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(54) **METHOD FOR MANUFACTURING CHEWING TOBACCO MATERIAL, AND CHEWING TOBACCO MATERIAL OBTAINED USING SAID MANUFACTURING METHOD**

(57) Provided is a manufacturing method for producing an oral tobacco material in which quality stability is increased, and good flavor is obtained. Specifically, a method for producing an oral tobacco material comprises

a step of preparing an alkaline tobacco raw material by adding a basic substance to a tobacco raw material, and aging the obtained tobacco material in an environment not exceeding room temperature.

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Description

[Technical Field]

5 **[0001]** The present invention relates to a method for producing an oral tobacco material, and to an oral tobacco material obtained by the production method.

[Background Art]

10 **[0002]** Oral tobacco products of a form in which an oral tobacco material containing moist powdered tobacco is stuffed in a moisture-permeable pouch are widely known as oral tobacco products that are inserted between the lips and the gums into the oral cavity, for enjoying the taste and scent of powdered tobacco.

[0003] Several methods are known as methods for producing such oral tobacco materials.

15 **[0004]** The invention disclosed in Patent Document 1 includes a step of raising the pH of a mixture containing water and a tobacco material up to at least about 8.5, and heating thereafter the mixture at a sufficient temperature and for a sufficient time, in order to lower pH by at least about 0.5.

[0005] In the invention disclosed in Patent Document 2 there is described the feature of adjusting the pH of an oral tobacco material using a buffer solution, to thereby increase the quality stability of the oral tobacco material that is obtained.

20 **[0006]** The following methods are known as methods for producing for instance snuff, as a tobacco material other than an oral tobacco material.

[0007] In the invention disclosed in Patent Document 3 there is described the feature of using magnesium carbonate in order to increase the pH stability of a snuff product in order to suppress proliferation of microorganisms.

[0008] In the invention disclosed in Patent Document 4 there is described the feature of blowing steam at a specific temperature onto a tobacco material having a specific pH, in order to enhance the flavor of a snuff product.

25 [Citation List]

[Patent Literature]

30 **[0009]**

 [Patent Document 1] Japanese Translation of PCT Application No. 2010-534475

 [Patent Document 2] WO 2013/156544

 [Patent Document 3] US Patent Application Publication No. 2010/0294292

35 [Patent Document 4] US Patent Application Publication No. 2010/0154811

 [Patent Document 5] Japanese Translation of PCT Application No. 2009-508523

 [Patent Document 6] WO 2009/082331

40 [Summary of Invention]

[Technical Problem]

45 **[0010]** Moist powdered tobacco used in the production of oral tobacco materials is originally weakly acidic (pH of about 4.0 to 6.0), which is close to conditions suitable for bacterial proliferation. Therefore, the pH of the powdered tobacco is adjusted to alkalinity through addition of a pH adjuster, in order to enhance quality stability through suppression of bacterial proliferation, and in order to impart a desirable flavor. In terms of preserving the quality of the product, the adjusted pH is preferably maintained at an alkaline pH throughout the storage period until consumption of the product.

50 **[0011]** The addition amount of a basic substance necessary in order to bring the moist powdered tobacco to a desired pH value is determined unequivocally. When a large amount of basic substance is added to the oral tobacco material, the value of pH rises significantly and alkaline pH can be maintained over long periods of time, but this may result in damage to the mucosa of the oral cavity during use. The pH of oral tobacco materials containing moist powdered tobacco and that are inserted into the oral cavity is preferably 8.5 or lower (Patent Document 5 and 6).

55 **[0012]** Further, the pH of oral tobacco products drops quickly at normal temperature, and the adjusted pH value cannot be maintained over long periods of time, which leads to flavor degradation. Therefore, oral tobacco products must be stored ordinarily not at room temperature but at low temperature (0°C to 10°C) .

[0013] The techniques disclosed in Patent Document 1 to 4 illustrate various approaches for obtaining materials having excellent quality stability.

[0014] The methods disclosed in Patent Document 1 and 4, which attempt to resolve issues on the basis of processing

technologies of starting materials, are problematic in that the delicate flavor of the tobacco raw material itself is lost on account of the significant modification of the starting materials incurred in the methods.

