

Formulation of Herbal Face Wash And Its Application

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Abstract: Almond, Tinospora, Bermuda grass, Pomegranate peel are medicinal plants they are used as traditionally from ancient years in various herbal medicines such as Ayurveda, Siddha, and Homeopathic. Almond, a rich source of macronutrients and micronutrients, is extracted for food flavorings and the cosmetics industry. Almond contains a significant proportion of poly and monounsaturated fatty acids, with oleic acid as the main compound, and an important amount of tocopherol and phytosterol content. Almond oil may promote heart health, stabilize blood sugar levels, prevent free radical damage and help you maintain a healthy weight. Tinospora is an anti-oxidant it can prevent oxidative stress and that in turn slows down the ageing process, terpenoids, alkaloids, lignans, steroids. The strong anti-viral and anti-bacterial properties of Bermuda grass is used in traditional medicine for treating various ailments like piles, skin and eye problems, bleeding disorder and other gynaecological problems. Typical chemical composition of fresh Bermuda grass is 9-16% protein, 45-85% NDF and 20-45%.

Keywords: Almond, Tinospora, Bermuda grass, Pomegranate peels, Face cream, Evaluation.

INTRODUCTION:

The demand of herbal cosmetics due to the availability of new ingredients and the financial rewards for developing successful products and maintaining a quality standard. Cosmetics are the products applied on the body. Face cream is used as a cosmetic for softening and cleansing action. The Ayurvedic system of medicine was one of the most important systems that uses herbal plants and extracts for the treatment and management of various diseases. The almond (*Prunus amygdalus*, syn. *Prunus dulcis*) is a species of tree native to Iran and surrounding countries, including the Levant. The almond is also the almond tree.

Genus: *Prunus*.

Species: *P. amygdalus*.

Subgenus: *Prunus* subg. *Amygdalus*.

Family: Rosaceae.

Almonds grown as nuts may be eaten raw, blanched, or roasted and are commonly used in confectionery baking. In Europe almonds are used to make marzipan, a sweet paste used in pastries and candy, and in Asia almonds are often used in meat, poultry, fish, and vegetarian dishes. *Tinospora cordifolia* (common names: gurjo, heart-leaved moonseed, guduchi or giloy) is a herbaceous vine of the family Menispermaceae indigenous to tropical regions of the Indian subcontinent.

Species: *T. cordifolia*,

Family: Menispermaceae.

Tinospora cordifolia is a chemical compound including Alkaloids, Terpenoids, Lignans, Steroids and others that establish the phytochemistry and pharmacological activity of *Tinospora*. *Tinospora cordifolia* has an importance in traditional Ayurvedic medicine used for ages in the treatment of fever, jaundice, chronic diarrhea, cancer, dysentery, bone fracture, pain, asthma, skin disease, poisonous insect, snake bite, eye disorders.

Typical chemical composition of fresh Bermuda grass is 9-16% protein, 45-85% NDF and 20-45%. Order: Poales, Family: Poaceae, Subfamily: Chloridoideae. The strong anti-viral and anti-bacterial properties of Bermuda grass is used in traditional medicine for treating various ailments like piles, skin and eye problems, bleeding disorder and other gynaecological problems.

Method

Almond, Tinospora, Bermuda grass, Pomegranate peels these are the crude drug in which complex phytochemicals are present by using these chemical preparations of face wash.

