

PREPARATION OF COLA NUT FOR USE IN A MOUTH FRESHENER COMPOSITION

FIELD OF TECHNOLOGY

Disclosed herein is a novel mouth freshener free of betel nut. The said novel mouth
5 freshener comprises health friendly cola nut having hard bite through, refreshing and
stimulating characteristics similar to betel nut. Also disclosed herein is the process for
converting/processing the raw cola nut to obtain health friendly cola nut which is
suitable for replacement of health unfriendly betel nut for the said novel said novel
mouth freshener and process for making the said novel mouth freshener. This invention
10 relates to a non-areca nuts containing chewing product with the intension of replacing
traditional pan masala and also gutka. Since the product under the present invention as
mentioned herein above comprises health friendly cola nut which acts as a mild source
of caffeine and hence is satisfactory but not harmful when compared to the similar
products containing betel nuts as the primary ingredient. The said novel mouth
15 freshener comprising health friendly cola nut have hard bite through, refreshing and
stimulating characteristics similar to traditional mouth freshener containing betel nut.

Betel nut (also referred herein below as Areca nut, catechu, supari and the likes)
chewing has long been a social habit in India, Taiwan and other Asian and tropical
countries. Areca nut (catechu) is an endosperm (nut /fruit) from a tropical tree and is the
20 fourth commonly used psychoactive substance chewed as an aid to digestion and as a
stimulant. It is either used alone or added with different tobacco or non-tobacco
substances in various combinations and proportions. Areca nut is part of a betel quid
commonly used in Asian countries. Areca nut chewing has been linked to several
serious side effects. It contains three major alkaloids: arecoline, pilocarpine, and
25 muscarine. Areca nut chewing is associated with increased risk of cardiovascular
disease. Generally pan masala/mouth freshener compositions available in the market
and disclosed therein in the prior art are based on betel/areca nut as an essential
ingredient and one of the main reason is hard bite-through characteristic. Betel nut
chewing is a popular oral habit with potential links to the occurrence of oral cancer. The

International Agency for Research on Cancer concluded that chewing areca nut is carcinogenic to humans (World Health Organization. 2003. And. IARC, France. 2005. ISBN 978-92-832-1285-0). Studies reveal that areca nut (AN) extract may demonstrate mutagenic and genotoxic effects, in addition to inducing preneoplastic as well as neoplastic lesions in experimental animals. Areca nut should, thus, be highly suspected as a human carcinogen. Nitrosation of areca alkaloids also produces AN-specific nitrosamines that have been demonstrated to be mutagenic, genotoxic and are capable of inducing tumors in experimental animals. (Oral Oncology; Volume 37, Issue 6, September 2001, Pages 477–492). Betel nuts also produces various autonomic and psychoneurologic effects including tachycardia, flushing, warmth, cholinergic activation, alertness, and euphoria (J Toxicol Clin Toxicol. 2001;39(4):355-60).

The details disclosed therein in the prior art and described hereinabove in a vivid manner indicate that use of betel nut in any form is harmful to human health and may cause many diseases including oral cancer. Cola nut (also referred as kola nut) has anticancer and many other pharmaceutical properties and the food products in any form are useful for human health. Disclosed therein in the prior art are food products wherein the cola nut has not been used and instead cola extract has been used in various food products viz biscuit, beverages and the like. There has not been a single disclosure wherein the said cola product has been used in chewable solid nut form as mouth freshener or pan masala, therefore, there is no prior art which teaches, stimulate or motivate a person skilled in the art to use the cola nut in place of betel nut/areca nut for mouth freshening/pan masala application as like betel nut raw cola nut can't be used as such and there is a dire need for developing a process to convert the raw cola nut into a suitable product which is suitable to replace betel nut for mouth freshener application having hard bite, stimulating and refreshing characteristics similar to betel nut.

