Food Control

Investigation of the hygienic safety of aromatic plants cultivated in soil contaminated with Listeria monocytogenes

Original Research Article
Pages 213-219
Luca Settanni, Alessandro Miceli, Nicola Francesca, Giancarlo Moschetti

Highlights
► L. monocytogenes survives in soil amended with inorganic fertilizers. ► No transfer of L. monocytogenes occurred from contaminated soil to plant leaves. ► Sub-irrigation does not determine the microbial transfer from soil to plant leaves.

A facile detection of acrylamide in starchy food by using a solid extraction-GC strategy

Original Research Article
Pages 220-222
Shi-yu Sun, Yun Fang, Yong-mei Xia

Highlights
► An easy method using solid extraction and GC analysis to test acrylamide content. ► The MS-free detection method provides a detection limit of acrylamide of 10 ng/mL. ► The detection RSD of the acrylamide content in real samples was as lower as 1.46% (n = 10). ► Conventional puffing raw microwave popcorn is under acrylamide risk.

Assessing the establishment of agro-food control systems based on a relevant officials' survey in China

Original Research Article
Pages 223-230
Lijie Yang, Yongzhong Qian, Chen Chen, Fang Wang

Highlights
► Our data came from half of municipalities of China, provided by local officials. ► Shortages of local food legislations and funds were the biggest challenges. ► Multi-sectoral management led to inefficiency of agro-food control systems. ► Regional differences were obvious, especially between Eastern and western regions.
4  椰子可可与柴油中的氯虫磷酯和二氯乙酰中毒株的动态

Dynamics and residues of chlorpyrifos and dichlorvos in cucumber grown in greenhouse
Original Research Article
Pages 231-234
Y. Liang, W. Wang, Y. Shen, Y. Liu, X.J. Liu

Highlights
► The behaviors of chlorpyrifos and dichlorvos in greenhouse cucumber were studied. ► The half-lives were 1.60 and 3.48 days for chlorpyrifos and dichlorvos respectively. ► Cucumbers with pesticides used at normal case should be harvest with 5 days interval. ► The residues and harvest interval are closely related to spraying times and dose.

5  一项关于巴基斯坦旁遮普省牛奶和糖果中黄曲霉毒素M1的调查

A survey of aflatoxin M1 in milk and sweets of Punjab, Pakistan
Original Research Article
Pages 235-240
Asma Sadia, Makhdoom Abdul Jabbar, Youjun Deng, Erum Akbar Hussain, Sualeha Riffat, Saima Naveed, Muhammad Arif

Highlights
► The occurrence of aflatoxin M1 in milk and sweets of Punjab was investigated. ► Samples were analyzed by ELISA. ► 32% milk samples contained AFM1 contamination more than 0.05 μg/L. ► Sweets samples showed high level of contamination.

6  使用近红外衰减全反射监测野生发酵时间过程

The use of attenuated total reflectance as tool to monitor the time course of fermentation in wild ferments
Original Research Article
Pages 241-246
D. Cozzolino, C. Curtin

Highlights
► Stuck fermentation is an important issue both economical and technological for the wine industry worldwide. ► The use of infrared (IR) and multivariate data analysis was explored to monitor the fermentation of wild yeasts. ► IR spectroscopy can be used as a rapid method to monitor changes during the time course of the fermentation.

7  未标示“不可标示”海产食品在欧洲市场的欺诈

Mislabeling of an “unlabelable” seafood sold on the European market: The jellyfish
Original Research Article
Pages 247-251
Andrea Armani, Priscilla D’Amico, Lorenzo Castigliego, Gan Sheng, Daniela Gianfaldoni, Alessandra Guidi

Highlights
► We performed a survey on labeling of jellyfish sold on the Italian market. ► The 100% of labels were characterized by incongruences or deficiencies. ► Processing and ingredients of jellyfish products are not always well-defined. ► Jellyfish products could hide health hazards for consumers. ► A fair market and efficient controls require an official denomination for jellyfish.

