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(54) Title: NICOTIANA DIVERSITY

(57) Abstract: The invention features a tobacco composition that includes one or more of the following tobaccos: *Nicotiana acaulis*, *Nicotiana acuminata*, *Nicotiana acuminata* var. *multiflora*, *Nicotiana africana*, *Nicotiana alata*, *Nicotiana amplexicaulis*, *Nicotiana arentsii*, *Nicotiana attenuata*, *Nicotiana benavidesii*, *Nicotiana benthamiana*, *Nicotiana bigelovii*, *Nicotiana bonariensis*, *Nicotiana cavicola*, *Nicotiana clevelandii*, *Nicotiana cordifolia*, *Nicotiana corymbosa*, *Nicotiana debneyi*, *Nicotiana excelsior*, *Nicotiana forgetiana*, *Nicotiana fragrans*, *Nicotiana glauca*, *Nicotiana glutinosa*, *Nicotiana goodspeedii*, *Nicotiana gossei*, *Nicotiana hybrid*, *Nicotiana ingulba*, *Nicotiana kawakamii*, *Nicotiana knightiana*, *Nicotiana langsdorffii*, *Nicotiana linearis*, *Nicotiana longiflora*, *Nicotiana maritima*, *Nicotiana megalosiphon*, *Nicotiana miersii*, *Nicotiana noctiflora*, *Nicotiana nudicaulis*, *Nicotiana obtusifolia*, *Nicotiana occidentalis*, *Nicotiana occidentalis* subsp. *hesperis*, *Nicotiana otophora*, *Nicotiana paniculata*, *Nicotiana pauciflora*, *Nicotiana petunioides*, *Nicotiana plumbaginifolia*, *Nicotiana quadrivalvis*, *Nicotiana raimondii*, *Nicotiana repanda*, *Nicotiana rosulata*, *Nicotiana rosulata* subsp. *ingulba*, *Nicotiana rotundifolia*, *Nicotiana setchellii*, *Nicotiana simulans*, *Nicotiana solanifolia*, *Nicotiana spagazzinii*, *Nicotiana stocktonii*, *Nicotiana suaveolens*, *Nicotiana sylvestris*, *Nicotiana thyrsoflora*, *Nicotiana tomentosa*, *Nicotiana tomentosiformis*, *Nicotiana trigonophylla*, *Nicotiana umbratica*, *Nicotiana undulata*, *Nicotiana velutina*, *Nicotiana wigandiioides*, and *Nicotiana x sanderae*.



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NICOTIANA DIVERSITY

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FIELD OF THE INVENTION

The present invention relates to the field of compositions that include tobacco.

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SUMMARY OF THE INVENTION

The invention features tobacco products that include one or more members of the genus *Nicotiana*. Such products may contain raw or processed tobacco, or alternatively may contain tobacco-derived components, e.g., organoleptic compounds. Tobacco-derived components may be supplied by tobacco particles, a tobacco extract, or a combination thereof.

In one aspect, the invention features a tobacco composition, e.g. a smokeless tobacco product such as a chewing tobacco, a snuff, a film, a tobacco coated toothpick, a tab, a bead, a straw, a stick, a gel, a smoking tobacco product such as a cigarette, a cigar, a cigarillo, or a pipe tobacco, or a nicotine inhaler having tobacco in it, including tobacco from one of the following members of the *Nicotiana* genus: *Nicotiana acaulis*, *Nicotiana acuminata*, *Nicotiana acuminata* var. *multiflora*, *Nicotiana africana*, *Nicotiana alata*, *Nicotiana amplexicaulis*, *Nicotiana arentsii*, *Nicotiana attenuata*, *Nicotiana benavidesii*, *Nicotiana benthamiana*, *Nicotiana bigelovii*, *Nicotiana bonariensis*, *Nicotiana cavicola*, *Nicotiana clevelandii*, *Nicotiana cordifolia*, *Nicotiana corymbosa*, *Nicotiana debneyi*, *Nicotiana excelsior*, *Nicotiana forgetiana*, *Nicotiana fragrans*, *Nicotiana glauca*, *Nicotiana glutinosa*, *Nicotiana goodspeedii*, *Nicotiana gossei*, *Nicotiana hybrid*, *Nicotiana ingulba*, *Nicotiana kawakamii*, *Nicotiana knightiana*, *Nicotiana langsdorffii*, *Nicotiana linearis*, *Nicotiana longiflora*, *Nicotiana maritima*, *Nicotiana megalosiphon*, *Nicotiana miersii*, *Nicotiana noctiflora*, *Nicotiana nudicaulis*, *Nicotiana obtusifolia*, *Nicotiana occidentalis*, *Nicotiana occidentalis* subsp. *hesperis*,