Disclosed herein is a novel mouth freshener composition free of betel nuts comprising hard bite through health friendly cola nut used therein in the said novel mouth freshener and process for making the said health friendly cola nut suitable for use in the said novel mouth freshener. The said novel mouth freshener composition optionally contain

fine natural flavoring materials, which tastes and is as persistent in mouth as areca nut (supari), therefore, a perfect alternative to health unfriendly betel nut based mouth freshener and also disclosed herein is the process for preparing the said novel mouth freshener. The present invention provides a healthy alternative to betel nut also referred
5 as supari in the field of mouth fresheners, which almost exactly tastes and is almost equally persistent in mouth as supari and therefore overcoming all the health related shortcomings of supari. Disclosed herein is a novel cola nut suitable to replace areca nut for mouth freshener and process for preparing the same and a composition for pan masala also referred as mouth freshener, free from betel/areca nut and instead the said
10 suitably processed novel cola nut is used in the said novel mouth freshener composition. The primary active chemicals in cola nut are caffeine and theobromine. Caffeine is a mild stimulant found in coffee, tea, foods, drinks and the likes. Caffeine stimulates the central nervous system and improves mental alertness, as well as reducing physical fatigue and appetite. Theobromine produces stimulant effects similar
15 to that of caffeine, but it is milder. Caffeine and other stimulants may cause people to feel calm and relaxed.

Medical use of cola nut

When taken internally, the large concentrations of caffeine in some species of cola, can
20 expand the bronchial air passages. This makes cola nut effective at treating breathing disorders like asthma. Prior to the advent of stronger drugs, cola nut was utilized to treat various maladies and medical conditions, including but not limited to the uses listed below. Aphrodisiac, asthma treatment, aid digestion, headache treatment, migraine treatment, mild antidepressant, to decrease appetite, to increase energy, to relieve
25 diarrhea, whooping cough treatment, diuretic (causes a person to urinate), astringent (reduces the flow of blood). However, cola nut being rich in caffeine content can't be chewed as such as areca nut which is traditionally used by the mankind.

Prostate Cancer

Cola nut extracts contain nonsteroidal plant compounds that have the ability to induce death of cancerous prostate cells and may modulate prostate growth and function, says
5 Rajasree Solipuram in an article published in the 2009 edition of the "Journal of Toxicology." No clinical studies have been conducted to study the benefits of kola nut extracts in prostate cancer patients.

Infections

10 Cola nut extract significantly inhibit the growth of the bacteria belonging to the Mycobacterium species that cause a variety of diseases, including tuberculosis and meningitis, says a study published in the May 2004 edition of the journal "Phytotherapy Research." However, the anti-mycobacterial properties of cola nut have not been
15 proven clinically and the herb should be used only under the guidance of a trained health care professional.

Nervous System Stimulation

One tablespoon of cola nut powder in a cup of black coffee can stimulate and economize nervous and muscular energies, according to Richard Alan Miller, author of
20 the book "The Magical and Ritual Use of Herbs." Cola nut has also been used in combination with ephedrine to treat chronic fatigue syndrome. It is best to consult a doctor before using cola nut as a nervous system stimulator.

Weight Loss

25 Another animal study published in the first issue of the 2009 edition of the "Nigerian Journal of Physiological Sciences" discloses that chronic intake of cola nut can reduce food intake and body weight in rats without affecting water intake. The weight loss is believed to be because of the appetite inhibiting properties of the caffeine in cola nuts. An article published in March 2006 edition of the "African Journal of Biotechnology"
30 states that cola nut can increase the metabolic rate at low concentrations and this may

promote weight loss. However, a large amount of cola nut reduces the metabolic rate and heart rate, therefore, discuss the pros and cons of cola nut with a physician before using it for weight loss.

- 5 In view of above the inventors of the present invention have developed a formulation comprising cola nut in a proportion replacing the use of betel nut and also the chewing of raw nut as such, so that caffeine content to be consumed remains within the permitted limit eliminating the possibility of any adverse health impact.

10 **BACKGROUND OF THE INVENTION**

Areca nut also referred as Betel nut and suparis the fourth most commonly used psychoactive substance in the world. Approximately 600 million people use areca nut in varying forms - raw ripe nuts to processed nuts in various combinations, especially with tobacco. Areca nut has been consumed in various preparations like Paan,
15 Vettalaipaaku, Surti, Pan Masala, Gutha, Supari, Khaini, Naswaar, Zardaa, Mawa, Mishri, Pin Lang, Buyo, Gudaku, Lao-hwa (Taiwan), Mainpuri, Tamol, and the likes. This habit is practiced commonly in central southern, and Southeast Asia and is now also emerging in Western countries. Recently new information on medical, biochemical, and psychological use of areca nuts have been reported. Several deleterious effects on oral
20 and general health are now linked to use of the said areca nuts. The consumption of areca nut has been strongly linked to the development of oral sub mucous fibrosis. Betel nut chewing has long been a social habit in Asian and tropical countries. It produces various autonomic and psycho neurologic effects including tachycardia, flushing, warmth, cholinergic activation, alertness, and euphoria. Although the oral
25 carcinogenic effects are well known, nevertheless, betel nut chewing can also produce significant cholinergic, neurological, cardiovascular, and gastrointestinal manifestations (Clinical Toxicology 2001, Vol. 39, No. 4, Pages 355-360). Areca nut and the betel leaf have demonstrated mutagenic, carcinogenic, and genotoxic properties in vitro and animal experiments. Prevalence studies show a dose- and duration-dependent

