



Cihan University - Erbil

Nutrition and Dietetics Department

Yemen Coffee



By

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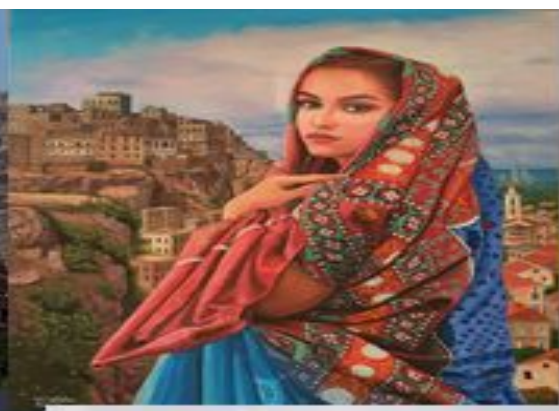
Can We Ask Today Is The Drinking of Coffee Halal or Not?

To answer this question , we have to know some details about the history of coffee:



Yemen Coffee





Introduction

Coffea is a large genus (containing more than 90 species) of **flowering plants** in the **madder** family, **Rubiaceae**. They are **shrubs** or small **trees**, native to subtropical **Africa** and southern **Asia**. **Seeds** of several species are the source of the popular **beverage coffee**. After their outer hull is removed, the seeds are commonly called "**beans**". Coffee beans are widely cultivated in **tropical** and **sub-tropical** countries on **plantations**, for both local consumption and export to probably every other country in the world. Coffee ranks as one of the world's most valuable and widely traded **commodity** crops and is an important export of a number of countries.

Picking



Introduction

- There are several species of *Coffee* that may be grown for the beans, but *Coffea arabica* is considered by many to have the best overall flavor and quality.
- The term “green coffee bean” refers to un-roasted mature or immature **coffee beans**. These have been processed by wet or dry method for removing the outer pulp and **mucilage**, and have an intact wax layer on the outer surface.
- Caffeine (*1,3,7-trimethyl-xanthine*) is the **alkaloid** most present in green and roasted coffee beans. The content of caffeine is between 1% and 2.5% w/w of dry green coffee beans.

Drying



Introduction

Coffee is the most important agricultural commodity and beverage worth up to US \$ 14 billion annually. More than 18 countries, including Yemen, cultivate coffee. More than 125 countries export and re-export coffee. Providing a livelihood for 100 million people around the world. More than 50 developing countries are earning 25 %, of their foreign exchange. Coffee production in Yemen has been on a constant decline over the last decades. The surface cultivated 34 686 hectares and the yearly production reached 19 430 tones in 2008. It is generally acknowledged that more then 105 000 families of farmers are growing coffee in 15 Governorates. The total cultivated area of mountainous highlands region is approximately 660,000 ha, i.e. 1.3% of the national territory. And about 50% of cultivated land. And represent only 8% of the highland territory.

Aim of the present study is investigating the following topic:

To determine the proximate chemical composition of Yemeni green coffee (*Coffea arabica*), these 70 samples which were collected by Yemen Standardization Metrology and Quality Control Organization (YSMQCO) from many local shops and places in Yemeni Governorates .

Coffee Products Used in Yemen

(Coffee)
(Green)



(Qasher)
(Husk)



Green Coffee Beans





***MATERIALS
AND
METHODS***

- Materials : samples:

- A total of 70 samples of Yemeni green coffee (*Coffea arabica*), were collected by Yemen Standardization Metrology and Quality Control Organization (YSMQCO) from many local shops and places in Yemeni Governorates.

- Methods

- All chemical parameters such as Moisture content, crude protein, total lipids, carbohydrates, dextrin, chlorogenic acid, caffeine, peroxides value and organic and metallic pigments were determined according to the standard method of A.O.A.C.



