The invention is a chewing tobacco substitute made from natural leaves and additives which simulate the taste and consistency of chewing tobacco to which a nicotine compound is added. The invention allows those addicted to chewing tobacco to chew and receive nicotine without incurring the other harmful side effects of tobacco. In one embodiment of the invention the product is provided with varying levels of nicotine.
CHEWING TOBACCO SUBSTITUTE CONTAINING NICOTINE

CROSS-REFERENCE TO RELATED APPLICATION

[0001] The present application claims the benefit of U.S. Provisional Application No. 60/494,420 filed on Aug. 11, 2003, which is incorporated herein by reference.

BACKGROUND

[0002] For many years, it has been demonstrated that tobacco use is harmful, whether from cigarette or cigar smoking or tobacco chewing. Cured tobacco is known to contain a number of nitrosamines, including the harmful carcinogens N’-nitrosodimethylamine (NNN) and 4-(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone (NNK). Cigarette smoke is known to cause lung and other cancers as well as have other deleterious effects on the body, e.g., skin, teeth, etc. In addition, chewing tobacco is known to cause lip, mouth, and throat cancers, among others. Despite this knowledge, individuals continue to use tobacco products and many become addicted to these products. Accordingly, there have been many attempts at products and methods to assist cigarette smokers and other tobacco users to quit tobacco use.

[0003] Certain substitute products incorporate some amount of tobacco along with other ingredients, essentially cutting the amount of harmful tobacco in each dose. Other chewing tobacco substitutes are in the form of leafy materials that emulate the feel of tobacco; however, these products do not contain nicotine or any similar chemical. As a result, these substitutes do not have any mechanism for breaking the chemical addiction.

[0004] In contrast, current nicotine-containing replacement products are generally aimed at cigarette users. These products are only in gum, lozenge, or tablet form and deliver nicotine through oral ingestion. The gum is a mixture of nicotine polacrilex, gum, flavorants, and aspartame. The lozenge is configured with similar ingredients to those of the gum, but in lozenge form. The tablets are compressed tobacco, with other natural ingredients. The tablets are to be chewed and swallowed, thereby giving the user the desired nicotine.

[0005] There is a need for a tobacco-free chewing tobacco substitute that is used and feels like chewing tobacco products and contains some amount of nicotine.

BRIEF DESCRIPTION OF THE INVENTION

[0006] The invention is a chewing tobacco substitute made from natural leaves and additives which simulate the taste and consistency of chewing tobacco to which nicotine polacrilex. The invention allows those addicted to chewing tobacco to chew and receive nicotine without incurring the other harmful side effects of tobacco. In one embodiment of the invention the product is provided with varying levels of nicotine.

DETAILED DESCRIPTION OF THE INVENTION

[0007] The tobacco-free blends of the present invention combine a leaf-like ingredient, such as tea, peppermint, cabbage, and other plant leaves, with a moisturizer, an alkaline chemical to adjust the pH balance of the blend, and a type of nicotine that can be absorbed through the mouth. Additional additives may also be used, such as natural and artificial flavorants to create flavors and smells that emulate moist tobacco products. The blend may have the same taste as chewing tobacco, or may have some other pleasing taste such as peppermint or orange.

[0008] The leaf-like material is used to provide a product that has the same look and feel as tobacco. This is an important aspect of the invention since addiction to chewing tobacco is both a physiological addiction to nicotine, as well as a psychological addiction to the act of chewing the chewing tobacco. The invention satisfies this psychological addiction by providing a product that looks and feels and can be chewed and expectorated in the same way as chewing tobacco. In one preferred embodiment, the flavor and smell of tobacco are also simulated thereby further meeting the psychological needs of the user. While the inventor has found one effective leaf (or combination of leaves) to be tea leaves with mint leaves (such as spearmint or peppermint), all of the following natural materials could potentially be used:

| bak choy  | petunia leaves |
| cabbage leave | panys leaves |
| chrysanthemum leaves | salvia leaves |
| collard leaves | spearmint leaves |
| maple leaves | spinach leaves |
| mint leaves | sugar cane |
| nasturtium leaves | tannecitum leaves |
| Oriental greens | viola leaves |

[0009] Any other type of material, whether natural or man-made could be that provides a feel similar to tobacco. While herbal leaves are readily used with the invention other parts of plants such as roots, stems and cane may also be used, when properly shredded and processed, in place of or in combination with such leaves. These leaf-like materials may be used separately or in combinations.

[0010] Some type of alkaline chemical is also added to the mixture so that the mixture has a pH level between 5.0 and 7.0, and preferably between 6.0 and 6.5. Nicotine is best absorbed in the mouth at pH level between 6.0 and 6.5. The leaf-like ingredients above typically are acidic and have a pH level below 6.0 and some cases below 5.0. Therefore, the alkaline (i.e. base) chemical is added to enhance the absorption of nicotine through the mouth. Preferable, the alkaline chemical should be non-toxic. Calcium carbonate, sodium bicarbonate, sodium carbonate, ammonium bicarbonate, potassium citrate, sodium citrate and citric acid are satisfactory alkaline chemicals. Other alkaline chemicals that are safe for human ingestion may also be used.

[0011] Importantly, a nicotine compound capable of being absorbed through the mouth is also added to the mixture. Nicotine is best absorbed in the mouth through in the area between the gum and cheek. Nicotine polacrilex is used as a nicotine additive in the current invention. Any other type of nicotine additive capable of being absorbed through the mouth, whether now known or hereinafter invented, may also be used and is considered to be within the scope of the invention. This blending of nicotine allows users to continue...
enjoying the gratifying effects of nicotine, while avoiding the dangerous aspects of tobacco-based products, such as the known carcinogens. The present invention can incorporate any nicotine derivative, analog, or variant that is safe for oral contact and has a similar mechanism of action to naturally occurring nicotine found in tobacco products.