association of betel quid chewing with precancerous oral sub mucous fibrosis and oral, pharyngeal, laryngeal, and esophageal cancer. A recent study found that areca-nut with and without tobacco increased oral cancer risk by 9.9 and 8.4 times, respectively (*International Journal of Cancer***86**: 128–31). Scientific teams from Taiwan, Malaysia and Papua New Guinea have reported that women who chew areca nut formulations, such as *paan*, during pregnancy significantly increase adverse outcomes for the baby. The effects were similar to those reported for women who consume alcohol or tobacco during pregnancy. Lower birth weights, reduced birth length and early term were found to be significantly higher (*Drug and Alcohol Dependence***105** (1–2): 126 and **95** (1–2): 134–9).

Generally commercially available mouth freshener referred as pan masala comprises betel nuts and other ingredients vizkattha, anticaking agent like magnesium carbonate along with spices like cardamom, clove, etc along with flavouring agents. The harmful effects of the gutka has not only limited its production but also has been banned it in many states. This has motivated the industries to develop another product popularly known as pan masala which has been accepted as one of the best mouth freshener. However it mainly contains betel nuts also called as areca nuts, catechu, cardamom, lime and a number of fine natural perfuming materials.

WO2010098652 discloses anticancer and antioxidant properties of cola nuts. EP 0450669B1discloses Cosmetic, dermatological slimming, anticellulitis composition containing cola extracts.CN1227058 discloses nutrient biscuits referred as cola biscuits and the said cola ingredient imparts nutrient property to the food product in the form of biscuit.

2467/DEL/2012 discloses a composition for a mouth freshener wherein maize has been used replacing areca/betel nut.

WO2010084503 discloses a mouth freshener composition wherein Tapioca” up to an extent of 30% to 62% by weight of the composition is used as a as substitute for betel nuts which are generally used for such composition.

Food Chem Toxicol.2009 Aug;47(8):1725-32 discloses that Cola nut extract is used in the food industry as a flavoring ingredient. Caffeine and theobromine are two important constituents of cola nuts. The pharmacological/toxicological properties of cola nut extract are parallel to those of a roughly equivalent dose of caffeine. U.S. consumers have a history of safe consumption of cola-type beverages containing cola nut extract that dates at least to the late 19th Century, with a significant global history of exposure to the intact cola nuts that date centuries longer.

EP1707058 discloses a chewing tablet which contains cola nut extract.CN103153081 discloses a chewing gum composition that imparts a mouth-moistening effect when orally consumed. The said chewing gum composition comprises chewing gum composition comprises a blend of components comprising spilanthol to reduce or eliminate the perception of mouth dryness and suitable nutrients like cola nut extract.

CN101480428 discloses an essence of olive oil and cola nut extract which stops virus infecting and preventing viruses from diffusing, developing and aggregating in cell membranes, can directly penetrate through recipient cells infected by viruses so that viruses can not duplicate, can neutralize the generation capability of reverse transcriptase and protease so as to kill the material bases for the existence of retrovirus of HIV and the like and change the ribonucleic acid of healthy cells, can directly irritate phagocyte dissolution, helps time promptness of an immunologic system, swallows microorganisms and foreign substances, and has no harmful effect to the function of healthy cells. Olive leaf and cola nut essence liquid strengthens the immune system.

WO2010098652 discloses cola nut as an anticancer agent.

US20040077556 discloses a composition for promoting weight loss by increasing metabolism and boosting energy levels in mammals. One of the ingredients is caffeine and for this cola nut is one of the source.

CN1338901 discloses a bread spread with cola nut flavor.

EP 0450669 relates to cosmetic, dermatological slimming anticellulitis composition containing cola extracts.

CN 1227058discloses nutrient biscuits comprising cola extract and biscuit as a nutrient carrier.

