Κοκκινάκης Εμμανουήλ

Όνομα Κοκκινάκης Εμμανουήλ (BEng, MSc, PhD)
Διεύθυνση Επισκοπή, Ιεράπετρα, Λασιθίου, Κρήτη
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Σπουδές

- Πτυχίο ΤΕΙ Τεχνολογίας Πετρελαίου
- Πτυχίο BEng (Biochemical Engineering - Βιοχημικός Μηχανικός)
- Πτυχίο Diploma (Business Information Systems)
- Πτυχίο Master MSc (Food Quality Management)
- Πτυχίο Διδακτορικό PhD (Biochemical Engineering)

Επιθεωρητής

Επιθεωρητής HACCP (ISO 22000)
Επιθεωρητής ISO 9000

Ινστιτούτα

Μέλος του Τεχνικού Επιμελητηρίου Ελλάδος ΤΕΕ
(Χημικός Μηχανικός)

Τρέχουσα Κατάσταση Υπευθυνότητες

- ΤΕΙ Κρήτης - Διδασκαλία των μαθημάτων :
  - ✓ Τεχνολογία & Αρχές Παρασκευής Τροφίμων
  - ✓ Ποιοτικός Έλεγχος Τροφίμων
  - ✓ Διοίκηση Παραγωγής
  - ✓ Στρατηγική Διοίκηση & Διαχείριση Απόδοσης

- Επιστημονικός Υπεύθυνος Εργαστηρίου Ποιότητας Τροφίμων (ΕΠΟΙΟΤ, Τμήμα Εμπορίας και Διαφήμισης, ΤΕΙ Κρήτης, Παράρτημα Ιεράπετρας), με ερευνητική δραστηριότητα :
  - √ Ποιοτικός Έλεγχος ελαιόλαδου βιολογικού, πιστοποιημένου και συμβατικού
  - √ Ποιοτικός Έλεγχος του νερού, στην ευρύτερη περιοχή της Ανατολικής Κρήτης, το οποίο χρησιμοποιείται για την μαζική παραγωγή αγροτικών προϊόντων

Reviewer

CRC Press, Taylor & Francis Group
Elsevier : Earth Systems and Environmental Sciences

Πτυχιακές Εργασίες στο ΤΕΙ Κρήτης (41)

Εργαστηριακές μέθοδοι : μικροβιολογικές και χημικές (κλασικά μικροβιολογικά πρωτόκολλα, χρήση φωτομετρικών, φασματοφωτομετρικών UV-Vis, Φασματοσκοπία ατομικής απορρόφησης, υγρή και αέρια χρωματογραφία).

PhD Thesis title : "INTERACTION BETWEEN GEL STRENGTH AND YEAST CELLS IMMOBILIZED IN CALCIUM ALGINATE GEL"

Summary

"The objective of the project is to improve the durability of calcium alginate gel, as an immobilizing matrix for yeast in aerobic culture, by increasing the alginate content of the gel in the range 4.5, 6.0, and 8.0 wt%, so that the immobilized yeast bioparticle can be used for at least 500 hours continuous culture, and to investigate the interaction between the gel matrix and the immobilized cells. The yeast S. cerevisiae NCYC 1026, has been aseptically immobilized in thin calcium alginate gel discs (2.0mm by 7.0mm) of the required alginate content, and aerobically cultured at +25^{o}C and pH 4.5 in a chemically defined liquid culture medium. The immobilized yeast gel discs have been continuously cultured in an air lift bioreactor for at least 500 hours.

The kinetic state of the immobilized cells and the immobilized biomass hold-up were measured independently, such that these data were available for the analysis of the continuous bioreactor, using mathematical models of the bioreaction system. The calcium alginate gel was found to reduce yeast growth and yield slightly, but to have a significant effect on glucose uptake by inducing active transport in the yeast. Otherwise the gel had no adverse action on the yeast, indeed the gel matrix tended to maintain yeast viability, when the immobilized cell gel discs were stored for up to three months with no glucose supply. During continuous culture the key operational parameters were found to be effective diffusivity of glucose in the gel matrix solid phase and immobilized cell biomass hold-up, possibly linked to the inconstant cell mass leakage rate from the gel. The 6.0 wt% alginate content gel was found to be the optimum gel for immobilized cell function and durability of the gel. Nevertheless the effective diffusivity even in this gel was only 1.0 % of that in water, much lower than previously reported. This significant mass transfer limitation in the solid phase could limit the industrial use of calcium alginate as an immobilizing matrix."

MSc thesis Title : *FROM FARM TO TABLE, A PROPOSED MODEL TO DEAL WITH MICROBIAL FOOD QUALITY IN THE AREA OF CRETE, WITH THE USE OF MICROBIOLOGICAL RISK ANALYSIS*

ABSTRACT

The aim of this project was to adopt the general HACCP principle "prevent is better than cure" and use it as an analysis tool to examine the whole vegetable production chain (from farm to table) in order to conclude to a total microbial food quality model, by evaluating the effect of presence or absence of a food quality system (such as AGRO 2.1&2.2, HACCP, ISO 9000) applied to each growing-production step, from farm to table.

The Cretan region (Ierapetra) was selected as the place of project implementation due to similarities of food types, food production, consumer diet, food temperatures and microbial flora. Specific farms growing vegetables (tomatoes and peppers) were selected in order to estimate the initial microbial quality. Half of the selected farms were using Good Agricultural Practices (GAP) systems. The whole vegetable chain, (production, harvesting, collection and transport into processing plant, transport and processing in mass catering establishments) was examined. Samples were taken from each step (vegetables, water, containers, personnel hands) in order to evaluate the effect each step had to final vegetable microbial quality.

