

Farkas, J., & Beczner, J.: Academician János Holló, top-ranking Hungarian food scientist is 85 years old. pp. 329-330. j.farkas@cfri.hu

Beczner, J. & Delincée, H.: Professor Johannes Friedrich Diehl – a leading personality in food science retires from Acta Alimentaria. pp. 331-332. j.beczner@cfri.hu

Editorial: Bardócz, Zs. & Puzstai, Á.: Post-market monitoring of transgenic plants. pp. 333-335. S.Bardocz@connectfree.co.uk

R. Božanić, Lj. Tratnik, Z. Herceg and O. Marić: The influence of milk powder, whey protein concentrate and inulin on the quality of cow and goat acidophilus milk. pp. 333-346. rbozan@pbf.hr

Cow and goat milk samples supplemented with milk powder, whey protein concentrate and inulin and without supplementation were fermented with *Lactobacillus acidophilus* La5. At the end of fermentation, the highest viable count was found in the supplemented samples, especially in those containing whey protein concentrate. Inulin did not show a notable influence on the bacterial count of samples. During 9 days of storage, the viable count, rheological characteristics and sensory properties of the samples were determined. All goat acidophilus milks had lower pH value and higher viable count of *L. acidophilus* La5 than the cow acidophilus milks did.

Keywords: cow's and goat's milk, *Lactobacillus acidophilus*, fermentation, storage, rheology

I. Malmheden Yman: Detection of inadequate labelling and contamination as causes of allergic reactions to food. pp. 347-357. ingrid.malmheden.yman@slv.se

Discrepancies between food content and label can lead to adverse reaction in people with hypersensitivity to particular food ingredients. Over a period of more than 10 years, 171 cases of adverse reaction to food have been registered. In all cases the offending foods were compound products where the ingredients were either hidden to the consumer as a cause of inadequate labelling (73 cases) or because the food was contaminated with the ingredient (64 cases). In 34 of the cases, the ingredient was inadvertently consumed. The largest number of cases is caused by milk, followed by tree nuts, peanuts and egg. However, the most severe reactions were caused by peanuts and soy, followed by hazelnuts and milk. Soy has caused severe anaphylactic reactions leading to death in peanut allergic individuals consuming meatballs, hamburgers and kebab containing high amounts of soy protein.

The presence of the offending ingredient was confirmed by analysis of the food item by immunological and DNA-based methods. In some of the cases we were able not only to detect the causative protein, but also to estimate the dose causing the allergic reaction. The doses range from less than 1mg, causing emergency treatment, to several hundreds of mg causing stomach pain, vomiting and diarrhoea. A dose equivalent to 60 mg of casein in a sausage caused fatal anaphylaxis in a 15-year-old girl and a dose equivalent to 5.6 mg of peanut protein caused fatal anaphylaxis in a 22-year-old man.

Keywords: food allergy, anaphylaxis, protein detection, estimated dose, severe food reactions

V. J. Sinanoglou and S. Miniadis-Meimaroglou: Structural analysis of ceramide-aminoethyl-phosphonate in edible mediterranean cephalopods. pp. 359-370. miniadou@chem.uoa.gr and v.Sinanoglou@yahoo.gr

Sphingophosphonolipids (SPnLs) were isolated from the mantle of 3 kinds of cephalopod molluscs (*Eledone moschata*, *Sepia officinalis*, *Todarodes sagittatus*) of the Aegean Sea. Their structures were confirmed by a series of chemical and analytical methods such as gas chromatography, gas chromatography-mass spectrometry and electrospray mass spectrometry. They were identified as ceramide aminoethylphosphonate species. According to the phosphonate-phosphorus determination, ceramide aminoethylphosphonate components were found to represent 15.9, 10.0 and 9.2% of total phospholipids, respectively. The long-chain bases (LCB) are C16-C22 dihydroxy monoenoic and dienoic bases. The component fatty acids are mainly palmitic acid (C16:0), stearic acid (C18:0) and oleic acid (C18:1 n-9) and in smaller quantities eicosaenoic acid (C20:1 n-9), eicosapentaenoic acid (C20:5 n-3) and docosaenoic acid (C22:6 n-3). It is of great interest that *Sepia officinalis* was found to contain ceramide N-methylaminoethylphosphonate as minor phosphonolipid species.