- 5 The prior art cited hereinabove demonstrate that cola nut has a strong pharmacological activity and useful for curing cancer, as a nutrient food supplement, for weight loss, for strengthening immune system against virus etc. In all the inventions disclosed therein in the prior art the cola nut's extract has been used. There is no teaching, stimulation or motivation to a person skilled in the art to use cola nut as a nut in solid form having
- 10 characterization of hard bite-through similar of areca nut. Raw cola nut as such can't be used in solid form as a replacement for areca nut and there is a need to develop a process to convert the raw cola nut into a novel product having hard bite through, stimulating and refreshing characteristics similar to betel nut and the said novel cola nut is ready to use as a replacement to areca nut to obtain a health friendly and health
- 15 promoting mouth freshener.

OBJECTS OF THE PRESENT INVENTION

- First aspect of the invention is to develop a suitable health promoting cola nut having hard bite through, refreshing and stimulating characteristics similar to currently used health unfriendly nuts in food products such as mouth freshener, pan masala and the
- 20 like.

Second aspect of the invention is to develop a process for processing raw cola nut to obtain health friendly cola nut having hard bite through, refreshing and stimulating characteristics similar to areca nut and suitable for chewable food products such as mouth freshener and the likes.

- 25 Third aspect of the invention is a novel mouth freshener free of betel nut.

Fourth aspect of the invention is to develop a novel composition for a mouth freshener comprising processed cola nut, dusting mix and flavor.

Fifth aspect of the invention is a process for the preparation of said novel mouth freshener composition.

5 **ADVANTAGES OF THE INVENTION**

The invention totally eliminates the use of Areca nuts so called supari from the food products such as pan masala by replacing the said supari with health friendly and health promoting cola nuts. This makes a healthy mouth freshener also referred as pan masala with no risk as of harmful chemicals associated with supari. The cola nut used as a replacement for supari is fully derived from plant source rich in fiber and imparts satisfaction to the chewer similar to that from original supari pan masala and also to coffee lovers.

SUMMARY OF THE INVENTION

Disclosed herein is a areca nut free chewable food product also referred as mouth freshener or pan masala and the likes comprising health friendly cola nut having hard bite through and stimulating characteristics similar to areca nuts and process for making the said health friendly cola nut suitable for use in the said novel mouth freshener and composition thereof. This invention particularly relates to a non-areca nuts containing chewing product with the intension of replacing traditional pan masala and also gutka. Since the product under the present invention as mentioned herein above comprises health friendly and health promoting cola nut which acts as a mild source of caffeine and hence is satisfactory but not harmful like similar products containing areca nuts as the primary ingredient. It is a product that will be liked by the coffee lovers and as such is not suitable as a replacement for areca nuts also referred hereinabove and hereinbelow as betel nuts for mouth freshener application. Disclosed herein is a process for converting raw cola nuts into processed cola nuts which have hard bite through and stimulating characteristics similar to betel nuts and the said processed cola nuts are

suitable as a replacement for health unfriendly betel nuts for chewable food products such as mouth freshener, pan masala and the likes. The chewable food product composition of the present invention comprises said processed health friendly and health promoting cola nuts, dusting mix and flavoring agents; wherein dusting mix
5 comprises catechu, lime and other ingredients like anti caking agents and taste enhancers.

DETAILED DESCRIPTION OF THE INVENTION

The present invention discloses a novel areca nut free chewable food products such as mouth freshener, pan masala and the likes comprising processed cola nut and process
10 for processing the health friendly raw cola nut to obtain cola nuts suitable for replacement of health unfriendly areca nuts in the said chewable food composition such as mouth freshener, pan masala and the likes. This invention particularly relates to a non-areca nuts containing said chewing product with the intension of replacing traditional pan masala and also gutka. The chewable composition of the present
15 invention comprises processed cola nuts, flavoring agents, and dusting mix; wherein dusting mix comprises catechu, lime and other ingredients like anti caking agents and taste enhancers.

The entire process is performed under the well maintained conditions of temperature and relative humidity.

20 The process for the preparation of the novel mouth freshener comprises various steps as discussed herein below:

- i) The cola nuts are screened for quality and further processing. All types of organic and inorganic impurities are removed from the selected batch of cola nuts. The cola nuts are washed with potable water to remove loosely adhered
25 mud and other impurities which gets removed by washing with water.
- ii) The washed cola nuts are then tied in a muslin cloth or taken in a perforated stainless steel trough for further processing, simultaneously, about 1.5 – 3

times the weight of nuts, clean and soft water is taken and heated to boiling temperature in a large kettle / boiler with lid.

