

# Determination of some chemical characteristics dry Kashk in Kurdistan province of Iran

Nader Habibi<sup>1</sup>, Adabi Taher<sup>2</sup>

*1,2Department of Food Science and Technology, Faculty of Agriculture and natural resources, Islamic Azad University, Sanandaj Branch, Sanandaj, Iran. Email: naderhabibi45@yahoo.com*

## Abs tract:

Human diet contains a variety of food groups would be. Milk and dairy products are one of the food groups in all age groups are taking a wide range of nutrients needed to provide a very large size. One of these products is Kashk contains almost all the nutrients of milk, Because of condensed yogurt or buttermilk can be achieved and due to the relatively high concentration of dry matter and nutrient considerable. The study was conducted to evaluate the quality of dry Kashk and chemical tests were performed and compared with Iran national standards. For this purpose, 100 samples of dry Kashk were collected randomly from different villages of Kurdistan province. Total samples (i.e.100 samples) were analyzed by the Iran national standards number of 637, 1755, 639,366 and 1809, respectively for determination of Humidity, Ash, Protein, Fat and Salt. The results were analyzed with spss's16 software and t test for compare mean of society with constant number. The results of this research indicated that all chemical experiments with standard significant differences were noted with  $p < .001$ . Concludes that factors moisture, ash and protein were less than the national standard but fat and salt were higher than it.

**Key words:** Chemical, Dry Kashk. Kurdistan. Determination. characteristics

## 1. INTRODUCTION

Milk products provide a source of important nutrients, particularly protein and minerals such as calcium (Karim, 2001; ISIRI, 2005; Mirnezami 2003 and Taimoori, 2006). Dry Kashk is in this group that Its origin could be yoghurt (Enayati et al., 2011; Karim, 2001 and Robinson, 2001). Due to high dry solids are of particular importance. Because the standard terms with 50% protein and 13% ash or minerals is that the values are compared to values of 2.5 and 5.6 times respectively in red meat and approximately 11% is fat (Mirnezami 2003 ; ISIRI,2005).

Kashk one of the products that have traditionally been part of our food and due to organic acids. (Lactic acid was the major organic acid present in the products) disinfectants digestive system (the stomach, small intestine and large intestine) is. Kashk as a food is flatulent and tighten the intestine, which is why it is easier to digest than dry mint can be used. High calcium and phosphorus in it can be effective in the prevention of osteoporosis. As well as a nourishing food to reduce hunger and occupies a small volume of the stomach (A.Y.Tamime et al, . 2000, Enayati et al.,2011). Given the importance of this food in the human diet the purpose of this study was to measure chemical agents in it and comparison with national standards of Iran.

## 2. MATERIALS AND METHODS

### 2-1--Material

Chemical materials and samples used for testing were

#### 2-1--1-Dry Kashk

100 samples of dry Kashk were collected in different parts of Kurdistan province. After collecting them, were transferred to the department of Agriculture laboratory Islamic Azad University of Sanandaj.

#### 2-1-2--Chemical Material

All chemicals and reagents were manufactured by Merck of Germany.

### 2-2--Method

2-2-1- Humidity measurement is based on the national standard of 637 numbers (ISIRI, 1985).

2-2-2- Ash measurement is based on the national standard of 1755 numbers (ISIRI, 2002).

2-2-3- Protein measurement is based on the national standard of 639 numbers (ISIRI, 1970).

2-2-4- Fat measurement is based on the national standard of 366 numbers (ISIRI, 1992).

2-2-5- Salt measurement is based on the national standard of 1809 numbers (ISIRI, 1977).

### 3. RESULT

Moisture, Ash, protein, fat and salt content measurements were performed on samples. The results of these tests as mean, standard deviation of mean, and standard deviation is in table number 1.

Table 1: mean, standard deviation of mean, and standard deviation of tests

Test	Number	Mean	Standard deviation of mean	Standard deviation
Humidity	100	8/15	0/35671	3/56713
Ash	100	6/66	0/41913	4/19128
Protein	100	7/44	1/51376	15/13749
Fat	100	15/6	0/90755	90/7749
Salt	100	15/22	0/42793	4/27929

Table 1 shows the average chemical experiments that average humidity, ash and protein in the samples were 8/15, 6/66, 7/44 percent that Compared to the standard values of 10, 13 and 50 percent respectively were less than. But the average fat and salt in all samples were 15.6% and 15/22% than Compared to the standard values of 11 and 9 percent respectively were more than. The results were analyzed with spss's16 software and t test for compare mean of society with constant number. The t-test with a constant value for moisture, ash, protein, fat and salt in all samples indicated that all chemical experiments with standard significant differences were noted with  $p < .001$ .

