

Phytochemicals are natural resources of food supplement for happier people

Abstract

Cacao plants are used for a widespread range of diseases and used in different forms such as the full of magnesium for a healthy heart, brain for human, highest plant-based source of iron and used as mood elevator like a natural mood elevator and anti-depressant. Maca are widely used in increases energy level and stamina. It is effectively used in women's health and mood like alleviates menstrual and menopause issues. Quinoa contains all the nine essential amino acids, almost twice as much fiber as most other grains and perfect for people with gluten intolerance. Goldenberry helps to prevent certain chronic diseases; low in calories only has about 53 calories per 100 grams and modulates immune function. Lucuma contains beneficial nutrients that sugar lacks. It can help the digestive system work properly and improves the transportation of oxygen into cells. Purple Corn helps the regeneration of cells and connective tissues. Could reduce cancer risk as anthocyanins could kill cancer cells. Prevents degeneration of cells and slows aging process. Maras salt contains 84 organically active minerals and assimilable by the cells. Regulate blood pressure as for instance low sodium chloride content and rich in magnesium and maras salt are used in healing properties videlicet for skin lesions: varicose ulcers, herpes and psoriasis. Caigua prevent the lowers cholesterol for example sitosterol in caigua lowers the bad cholesterol. It has boosts immune system as most of caigua flavonoids have anti-germ activity. Cat's claw are used for the treatment of treats arthritis as for instance naturally reduces arthritis symptoms and enhance immunity by stimulating the immune system. It can helps improves digestive health like help people with stomach and bowel disorders. Graviola its properties keep your immune system strong, strength immune system. Graviola is rich in fiber that helps the bowels. Graviola can help in proper blood circulation. Camu Camu has the highest level of vitamin C, boosts the immune system. It has potent anti-inflammatory agents and boost cognitive ability, focus and concentration.

Keywords: natural resources, cognitive ability, immune system, physical and mental activity, bioactive properties, lipid substances, anti-inflammatory agents

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Introduction

Cacao

*Cacao (Theobroma cacao).*¹

Origin: San Martin, Amazonas, Ucayali.²



Common name: Cacao, chocolate tree, cacao, kakao “Food of the Gods”.³

Cacao is a small evergreen tropical native tree, no more than 30 feet tall in the family Malvaceae.^{4,5} The fruit of the cacao contains

20-50 flat light-brown seeds.⁶ Cacao bean is full of antioxidants, fat, carbohydrates, protein, polyphenols like flavanoids cacao nutrients that are antioxidants, minerals like calcium, magnesium, sulfur, copper, iron, zinc and potassium, oleic acid which is a heart-healthy essential monounsaturated fat, fiber and vitamins E, B2, B1, B5, B3 and B9 (Figure 1).^{7,8}



Figure 1 Illustration: Cacao fruits on the tree.

Maca

*Maca (Lepidium meyenii).*⁴

Origin: Junin⁵



Common name: Maca

Inca warriors used to eat maca before going into battle, they believed it gave them invincible strength and stamina. For centuries, the root herb maca has been grown in the Andes Mountains, at altitudes of over 12,000 feet.⁹ The soils of these high plateaus are extremely rich in minerals.¹⁰ Maca is exposed to intense levels of sunlight and extreme cold weather conditions. Its ability to survive and thrive against all odds captures its character. It is extremely beneficial for people with high physical and mental activity (Figure 2).^{11,14,15}



Figure 2 Illustration: Maca plants.

Quinoa

*Chenopodium quinoa.*¹²

Origin: Puno, Arequipa, Ayacucho.^{16,17}

Common name: Quinoa, kinwa, trigo inca.

Quinoa is cultivated in the Peruvian Andes since about 5000 years ago.^{16–18} It was one of the main food of the ancient inca's empire. Quinoa contains a wide number of amino acids. It has an ideal balance of essential amino acids as well as basic fatty acids. It also contains vitamin A, B C; quinoa is rich in minerals such as calcium, iron, phosphorus, potassium, magnesium and others that help to have a strong bone system. It is also rich in fiber and vitamin E (Figure 3).¹⁹



Figure 3 Illustration: Quinoa Plants.

Goldenberry

*Physalis peruviana.*²⁰

Origin: Huanuco, Cajamarca.²¹



Common name: Aguaymanto, uchuva, uvilla, incan berry, physalis, capuli.²²

Goldenberry is a shrub of the Peruvian Andes,^{20–22} known as a native fruit from the time of the Incas. Goldenberry fruits are protected by a calyx edible texture of paper, of small size and pleasant taste, characteristics that give this fruit a very appetizing appearance in the market, as well as its exquisite aroma, with a peculiar bittersweet flavor and good taste (Figure 4).



Figure 4 Illustration: Goldenberry fruits.

Lucuma

Pouteria lucuma.²³

Origin: Lima, Ayacucho, La Libertad, Cajamarca.²³



Common name: Lucuma, Lukma, Lucumo.