- Nicotiana otophora*, *Nicotiana paniculata*, *Nicotiana pauciflora*, *Nicotiana petunioides*, *Nicotiana plumbaginifolia*, *Nicotiana quadrivalvis*, *Nicotiana raimondii*, *Nicotiana repanda*, *Nicotiana rosulata*, *Nicotiana rosulata subsp. ingulba*, *Nicotiana rotundifolia*, *Nicotiana setchellii*, *Nicotiana simulans*,
- 5 *Nicotiana solanifolia*, *Nicotiana spegazzinii*, *Nicotiana stocktonii*, *Nicotiana suaveolens*, *Nicotiana sylvestris*, *Nicotiana thyrsiflora*, *Nicotiana tomentosa*, *Nicotiana tomentosiformis*, *Nicotiana trigonophylla*, *Nicotiana umbratica*, *Nicotiana undulata*, *Nicotiana velutina*, *Nicotiana wigandioides*, and *Nicotiana x sanderae*.
- 10 A composition as described may further include one, two, three, four, five, six, or more auxiliary tobaccos, which are different than the tobacco already present in the smokeless tobacco composition. Auxiliary tobaccos include: *Nicotiana acaulis*, *Nicotiana acuminata*, *Nicotiana acuminata var. multiflora*, *Nicotiana africana*, *Nicotiana alata*, *Nicotiana amplexicaulis*,
- 15 *Nicotiana arentsii*, *Nicotiana attenuata*, *Nicotiana benavidesii*, *Nicotiana benthamiana*, *Nicotiana bigelovii*, *Nicotiana bonariensis*, *Nicotiana cavicola*, *Nicotiana clevelandii*, *Nicotiana cordifolia*, *Nicotiana corymbosa*, *Nicotiana debneyi*, *Nicotiana excelsior*, *Nicotiana forgetiana*, *Nicotiana fragrans*, *Nicotiana glauca*, *Nicotiana glutinosa*, *Nicotiana goodspeedii*, *Nicotiana*
- 20 *gossei*, *Nicotiana hybrid*, *Nicotiana ingulba*, *Nicotiana kawakamii*, *Nicotiana knightiana*, *Nicotiana langsdorffii*, *Nicotiana linearis*, *Nicotiana longiflora*, *Nicotiana maritima*, *Nicotiana megalosiphon*, *Nicotiana miersii*, *Nicotiana noctiflora*, *Nicotiana nudicaulis*, *Nicotiana obtusifolia*, *Nicotiana occidentalis*, *Nicotiana occidentalis subsp. hesperis*, *Nicotiana otophora*, *Nicotiana*
- 25 *paniculata*, *Nicotiana pauciflora*, *Nicotiana petunioides*, *Nicotiana plumbaginifolia*, *Nicotiana quadrivalvis*, *Nicotiana raimondii*, *Nicotiana repanda*, *Nicotiana rosulata*, *Nicotiana rosulata subsp. ingulba*, *Nicotiana rotundifolia*, *Nicotiana setchellii*, *Nicotiana simulans*, *Nicotiana solanifolia*, *Nicotiana spegazzinii*, *Nicotiana stocktonii*, *Nicotiana suaveolens*, *Nicotiana*
- 30 *sylvestris*, *Nicotiana thyrsiflora*, *Nicotiana tomentosa*, *Nicotiana tomentosiformis*, *Nicotiana trigonophylla*, *Nicotiana umbratica*, *Nicotiana*

undulata, *Nicotiana velutina*, *Nicotiana wigandioides*, and *Nicotiana x sanderae*.

Any composition described herein may further include tobacco from *Nicotiana rustica* or *Nicotiana tabacum* (for example, LA B21, LN KY171, TI 5 1406, Basma, Galpao, Perique, Beinhart 1000-1, and Petico), or both.

Compositions may be orally consumed. Alternatively, a vapor product of the composition, e.g., a product of the combustion or heating of the composition or a product that releases a vapor without combustion or heating, may be taken into the mouth or lungs. The compositions may further include a flavor, a 10 flavor masking agent, a sweetener, chlorophyll, a mineral, a botanical, or a breath freshening agent.

In another aspect, the invention features a method of providing tobacco satisfaction, by introducing into the mouth any of the compositions, or combinations of compositions, described herein. Alternatively, tobacco 15 satisfaction may be provided by a vapor product of any of the compositions, or combinations of compositions, described herein.