### 4. DISCUSSION

In general concluded that conducted chemical tests for dry whey all results with respect to the  $p < .001$  and compare them with standard values were significantly different. The results show that the average humidity content in the samples is less than the standard as opposed to dry samples show higher values. So in this sense, should have more nutritional value. The average ash content of less than standard and the remaining ash in the sample can be representative of the minerals in them, since this is considered poor. Average protein content is also different from the standard but however much compared with other food such as milk, can be substantial. The presence of fat, such as humidity, which is different from the standard advantages It can be argue, as the average value in the sample is greater than the standard, so if you take the food, the consumer will get more fat but by looking at the average salt samples for consumer alarm is sounded, because if a person consumes 100 grams of it about 15 grams of salt gets. Almost 4 times the amount of salt required is one day unless it is accompanied by high water or food without salt is consumed or do it in small quantities for consumption

In this context, few studies have also been done on the chemical aspects of Kashk. The tests and their results are in line with research and may have been different. Because the number of research compared to other food less is that Kashk is produced in Iran and Mediterranean countries and not worldwide so less is considered. The tests were carried out in the investigation may not be exactly the same tests the Iran national standard and may be based on a number of standard or out of it. According A.Y. Tamime et al (2000) the chemical composition (g/kg on dry matter basis) of the Kashk fell within the following ranges: protein 187–213, fat 36–107, carbohydrates 639–721 and ash 33–64, whilst the moisture content averaged 94 g/kg. Including research on Kashk in Turkey by Çakır et al (2009) conducted chemical and biological properties, these results were: ash 13/66, 32/44 protein, fat 6/30 salts 13/26 and 67/59 percent dry matte. The results show that the amount of ash, fat and dry matter, contrary to the results of the present study was however,

protein and salt levels in line with its. Kirdir (2012) also in Turkey around randomly on the 64 species is reported that average water activity of all samples was 0/90 which indicates the presence of free water in it but does not indicate how much moisture or dry matter.

## REFERENCE

- [A.Y.Tamimea.](#), [D.D.Muirb.](#), [M.N.IBarclaya.](#), [M.Khaskhelia](#) and [D.Mc.Nultyc.](#) 1997. Laboratory-made Kishk from wheat, oat and barley: 2. Compositional quality and sensory properties. [Food Research International](#), **30(5)**: 319–326
- A.Y.Tamime., D.D.Muir., M.Khashkheli., M.N.I.Barclay. 2000. Effect of Processing Conditions and Raw Materials on the Properties of Kishk 1. Compositional and Microbiological Qualities. *Food Science and Technology*, **33(6)**: 444–451
- Çakır,I., Coşkun,H., Akoğlu,I,T., İşleyen, M., Mustafa Kıralan, M., and Bayrak,A. 2009. Introducing a traditional dairy product Keş: Chemical, microbiological, and sensorial properties and fatty acid composition. *Journal of Food, Agriculture & Environment*, **7 (3&4)**: 116 – 119.
- Enayati,M., Ghanbari,M.and M.khtari,A. 2011. Microbiological status of dried whey on the market. Paper presented at First National Seminar on Food Security. Research Deputy of Islamic Azad University, Savad Kooh, Iran.18and 19 May. [IN Farsi]
- Institute of Standards and Industrial Research of Iran. 2005. Dried kashk -Specification ISIRI,No. 1188. 1st.revision. [IN Farsi]
- Institute of Standards and Industrial Research of Iran. 1985. Measure the moisture content. ISIRI,No. 637. [IN Farsi]
- Institute of Standards and Industrial Research of Iran. 2002. Measure the ash content. ISIRI,No. 1755.[IN Farsi].•
- Institute of Standards and Industrial Research of Iran. 1970. Determination of nitrogen in milk by method of Kjeldal. ISIRI,No. 639. [IN Farsi]
- Institute of Standards and Industrial Research of Iran. 1992. Gerber method for measuring fat. . ISIRI,No. 366.Fat[IN Farsi].
- Institute of Standards and Industrial Research of Iran. 1977. Measurement of chloride in cheese. ISIRI,No. 1809. [IN Farsi]
- Karim,G. 2001. Milk and its derivatives. 2th Edition.Sepehr Prees. Art Institute event. PP, 143. [IN Farsi]
- Kirder,S,S,. 2012. A Survey on Chemical, Biochemical, Microbiological, Caractristics of a Traditional Dairy Product in Mediterrean Region: Kes., *Journal of Animal and Veterinary Advances*, **11(3)**: 330-334
- Mirnezami Zyabari,H. .2003. Milk and its products, technology. 1th Edition Publisher Agricultural Sciences.pp5. [IN Farsi]
- Robinson,T. 2001.Translated by: Habibi, N, M,B., Mazaheri Tehrani, M.,and Razavi,M. Science and technology of Yughourt, Volume I. Jihad, Mashhad University Press. PP, 104, 106, 107. [IN Farsi]
- Taimoori Yansari,A. 2006. Milk production and processing. 1th Edition. Avaye Msih Prees. PP, J, CH, H, KH, D. [IN Farsi]