5 The cola nuts are immersed in the boiling water for blanching for about 5 minutes and immediately, thereafter, the blanched cola nuts are immersed in a tank of ice cold water till they get cooled. The cooled cola nuts are spread on stainless steel perforated trays and air dried till all loose water gets removed.

10 Blanching is a unit operation prior to freezing, canning, or drying in which fruits or vegetables are heated for the purpose of:

1. Inactivating enzymes;
2. Modifying texture;
3. Preserving color, flavor, and nutritional value; and
4. Removing trapped air.

15 Hot water and steam are the most commonly used heating media for blanching in industry. Processing conditions are usually set up to inactivate enzymes, but other quality parameters, such as color and texture, are commonly monitored.

Blanching is carried out as a pretreatment for freezing, canning, and drying.

20 iii) The blanched cola nuts obtained hereinabove are sprayed with preservative like sodium benzoate. The preservative in solution form in a rotary pan in is sprayed ensuring that concentration of the said preservative remains about 250ppm by weight of the cola nuts. Sprayed cola nuts are then allowed to stand for about 30-45 minutes under the controlled conditions.

25 iv) The blanched and sprayed nuts are cut into gutka grade size (about 6mm) with the help of a suitable cutting machine.

 v) The gutka grade material obtained hereinabove is transferred to perforated stainless steel trays and dried in a pre-heated hot air oven / drier maintained at about 80°C to about 100°C till moisture is approximately about 4.50±1%
30 with respect to weight of cola nuts. The material is turned and mixed after

every 30 minutes for uniform heating and drying. The ready cola nut chunks are then instantly cooled in a dehumidified room at about 35% relative humidity (also referred as RH hereinabove and herein below) and about 10°to about 15°C for about 2 to about 3 hours.

- 5 vi) The cooled cola nut chunks are transferred to storage chamber maintained at about 20 +/- 5°C and about 45 – 50% RH. The processed health friendly and health promoting cola nuts have hard bite, refreshing and stimulating characteristics similar to areca nuts and are suitable for use for the preparation of health friendly chewable food products as a replacement for health unfriendly nuts. The processed cola nuts are stored in air tight food grade containers till further use.
- 10
- vii) The processed cola nuts ready to use as a replacement for health unfriendly areca nut for chewable mouth freshening products are also referred as cola nut chunks as illustrated hereinabove and hereinbelow.
- 15
- viii) The ready to use processed cola nut chunks obtained hereinabove are then sprayed with a blend of flavours, oils, cardamom seeds and other aromatic ingredients in a coating pan and mixed thoroughly for about 15to about 45 minutes. The said flavour blend is added at a level of about 1to about 4% by weight of the cola nuts. The flavouring is carried out in controlled condition at a temperature of about 20 +/-5°C and about 45 +/- 5% RH.
- 20
- ix) The said flavoured cola nut chunks are allowed to get cured in a cold room for about 24 hours in air tight food grade bins.
- x) The flavoured and cured cola nut chunks obtained hereinabove are coated with a dusting mix in a rotary blender to obtain the health friendly chewable mouth freshener also referred as pan masala and the likes. The dusting mix comprises ingredients like catechu and lime powder, taste enhancers and with or without anti caking agents and is coated at a level of about 3 to about 30% by weight of the processed, flavoured and cured cola nuts.
- 25

30 In a general embodiment the raw cola nuts are washed with potable water to remove all sort of inorganic, organic impurities and loosely adhered muddy matter. Cleaned and

washed cola nuts are then tied in a muslin cloth and put into boiling water for blanching for about 5 minutes followed by immediate cooling by putting into icy water. The blanched cola nuts are then air dried. The said air dried cola nuts are then treated with the preservative solution like sodium benzoate dissolved in water in a rotary pan and are allowed to stand for about 30-45 minutes. The next operation of the process comprises cutting of the treated cola nuts into about 6mm size pieces; which are taken for drying in a preheated dryer maintained at temperature of about 80-100°C till the moisture content reaches around about 5% by weight of the cola nuts.. These dried cola nuts are then cooled in a dehumidified room at about 35% RH and about 10 – 15°C for about 2 – 3 hours. The ready cola nut chunks are then sprayed with a blend of flavours, oils, cardamom seeds and other aromatic ingredients in a coating pan and mixed thoroughly for about 15 – 45 minutes. The flavour blend is added at a level of about 1 - 4%by weight of cola nuts. The flavouring is carried out under controlled condition at a temperature of about 20 +/-5°C and about 45 +/- 5% RH. The flavoured cola nut chunks are allowed to get cured in a cold room for about 24 hours in air tight food grade bins. Finally they are coated with a dusting mix in a rotary blender to obtain the health friendly and health promoting mouth freshener also referred as pan masala and the likes. The dusting mix is prepared with ingredients like catechu and lime powder taste enhancers and anti-caking agents and is coated at a level of about 3 – 30% by weight of the processed cola nuts.

