate, flank, and inside round with sun fat and lean surfaces became contaminated during fabrication. Surfaces reduced levels of surrogate bacteria. Bacteria were present on fat and lean surfaces during fabrication.

- The effect of crossbreeding on lamb meat characteristics. Organic conditions. The genotype affected the pH value, ∀ genotype had a minor effect on PUFA profile of muscle. T index was affected by the genotype.

- Sensory and texture properties of Italian typical dry-cured hams as related to maturation time and salt content.
Highlights

► Salt reduction potentially affects flavour and texture. ► At consistence are consequences of salt reduction. ► Extender undesired changes in texture and taste. ► Dehydration shot salt perception.

27  
PCR amplification of repetitive sequences as a possible approach in relative species quantification
Pages 439-443
N.Z. Ballin, F.K. Vogensen, A.H. Karlsson
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28  
The effect of technology information on consumer expectations and liking of beef
Pages 444-450
Lynn Van Wezemael, Øydis Ueland, Rune Redbotten, Stefa Smet, Joachim Scholderer, Wim Verbeke
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Highlights

► Detailed technology information can enhance consumer e Only providing information does not guarantee higher consu Marinating and muscle profiling information equally affect ex

29  
The volatile compounds in lamb fat are affected by the ti of grazing
Pages 451-456
Valentina Vasta, Valentina Ventura, Giuseppe Luciano, Vale Andronico, Renato I. Pagano, Manuel Scerra, Luisa Biondi, Marcella Avondo, Alessandro Priolo
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Highlights

► 3 groups of lambs grazed 8 h, 4 h in the morning (4hAM) The fat volatile organic compounds (VOC) profile was dete discriminated between the 4hAM and 4hPM lambs. ► Fat V
8h, or 4h in the morning or in the afternoon.

30  
Influence of alfalfa grazing-based feeding systems on carcass fat colour and meat quality of light lambs
Pages 457-464
G. Ripoll, P. Albertí, M. Joy
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Effect of production system on carcass measurements and meat quality of Kivircik lambs
Pages 465-471
Bulent Ekiz, Alper Yilmaz, Mustafa Ozcan, Omur Kocak
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32 The effect of NaCl-free processing and high pressure on fate of Listeria monocytogenes and Salmonella on slice smoked dry-cured ham
Pages 472-477
Katharina Stollewerk, Anna Jofré, Josep Comaposada, Jacir Arnau, Margarita Garriga

33 The importance of chill rate when characterising colour change of lamb meat during retail display
Pages 478-484
R.H. Jacob, K.L. Thomson

34 Sensory characteristics of meat cooked for prolonged time at low temperature
Pages 485-489
Line Christensen, Annemarie Gunvig, Mari Ann Tøm gren, M Dall Aaslyng, Susanne Knøchel, Mette Christensen

35 Identification of meat species by PCR-RFLP of the mitochondrial COI gene
Pages 490-493
Nadia Haider, Imad Nabulsi, Bassam Al-Safadi
Highlights

► PCR-RFLP was applied on COI gene for identification of e yield a 710-bp fragment in all species. ► The amplicons restriction endonucleases. ► Restriction with Hpa II was suf species. ► The approach applied here is much cheaper and

Isolation and identification of low molecular weight antioxidant compounds from fermented “chorizo” sausage
Pages 494-501

Highlights

► We determined low molecular weight compounds in Iberi most hydrophilic fractions showed the highest antioxidant ac peptides were identified as responsible for antioxidant effect.

Visual evaluation of cattle cleanliness and correlation to carcass microbial contamination during slaughtering
Pages 502-506
Andrea Serraino, Lia Bardasi, Raffaela Riu, Valentina Pizzar Gaetano Liuzzo, Giorgio Galletti, Federica Giacometti, Giuse Merialdi

Highlights

► Cattle cleanliness may influence carcass microbial contan slaughterhouse were assigned to a cleanliness category. ► and carcasses was determined. ► Increasing dirt of cattle is contamination of carcasses. ► Dirty animals carcasses mor the Reg. EU 2073/2005.

Polymorphism and parent-of-origin effects on gene expression of CAST, leptin and DGAT1 in cattle
Pages 507-510
Simone Cristina Méo Nicuira, Adriana Mécia Guaratini Ibelli Gisele Veneroni Gouveia, Juliana Gracielle Gonzaga Gromb Marina Ibelli Pereira Rocha, Marcela Maria de Souza, Suele Scarpa de Mello, Luciana Correia de Almeida Regitano

Highlights

► Gene expression of CAST was affected by polymorphism leptin was affected by parental origin in cattle. ► Absence of CAST and DGAT1 in bovine fetal tissues.