Coffea arabica

TAXONOMIC CLASSIFICATION:[1]

Kingdom: vegetable

Class: Dicotyledonece

Order : Rubiales

Family: Rubiaeae

Genus: Coffea

Species: C.arabica

INTRODUCTION:[2][3]

Coffee is a globose, evergreen plant. It is usually found as a compact shrub 1.5 - 3 metres tall, though in time, if not pruned bak, is able to become a small tree growing 3 - 10 metres tall with a spreading crown. The bole can become up to 8cm in diameter. One of the most common drinks in the world, its seeds have long been valued for their stimulating qualities. The plant is widely cultivated in many tropical regions for this seed, which is roasted to make the drink. The plant is also often grown as an ornamental in gardens

The Coffea arabica(botanical name of coffee), is native to Ethiopia, and now cultivated in many different equatorial regions: in Africa, Central America, South America, West Indies, South/South East Asia, and Pacific islands.

PROPERTIES AND USES:[4][5]

Medicinal uses :

- In treatment of Asthma
- In treatment of Atropine poisoning
- In treatment of Fever
- In treatment of Flu

- In treatment of Headache
- In treatment of Malaria
- In treatment of Narcosis
- In treatment of Nephrosis
- In treatment of Opium poisoning
- Anti-diabetic Activity
- Anti-microbial Activity
- Anti-bacterial Activity
- Anti-cancer Activity
- Antioxidant Activity
- Anti-inflammatory Activity

DOSAGE: [6]

- **For headache or improving mental alertness**: The typical dose of caffeine is up to 250 mg per day, which is about 2 cups of coffee. Even a single cup of coffee with caffeine can be used.
- **For Parkinson disease**: 3-4 cups of caffeinated coffee per day or 421 mg to 2716 mg total caffeine. However, a significantly lower risk of developing Parkinson disease has also been associated with as little as 124 mg to 208 mg of caffeine (approximately one to two cups of coffee).
- **For diabetes**: 900 mg caffeine per day (six or more cups of coffee per day) long-term.
- **Impaired movement of food through the intestines after surgery**: 100 mL of coffee three times a day starting after surgery and continuing until the first bowel movement has been used.

SIDE EFFECTS OF EXCESS CONSUMPTION: [6]

- Coffee containing caffeine can cause insomnia, nervousness and restlessness, stomach upset, nausea and vomiting, increased heart and breathing rate, and other side effects.
- Drinking large amounts of caffeinated coffee might cause headache, anxiety, agitation, ringing in the ears, and irregular heartbeats. Larger doses might cause headache, anxiety, agitation, and chest pain.

RESEARCH:

1. Chlorogenic acids (CGA) are the main phenolic compounds in coffee and coffee has one of the highest concentrations of CGA of all plant constituents. In this study, the levels of CGA in certain coffee (Arabica Jimma (ArJM), Arabica Nekemit (ArNK), Arabica Sidamo (ArSD), Arabica Jimma (ArJM) raw, and Arabica Jimma (ArJM) Husk) brands found in Ethiopia were determined using High Performance Liquid Chromatography (HPLC). The levels of CGA in all the coffee brands were found to be within the documented range. The order of CGA concentration (mg/g) in coffee samples was found as follows: ArJM raw > ArJM > ArSD > ArNK > ArJM Husk. Generally, Arebica Jimma raw (46.144 mg/g) has the highest while Arebica Jimma husk (0.981 mg/g) has the least concentration of CGA.[8]

2. Cultivation of *Coffea arabica* is highly sensitive to and has been shown to be negatively impacted by progressive climatic changes. Previous research contributed little to support forward-looking adaptation. Agro-ecological zoning is a common tool to identify homologous environments and prioritize research. We demonstrate here a pragmatic approach to describe spatial changes in agro-climatic zones suitable for coffee under current and future climates. We defined agro-ecological zones suitable to produce arabica coffee by clustering geo-referenced coffee occurrence locations based on bio-climatic variables. We used random forest classification of climate data layers to model the spatial distribution of these agro-ecological zones. We used these zones to identify spatially explicit impact scenarios and to choose locations for the long-term evaluation of adaptation measures as climate changes. We found that in zones currently classified as hot and dry, climate change will impact arabica more than those that are better suited to it. Research in these zones should therefore focus on expanding arabica's environmental limits. Zones that currently have climates better suited for arabica will migrate upwards by about 500m in elevation. In these zones the up-slope migration will be gradual, but will likely have negative ecosystem impacts. Additionally, we identified locations that with high probability will not change their climatic characteristics and are suitable to evaluate *C. arabica* germplasm in the face of climate change. These locations should be used to investigate long term adaptation strategies to production systems.[9]

SPECIAL PRECAUTIONS & WARNINGS

Pregnancy and breast-feeding: Caffeinated coffee is **POSSIBLY SAFE** for pregnantwomen in amounts of 3 cups per day or less. This amount of coffee provides about 300 mg of caffeine. Consuming larger amounts during pregnancy or when breast-feeding is **POSSIBLY UNSAFE**. Drinking more than 3 cups per day during pregnancy has been linked to an increased risk of miscarriage, premature birth, and low birth weight.

Heart disease: Drinking unfiltered (boiled) coffee increases the amount of cholesterol and other fats in the blood, and also raises the level of homocysteine, all of which are associatedwith an increased risk of developing heart disease. Some research suggests an association between heart attacks and drinking coffe

INTERACTION WITH MEDICATIONS[6]

- Ephedrine interacts with COFFEE
- Adenosine (Adenocard) interacts with COFFEE
- Alcohol interacts with COFFEE
- Antibiotics (Quinolone antibiotics) interacts with COFFEE
- Medications for depression (Tricyclic Antidepressants) interacts with COFFEE

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