By "tobacco" is meant any part of any member of the genus *Nicotiana*, e.g., leaves, flowers, roots, and stems. The tobacco may be whole, shredded, cut, cured, aged, fermented, or otherwise processed. Tobacco may also be in 20 the form of finished products, including but not limited to smokeless tobacco, e.g. snuff (moist or dry), chewing tobacco, sticks, straws, gels, beads, or tabs, smoking tobacco products, e.g., cigarettes, cigars, cigarillos, or pipe tobacco, and vapor releasing products that do not produce smoke or utilize combustion. The term also includes an extract of tobacco including two or more tobacco 25 organoleptic components.

By "tobacco satisfaction," in this case, is meant the experience associated with tobacco organoleptic components and added flavor components that are released when using a tobacco product. An adult consumer who chooses to use a tobacco product purchases a tobacco product typically 30 according to their individual preference, such a preference includes, without limitation, flavor, cut of tobacco, form, ease of use, and packaging.

By "organoleptic" is meant relating or contributing to the integrated sensory perception by the consumer that includes, for example, any combination of aroma, fragrance, flavor, taste, odor, mouth feel, or the like.

By "vapor product" is meant any gas-phase, particulate phase, or aerosol produced when using a tobacco composition. A vapor product may be produced by combustion or heating of the tobacco composition. Alternatively, the vapor product may include tobacco components that are volatile under ambient conditions.

Other features and advantages will be apparent from the following description and the claims.

DETAILED DESCRIPTION OF THE INVENTION

The invention features tobacco products including one or more members of the genus *Nicotiana* that may be utilized to obtain tobacco satisfaction.

Tobacco

Tobacco materials are typically provided in various forms such as a dust or powder, cut filler, shreds, strips, sheets, stems, extracts, or leaves or any combination of such forms. Tobacco material may be expanded to increase its size using standard methods known in the art, e.g., puffing. Such methods are especially useful in expanding stem material. The tobacco material can also be ground to form finely divided particles. The tobacco material may, if desired, therefore be subjected to various treatments to reduce its size, such as grinding or milling, for producing tobacco material in a finely ground or powder form. The tobacco employed in the composition may also be prepared according to the methods of U.S. Publication No. 2004/0112394, the disclosure of which is hereby incorporated by reference. Preferably, the tobacco material is in finely particulate form; however, grinding before processing is not required. Examples of suitable tobaccos useful for producing a tobacco composition include any raw or processed (or mature or immature) tobacco from the following members of the *Nicotiana* genus: *Nicotiana acaulis*, *Nicotiana*

acuminata, *Nicotiana acuminata* var. *multiflora*, *Nicotiana africana*, *Nicotiana*
alata, *Nicotiana amplexicaulis*, *Nicotiana arentsii*, *Nicotiana attenuata*,
Nicotiana benavidesii, *Nicotiana benthamiana*, *Nicotiana bigelovii*, *Nicotiana*
bonariensis, *Nicotiana cavicola*, *Nicotiana clevelandii*, *Nicotiana cordifolia*,
5 *Nicotiana corymbosa*, *Nicotiana debneyi*, *Nicotiana excelsior*, *Nicotiana*
forgetiana, *Nicotiana fragrans*, *Nicotiana glauca*, *Nicotiana glutinosa*,
Nicotiana goodspeedii, *Nicotiana gossei*, *Nicotiana hybrid*, *Nicotiana ingulba*,
Nicotiana kawakamii, *Nicotiana knightiana*, *Nicotiana langsdorffii*, *Nicotiana*
linearis, *Nicotiana longiflora*, *Nicotiana maritima*, *Nicotiana megalosiphon*,
10 *Nicotiana miersii*, *Nicotiana noctiflora*, *Nicotiana nudicaulis*, *Nicotiana*
obtusifolia, *Nicotiana occidentalis*, *Nicotiana occidentalis* subsp. *hesperis*,
Nicotiana otophora, *Nicotiana paniculata*, *Nicotiana pauciflora*, *Nicotiana*
petunioides, *Nicotiana plumbaginifolia*, *Nicotiana quadrivalvis*, *Nicotiana*
raimondii, *Nicotiana repanda*, *Nicotiana rosulata*, *Nicotiana rosulata* subsp.
15 *ingulba*, *Nicotiana rotundifolia*, *Nicotiana setchellii*, *Nicotiana simulans*,
Nicotiana solanifolia, *Nicotiana spegazzinii*, *Nicotiana stocktonii*, *Nicotiana*
suaveolens, *Nicotiana sylvestris*, *Nicotiana thyrsiflora*, *Nicotiana tomentosa*,
Nicotiana tomentosiformis, *Nicotiana trigonophylla*, *Nicotiana umbratica*,
Nicotiana undulata, *Nicotiana velutina*, *Nicotiana wigandioides*, and *Nicotiana*
20 *x sanderae*. Any one of these members may be used alone, in combination
with each other, or in combination with *Nicotiana tabacum* (for example, LA
B21, LN KY171, TI 1406, Basma, Galpao, Perique, Beinhart 1000-1, and
Petico) or *Nicotiana rustica*. These species of tobacco are typically processed
according to standard methods, e.g., processed separately, or as blends thereof.