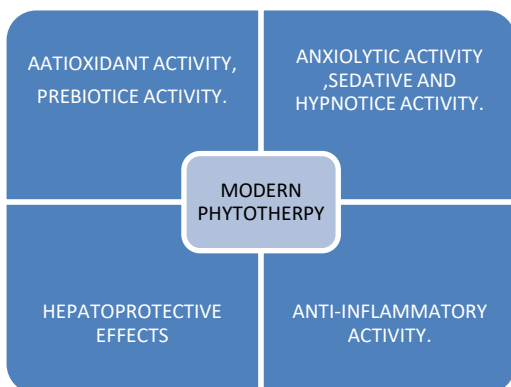
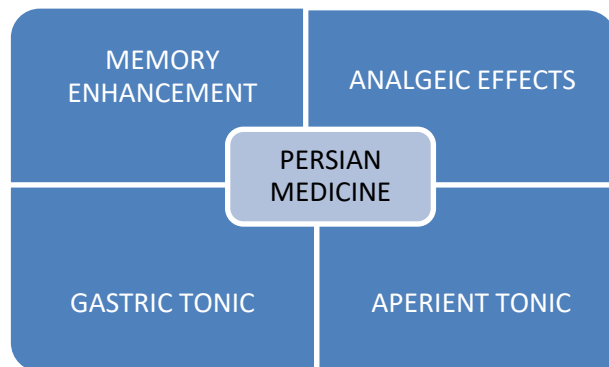
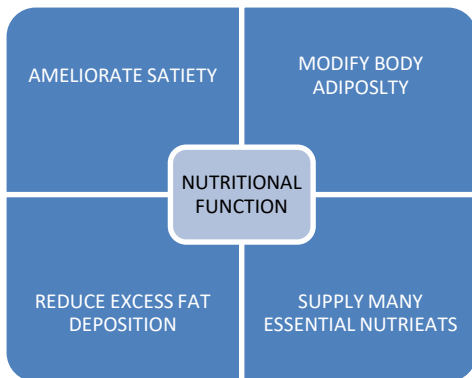
Cosmetological Importance Of Almond.

Almond are edible nuts of *Prunus dulcis* belongs to family Rosaceae. It is the only species of the *Prunus* genus whose commercial interest lies in its seeds, whereas the remaining *Prunus* species are mainly grown for their juicy flesh or mesocarp (stone fruits)^[1]. Almond has also been described as having antioxidant and inflammatory activities due to its polyphenol content, including flavonoids, hepato and neuroprotective potential and, perhaps the most known, cholesterol-lowering properties. Also, almond-derived products such as their oils have demonstrated both antibacterial and antifungal capabilities which makes almond a product of great interest both to the consumer and producer^[2]. Almonds are nutrient-dense and provide an excellent source of vitamin E, β -sitosterol, squalene, manganese, magnesium, copper, fiber, riboflavin, and protein. Almonds are a good source of the mono and polyunsaturated fatty acids oleic and linoleic acids. Additionally, recent studies have shown that almonds, specifically their skins, are a rich dietary source of phenolic and polyphenolic compounds, which are believed to account for a major portion of their

antioxidant capacity^[3]Sweet almond oil is widely used in traditional medicine and is similar to olive oil in its chemical properties. The composition of almond oil is mainly oleic and linoleic acid and vitamin E15 that together have different effects on human skin including protecting against external factors such as wounds, superficial lacerations, eczema, and psoriasis. The mechanism of action is thought to increase skin resistance, repair the upper layer of epidermis, produce restorative and moisturizing effects, enhance capillary blood circulation, stimulate collagen production, and protect the skin against the damaging effects of free radicals^[4]Almond are the different bioactive compounds (BCs) found in almond by-products most reports have been focused on phenolic compounds, including mainly phenolic acids and flavonoids, polysaccharides, terpenoids, and fatty acid ^[5].



Chemical structures of the main compounds of sweet almond



Bermuda grass :

Natural genetic differences related to the drought stress tolerance of plants, such as *Festuca arundinacea* Schreb and *Lolium perenne* L., have been studied . Adaptations to this kind of stress have important implications for plant growth and adaptation to climate change . *C. dactylon* is a warm-season turfgrass primarily ranging from latitudes of 45° N to 45° S. It is widely used for lawns, parks, and sports fields^[7]. Allergic rhinitis (AR) is an immunoglobulin E

(IgE)emediated inflammatory disorder of the nose. The estimated AR prevalence ranges from 11.9% to 30.2% in the United

States. The 2005-2006 US National Health and Nutrition Examination Survey reported a positive IgE-specific sensitization for perennial rye grass and Bermuda grass pollens in 19.5% and 15% of participants respectively^[8]