The dusting mix is a mixture of ingredients comprising **Catechu (about) 1.9% - 19%),** Lime (about 0.9% – 9%), Anti – caking agents (about 0.2% – 2%) and Taste enhancers (about 0.1% - 2%).

The anti-caking agents required for the preparation of the dusting mix is selected from the group comprising Calcium carbonate and carbonates, Calcium hydrogen carbonate, Calcium phosphate, Monocalcium orthophosphate, Dicalcium orthophosphate, Tricalcium orthophosphate, Magnesium phosphate, Monomagnesium phosphate,

Dimagnesium orthophosphate, Trimagnesium orthophosphate, Ferric ammonium citrate, Mannitol, Cellulose, Microcrystalline cellulose, Powdered cellulose, Sodium carbonate and carbonates, Sodium hydrogen carbonate, Sodium sesquicarbonate, Magnesium carbonate, Magnesium hydrogen carbonate, Magnesium oxide, Sodium ferrocyanide, Potassium ferrocyanide, Ferrous hexacyanomanganate, Calcium ferrocyanide, Bone phosphate, Sodium silicate and silicates, Sodium metasilicate, Silicon dioxide, amorphous, Calcium silicate, Magnesium silicate, Magnesium trisilicate, Talc, Sodium aluminosilicate, Calcium aluminium silicate, Potassium aluminium silicate, Zinc silicate, Bentotone, Aluminium silicate, Potassium silicate, Polydimethylpolysiloxane, Isomalt (isomaltitol), and the like.

Flavouring agent required for the preparation of mouth freshener is selected from the group comprising spices and seasonings as whole, powdered, pastes or liquid extracts in the form of essential oils or/and oleoresins of the spices is selected from the group comprising Mace, Nutmeg, Clove, Black Pepper, Ginger, Cinnamon, Allspice, Cumin, Black Cardamom, Green Cardamom, Saffron, Turmeric, Fennel, Anise, Caraway, Fenugreek, Mint, Oregano, Thyme, Marjoram, Tarragon, Basil, Bishop's weed, Resins & Resinoids, Labdanum, Galbanum, Oak moss, Tree moss, Almonds, Coconut or mixture thereof.

Sweeteners are selected from the group comprising Saccharin (and Na, K, Ca salts), Acesulfame potassium, Aspartame, Erythritol, Sucralose, Polydextrose, Isomalt, Neotame, Sorbitol and sorbitol syrup, Xylitol, Lactitol, Sugar, glucose, Honey, Bura, Jaggery, Golden syrup and Corn syrup, Liquid Glucose, Molasses, Dried glucose syrup, Fructose, Refined sugar, Stevia or mixture thereof.

Taste enhancers (taste modifiers) required for the preparation of mouth freshener is selected from the group comprising fruits & vegetables as whole, powdered, pastes or extracts from the group comprising Strawberry, Guava, Limes, Raisins, Bael, Apricot kernels and seeds, Syzygiumcumini (jamun/ black plums/ black berries), Papaya, Dates, Orange, Passion fruit, Pineapple, Acerola, cherry, Apple, Gooseberries, Bottle

gourd, Pumpkin, Elephant Yam, Potato, Carrots, Sweet potato, Sweet corn, Zucchini, Beet, Water cress or mixture thereof.

Preservatives used is selected from the group comprising common salt, sugar, Dextrose, Glucose syrup, spices, Vinegar or Acetic Acid, Honey, edible vegetables oils, Benzoic acid including salts thereof, Sulphurous acid including salts thereof, nitrates or nitrites of Sodium or Potassium in respect of food like ham, pickled meat, Sorbic acid including its sodium, potassium and calcium salts, propionates of calcium or sodium, lactic acid and acid calcium phosphate, Nisin, Sodium and calcium propionate, Methyl or propyl Parahydroxy-Benzoate, Propionic acid, including esters or salt thereof, Sodium diacetat, Sodium, Potassium and calcium salts of lactic acid or mixture thereof.