25

Compositions

Tobacco derived from members of the *Nicotiana* genus may be included
in any composition. Compositions may include, without limitation, a
smokeless tobacco product, such as snuff (moist or dry) or a smokeless tobacco
product made from an extract of cured or uncured tobacco, chewing tobacco,
30 films, lozenges, tabs, vapor inhalers, or gels. Exemplary compositions are

described in U.S. Publication Nos. 2006/0191548, 2005/0244521, 2003/0094182, and 2003/0070687, U.S.S.N. 60/518,352, 60/603,888, and 60/684,636, and International Publication Nos. WO2005/041699 and 2005/046363, the disclosures of which are hereby incorporated by reference.

5 Compositions may also include a smoking tobacco product, such as a cigarette, cigar, cigarillo, or pipe tobacco. Cigars may include reconstituted tobacco wrapper wrapped around the outside of machine-made cigars. Such wrapper material is manufactured utilizing tobacco leaf by-products. Reconstituted tobacco binder, e.g., manufactured from tobacco leaf by-
10 products, typically holds tobacco in a cylindrical shape during the production of machine-made cigars. Any of these portions of a cigar may include one or more of the tobaccos described herein. A conventional cigarette typically includes four types of tobacco, Virginia (Bright), Burley, Maryland, and Oriental. Cigarettes of the invention may include one or more of the tobaccos
15 described herein, e.g., in combination with one, two, three, or all four of the types of tobacco in conventional cigarettes. Furthermore, cigarettes may include a smoke-altering filter segment, e.g., that may reduce one or more undesirable components in the vapor product, and/or may provide an enhanced tobacco smoke flavor, a richer smoking character, enhanced-mouthfeel and
20 increased tobacco satisfaction, as well as improvement of the perceived draw characteristics of the cigarette.

 In an important aspect, the tobacco used in the composition may be any tobacco described above. Suitable tobaccos include fermented and unfermented tobaccos, cured (such as air-, fire-, sun-, or flue-cured), light or
25 dark fired, as well as the products from whole leaf stemming operation. Cured or uncured tobacco may be subjected to any suitable processing step, including, but not limited to, microwave or other radiation treatment, treatment with ultraviolet light, or extraction with an aqueous or nonaqueous solvent. The tobacco may also be aged or otherwise processed. Alternatives and variations
30 include the use of tobacco leaf or lamina, flowers, stalk, roots, and stem. In addition, scrap size tobacco lamina may be commingled with homogenized

product for the purpose of modifying the texture and flavor. Tobacco may be in the form of shredded or whole tobacco leaf or comminuted tobacco with a binder or other forms.

Any tobacco described herein may be mixed with other additives known
5 in the tobacco art. Compositions of the invention may therefore include flavor extracts (e.g., licorice, kudzu, hydrangea, Japanese white bark magnolia leaf, chamomile, fenugreek, clove, menthol, Japanese mint, aniseed, cinnamon, herb, wintergreen, apple, peach, cherry, berry, Dramboui, bourbon, scotch, whiskey, spearmint, peppermint, lavender, cardamon, apium graveolens,
10 cascarilla, nutmeg, sandalwood, bergamot, geranium, honey essence, rose oil, vanilla, lemon oil, orange oil, cassia, caraway, cognac, jasmin, ilangilang, sage, fennel, piment, ginger, anise, coriander, coffee, or a mint oil from any species of the genus *Mentha*), flavor masking agents, bitterness receptor site blockers, sweeteners (e.g., sucralose, acesulfame potassium (Ace-K), aspartame,
15 saccharine, cyclamates, lactose, sucrose, glucose, fructose, sorbitol, alitame, glycyrrhizin, dihydrochalcones, thaumatin, monellin, tagatose, mannitol, dextrose, maltose, dextrin, dried invert sugar, fructose, levulose, galactose, corn syrup solids, sugar alcohols such as mannitol, xylitol, hydrogenated starch hydrolysates, maltitol, and the like or mixtures thereof), and other desirable
20 additives such as chlorophyll, minerals, botanicals, or breath freshening agents. Furthermore, flavorants such as menthol may be incorporated into cigarettes using standard techniques, and flavor additives such as organic acids or those listed below may be incorporated into a cigarette as additives to cut filler.

