

# Web of Science



Search Search Results

Tools Searches and alerts Search History Marked List

Free Full Text from Publisher

Look Up Full Text

Full Text from Publisher

Find PDF

Export...

Add to Marked List

◀ 4 of 51 ▶

## Fourier transform infrared spectroscopy and multivariate analysis of milk from different goat breeds

By: **Salleh, NA** (Salleh, Noor Aidawati)<sup>[1]</sup>; **Selamat, J** (Selamat, Jinap)<sup>[1,2]</sup>; **Meng, GY** (Meng, Goh Yong)<sup>[3]</sup>; **Abas, F** (Abas, Faridah)<sup>[2]</sup>; **Jamبارi, NN** (Jamبارi, Nuzul Noorahya)<sup>[1,2]</sup>; **Khatib, A** (Khatib, Alfi)<sup>[4]</sup>

INTERNATIONAL JOURNAL OF FOOD PROPERTIES

Volume: 22 Issue: 1 Pages: 1673-1683

DOI: 10.1080/10942912.2019.1668803

Published: JAN 1 2019

Document Type: Article

[View Journal Impact](#)

### Abstract

A deeper understanding of milk composition from different dairy goat breeds would address the potential variance in quality control, as well as to optimize the production process of dairy products. Understanding these parameters will assist in evaluating goat milk quality. This study was designed to identify potential differentiating features the milk from different goat breeds based on fourier transform infrared spectroscopy (FTIR) coupled with multivariate analysis to detect the compositional differences. Eighteen freeze-dried goat milk samples of different breeds (Jamnapari, Saanen and Toggenburg) were analyzed. The results showed a clear discrimination between three different breeds using Partial least square discriminant analysis. The value Q(2) and (RY)-Y-2 values are 0.981 and 0.958, which means the model exhibited goodness-of-fit and predictive features that would allow milk samples to be segregated by breed reliably. Result of chemical composition show Jamnapari milk was superior in terms of protein, fat and lactose content with values of 3.7%, 4.20%, and 5.30%, respectively, compared to other breeds. These analyses showed that only Jamnapari goat milk is different compared to the other two breeds.

### Keywords

**Author Keywords:** Goat milk; breeds; FTIR; multivariate analysis; composition

**KeyWords Plus:** MASS-SPECTROMETRY; CHEMICAL-COMPOSITION; COW; FTIR; CHROMATOGRAPHY; METABOLOMICS; PARAMETERS; QUALITY; PROTEIN; PROFILE

### Author Information

**Reprint Address:** Selamat, J (reprint author)

Univ Putra Malaysia, Fac Food Sci & Technol, Dept Food Sci, Serdang 43400, Selangor, Malaysia.

#### Addresses:

[ 1 ] Univ Putra Malaysia, Inst Trop Agr & Food Secur, Lab Food Safety & Food Integr, Serdang, Malaysia

[ 2 ] Univ Putra Malaysia, Fac Food Sci & Technol, Dept Food Sci, Serdang 43400, Selangor, Malaysia

[ 3 ] Univ Putra Malaysia, Fac Vet Med, Serdang, Malaysia

[ 4 ] Int Islam Univ Malaysia, Fac Pharm, Kuantan, Malaysia

**E-mail Addresses:** [sjinap@gmail.com](mailto:sjinap@gmail.com)

### Funding

Funding Agency	Grant Number
Ministry of Higher Education, Malaysia under Trans-disciplinary Research Grant Scheme (TRGS)	UPM/700-2/1/TRGS/5535704

[View funding text](#)

### Publisher

TAYLOR & FRANCIS INC, 530 WALNUT STREET, STE 850, PHILADELPHIA, PA 19106 USA

### Journal Information

### Citation Network

In Web of Science Core Collection

0

Times Cited

Create Citation Alert

63

Cited References

[View Related Records](#)

### Use in Web of Science

Web of Science Usage Count

0

Last 180 Days

0

Since 2013

[Learn more](#)

This record is from:

Web of Science Core Collection

- Science Citation Index Expanded

*Suggest a correction*

*If you would like to improve the quality of the data in this record, please [suggest a correction](#).*

Impact Factor: [Journal Citation Reports](#)**Categories / Classification**

Research Areas: Food Science &amp; Technology

Web of Science Categories: Food Science &amp; Technology

**Document Information**

Language: English

Accession Number: WOS:000488461900001

ISSN: 1094-2912

eISSN: 1532-2386

**Other Information**

IDS Number: JB3MR

Cited References in Web of Science Core Collection: 63

Times Cited in Web of Science Core Collection: 0

[See fewer data fields](#)

◀ 4 of 51 ▶

**Cited References: 63**Showing 30 of 63 [View All in Cited References page](#)*(from Web of Science Core Collection)*

1. [Predicting the Fatty Acid Composition of Milk: A Comparison of Two Fourier Transform Infrared Sampling Techniques](#) Times Cited: 25  
 By: Afseth, Nils Kristian; Martens, Harald; Randby, Ashild; et al.  
 APPLIED SPECTROSCOPY Volume: 64 Issue: 7 Pages: 700-707 Published: JUL 2010
2. [Effect of breed, parity and stage of lactation on milk composition of western region goats of India.](#) Times Cited: 10  
 By: Agnihotri, M. K.; Rajkumar, V.  
 International Journal of Dairy Science Volume: 2 Issue: 2 Pages: 172-177 Published: 2007
3. Title: [not available] Times Cited: 1  
 Group Author(s): Alibaba  
 Live Breeding Goats for Sale Published: 4 Feb 2014  
 accessed Feb 4, 2014
4. [Physicochemical properties and antioxidant activity of milk samples collected from five goat breeds in Malaysia](#) Times Cited: 3  
 By: Alyaqoubi, S; Abdullah, A; Samudi, M; et al.  
 Advance Journal of Food Science and Technology Volume: 7 Issue: 4 Pages: 235-241 Published: 2015  
 URL: <https://doi-org.ezproxy.um.edu.my/10.19026/ajfst.7.1301>  
[\[Show additional data\]](#)
5. [Vibrational Spectroscopy in the Analysis of Dairy Products and Wine](#) Times Cited: 13  
 By: Anderson, S. K.; Hansen, P. W.; Andersen, H. V.  
 Handbook of Vibrational Spectroscopy Pages: 3672-3681 Published: 2002  
 Publisher: John Wiley & Sons Ltd, West Sussex, UK
6. Title: [not available] Times Cited: 1  
 Group Author(s): AOAC  
 Official Methods of Analysis of AOAC International Volume: II Article Number: 934.01, 942.05, 991.20, 2000.18 Published: 2005  
 33  
 Publisher: AOAC, Gaithersburg, MD
7. [Size distribution of fat globules in goat milk](#) Times Cited: 58  
 By: Attaie, R; Richter, RL  
 JOURNAL OF DAIRY SCIENCE Volume: 83 Issue: 5 Pages: 940-944 Published: MAY 2000
8. [Wealth creation through livestock production](#) Times Cited: 3