8  食品安全与营养：改善消费者行为

Food safety and nutrition: Improving consumer behaviour
Original Research Article
Pages 252-258
Carmen Losasso, Veronica Cibin, Veronica Cappa, Anna Roccati, Angiola Vanzo, Igino Andirighetto, Antonia Ricci

Highlights
► We studied the efficacy of an educational methodology in modifying consumer behaviour. ► A training plan was held by nutritionists and veterinarians expert in food science. ► A questionnaire was administered pre and post each training cycle. ► All responses were analysed considering both food safety and nutritional aspects. ► Results show the effectiveness of the methodology to ameliorate consumer behaviour.

9  黄曲霉毒素产生菌在食品中的研究：综述

OTA-producing fungi in foodstuffs: A review
Review Article
Pages 259-268
S. Amézqueta, S. Schorr-Galindo, M. Murillo-Arbizu, E. González-Peñafiel, A. López de Cerain, J.P. Guiraud

Highlights
► This document reviews the current analytical methods for the evaluation of the OTA-producing ability of different fungi. ► This document describes the conditions under which the
10. **Mixed culture enrichment of Escherichia coli O157:H7, Listeria monocytogenes, Salmonella enterica, and Yersinia enterocolitica**

**Highlights**
- Mixed culture enrichment desired for newer, multiplexed rapid methods.
- Target growth was 10^6 CFU/mL, a level greater than detection limit for most rapid methods.
- Compared are commercially available and custom-developed co-enrichment media.
- Except *L. monocytogenes* in pork, all pathogens grew beyond target concentration.

11. **An integrated approach to current trends in food consumption: Moving toward functional and organic products?**

**Highlights**
- We determined mycotoxin levels in gluten-free and ethnic foods.
- AFs and ZEA were present in few samples.
- FBs were widely found in corn-based foods.
- DON was found in ethnic wheat-based foods.
- Exposure to these toxins should not be a health concern for celiac sufferers and immigrants.

12. **Analysis of Deoxynivalenol and Deoxynivalenol-3-glucoside in wheat**

**Highlights**
- Fate of DON and D3G during milling and baking was investigated by GC and LC/MS - MS.
- Baking process resulted in an increase of DON in dough and bread.
- D3G concentration was stable during baking process, but decreased with milling.
- Xylanase activity has important effect on increased DON levels during baking.

13. **Survey of Belgian consumption patterns and consumer behaviour of poultry meat to provide insight in risk factors for campylobacteriosis**

**Highlights**
- Consumption and preparation of poultry meat by Belgian consumers was surveyed.
- 61% identified home freezing of fresh poultry meat as common storage technique.
- Several cross-contamination routes in the kitchen are confirmed.
- Objective measurements for core temperature during heat treatment were lacking.
- Obtained data can serve as input for future risk assessment on campylobacteriosis.

14. **Occurrence of zearalenone in fresh corn and corn products collected from local Hispanic markets in San Diego County, CA**

**Highlights**
- Zearalenone can be found in corn and corn products.
- Mean recoveries for ZON added to tortillas, masa and corn were >70%.
- Corn and corn products represent a significant part of...
Hispanic diets. ► These products were procured from local area Hispanic markets. ► ZON was more frequently found in the masa compared to the tortillas and fresh corn.

16 Consumer perceptions of produce safety: A study of Pennsylvania

Daniel Tobin, Joan Thomson, Luke LaBorde

Pages 305-312

Highlights

► Risk perceptions of Pennsylvania consumers were assessed. ► Demographics and preferences for specific produce attributes were considered. ► High concern among all consumers was found. ► Consumer perceptions must be communicated to other stakeholders in the food system.

17 Review of the impact of pre-slaughter feed curfews of cattle, sheep and goats on food safety and carcase hygiene in Australia

A. Pointon, A. Kiermeier, N. Fegan

Pages 313-321

18 Inactivation of Salmonella in salted water used for Kimchi production

Dong J. Yu, Yoon J. Shin, Dong W. Choi, Kyung Bin Song

Pages 322-325

Highlights

► Salmonella may proliferate in salt solution reused during Kimchi production. ► We investigate the effect of microwave-ultraviolet treatment system (MUTS). ► Salmonella were not detected within 4 cycles of MUTS treatment. ► MUTS treatment can improve the microbial safety of reused salt solution.