Good Agricultural Practices (GAP) found to be critical to product quality, the use of Good Manufacturing Practices in processing plants could retain product quality, while the involvement of sellers between processing plant and final consumer could provide a dramatic decrease in vegetable microbial quality. The use of HACCP from mass catering establishment can be vital to the final product reaching consumers.

Recommendations made about the importance of GAP systems on primary sector, the proper use of HACCP systems from mass catering establishments and the urgent need of implementing good storage and transportation conditions from firms involved in the process of buying and selling vegetables.

Ερευνητικές Εργασίες
(Monograph, Book Chapter, Journal Papers, Proceedings Papers)

Monograph

E. N. Kokkinakis (2012) Heterotrophic Bacteria in Bottled Water, Reference Module in Earth Systems and Environmental Sciences, Encyclopedia of Environmental Health, 2011, Pages 50-55, Current as of 12 August 2012

Book Chapter

Ioannis N. Tsakiris, Maria Toutoudaki, Manos Kokkinakis, Mitlianga Paraskevi, and Aristides M. Tsatsakis (2011). A Risk Assessment Study of Greek Population Dietary Chronic Exposure to Pesticide Residues in Fruits, Vegetables and Olive Oil, Pesticides - Formulations, Effects, Fate, Prof. Margarita Stoytcheva (Ed.), InTech, DOI: 10.5772/14065.
Available from: http://www.intechopen.com/books/pesticides-formulations-effects-fate/a-risk-assessment-study-of-greek-population-dietary-chronic-exposure-to-pesticide-residues-in-fruits

Journal Papers (ενδεικτικά)

1. E. N. Kokkinakis, et al. (2016) Microbiological quality of prepacked sandwiches at the retailing level, Acta Alimentaria (under revision).
2. Kavvalakis PM, Tzatzarakis MN, Stivaktakis DP, Alegakis KA, Christakis-Hampsas M, Kokkinakis M, Wallace H, Tsatsakis MA. (2015) Biomonitoring of pyrethroid exposure among rural and urban populations in Crete, Greece using hair analysis, Toxicology Letters, Volume 238, Issue 2, Supplement, 16 October 2015, Page S127.
3. Manolis N. Tzatzarakis, Elena Vakonaki, Matthaios P. Kavvalakis, Michael Barmpas, Emmanouel N. Kokkinakis, Kyriakos Xenos, Aristidis M. Tsatsakis (2015) Biomonitoring of bisphenol A in hair of Greek population, Chemosphere, Volume 118, January 2015, Pages 336-341.
4. Kokkinaki AN, Kokkinakis EN, Kavalakis M, Tzatzarakis MN, Maravgakis G, Babatsikou F, Fragkiadakis GA, Tsatsakis AM. (2014) Monitoring of dialkylphosphate metabolites (DAPs) in urine and hair samples of sprayers and rural residents of Crete, Greece. Environmental Research, volume 134, 181–187.

Proceedings Papers (ενδεικτικά)

1. Emmanuel Kokkinakis, Kokkinaki Aikaterini, Emmanuel Tzatzarakis, Aristidis Tsatsakis, Georgios A. Fragkiadakis. (2015). Dialkyl phosphate metabolites (DAPs) in hair and urine samples of rural residents of Crete, Greece: Environment or Food? Proceedings-Volume-II of the 29th EFFoST International Conference "Food Science Research and Innovation: Delivering sustainable solutions to the global economy and society". Pages: 1658-1662. Edited by: Dr. E. Dermesonlouoglou, Dr. V. Giannou, Dr. E. Gogou & Prof. P. Taoukis, National Technical University of Athens, School of Chemical Engineering, Athens, Greece, ISBN: 978-618-82196-1-8.
2. Emmanuel Kokkinakis, Kokkinaki Aikaterini, Spyridaki Aspasia, Fragkiadakis Georgios A. (2015). Contemporary Cretan-Mediterranean Diet Pollution with Pesticides. Proceedings of the 9th International conference on "New Horizons in Industry, Business and Education", Skiathos Island, 27-29 August 2015, p.p. 69-73, ISBN: 978-960-99889-9-5.
3. Emmanuel Kokkinakis, Kokkinaki Aikaterini, Spyridaki Aspasia, Fragkiadakis Georgios A. (2015). Residues of Pesticides: Agro-Food Sector, Public Awareness and Education in Crete, Greece Proceedings of the 9th International conference on "New Horizons in Industry, Business and Education", Skiathos Island, 27-29 August 2015, p.p. 218-223, ISBN: 978-960-99889-9-5.
4. Nádia Vieira Maciel, Rita Gomes Simão de Sousa Veloso, Emmanuel Kokkinakis, Nikolaos Lapidakis, Vassiliki Chatzi, Eirini Sfakianaki, Christophoros Papandreou, Georgios A. Fragkiadakis. Consumers' views on "homemade food" and farmers markets: a study in Crete, Greece. (2015) Proceedings-Volume-II of the 29th EFFoST International Conference "Food Science Research and Innovation: Delivering sustainable solutions to the global economy and society". Pages: 1092-1095. Edited by: Dr. E. Dermesonlouoglou, Dr. V. Giannou, Dr. E. Gogou & Prof. P. Taoukis, National Technical University of Athens, School of Chemical Engineering, Athens, Greece, ISBN: 978-618-82196-1-8.