[0015] An enhancement in quality stability can be expected in the techniques disclosed in Patent Document 2 and 3, in which the pH stability of a tobacco material is increased through addition of an additive to the tobacco material, but these techniques on their own are not sufficient. In stabilization of pH by way of additives, it is undesirable to combine additives or to use significant amounts thereof, for reasons of product design aimed at not impairing flavor or texture.

[0016] Accordingly, it is not found that quality maintenance techniques have been perfected thus far that derive from ordinary or known techniques or from combinations thereof, and further technical developments are demanded as regards enhancing quality stability without sacrificing tobacco flavor.

[0017] The above considerations underlie the goal of providing a production method for producing an oral tobacco material of good flavor, and providing an oral tobacco material that is produced in accordance with that production method.

[Solution to Problem]

[0018] As a result of diligent research, the inventors found that the above goal can be attained by a method for producing an oral tobacco material, the method having a step of preparing an alkaline tobacco raw material by adding a basic substance to a tobacco raw material, and aging the obtained tobacco material in an environment not exceeding room temperature, and arrived at the present invention on the basis of that finding.

[0019] In the present invention, the term "tobacco raw material" denotes a material that has not undergone an aging step, while the term "tobacco material" denotes a material obtained as a result of the production method of the present invention including an aging step.

[0020] Specifically, the present invention is as follows.

[1] A method for producing an oral tobacco material, the method including a step of preparing an alkaline tobacco raw material by adding a basic substance to a tobacco raw material, and aging the obtained tobacco material in an environment not exceeding room temperature.

[2] The method for producing an oral tobacco material according to [1], wherein duration of the aging step is 0.5 hours or longer, and a temperature range in the aging step is 40°C or lower.

[3] The method for producing an oral tobacco material according to [1] or [2], wherein pH of the alkaline tobacco raw material takes on a value higher than 9.

[4] The method for producing an oral tobacco material according to any one of [1] to [3], further having a neutralization step of, after the aging step, adding an acidic substance to the obtained tobacco material.

[5] The method for producing an oral tobacco material according to any one of [1] to [4], further having a drying step of, after the aging step, drying the obtained tobacco material.

[6] An oral tobacco material, which is obtained by the method for producing an oral tobacco material according to any one of [1] to [5].

[Advantageous Effects of Invention]

[0021] The invention allows obtaining an oral tobacco material of good flavor, and having yet higher quality stability. Specifically, the quality stability of the obtained tobacco material can be enhanced, and an oral tobacco material of good flavor can be obtained, even in the absence of a heating step for pH adjustment after addition of a basic substance.

[Brief Description of Drawings]

[0022]

[Fig. 1] Fig. 1 is a diagram illustrating the relationship between pH at the time of an alkali treatment and change over time of pH of a tobacco material during storage.

[Fig. 2] Fig. 2 is a diagram illustrating the relationship between amount of water added at the time of an alkali treatment and change over time of pH of a tobacco material during storage.

[Fig. 3] Fig. 3 is a diagram illustrating the relationship between the duration of an alkali treatment and change over time of pH of a tobacco material during storage.

[Fig. 4] Fig. 4 is a diagram illustrating the relationship between alkali treatment temperature and change over time of pH of a tobacco material during storage.

[Fig. 5] Fig. 5 is a diagram illustrating the relationship between temperature in an aging step and content of a flavor component.

[Description of Embodiments]

[0023] The present invention will be explained next in detail on the basis of embodiments, examples and so forth. However, the present invention is not limited to the embodiments, examples and so forth below, and may accommodate arbitrary modifications without departing from the gist of the invention.

[0024] The method for producing oral tobacco of the present invention is a method for producing an oral tobacco material, the method having a step of preparing an alkaline tobacco raw material by adding a basic substance to a tobacco raw material that contains shredded tobacco or tobacco powder, and aging the obtained tobacco material in an environment not exceeding room temperature. Quality stability in the present invention is mainly brought about through stability of changes in pH over time.

[0025] The shredded tobacco that is subjected to the production method of the present invention is obtained through cutting of harvested tobacco leaves, in accordance with ordinary methods. The tobacco powder is obtained through crushing of harvested tobacco leaves, in accordance with ordinary methods. The types of tobacco leaves are not particularly limited so long as the leaves are used in oral tobacco, and various types can be used as appropriate. The width of the shredded tobacco and the granularity of the tobacco can take on known values, as appropriate.