19 Inhibition of foodborne pathogen bacteria by essential oils extracted from citrus fruits cultivated in Sicily

Luca Settanni, Eristanna Palazzolo, Valeria Guarraisi, Aurora Ales, Caterina Mammina, Giancarlo Moschetti, Maria Antonietta Germanà

Pages 326-330

Highlights

► The consumer has insufficient knowledge about safe practices in restaurants. ► The knowledge is related to the educational level and graduation in area of health. ► The greatest failure was observed in the domain: “Installation/utensil sanitization”. ► The results reinforced the importance of educational programs for consumers. ► Thus, education regarding food safety could help consumers choose safer restaurants.

20 Presence of L. monocytogenes and some bacterial pathogens in two Turkish traditional foods, Mihalic cheese and Hosmerim dessert

Yavuz Cokal, Ayhan Dagdelen, Osman Cenet, Ugur Gunsen

Pages 337-340

Highlights

► Prevalence of L. monocytogenes in Mihalic cheese was 5%. ► Prevalence of L. monocytogenes in Hosmerim dessert was 3%. ► High prevalence and contamination levels of S. aureus were found in both traditional foods. ► Salmonella spp. was not detected in these foods.

21 Study on the occurrence of pesticide residues in fruit-based soft drinks from the EU market and morocco using liquid chromatography–mass spectrometry


Pages 341-346

Highlights

► The consumer has insufficient knowledge about safe practices in restaurants. ► The knowledge is related to the educational level and graduation in area of health. ► The greatest failure was observed in the domain: “Installation/utensil sanitization”. ► The results reinforced the importance of educational programs for consumers. ► Thus, education regarding food safety could help consumers choose safer restaurants.
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<tr>
<td>Fruit-based soft drinks may contain pesticides as an ingredient.</td>
<td>Residues of up to eleven different pesticides were detected. Tolerated limits of pesticides should be defined for fruit-based soft drinks. The exposure to post-harvest fungicides through these beverages still remains.</td>
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<td><strong>A review on the occurrence and control of ochratoxigenic fungal species and ochratoxin A in dehydrated grapes, non-fortified dessert wines and dried vine fruit in the Mediterranean area</strong></td>
<td>Review Article  Pages 347-356  L. Covarelli, G. Beccari, A. Marini, L. Tosi</td>
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<td><strong>Inactivation of Listeria monocytogenes on ready-to-eat food processing equipment by chlorine dioxide gas</strong></td>
<td>Original Research Article  Pages 357-362  Valentina Trinetta, Richa Vaid, Qin Xu, Richard Linton, Mark Morgan</td>
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<td><strong>Performance and conditions of use of refrigerated display cabinets among producer/vendors of foodstuffs</strong></td>
<td>Original Research Article  Pages 363-368  Elisabeth Morelli, Véronique Noel, Philippe Rossel, Gérard Poumeyrol</td>
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<td>Review Article  Pages 369-377  Sanna Taskila, Mika Tuomola, Heikki Ojamo</td>
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<td>Original Research Article  Pages 378-386  Guanghua Qiao, Ting Guo, K.K. Klein</td>
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<td><strong>Antimicrobial activity of lysozyme and lactoferrin incorporated in cellulose-based food packaging</strong></td>
<td>Original Research Article  Pages 387-392  Alberto Barbiroli, Francesco Bonomi, Giorgio Capretili, Stefania Iametti, Matilde Manzoni, Luciano Piemigianini, Manuela Rollini</td>
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<td><strong>Antimicrobial activity of lysozyme and lactoferrin retain structure and activity after incorporation in paper. Addition of carboxymethyl cellulose improves the protein payload of paper. Both proteins are released under conditions similar to those encountered in real food. The released antimicrobial proteins may act synergically on some microorganisms. Tests on thin cuts of raw meat confirmed the antimicrobial effect.</strong></td>
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29 Malachite green residues in farmed fish in Croatia
Original Research Article
Pages 393-396
Nina Bilandžić, Ivana Varenina, Božica Solomun Kolanović, Dražen Orač, Snježana Zrnčić

Highlights
► In a three-year period 72 samples of carp and rainbow trout muscles were tested. ► Validated immunoassay method was used for malachite green determination. ► Concentrations ranged from 0.1 to 0.3 μg kg\(^{-1}\) in 68.1% of samples. ► In only two samples concentrations exceeded 1 μg kg\(^{-1}\).