Lucuma is a native fruit from the peruvian andes.²³ In ancient times, the Incas in their daily diet due its high nutritional values used it. Lucuma is rich in fiber, iron and carotene, three key substances for the correct functioning of the organism.^{24,25} This fruit is high in niacin, a substance better known as vitamin B3,²⁴ which collaborates very efficiently in the metabolism of proteins and in the process of body energy production (Figure 5).



Figure 5 Illustration: *Pouteria lucuma* fruits.

Purple corn

Zea mays.²⁶

Origin: Arequipa, Huanuco.²⁷



Common name: Maiz morado.²⁷

Purple corn is a plant that grows in the inter-Andean valleys. It was used in the pre-inca gastronomy. The cob is used to prepare the traditional drink called chicha morada and a sweet dessert called mazamorra morada. It is a powerful antioxidant, rich in phenols and anthocyanins. Purple corn also has antitumor and bioactive properties (Figure 6).^{26,27}



Figure 6 Illustration: Purple Corn seeds.

Maras salt

Origin: Cusco.



Common name: Sal de Maras, Pink Salt.

Maras Salt or 'Sal de Maras' is obtained from the natural evaporation of a salt river drained from an ancient canyon below the Maras mountains in the heart of the Sacred Valley of the Incas, Cusco. Maras Salt is highly recommended for health care by its healing properties, anti-inflammatory and is suitable for regulating blood pressure due its low concentration of sodium chloride. Maras Salt has become a favored ingredient of Peruvian chefs and of Peru's gastronomic boom (Figure 7).^{28,29}



Figure 7 Illustration: Maras Salt.

Caigua

Cyclanthera pedata.³⁰

Origin: Andes of Peru.³¹



Common name: Caigua, caihua, achocha.³²

Caigua is the fruit of a peruvian climbing plant. It regulates the metabolism of fats, helps reduce blood cholesterol, and by its low calorie, it is used in diets for weight loss. Caigua is composed by 93% water. This fruit has pectin, albuminoidal matter, carbohydrate, lipid substances, proteins, vitamin C, salts and minerals such as calcium, iron, phosphorus, selenium, magnesium and zinc (Figure 8).^{30–33}

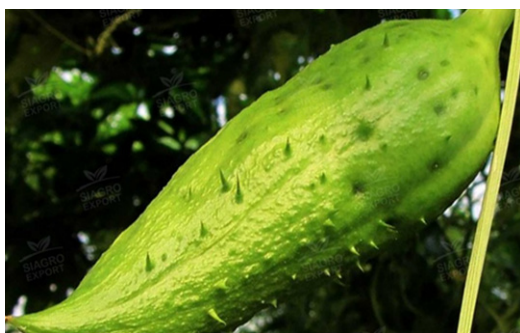


Figure 8 Illustration: Caigua seeds (*Cyclanthera pedata*).

Cat's claw

Uncaria tomentosa.³⁴

Origin: Amazon of Peru.^{35–37}



Common name: Uña de gato, Garabato amarillo, Bejuco de agua.³⁸

Peruvian amazon tribes have used cat's claw for centuries to increase the performance in the work, to heal deep wounds, relieve bone pain, clear the digestive tract, postpartum recovery and hormonal imbalances of women. It is also used in traditional medicine of Peru for the treatment of rheumatoid arthritis, gastritis, viral processes,

gonorrhea, cirrhosis, female genital neoplastic processes, dysentery, and kidneys and to treat cancer among other diseases (Figure 9).^{34–39}



Figure 9 Illustration: Cat's Claw.

Graviola

Annona muricata.^{40,41}

Origin: Central Jungle of Peru.⁴²



Common name: Graviola, Guanabana, Anona, Catuche, Catoche, Soursop.⁴⁰

Graviola is a native plant of the Peruvian Amazon. The fruit is used in the preparation of drinks, ice cream or for direct consumption. All parts of the Graviola tree are used in natural medicine: the bark, leaves, roots, fruit and seeds. Graviola leaves have antispasmodic and antibacterial properties. Recent research reveals that leaves Annonaceae acetogenins have principles antimutagenic and antitumor (Figure 10).^{40–43}



Figure 10 Illustration: Graviola plant.

Camu camu*Myrciaria dubia*.⁴⁴**Origin:** Loreto, Ucayali, Amazonas.⁴⁴**Common name:** Camu camu, Capan, Araca dagua.⁴⁴

Camu Camu is a native fruit of the Peruvian Amazon. It has a high level of vitamin C, calcium and phosphorus. Camu Camu is a potent antioxidant and helps to synthesize collagen in the body. This fruit can promote hormone synthesis, speed up healing, iron absorption as well as the normal replication of cells in the gastro-intestinal tract (Figure 11).⁴⁴

**Figure 11** Illustration: Camu Camu fruits.**Conclusion**

The basis for finished herbal products may include comminuted or powdered herbal materials, or extracts, tinctures and fatty oils of herbal materials. Extraction, fractionation, purification, concentration, or other physical or biological processes produce them. They also include preparations made by steeping or heating herbal materials in alcoholic beverages and/or honey, or in other materials. At present, most of the Pharmaceutical companies in Bangladesh are launching the herbal products and are making for healthier and happier people as well making the veterinary products.

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Conflicts of interests

Authors declare no conflict of interest exists.

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