Sensory research

Original article | 🔒 Full Access

Relationship between sensory and chemical properties of Assam green teas under different pan-firing and rolling time conditions

Saynamphung Tongsai, Kamolwan Jangchud ✉, Anuvat Jangchud, Benjarat Tepsongkroh, Sumitra Boonbumrung, Witoon Prinyawiwatkul

☰ SECTIONS   📄 PDF   🔧 TOOLS   ◁ SHARE

Summary

Assam green tea possesses health benefits and aromatic compounds in the tea leaves. Effects of pan-firing time (0, 5, and 10 min) and rolling time (0, 2, and 4 min) on chemical and antioxidant properties and sensory descriptive analysis of Assam green tea were investigated. Increasing pan-firing time increased total phenolic content (TPC), total catechin content, and antioxidant activity (2,2-diphenyl-1-picprylhydrazyl (DPPH), (2,2′-azinobis)-3-ethylbenzothiazoline-6-sulphonic acid (ABTS), and ferric ion reducing antioxidant power (FRAP)) values, whereas increasing rolling time tended to decrease such chemical properties. There were four categories of volatile functional groups analysed by gas chromatography-mass spectrometry (GC-MS) during green tea preparation, including aldehyde, alcohol, furan, and ether. A sensory lexicon consisting of ten attributes developed by trained descriptive panellists showed a significant relationship with chemical properties. The green tea under pan-firing process expressed bitter taste, total catechin, TPC, and antioxidant activity. These active chemical compounds and critical sensory attributes of drinking green tea could potentially be beneficial for healthy beverage production.

Key contact person:
Assoc. Prof. SUNTAREE SUWONSICHON
suntaree.su@ku.ac.th

Sensory research

Key contact person:
Assoc. Prof. SUNTAREE SUWONSICHON
suntaree.su@ku.ac.th

Article

Sensory Drivers of Consumer Acceptance, Purchase Intent and Emotions toward Brewed Black Coffee

Ammaraporn Pinsuwan [1], Suntaree Suwonsichon [1,*], Penkwan Chompreeda [1] and Witoon Prinyawiwatkul [2]

[1] Kasetsart University Sensory and Consumer Research Center (KUSCR), Department of Product Development, Faculty of Agro-Industry, Kasetsart University, Bangkok 10900, Thailand; ammaraporn.pi@gmail.com (A.P.); fagipkc@ku.ac.th (P.C.)

[2] Agricultural Center, School of Nutrition and Food Sciences, Louisiana State University, Baton Rouge, LA 70803, USA; wprinya@lsu.edu

* Correspondence: suntaree.su@ku.ac.th or fagisrsu@ku.ac.th; Tel.: +66-2-562-5017

Abstract: The link between coffee aroma/flavor and elicited emotions remains underexplored. This research identified key sensory characteristics of brewed black coffee that affected acceptance, purchase intent and emotions for Thai consumers. Eight Arabica coffee samples were evaluated by eight trained descriptive panelists for intensities of 26 sensory attributes and by 100 brewed black coffee users for acceptance, purchase intent and emotions. Results showed that the samples exhibited a wide range of sensory characteristics, and large differences were mainly described by the attributes *coffee identity (coffee ID)*, *roasted*, *bitter taste*, *balance/blended* and *fullness*. Differences also existed among the samples for overall liking, purchase intent and most emotion terms. Partial least square regression analysis revealed that liking, purchase intent and positive emotions, such as *active*, *alert*, *awake*, *energetic*, *enthusiastic*, *feel good*, *happy*, *jump start*, *impressed*, *pleased*, *refreshed* and *vigorous* were driven by *coffee ID*, *roasted*, *ashy*, *pipe tobacco*, *bitter taste*, *rubber*, *overall sweet*, *balanced/blended*, *fullness* and *longevity*. Contrarily, *sour aromatic*, *sour taste*, *fruity*, *woody*, *musty/earthy*, *musty/dusty* and *molasses* decreased liking, purchase intent and positive emotions, and stimulated negative emotions, such as *disappointed*, *grouchy* and *unfulfilled*. This information could be useful for creating or modifying the sensory profile of brewed black coffee to increase consumer acceptance.

Keywords: coffee; emotions; descriptive analysis; consumer perception; liking

Sensory research

Seafood Flavor Perception, Liking, Emotion, and Purchase Intent of Coated Peanuts as Affected by Coating Color and Hydrolyzed Squid Peptide Powder

Pattraporn Sukkhown, Tantawan Pirak, Pitchayapat Chonpracha, Ryan Ardoin, Witoon Prinyawiwatkul ✉