30 Effect of paired antimicrobial combinations on Listeria monocytogenes growth inhibition in ready-to-eat seafood products
Pages 397-400
Hajime Takahashi, Marina Kashimura, Satoko Miya, Shintaro Kuramoto, Hiroaki Koisu, Takashi Kuda, Bon Kimura

Highlights
► Antimicrobials are tested for Listeria monocytogenes growth inhibition activity in RTE seafood. ► Nisin, lysozyme, and ε-polylysine are the tested antimicrobials. ► Combination of two antimicrobials are effective in inhibiting growth of L. monocytogenes. ► The antimicrobials are useful in preventing foodborne listeriosis in RTE seafood.

31 Recent advances in ochratoxin A-producing fungi detection based on PCR methods and ochratoxin A analysis in food matrices
Review Article
Pages 401-415
Akhtar Hayat, Nathalie Paniel, Amina Rhouati, Jean-Louis Marty, Lise Barthelmebs

Highlights
► Using only Staphylococci as starter cultures enhances the biogenic amine accumulation. ► Different enzymatic activities of staphylococci drastically modify volatile profiles. ► The drying conditions in the first days influence the sausage texture after ripening.

32 Effects of starter cultures and fermentation climate on the properties of two types of typical Italian dry fermented sausages produced under industrial conditions
Original Research Article
Pages 416-426
Giulia Tabanelli, Fabio Colorletti, Cristiana Chiavari, Luigi Grazia, Rosalba Lanciotti, Fausto Gardini

Highlights
► Determination of key structural features for anti-QS activity in V. harveyi. ► C-7 modification enhances the potency against E. coli biofilm. ► Limonin methoxime interfere with type-1-pili and Ag43 to inhibit E. coli attachment. ► Limonin methoxime significantly reduced the attachment of EHEC to spinach leaves.

33 On the track of fish batches in three distribution networks
Original Research Article
Pages 439-445
Maria Randrup, Haiping Wu, Bo M. Jørgensen

Highlights
► Recalls were simulated by tracing back and tracking forward in fish supply chains. ► The study revealed complex distribution networks. ► To a large extent, the fish products were traceable. ► A fault in a small batch can have widespread implications due to batch joining. ► Awareness of batch identification, sizes and transformations is highly recommended.
Rapid detection of fish major allergen parvalbumin using superparamagnetic nanoparticle-based lateral flow immunoassay
Cheng Zheng, Xichang Wang, Ying Lu, Yuan Liu

Highlights
► A competitive lateral flow immunoassay for parvalbumin (Pa) detection is developed. ► Superparamagnetic nanoparticle is introduced to realize quantitative detection. ► Assay shows wide linear range, high sensitivity and good validity. ► Detection time is less than 20 min and signal remained stable during storage.

Vegetable producers' perceptions of food safety hazards in the Midwestern USA
Melanie L. Lewis Ivey, Jeffrey T. LeJeune, Sally A. Miller

Highlights
► Most produce growers considered themselves familiar with food safety GAPs but many did not consistently implement them. ► Producers preferred in-person modes of communications. ► Vegetable producers disagreed that contamination most often originated on the farm. ► Identified beliefs and practices will be used in new risk management and communication materials.

Development of random amplified polymorphic DNA-based specific polymerase chain reaction primers for the detection of the histamine-producing bacterium Photobacterium damselae subsp. damselae
Ming-Lun Chen, Tsai-Hsin Chiu, Ya-Hui Cho

Highlights
► P. damselae subsp. damselae strains are strong histamine producer. ► We design the specific primers for detection of P. damselae subsp. damselae by PCR. ► The primers are successfully applied in fish samples.

Antifungal activities of volatile substances generated by yeast isolated from Iranian commercial cheese
Hitoshi Ando, Koji Hatanaka, Ikumi Ohata, Yoshie Yamashita-Kitaguchi, Atsushi Kurata, Noriaki Kishimoto

Highlights
► Candida maltosa NP9 which was isolated from fermented food inhibit growth of fungus. ► C. maltosa NP9 generated volatile antifungal substances. ► The antifungal substances were identified as isoamyl acetate and isoamyl alcohol. ► Antifungal activity of isoamyl alcohol was higher than that of isoamyl acetate. ► Isoamyl alcohol inhibited spore germination of 15 kinds of fungi at 20 μl/dish.