Keywords: Mollusc lipids, sphingophosphonolipids, fatty acids, electrospray MS

Bülent Kabak and Işıl Var: The effect of *Lactobacillus* and *Bifidobacterium* strains on the growth and AFB1 production of *Aspergillus flavus*. pp. 371-376. bkabak@cu.edu.tr

The effect of three individual strains of *Lactobacillus* (*L. acidophilus* NCC 12, *L. acidophilus* NCC 36, *L. acidophilus* NCC 68) and two *Bifidobacterium* strains (*B. bifidum* Bb13, *B. bifidum* NCC 381) on the growth and AFB1 production of *Aspergillus flavus* NRRL 2999 was determined. The commercial MRS broth and skim milk medium were used to determine the effect of tested bacteria on the growth and AFB1 production of *A. flavus* NRRL 2999. The bacteria were not effective in preventing the growth of *A. flavus* NRRL 2999 both in MRS broth and skim milk. However, higher levels of AFB1 were obtained in the presence of individual strains of *Lactobacillus* and *Bifidobacterium*. The greatest difference was observed in the AFB1 production of *A. flavus* NRRL 2999 in skim milk medium compared with MRS broth.

Keywords: antifungal, lactobacilli, bifidobacteria, aflatoxin B1

Varga, Zs., Román, M. and Tóth, Á.: Production of lactose-free probiotic yoghurts for lactose-sensitive people. pp. 377-385. v.zsuzsi3@freemail.hu

Fermented milk products, for example yoghurts contain less lactose than the ordinary milk, however, this quantity of lactose can cause lactose intolerance. The aim of the work was to produce lactose free fermented milk products based on the lactose hydrolysed milk. Products were fermented with *Streptococcus thermophilus*, *Lactobacillus delbrueckii* subsp. *bulgaricus* (N 71) and *Bifidobacterium bifidum* (N 1), *Lactobacillus helveticus* (N 43) *Lactobacillus acidophilus* (N 42). The growth characteristics, the acidity, the most important aroma productivity and the lactose content were measured. Products were evaluated with

organoleptical test. Products were lactose free, so they are suitable for people suffering from lactose intolerance. There were differences among the acid content at the end of fermentation. In case of normal yoghurt culture acid content was 29.6 SHo and in case of probiotic cultures 30.4 SHo and 37.5 SHo, respectively. According to the results of sensory evaluation, the product made with traditional yoghurt bacteria (*Streptococcus thermophilus*, *Lactobacillus delbrueckii* subsp. *bulgaricus*) was better than products made with probiotic species because of the higher alcohol and lower acetic acid content.

Keywords: lactose intolerance, fermented dairy product, lactose free product, probiotic yoghurt

Á. Kovács, R. Dulicsek, L. Varga, J. Szigeti and Z. Herpai: Relationship between cholesterol and fat contents of commercial dairy products. pp. 387-395. Lmvarga@yahoo.com

Thirty-three varieties of dairy products were analysed for fat and cholesterol contents, and a high correlation ($r=0.983$) was found between these two compositional attributes. Cholesterol concentration was independent of processing factors such as heat-treatment of the raw material, use of starter culture, type of the starter organisms employed, and whipping or flavouring of the product. The non-fat varieties of fluid, fermented and dried milks showed significantly increased cholesterol-to-fat ratios compared to the other products tested because they contained considerable amounts of small fat globules and, therefore, had a large surface area with cholesterol bound to the fat globule membranes. The results of this study may be useful when establishing dietary guidelines for the general public according to health concerns, when formulating diets for population groups with special requirements, or when assessing fat and cholesterol intakes in epidemiological studies aimed at investigating the relationship between diet and health.

Keywords: cholesterol, fat, milk, dairy product, gas chromatography

E. Szanics*, B. Devreese and J. Van Beeumen: Identification of heat shock proteins from bacteria by electrophoretic separation and nanoflow LC-MS/MS. pp. 397-404. e.szanics@cfri.hu

Examination of heat shock and PR („pathogenesis-related”) proteins is of special interest in food science. Many food allergens have a similar or the same structure as PR proteins, which are produced in the plants as a response to pathogenesis or certain environmental stresses. The protein set of the psychrophilic bacterium *Shewanella hanedai* was studied by two-dimensional polyacrylamide gel electrophoresis (2D-PAGE). Gel patterns from control and heat-treated bacteria were evaluated by PDQUEST software. The differentially expressed proteins were excised from the gel and digested by trypsin. The tryptic peptides were analysed by nanoflow LC-MS/MS. On the basis of amino acid sequences obtained by this method, the proteins were identified by similarity searching in the protein database. Using this proteomic approach a heat shock and a 50S ribosomal protein were identified as the major heat induced proteins in *Shewanella hanedai*.

Keywords: heat shock protein, psychrophilic bacteria, two-dimensional polyacrylamide gel electrophoresis, automated nanoflow LC-MS/MS