≔ SECTIONS   🅟 PDF   🔧 TOOLS   ◁ SHARE

Key contact person:
Assoc. Prof. SUNTAREE SUWONSICHON
suntaree.su@ku.ac.th

Abstract

Abstract

This study evaluated effects of green compared with brown coating colors and varying levels of hydrolyzed squid peptide powder (HSP) on seafood flavor perception, sensory liking, emotions, and purchase intent (PI) of coated peanuts. Dried squid head was enzymatically hydrolyzed to produce HSP, which was then incorporated into peanut coating material at 0%, 0.89%, 1.78%, and 2.66% levels. Green-coated peanuts (GCP) and brown-coated peanuts (BCP) were produced and tested with U.S. consumers. A 2-AC test (N = 100 consumers) was used to determine effects of coating colors on expected/perceived seafood flavor intensity of GCP compared with BCP at an equal HSP level based separately on looking, smelling, and tasting. Only tasting produced perceptual differences, at 1.78% and 2.66% HSP, with stronger seafood flavor intensity observed for GCP. Consumer testing (N = 160) yielded low mean seafood aroma liking scores for BCP (4.04) and GCP (4.13) at 2.66% HSP. The emotion "disgusted" was most affected by HSP addition for GCP. Presenting consumers with health benefit information (HBI) increased positive PI from 62.5% to 81.25% for BCP at 1.78% HSP, which had higher mean overall liking scores (6.05 before HBI, 6.24 after HBI) than 2.66% HSP samples. Overall liking was a significant predictor for positive PI with odds ratios of 1.52 to 2.20. Overall, green color and HSP addition levels of the coating inserted negative effects on liking, emotion, and PI of coated peanuts. This study demonstrated that HSP made from byproduct of squid processing could be successfully incorporated into coated peanuts, supporting the concept of sustainability of food supply.

AJAS

Asian-Australasian Journal of Animal Sciences

Effect of visual marbling levels in pork loins on meat quality and Thai consumer acceptance and purchase intent

Sawankamol Noidad[1], Rutcharin Limsupavanich[1,*], Suntaree Suwonsichon[2], and Chanporn Chaosap[3]

* **Corresponding Author:** Rutcharin Limsupavanich
Tel: +66-8-4384-9991, **Fax:** +66-2-329-8519,
E-mail: rlimsupa@gmail.com

[1] Department of Animal Production Technology and Fisheries, Faculty of Agricultural Technology, King Mongkut's Institute of Technology Ladkrabang (KMITL), Bangkok, 10520, Thailand
[2] Kasetsart University Sensory and Consumer Research Center, Department of Product Development, Faculty of Agro-Industry, Kasetsart University, Bangkok, 10900, Thailand
[3] Department of Agricultural Education, Faculty of Industrial Education and Technology, KMITL, Bangkok, 10520, Thailand

ORCID
Sawankamol Noidad
https://orcid.org/0000-0002-5061-3011
Rutcharin Limsupavanich
https://orcid.org/0000-0002-3533-6562
Suntaree Suwonsichon
https://orcid.org/0000-0002-9432-529X
Chanporn Chaosap
https://orcid.org/0000-0002-3816-1884

Objective: We investigated visual marbling level (VML) influence on pork loin physico-chemical traits, consumer palatability responses, VML liking, purchase intent, and their relationships.
Methods: For each of five slaughtering dates, at 24-h postmortem, nine paired Duroc castrated male boneless *Longissimus dorsi* (LD) muscles were categorized into low (LM, score 1 to 2, n = 3), medium (MM, score 3 to 4, n = 3), and high (HM, score 5 to 6, n = 3) VML. Meat physicochemical quality traits and consumer responses (n = 389) on palatability and VML liking, and purchase intent were evaluated. The experiment was in randomized complete block design. Analysis of variance, Duncan's multiple mean comparisons, and correlation coefficients were determined.
Results: VML correspond to crude fat (r = 0.91, p<0.01), but both were reversely related to moisture content (r = –0.75 and –0.91, p<0.01, respectively). As VML increased, ash (p<0.05) and protein (p = 0.072) decreased, pH and b* increased (p<0.05), but drip, cooking (p<0.05) and thawing (p = 0.088) losses decreased. Among treatments, muscle fiber diameter, sarcomere length, total and insoluble collagen contents, L*, and a* did not differ (p>0.05). Compared to the others, HM had lower collagen solubility percentage (p<0.05), but similar (p>0.05) Warner-Bratzler shear force (WBSF). No differences (p>0.05) were found in juiciness, overall flavor, oiliness, and overall acceptability, but HM was more tender (p<0.05) than the others. Based on VML, consumers preferred MM to HM (p<0.05), while LM was similar to MM and HM (p>0.05). Corresponding to VML preference (r = 0.45, p<0.01), consumers (83%) would (p<0.01) definitely and probably buy MM, over LM (74%), and HM (68%), respectively.
Conclusion: Increasing VML in pork LD altered its chemical composition, slightly increased pH, and improved water holding capacity, thereby improving its tenderness acceptability. Marbling might reduce chewing resistance, as lower collagen solubility in HM did not impact tenderness acceptability and WBSF. While HM was rated as most tender, consumers visually preferred and would purchase MM.

Key contact person:
Assoc. Prof. SUNTAREE SUWONSICHON
suntaree.su@ku.ac.th

Sensory research

The Importance of Sensory Lexicons for Research and Development of Food Products

Suntaree Suwonsichon *

Kasetsart University Sensory and Consumer Research Center, Department of Product Development, Faculty of Agro-Industry, Kasetsart University, Bangkok 10900, Thailand

check for updates

Abstract: A lexicon is a set of standardized vocabularies developed by highly trained panelists for describing a wide array of sensory attributes present in a product. A number of lexicons have been developed to document and describe sensory perception of a variety of food categories. The current review provides examples of recently developed sensory lexicons for fruits and vegetables; grains and nuts; beverages; bakery, dairy, soy and meat products; and foods for animals. Applications of sensory lexicons as an effective communication tool and a guidance tool for new product development processes, quality control, product improvement, measuring changes during product shelf life, and breeding new plant cultivars are also discussed and demonstrated through research in the field.

Key contact person:
Assoc. Prof. SUNTAREE SUWONSICHON
suntaree.su@ku.ac.th