Behavior of pathogenic Vibrio parahaemolyticus in prawn in response to temperature in laboratory and factory
Arisara Boonyawantang, Warapa Mahakarnchanakul, Chitsiri Rachtanapun, Waraporn Boonsupthip

Highlights
► V. parahaemolyticus, problematic pathogen, grew in prawn at ≥15 °C but died at ≤10 °C. ► The pathogen in laboratory and frozen factory showed a similar response to temperature. ► The pathogen behavior in laboratory can be a guideline of process line design for safety. ► The primary and secondary models of growth and death prediction were identified.

Evaluation of the toxicity of the essential oils of some common Chinese spices against Liposcelis bostrychophila
Na Na Zhao, Ligang Zhou, Zhi Long Liu, Shu Shan Du, Zhi Wei Deng

Highlights
### Summary

#### 14 Spices essential oils were evaluated for insecticidal activities against the booklice.
- Foeniculum vulgare essential oil was chosen for isolation of bioactive constituents.
- trans-Anethole, estragole and fenchone were isolated from the essential oil.
- Insecticidal activities of the essential oil and the three constituents were measured.

#### Occurrence of fumonisins in food – An interdisciplinary approach to the problem

**Pages 491-499**

*Review Article*

Agnieszka Waśkiewicz, Monika Beszterda, Piotr Golński

#### Parasitological contamination of freshly eaten vegetables collected from local markets in Alexandria, Egypt: A preliminary study

**Pages 500-503**

*Azza Hassan, Hanan Farouk, Rashad Abdul-Ghani*

#### The biochemical and microbiological quality of palm wine samples produced at different periods during tapping and changes which occurred during their storage

**Pages 504-511**

*D. Karamoko, N.T. Djeni, K.F. N’guessan, K.M.J.-P. Bouatenin, K.M. Dje*

#### A new method for dynamic modelling of bread dough kneading based on artificial neural network

**Pages 512-524**

*Bouchra Lamrini, Guy Della Valle, Ioan Cristian Trelea, Nathalie Perrot, Gilles Trystram*

#### Study of the effectiveness of quick tests based on physical properties for the evaluation of used frying oil

**Pages 525-530**

*Cibele Cristina Osawa, Lireny Aparecida Guaraldo Gonçalves, Homero Ferracini Gumerato, Fábio Mincauscaste Mendes*

#### Consumer perceptions on food safety in Asian and Mexican restaurants

**Pages 531-538**

*Louise E. Lee, Omar Niode, Amarat H. Simonne, Christine M. Bruhn*

#### The effect of incubation time for Salmonella Typhimurium binding to phage-based magnetoeleastic biosensors

**Pages 539-545**

*Mi-Kyung Park, Howard C. Wikle III, Yating Chai, Shin Horikawa, Wen Shen, Bryan A. Chin*
48 Impact of microbial distributions on food safety II. Quantifying impacts on public health and sampling
Original Research Article
Pages 546-554

Highlights
► Microbial clustering is investigated in the perspective of public health and microbiological criteria (MC). ► Clustering and the choice of statistical distributions affect acceptance probability of MC. ► Right hand tail of a distribution dominates the arithmetic mean. ► Infrequent high doses determine the risk of illness.

49 Evaluation of antimicrobial and antioxidant activities of natural phenolic compounds against foodborne pathogens and spoilage bacteria
Original Research Article
Pages 555-563
Marta Gutiérrez-Larraínzar, Javier Rúa, Irma Caro, Cristina de Castro, Dolores de Arriaga, María Rosario García-Armesto, Pilar del Valle

Highlights
► Gallic acid was effective in the control of S. aureus at lower concentrations. ► Thymol and carvacrol were the most effective against the four genera/species studied. ► Hydroquinone was the least effective against the four genera/species studied. ► Gallic acid and hydroquinone exhibited the highest antioxidant capacity.
Highlights

► Aflatoxin production in Greek pistachios was determined from farm to storage. ► Maturity was the most critical stage for aflatoxin contamination pre-harvestly. ► Higher levels of aflatoxin were detected in orchards with heavy insect infestations. ► High aflatoxin at harvest leaded to also high amounts post-harvestly. ► When GAP, GPP and GSP were followed aflatoxin was not detected.