Flavors may also be provided by plant matter, e.g., mint leaves, which
25 are typically 10% flavor oils and 90% insoluble fiber. Exemplary plants further include licorice, kudzu, hydrangea, Japanese white bark magnolia, chamomile, fenugreek, clove, Japanese mint, cinnamon, herb, apple, peach, cherry, berry, lavender, cardamon, apium graveolens, cascarilla, nutmeg, sandalwood, bergamot, geranium, rose, vanilla, lemon, orange, cassia, caraway,
30 jasmin, ilangilang, sage, fennel, piment, ginger, anise, coriander, coffee (e.g., Arabica, Brazilian Santos, Columbian Supremo, Costa Rican, Ethiopian Harrar,

Hawaiian Kona, Kenya AA, Jamaica, Sumatra, Tanzanian Peaberry, Zimbabwe, or hazelnut, vanilla, amaretto, fruit, almond, Irish cream, cinnamon, or butterscotch flavored), or any species of the genus *Mentha*. Suitable plant matter further includes beans (e.g., coffee beans, vanilla beans, or cocoa nibs),
5 nuts (e.g., almonds, peanuts, cashews, walnuts, pecans, and pistachios), or sticks (e.g., cinnamon), in whole or ground form. The plant matter may be separated from the tobacco after transference of flavor, or it may remain in combination with the tobacco, as described in WO 2005/041699.

Combinations of plant matter may also be employed.

10 Flavor may be provided to a composition as described herein by flavor extracts, plant matter, or a combination thereof. In addition to natural flavor extracts, flavor may also be provided by imitation, synthetic, or artificial flavor ingredients and blends containing such ingredients. Flavors may be added as a powder, an oil, or in encapsulated form. In addition, flavors may be added by
15 infused vapor transfer.

Additional components, as are known in the art, may also be added to a smoking tobacco, or may be contained within the filter, the tobacco rod, or other components of the smoking product. Nonlimiting examples of such components include tobacco extracts, lubricants, humectants, ash improvers,
20 combustion modifiers, fillers, and the like.

Tobacco compositions may, if desired, be used to provide flavor or aroma or both to virtually any tobacco composition including, but not limited to, snuff (moist or dry), chewing tobacco, loose tobacco, pouched tobacco, vapor inhalers, cigarette tobacco, cigar tobacco, pipe tobacco, and the like, or
25 any form contained herein.

To produce a tobacco composition, any of the above-referenced tobaccos is first grown and harvested. The tobacco plant or a component thereof is, if desired, aged, fermented, or cured according to methods known in the art. Plant material may be processed according to standard methods known
30 in the art for the production of a tobacco composition, e.g., stripped, bailed, redried, cut, conditioned, extruded, or blended.

Any of the aforementioned tobaccos may be used to produce a composition. A composition may also include a blend of any of the aforementioned tobaccos described herein. In particular, such tobacco plant material (e.g., *Nicotiana acauli* and *Nicotiana acuminata*, *Nicotiana acuminata* 5 *var. multiflora* and *Nicotiana africana*, *Nicotiana alata* and *Nicotiana amplexicaulis*, *Nicotiana arentsii* and *Nicotiana attenuata*, *Nicotiana benavidesii* and *Nicotiana benthamiana*, *Nicotiana bonariensis* and *Nicotiana cavicola* and *Nicotiana clevelandii*, and *Nicotiana cordifolia* and *Nicotiana corymbosa*) is blended to a desired composition that does not have certain 10 negative flavor characteristics sometimes associated with tobacco. Such “negative flavor characteristics” refers to bitterness, astringency, acridness, harsh tobacco flavor, aftertaste, and negative sensations experienced by consumption. Definitions of flavor characteristics are provided, for example, in *The Dictionary of Flavors*, DeRovira, Food & Nutrition Press, Inc., 1999, 15 which is incorporated herein by reference.

In one aspect, a blend of any of the tobaccos referred to herein may include the following ranges of a first tobacco and an auxiliary tobacco.

