

[Search Tips](#) | [Send Us Your Feedback](#)**Search:**

[Advanced Search](#) [Browse](#) [My Itinerary](#) [Search Help](#) | [Feedback](#)

 Display As Presentations Sessions

 [Click Here for a Print-Friendly Version of this Page](#)
Presentation 193-01**Number:****Abstract** Toxicology and Safety Evaluation**Division:****Presentation** Tuesday, Jul 31, 2007, 2:00 PM - 5:30 PM**Start/End****Time:****Author** **Franco W. Pedreschi**, Universidad de Santiago de Chile, Santiago de Chile, Chile;**Information:** Domingo Mery, Pontificia Universidad Católica de Chile, Santiago de Chile, Chile; Pedro Moyano, Universidad de Santiago de Chile, Santiago de Chile, Chile; Karl Kaack, Danish Institute of Agricultural Sciences, Aarlev, Denmark; Kit Granby, Danish Institute for Food and Veterinary Research, Copenhagen, Denmark

Abstract: In 2002, Swedish researchers shocked the food safety world when they presented preliminary findings of acrylamide (a probable carcinogenic compound in humans) in some fried and baked foods, most notably potato chips and French fries. The objective of this research was to study the color evolution in pre-dried potato slices during frying and acrylamide generation in the final potato chips. Color measurements were done in an inexpensive computer vision system by digital image processing which allowed quantifying precisely the color of complex surfaces such as those of potato chips in $L^*a^*b^*$ units from RGB images. Prior to frying, potato slices of Desirée variety (diameter: 37 mm; 2.2 mm) were blanched in hot water at 85 °C for 3.5 min. Raw slices were considered as the control. Slices previously blanched as in the previous step were air dried until reaching a moisture content of 60 % (total basis). These samples were called pre-dried potato slices. Potato slices from all the tested treatments were fried at 120, 140, 160 and 180 °C until reaching a moisture content of ~ 1.8%. Acrylamide content was quantified only in final potato chips fried at 120, 150 and 180 °C and compared with those corresponding to two brands of commercial chips produced in Chile (Moms and Frito Lay). Color values in $L^*a^*b^*$ units were recorded at different frying times for the four oil temperatures tested using the total color difference parameter (ΔE). Pre-drying did not affect the color of potato chips considerably when compared against blanched chips; however

when fried at 180 °C, pre-dried potato chips presented 44, 22 and 44% lower acrylamide contents than those corresponding to the control, Moms and frito Lay chips, respectively.

Institute of Food Technologists

525 West Van Buren, Suite 1000
Chicago, IL 60607

- Session and Presentation dates and times are subject to change.
- Certain sessions are still in development and are lacking complete descriptions and/or presenter information.
- Additional detailed information for these sessions and presentations will be added through April 23, 2007.
 - Check back periodically for updated information.

[Click here for SEARCH TIPS](#)

Leave OASIS Feedback!

Powered by



The Online Abstract
Submission and
Invitation System
© 1996 - 2010 Coe-
Truman
Technologies, Inc.
All rights reserved.

Services by



Coe-Truman Technologies, Inc.