54  The influence of different time durations of thermal processing on berries quality
Pages 587-593
Patricia Arancibia-Avila, Jacek Namiesnik, Fernando Toledo, Enrique Werner, Alma Leticia Martínez-Ayala, Nuria Elizabeth Rocha-Guzmán, José Alberto Gallegos-Infante, Sheila Gorinstein

Highlights

► Bioactive compounds of berries were extracted with water, acetone and hexane. ► Aqueous extracts contained the highest levels of antioxidants. ► Berries aqueous extracts were subjected to different times of thermal processing. ► Only berries after 10 and 20 min of thermal processing preserved their bioactivity. ► FTIR spectroscopy was used as additional tool for characterization of polyphenols.

55  Interaction between toxigenic fungi and weevils in corn grain samples
Pages 594-600

Highlights

► We verified the ability of weevils to transmit A. flavus and F. verticillioides. ► Weevils can enhance fungal contamination and mycotoxins production. ► These findings demonstrate the importance of weevils as fungal vectors.

56  Impact of microbial distributions on food safety I. Factors influencing microbial distributions and modelling aspects
Pages 601-609
I. Jongenburger, J. Bassett, T. Jackson, M.H. Zwietering, K. Jewell

Highlights

► Mechanisms influencing the spatial distributions of microorganisms in foods are discussed. ► Spatial distributions, like clustering, impact frequency distributions of microorganisms. ► Five criteria are proposed to compare the suitability of statistical distributions. ► Based on these criteria, Poisson-Lognormal and Negative Binomial are preferred.

57  A preliminary exposure assessment model for Bacillus cereus cells in a milk based beverage: Evaluating High Pressure Processing and antimicrobial interventions
Pages 610-613
M.C. Pina-Pérez, A.B. Silva-Angulo, D. Rodrigo, A. Martínez López

Highlights

► The quantification and validation of fumonisins was performed by HPLC/fluorescence and postcolumn OPA derivatisation. ► We evaluate the presence of fumonisins in Brazilian corn-base food products. ► We realized the assessment of exposure for fumonisins. ► The APDI and MPDI of fumonisins estimated for the Brazilian population were below the PMTDI. ► Results indicate that the need for monitoring these foods to minimise the risk of developing oesophageal cancer.

58  Daily intake estimates of fumonisins in corn-based food products in the population of Parana, Brazil
Pages 614-618

Highlights

► The quantification and validation of fumonisins was performed by HPLC/fluorescence and postcolumn OPA derivatisation. ► We evaluate the presence of fumonisins in Brazilian corn-base food products. ► We realized the assessment of exposure for fumonisins. ► The APDI and MPDI of fumonisins estimated for the Brazilian population were below the PMTDI. ► Results indicate that the need for monitoring these foods to minimise the risk of developing oesophageal cancer.

59  Corrigendum to “Changes in glycoalkaloid and nitrate content in potatoes during dehydrated dice processing” [Food Control 25 (1) (May 2012) 349–354]
Page 619
Elżbieta Rytel

Highlights

► Changes in glycoalkaloid and nitrate content in potatoes during dehydrated dice processing.
A molecularly imprinted sensor based on β-cyclodextrin incorporated multiwalled carbon nanotube and gold nanoparticles-polyamide amine dendrimer nanocomposites combining with water-soluble chitosan derivative for the detection of chlorotetracycline

Highlights

► A selective electrochemical molecularly imprinted sensor for the detection of CTC was developed. ► We fabricated a type of chitosan derivative and utilized it to prepare molecularly imprinted polymers as functional monomers. ► The sensor was fabricated by CD-MWCNTs and Au-PAMAM composites film and MIPs films. ► The CD-MWCNTs and Au-PAMAM composites film could enhance the current response evidently. ► The proposed sensor displayed excellent selectivity toward CTC.

Microbiological aspects of processing and storage of edible insects

Highlights

► Edible insects were evaluated as alternative protein source. ► The microbiological composition of fresh, processed and stored insects were examined. ► Spore forming bacteria are a potential spoilage and safety risk in cooked insects. ► Simple preservation methods seem promising. ► Incorporation of ground insects in lactic fermented cereal products prolongs their shelf-life.