TABLE I

	<u>Weight % First Tobacco</u>	<u>Weight % Second Tobacco</u>
	95.0	5.0
	90.0	10.0
5	85.0	15.0
	80.0	20.0
	75.0	25.0
	70.0	30.0
	65.0	35.0
10	60.0	40.0
	55.0	45.0
	50.0	50.0
	45.0	55.0
	40.0	60.0
15	35.0	65.0
	30.0	70.0
	25.0	75.0
	20.0	80.0
	15.0	85.0
20	10.0	90.0
	5.0	95.0

After choosing an appropriate first tobacco and an appropriate auxiliary tobacco (for example, a second, third, fourth, fifth, or sixth tobacco), such
 25 tobaccos may be chopped or ground to appropriate sizes depending on the type of product being made or extracted. The material may also be further separated based on size by passing it over a screen. Chopping or grinding of the tobaccos may be accomplished using any methods known in the art for that purpose.

The tobaccos that have been appropriately processed are then blended
 30 together using methods and equipment known in the art. Other known additives may be blended with the tobaccos either before or after the tobaccos are blended together. The tobaccos may be further processed separately before they are mixed together or further processed together after mixing.

The present invention is more fully illustrated by the following
 35 examples, which are set forth to illustrate the present invention and are not to be construed as limiting.

EXAMPLES**Example 1**

5 Aged, air cured leaf tobacco, *Nicotiana acaulis*, is ground in a Wiley
Mill using a 4 mm screen. Tobacco material is collected. An oven volatile is
next run on the tobacco to determine its moisture content. This value is then
used to calculate needed RO water amount to bring the tobacco to 30 percent
moisture.

10

Example 2

Aged, air cured leaf tobacco, *Nicotiana acuminata*, is ground in a
Wiley Mill using a 4 mm screen. Tobacco material is collected. An oven
volatile is next run on the tobacco to determine its moisture content. This value
15 is then used to calculate needed RO water amount to bring the tobacco to 30
percent moisture.

Example 3

20 Aged, air cured leaf tobacco, *Nicotiana acuminata var. multiflora*, is
ground in a Wiley Mill using a 4 mm screen. Tobacco material is collected.
An oven volatile is next run on the tobacco to determine its moisture content.
This value is then used to calculate needed RO water amount to bring the
tobacco to 30 percent moisture.

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Example 4

Aged, air cured leaf tobacco, *Nicotiana africana*, is ground in a Wiley
Mill using a 4 mm screen. Tobacco material is collected. An oven volatile is
30 next run on the tobacco to determine its moisture content. This value is then

used to calculate needed RO water amount to bring the tobacco to 30 percent moisture.

Example 5

5

Aged, air cured leaf tobacco, *Nicotiana alata*, is ground in a Whiley Mill using a 4 mm screen. Tobacco material is collected. An oven volatile is next run on the tobacco to determine its moisture content. This value is then used to calculate needed RO water amount to bring the tobacco to 30 percent moisture.

10

Example 6

Aged, air cured leaf tobacco, *Nicotiana amplexicaulis*, is ground in a Whiley Mill using a 4 mm screen. Tobacco material is collected. An oven volatile is next run on the tobacco to determine its moisture content. This value is then used to calculate needed RO water amount to bring the tobacco to 30 percent moisture.

15

Example 7

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Other tobaccos such as *Nicotiana arentsii*, *Nicotiana attenuata*, *Nicotiana benavidesii*, *Nicotiana benthamiana*, *Nicotiana bigelovii*, *Nicotiana bonariensis*, *Nicotiana cavicola*, *Nicotiana clevelandii*, *Nicotiana cordifolia*, *Nicotiana corymbosa*, *Nicotiana debneyi*, *Nicotiana excelsior*, *Nicotiana forgetiana*, *Nicotiana fragrans*, *Nicotiana glauca*, *Nicotiana glutinosa*, *Nicotiana goodspeedii*, *Nicotiana gossei*, *Nicotiana hybrid*, *Nicotiana ingulba*, *Nicotiana kawakamii*, *Nicotiana knightiana*, *Nicotiana langsдорffii*, *Nicotiana linearis*, *Nicotiana longiflora*, *Nicotiana maritima*, *Nicotiana megalosiphon*, *Nicotiana miersii*, *Nicotiana noctiflora*, *Nicotiana nudicaulis*, *Nicotiana obtusifolia*, *Nicotiana occidentalis*, *Nicotiana occidentalis subsp. hesperis*, *Nicotiana otophora*, *Nicotiana paniculata*, *Nicotiana pauciflora*, *Nicotiana*