[0012] The present invention may be distributed as a line of nicotine-reduced products, including, a line of products beginning with levels similar to that of chewing tobacco and stepping the user down through versions with gradually reduced nicotine content. The controlled amounts of nicotine also enable tobacco users to wean themselves off of tobacco and nicotine products altogether. In other words, the blends of the present invention can be used as a tobacco-free alternative to moist tobacco or as a mechanism for gradually ceasing use of tobacco and nicotine products, i.e., stepping down the levels of nicotine.

[0013] Preferably, a moisturizer is added to the leaf-like ingredient to give it the same degree of moisturizer as chewing tobacco. A moisturizer is desirable since some of the leaf-like materials above are not intrinsically as moist as tobacco leaves, and further because the process of curing, drying, cutting and processing the leaves, as with tobacco, removes most of the moisture. As in the production of regular chewing tobacco, a moisturizer is added to the processed leaf to give the product a moist and pleasing look and feel. Glycerin has been found to be useful as a moisturizer, although the invention is not intended to be limited to any particular type of moisturizer. Indeed any non-toxic moisturizer can be used.

[0014] Other common additives may be used in the mixture as well to enhance its flavor or smell or to act as a preservative. In one embodiment potassium sorbate is used as a preservative. Such additives are well known in the food and drug industry and will not be further described herein as are meant to be within the scope of the invention.

[0015] The compositions of the present invention are intended for the snuff and loose leaf tobacco user. The compositions are created to look, feel, and taste like tobacco-based products. The compositions are designed to be a moist, loose leaved or finely cut leaf product that are placed between the gum and cheek allowing nicotine to be absorbed by the gum and cheek membranes. The moisture from the moist blend is typically expectorated. Preferably, there is no tobacco whatsoever contained in these compositions. However, in some embodiments, a small amount of tobacco may be included in order to enhance the tobacco flavor and feel of the product. In some embodiments of the invention the mixture may be contained in a porous pouch. As used herein “chewing tobacco substitute” is also meant to include snuff substitute and such pouches.

[0016] Unlike the nicotine replacement products currently available, the compositions of the present invention are substantially in the form of the tobacco products that they are replacing, i.e., loose, leafy form. This should ease the transition to these compositions as the activity of the user (i.e., “dipping” and expectorating) is nearly identical. In addition, nicotine is administered through the cheek and gum and not necessarily from ingestion or inhalation. This allows nicotine uptake without contact with the digestive system; this can prevent irritation or other possible harmful effects to the stomach or other organs. In addition, the compositions of the present invention can allow those with conditions affecting the digestive system who would not normally be able to ingest nicotine to use a nicotine-containing substitute.

[0017] In one embodiment the following amounts of chemicals are added per 34 grams of leaf (or other tobacco substitute) product:

[0018] (1) 0.1 to 1 g of nicotine polacrilex, or other forms of ingestible nicotine;

[0019] (2) 0.1 to 1 g of sodium bicarbonate, sodium carbonate, calcium carbonate or ammonium bicarbonate; and

[0020] (3) 0.5 to 2 grams of glycerine.

[0021] In one example for preparing the compositions, the herbaceous material first goes through a curing process, in which it is heated and dried. It is then hydrated in an aqueous solution containing water, natural and artificial flavorings, and potassium sorbate. After the hydration process, glycerin, sodium bicarbonate, sodium carbonate and/or ammonium carbonate, and nicotine polacrilex or other forms of ingestible nicotine are mixed with the product. The sodium bicarbonate/carbonate is added to create the proper pH levels for free nicotine release.

[0022] While illustrated and described above with reference to certain specific embodiments, the present invention is nevertheless not intended to be limited to the details shown. Rather, the present invention is directed to a leafy tobacco substitute containing nicotine, and a method of making the substitute, and various modifications may be made in the details within the scope and range of equivalents of the description and without departing from the spirit of the invention.

What is claimed is:

1. A chewing tobacco substitute comprised of:
   a non-tobacco leaf-like material;
   an alkaline chemical; and
   a nicotine compound capable of being absorbed orally.

2. The chewing tobacco substitute of claim 1 wherein the nicotine compound is nicotine polacrilex.

3. The chewing tobacco substitute of claim 1 wherein the non-tobacco leaf-like material is an herbal leaf.

4. The chewing tobacco substitute of claim 1 wherein the non-tobacco leaf-like material is an herbal leaf.

5. The chewing tobacco substitute of claim 1 wherein the alkaline chemical is calcium carbonate, sodium bicarbonate, sodium carbonate, ammonium bicarbonate, potassium citrate, sodium citrate or citric acid.

6. The chewing tobacco substitute of claim 1 wherein the pH level of the substitute is approximately between 5.0 and 7.0.

7. The chewing tobacco substitute of claim 1 wherein the substitute is approximately between 0.3% and 3.5% nicotine compound by weight.

8. The chewing tobacco substitute of claim 1 wherein the substitute is approximately between 0.7% and 3.5% alkaline chemical by weight.

9. The chewing tobacco substitute of claim 1 further comprised of a moisturizer.

10. The chewing tobacco substitute of claim 9 wherein the moisturizer is glycerin.

11. The chewing tobacco substitute of claim 9 wherein the substitute is approximately between 1.4% and 7% moisturizer by weight.

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