The current study was conducted to determine the combined performance of soil micro- and macro-organisms to stimulate the growth and lead (Pb) uptake of Bermuda grass (*Cynodon dactylon* (L.) Pers.) in a soil polluted with Pb-mining activities. Plants were inoculated with a mixture of arbuscular mycorrhizal (AM) fungal species, plant growth-promoting rhizobacteria (PGPR) species, and epigeic earthworms (*Eisenia fetida*) either alone or in combination^[9] Bermuda grass or Couch grass (*Cynodon dactylon* (L.) Pers.) is a stoloniferous and rhizomatous C4 grass that is found in tropics and subtropics including SSA. *C. dactylon* is listed second after purple nutsedge (*Cyperus rotundus*) as the most troublesome weed in the world^[10]. Bermudagrass (*Cynodon dactylon*) is the dominant species in the heavy metal polluted areas in the south area, China. A large number of studies have shown that Bermudagrass has great potential in the remediation of Cd contaminated soil^[11]. The treatments consisted of four levels of replacement of Bermuda grass hay with alfalfa hay: 0, 200, 400, and 600 g/kg based on dry matter. The experimental diets were composed of alfalfa hay, Bermuda grass hay, corn meal, soybean meal, mineral mix, and calcitic limestone^[12]



Preparation of activated carbon from Bermuda grass:

The collected grass was dried naturally after cleaning up with deionized water, then smashed and passed through a size of 0.2500 mm sieve. In this study, two-step synthesis method was used to prepare activated carbon, e. g. carbonization and activation process. Carbon was stabilized by carbonization process, which was carried out at 450 oC for 2 h with a heating rate of 2.5 oC min⁻¹ under a nitrogen atmosphere, and then chemical activator was used for expanding the pore structure^[13]. More than 60% of Bermuda grass sensitized rhinitis/asthma patients were sensitized to Timothy grass, while another study showed that some Bermuda grass sensitized patients were also co-sensitized to mugwort^[14]

Tinospora:

Tinospora sinensis (Lour.) Merr. belongs to the family Menispermaceae. *nospora crispa* (L.) Hook. F. & Thomson^[15] is popular for its medicinal value in south Asian countries including Malaysia, Philippines Thailand, Indonesia, Bangladesh and Vietnam . In Malaysia, *T. crispa* is used traditionally for numerous therapeutic purposes including diabetes, hypertension, loss of appetite, and as insect repellent. In Indonesia, it has been used for the treatment of diabetes, hypertension, and backache^[16]. Anti-inflammatory activity of *Tinospora cordifolia* aqueous extract (TCAE) in 1-methyl-4-phenyl-1,2,3,6-tetra hydropridine^[17].



It is believed that the viral spread is not air/water borne or through insects/animals. It has spread to many countries round the globe mainly through societal interactions including transmission from human-to-human through droplets, contaminated hand or surface

contacts. Now there has been a daunting task for the scientists to not only control the morbidity but also the steeply raising mortality^[18]. Because an inflammatory response that transmits the inflammatory stimuli to other cell types and tissues involves a variety of mediators and multiple-signalling pathways, it is impossible to focus on any one specific area in the process of treating it. Therefore, an effective proven strategy to control inflammatory reactions is controlling the production or function of cytokines^[19]. In regards to toxicity and side effects, the Ayurvedic literature reports that *Tinospora* can cause constipation, if it is taken regularly at high doses. However, it has been reported that no side effects or adverse reactions have been observed when the stem extract of *Tinospora* was administered in rabbits up to an oral dose as high as 1.6 g/kg and to rats up to a dose of 1 g/kg of total plant extract. Little is known about the toxicology of this product in humans^[19]

Pomegranate peel:

The pomegranate (*Punica granatum L.*) (Lythraceae; formerly belonging to the Punicaceae family) is a fruit-bearing deciduous shrub or tree^[20]. Pomegranate peel, a waste product in the production of juice, is rich in health-promoting compounds. However, its individual constituents, immunoregulatory activities, and action associated with bacterial diversity in the gut microbiota are largely unknown. Here, the main nutrient ingredients of pomegranate peel extract (PPE) were identified as phenols, flavonoids, amino acids, carbohydrates, fatty acids, lipids, nucleotides, organic acids, alcohols, and vitamins via metabolomics evaluation^[21]. Currently, citric acid is mainly produced by *Aspergillus niger* using submerged fermentation. But, the solid-state fermentation (SSF) of food processing by-products seems to have some advantages. The growth of the microorganism in a solid substrate is similar to its natural environment, and the production of citric acid is more efficiently than in submerged fermentation^[22]



These bioactive compounds have shown important health benefits, including antioxidant and anti-cancer properties and remarkable antimicrobial activity against pathogenic and spoilage bacteria. Various recent applications have shown how pomegranate peel extract can be used to develop active coatings or bio-based films to be applied to fresh food to control microbial proliferation or oxidation phenomena^[23]. Oily food products require a protective agent against auto-oxidation and chemical spoilage during their shelf life storage^[24]. Pomegranate exhibits several other pharmacological activities, including anthelmintic effects on various intestinal trematodes, nematodes, and cestodes in addition to its anti-amoebic, antimalarial, and anticoccidial effect^[25]. Peel of pomegranate accounts for about 50% of the total fruit weight, it represents a rich source of bioactive components.

In particular, punicalagins and gallic acids are the main active components present in the peel and have been correlated with the antimicrobial activity of the extract. However, an accurate standardization of PPE preparations is needed since the polyphenolic content may greatly vary according to several factors^[26]

l (PSO) accounts for about 12–20% of the fruit weight and also has many therapeutic properties [5].

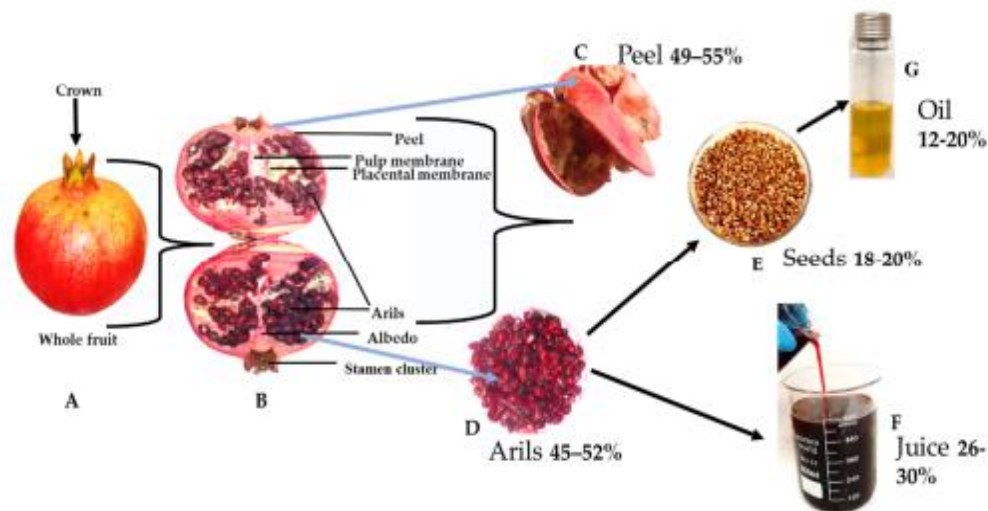


Figure 1. Botanical description of *Punica granatum* L. fruit: (A) whole fruit; (B) anatomical description of pomegranate fruit; (C) peel; (D) arils; (E) seeds; (F) juice; (G) oil.

Conclusion : face wash is more acceptable to believe that natural remedies are safer with synthetic subjects than with fewer side effects. In these face wash we use various herbal constituent like almond contain vitamin E, β -sitosterol, squalene, manganese, magnesium, copper, fiber, riboflavin, and protein, Tinospora have Anti-inflammatory activity, Bermuda grass, Pomogranate peels the main nutrient ingredients of pomegranate peel extract (PPE) were identified as phenols, flavonoids, amino acids, carbohydrates, fatty acids, lipids, nucleotides, organic acids, alcohols, and vitamins

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