In a specific embodiment the cola nut chunks are prepared by spraying the said cola nut chunks with about 3.0% blend of flavours, oils, cardamom seeds and other aromatic ingredients by weight of cola nut chunks in a coating pan and mixed thoroughly for about 15 – 45 minutes. Flavoured cola nuts are then added with about 25% dusting mix by weight of said flavoured cola nuts and the said dusting mix comprises catechu, lime powder and magnesium carbonate as anticaking agent in a rotary blender to get the final mouth freshener under the invention.

In one more specific embodiment the cola nut chunks are prepared by spraying with about 3.0% by weight of cola nuts with blend of flavours, oils, cardamom seeds and other aromatic ingredients in a coating pan and mixed thoroughly for about 15 – 45 minutes. Flavoured cola nuts are then added with 25% dusting mix by weight of flavoured cola nuts comprising catechu (about 1.9 to about 19%), lime powder (about 0.9 to about 1.9%) in a rotary blender to get the final mouth freshener under the invention. The % of the dusting mix is by weight of the cola nuts.

The invention can be best understood by considering the following example.

EXAMPLE 1

Preparation of cola nut chunks

- 100 grams healthy cola nuts are collected and washed thoroughly with potable water to
5 remove muddy matter and other unwanted impurities. These cleaned cola nuts are then
tied into a muslin cloth and put into boiling water and kept boiling for 5 minutes and are
suddenly cooled by putting them into icy water. After draining the water nuts are air
dried and sprayed with preservative solution made by dissolving 0.025 gm of sodium
benzoate in 1 ml of distilled water in a rotary pan and allowed to stand for 40 minutes.
10 These treated cola nuts are cut into 6mm pieces and are dried at 85-100°C in a
preheated dryer till 5% moisture is retained. These 80g dried cola nuts are then
dehumidified to acquire 35% RH and cooled to 10-15°C and are maintained for 2-3
hours.

Preparation of mouth freshener

- 15 Cola nut chunks as obtained above are added with 2.1g flavouring agents
comprising Acesulfame potassium, Sucralose, Spice mixes and cardamom seeds under
controlled conditions of temperature 20 +/- 5°C and 45 +/- 5% RH and are allowed to get
cured in a cold room for 24 hours in air tight food grade bins. Finally they are coated
with a 28g dusting mix comprising lime powder (2.2g), catechu (4.2g) and anticaking
20 agent (0.5g) in a rotary blender to prepare the mouth freshener pan masala.

CLAIMS:

1. A process for making cola nut suitable for use in betel nut free mouth freshener comprising the steps of:

- i) washing raw cola nuts with potable water to remove loosely adhered mud and other impurities;
- ii) heating washed cola nuts obtained in step (i) to boiling temperature of 100°C for 5-10 minutes;
- iii) immersing the boiled cola nuts obtained in step (ii) in a tank of ice cold water and thereafter air drying the cola nuts till all loose water is removed;
- iv) The blanched cola nuts obtained in step (iii) are sprayed with an effective amount of preservative solution;
- v) cutting cola nuts into 6mm in size;
- vi) drying cut cola nuts obtained in step (v) at 80°C to 100°C till moisture is $4.50 \pm 1\%$ by w/w;
- vii) instantly cooling the dried cola nuts obtained in step (vi) in a dehumidified atmosphere at 35% relative humidity and 10°C to 15°C for about 2 to 3 hours;
- viii) cooled cola nuts obtained in step (vii) are transferred into storage chamber maintained at $20 \pm 5^\circ\text{C}$ and 45 – 50% relative humidity;

2. The process as claimed in claim 1 wherein the preservative solution is sodium benzoate.

3. The process as claimed in claim 2 wherein the sodium benzoate is 250ppm by weight of the cola nuts.

4. A use of cola nut prepared according to claim 1 in preparation of betel nut free mouth freshener.

PREPARATION OF COLA NUT FOR USE IN A MOUTH FRESHENER COMPOSITION

5 ABSTRACT

Disclosed herein is a process of preparing cola nut for use in a mouth freshener composition free of betel nut. The cola nuts are cleaned, blanched, cut to size and air dried and sprayed with preservative solution before storage.