Results

Table (1) : The Chemical Composition Of Yemen Coffee

Parameter	Minimum Value % ± *S.D	Maximum Value % ± *S.D
Moisture Content	5.52 ± 0.42	7.77 ± 0.67
Crude Protein	7.00 ± 0.68	16.16 ± 0.28
Total Lipids	2.49 ± 0.43	13.13 ± 0.24
Carbohydrates	7.92 ± 0.57	35.64 ± 2.23
Ashes	3.40 ± 0.40	6.51 ± 0.57

Table (2) : Some Quality Grade Of Yemen Coffee

Parameter	Minimum Value % ± *S.D	Maximum Value % ± *S.D
Dextrin	12.34 ± 0.48	57.87 ± 3.32
Chlorogenic Acid	4.24 ± 0.33	11.62 ± 0.32
Caffeine	0.69 ± 0.16	3.19 ± 0.29
Peroxides Value	95.48 ± 1.32	581.00 ± 60.24
Organic and Metallic Pigments	Not Detected	Not Detected

Conclusions

From the obtained results, it could reach to the following conclusion

From the data we can conclude that, Yemen coffee chemical composition was in a good and high quality indicator .

Especially when we see the amount of chlorogenic acid and caffeine which they are a flavor compounds and know as a pharmaceutical and natural compounds.



THE CHEMICAL COMPOSITION OF YEMENI GREEN COFFEE

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ABSTRACT

The present study aims to determine the proximate chemical composition of Yemeni green coffee (*Coffea arabica* L.) by analyzing 70 samples which were collected between 2010 and 2011. The moisture content, crude proteins, total lipids, carbohydrates and ash % averages were 6.99 ± 0.48 , 10.95 ± 0.44 , 6.15 ± 0.36 , 22.12 ± 1.77 and 4.16 ± 0.52 %, respectively. Other chemical constituents such as dextrins, chlorogenic acid, and caffeine % averages were 25.09 ± 2.59 , 7.19 ± 0.4 and 1.49 ± 0.29 %, respectively. Finally organic and metallic pigments were not found in any of Yemeni neutral green coffee samples.

Keywords: Yemeni coffee, chemical composition, quality grading.

INTRODUCTION

Coffee is one of the world's most popular beverages. It is also the most important consumed and traded food commodity worldwide and ranks second, after crude oil, among all commodities (Fujioka and Shibamoto, 2008). World coffee production grew by over 100% from 1950 to 1990. In 2005 coffee production reached 6.4 million tons worldwide and is projected to grow by 0.5-1.9%, annually. Global output is expected to reach 7.8 million tons in 2010. World consumption of coffee is projected to increase by 0.4% annually from 6.7 million tons in 1998-2000 to 6.9 million tons in 2010. Brazil remains the largest green coffee producer and exporter, accounting for approximately 35% of the world market (Monteiro and Farah, 2012). Meanwhile Yemeni Mocha coffee is regarded as the most traditional coffee and still one of the world's greatest, uniquely delicious coffee. It takes its name from the Yemen port city called Mocha, (USAID, 2005). Most coffee beverage consumed around the world is produced from the species *Coffea arabica* (Arabica) and *Coffea canephora* (Robusta). The former one is considered to be superior due to its sensory properties and, therefore, gets higher prices in the international market (Giesissen and Graafland, 2009).

The term "green coffee bean" refers to un-roasted

mature or immature coffee beans. These have been processed by wet or dry method for removing the outer pulp and mucilage, and have an intact wax layer on the outer surface. Coffee brew is known as a stimulant, property mainly attributed to caffeine. However, the number of chemical compounds identified in this beverage is large and some of them have many beneficial attributes.

Until date there are no reports on coffee from Yemen, which is the national crop of the country. In the present study the major and minor components have been investigated and the proximate chemical composition of Yemeni green coffee samples have determined.

MATERIALS AND METHODS

Samples: A total of seventy samples of Yemeni green coffee (*Coffea arabica* L.), were collected by Yemen Standardization Metrology and Quality Control Organization from local markets of some Yemeni Governorates during 2010/2011.

Chemicals: The standards of chlorogenic acid and caffeine were obtained from Sigma, Chemical Company, P.O. 145500, St. Louis, USA.

Methods: All chemical parameters such as moisture content, crude protein, total lipids, carbohydrates, ash, dextrins, chlorogenic acid, caffeine and organic and metallic pigments were determined according to the standard method of AOAC (2005), chlorogenic acid and caffeine were determined by using spectrophotometer

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Thank you for your attention