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petunioides, *Nicotiana phumbaginifolia*, *Nicotiana quadrivalvis*, *Nicotiana raimondii*, *Nicotiana repanda*, *Nicotiana rosulata*, *Nicotiana rosulata subsp. ingulba*, *Nicotiana rotundifolia*, *Nicotiana setchellii*, *Nicotiana simulans*, *Nicotiana solanifolia*, *Nicotiana spegazzinii*, *Nicotiana stocktonii*, *Nicotiana suaveolens*, *Nicotiana sylvestris*, *Nicotiana thyrsiflora*, *Nicotiana tomentosa*, *Nicotiana tomentosiformis*, *Nicotiana trigonophylla*, *Nicotiana umbratica*, *Nicotiana undulata*, *Nicotiana velutina*, *Nicotiana wigandioides*, and *Nicotiana x sanderae* are air-cured and then processed according to any of the aforementioned Examples 1-5.

10

Example 8

Aged, air cured leaf tobacco, *Nicotiana acaulis*, is ground in a Wiley Mill using a 4 mm screen. The same exact setting is used to grind a second air
15 cured tobacco, *Nicotiana acuminata*. An oven volatile is then run on each tobacco to determine its moisture content. Results from these studies are then used to calculate the needed RO water amount to bring the blend to 30 percent moisture. A range of blends is made over the course of several weeks and submitted to a taste panel. The ranges include 5, 10, 15, 20, 40, 60, and 80
20 percent *Nicotiana acuminata* relative to *Nicotiana acaulis*. Each panelist receives a paired set of blended samples of the respective percentage as it was blended and is asked to evaluate within 2 days to eliminate any possibility of product age differences.

During a blind study, taste panels are asked to rate flavor characteristics
25 such as tobacco satisfaction, bitterness, astringency, acridness, and tobacco aftertaste, and indicate their sample preference. A rating of 1 is considered poor as a rating of 10 is considered good.

OTHER EMBODIMENTS

The description of the specific embodiments of the invention is presented for the purposes of illustration. It is not intended to be exhaustive
5 nor to limit the scope of the invention to the specific forms described herein. Although the invention has been described with reference to several embodiments, it will be understood by one of ordinary skill in the art that various modifications can be made without departing from the spirit and the scope of the invention, as set forth in the claims. All patents, patent
10 applications, and publications referenced herein are hereby incorporated by reference.

Other embodiments are within the claims.

What is claimed is:

CLAIMS

1. A smoking tobacco composition comprising at least one of the following tobaccos: *Nicotiana acaulis*, *Nicotiana acuminata*, *Nicotiana acuminata* var. *multiflora*, *Nicotiana africana*, *Nicotiana alata*, *Nicotiana amplexicaulis*, *Nicotiana arentsii*, *Nicotiana attenuata*, *Nicotiana benavidesii*, *Nicotiana benthamiana*, *Nicotiana bigelovii*, *Nicotiana bonariensis*, *Nicotiana cavicola*, *Nicotiana clevelandii*, *Nicotiana cordifolia*, *Nicotiana corymbosa*, *Nicotiana debneyi*, *Nicotiana excelsior*, *Nicotiana forgetiana*, *Nicotiana fragrans*, *Nicotiana glauca*, *Nicotiana glutinosa*, *Nicotiana goodspeedii*, *Nicotiana gossei*, *Nicotiana hybrid*, *Nicotiana ingulba*, *Nicotiana kawakamii*, *Nicotiana knightiana*, *Nicotiana langsdorffii*, *Nicotiana linearis*, *Nicotiana longiflora*, *Nicotiana maritima*, *Nicotiana megalosiphon*, *Nicotiana miersii*, *Nicotiana noctiflora*, *Nicotiana nudicaulis*, *Nicotiana obtusifolia*, *Nicotiana occidentalis*, *Nicotiana occidentalis* subsp. *hesperis*, *Nicotiana otophora*, *Nicotiana paniculata*, *Nicotiana pauciflora*, *Nicotiana petunioides*, *Nicotiana plumbaginifolia*, *Nicotiana quadrivalvis*, *Nicotiana raimondii*, *Nicotiana repanda*, *Nicotiana rosulata*, *Nicotiana rosulata* subsp. *ingulba*, *Nicotiana rotundifolia*, *Nicotiana setchellii*, *Nicotiana simulans*, *Nicotiana solanifolia*, *Nicotiana spegazzinii*, *Nicotiana stocktonii*, *Nicotiana suaveolens*, *Nicotiana sylvestris*, *Nicotiana thyrsiflora*, *Nicotiana tomentosa*, *Nicotiana tomentosiformis*, *Nicotiana trigonophylla*, *Nicotiana umbratica*, *Nicotiana undulata*, *Nicotiana velutina*, *Nicotiana wigandioides*, and *Nicotiana x sanderae*.
2. The composition of claim 1, wherein said composition further comprises *Nicotiana rustica*.
3. The composition of claim 1, wherein said composition further comprises *Nicotiana tabacum*.

4. The composition of claim 3, wherein the *Nicotiana tabacum* is variety TI 1406 or variety LA B21.
5. The composition of claim 1, further comprising a flavor, a flavor masking agent, a sweetener, chlorophyll, a mineral, a botanical, or a breath freshening agent.
6. A smoking tobacco blend comprising at least a first tobacco and a second tobacco, wherein the first tobacco is *Nicotiana tabacum* and the second tobacco is one of the following tobaccos: *Nicotiana acaulis*, *Nicotiana acuminata*, *Nicotiana acuminata* var. *multiflora*, *Nicotiana africana*, *Nicotiana alata*, *Nicotiana amplexicaulis*, *Nicotiana arentsii*, *Nicotiana attenuata*, *Nicotiana benavidesii*, *Nicotiana benthamiana*, *Nicotiana bigelovii*, *Nicotiana bonariensis*, *Nicotiana cavicola*, *Nicotiana clevelandii*, *Nicotiana cordifolia*, *Nicotiana corymbosa*, *Nicotiana debneyi*, *Nicotiana excelsior*, *Nicotiana forgetiana*, *Nicotiana fragrans*, *Nicotiana glauca*, *Nicotiana glutinosa*, *Nicotiana goodspeedii*, *Nicotiana gossei*, *Nicotiana hybrid*, *Nicotiana ingulba*, *Nicotiana kawakamii*, *Nicotiana knightiana*, *Nicotiana langsdorffii*, *Nicotiana linearis*, *Nicotiana longiflora*, *Nicotiana maritima*, *Nicotiana megalosiphon*, *Nicotiana miersii*, *Nicotiana noctiflora*, *Nicotiana nudicaulis*, *Nicotiana obtusifolia*, *Nicotiana occidentalis*, *Nicotiana occidentalis* subsp. *hesperis*, *Nicotiana otophora*, *Nicotiana paniculata*, *Nicotiana pauciflora*, *Nicotiana petunioides*, *Nicotiana plumbaginifolia*, *Nicotiana quadrivalvis*, *Nicotiana raimondii*, *Nicotiana repanda*, *Nicotiana rosulata*, *Nicotiana rosulata* subsp. *ingulba*, *Nicotiana rotundifolia*, *Nicotiana setchellii*, *Nicotiana simulans*, *Nicotiana solanifolia*, *Nicotiana spegazzinii*, *Nicotiana stocktonii*, *Nicotiana suaveolens*, *Nicotiana sylvestris*, *Nicotiana thyrsiflora*, *Nicotiana tomentosa*, *Nicotiana tomentosiformis*, *Nicotiana trigonophylla*, *Nicotiana umbratica*, *Nicotiana undulata*, *Nicotiana velutina*, *Nicotiana wigandioides*, and *Nicotiana x sanderae*.

7. The tobacco blend of claim 8, wherein the tobacco blend comprises the first tobacco at 50% by weight and the second tobacco at 50% by weight, wherein the weight is the combined weight total of the first and second
5 tobaccos.

8. The tobacco blend of claim 8, wherein the tobacco blend comprises the first tobacco at 75% by weight and the second tobacco at 25% by weight, wherein the weight is the combined weight total of the first and second
10 tobaccos.

9. The tobacco blend of claim 8, wherein the tobacco blend comprises the first tobacco at 95% by weight and the second tobacco at 5% by weight, wherein the weight is the combined weight total of the first and second
15 tobaccos.

10. The tobacco blend of claim 8, wherein the tobacco blend comprises the first tobacco at 99% by weight and the second tobacco at 1% by weight, wherein the weight is the combined weight total of the first and second
20 tobaccos.

11. The tobacco blend of claim 8, wherein the *Nicotiana tabacum* is variety TI 1406 or variety LA B21.

25 12. The tobacco blend of claim 8, further comprising a flavor, a flavor masking agent, a sweetener, chlorophyll, a mineral, a botanical, or a breath freshening agent.

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