[0026] The moisture content of the tobacco leaves is not particularly limited. The moisture content of the tobacco material obtained through cutting tobacco leaves having undergone ordinary drying may be for instance of 5 to 15 wt%. The salinity of this tobacco material may be adjusted through addition of an aqueous solution of sodium chloride to the tobacco material.

[0027] A step of sterilizing the tobacco raw material may be included before addition of the below-described basic substance. Examples of the temperature that can be set during this step include a temperature range of 105 to 110°C. Examples of the duration of this step include for instance a duration of about 10 to 40 minutes.

[0028] In the production method of the present invention a basic substance is added to shredded tobacco, to prepare an alkaline tobacco raw material as a tobacco raw material that is subjected to the below-described step of aging. In the present invention, the term "alkaline tobacco raw material" denotes a tobacco raw material having a pH of 7 or higher as measured in accordance with the below-described measuring method. The pH of the alkaline tobacco raw material that is prepared is preferably higher than 9, more preferably 9.5 or higher, and yet more preferably 10 or higher. By subjecting a tobacco raw material having such a pH to a subsequent aging step it becomes possible to secure sufficient storage stability in the tobacco material that is obtained.

[0029] Examples of the basic substance that is added to the shredded tobacco include for instance strong bases typified by hydroxides of alkali metals, for instance sodium hydroxide, potassium hydroxide and the like. The foregoing can be used in the form of mixtures of a plurality of types. Using a strong base allows eliciting more efficiently reactions with substances such as esters within the tobacco leaves, in the aging step later on.

[0030] The pH of the tobacco raw material (before the aging step) that is used in the production method of the present invention is worked out in accordance with the following measuring method.

[0031] Specifically, 0.2 g of the tobacco raw material is extracted in 20 mL of water at 200 rpm for 30 minutes, the temperature is adjusted to room temperature (25°C), and the pH is measured using a pH meter. The instrument used herein is LAQUA F-72 by HORIBA Ltd.

[0032] The production method of the present invention includes a step of aging the alkaline tobacco raw material in an environment not exceeding room temperature. By including this aging step, substances such as esters present in the shredded tobacco react with the added basic substance. The temporal stability of the pH of the oral tobacco material that is obtained is enhanced by virtue of this reaction. A high temporal stability of pH denotes herein a state in which the pH of the oral tobacco material is not prone to dropping during storage. That is, there is preserved a state of high quality stability.

[0033] The time taken by the aging step is preferably 0.5 hours or longer from the viewpoint of conducting the above reaction reliably, and is preferably 48 hours or shorter in terms of the plateau reached by the reaction; more preferably, the time does not exceed 24 hours in terms of work efficiency. Among the foregoing, the time taken by the aging step may range from about 0.5 to 2 hours, or from about 0.5 to 1.5 hours.

[0034] The temperature of the aging step does not exceed the ambient temperature (room temperature) during aging, and as a result it becomes possible to prevent loss of flavor components that the oral tobacco material is to hold. From this point of view, the upper limit of the temperature of the aging step is preferably 40°C or lower.

[0035] Preferably, the temperature in the aging step is 40°C or lower and the lower limit of the temperature is 0°C or higher.

[0036] The aging step does not require heating for artificially raising the temperature of the tobacco raw material to room temperature or higher. Implementations of the aging step include performing aging in a constant temperature state.

[0037] The environment in which aging is carried out may be for instance an environment under normal pressure; alternatively, aging can be carried out under application of some pressure (up to 0.2 MPa).

[0038] In a case where aging is carried out under normal pressure, the aging environment may be a sealed environment

or an open environment. Examples of open environments include for instance natural ventilation and forced ventilation in the atmosphere.

[0039] The pH of the tobacco raw material virtually does not change throughout the aging step (drop of about 0.1 to 0.5).

[0040] The moisture content of the tobacco raw material that is subjected to the aging step is not particularly limited, and can lie in the range of about 15 to 35 wt%.

[0041] In the aging step, the tobacco raw material to be aged may be allowed to stand, or may be aged while being stirred using a stirring means.

[0042] In the present invention, the term "aging" basically denotes allowing the tobacco raw material to stand, more specifically, leaving the tobacco raw material under an environment where the temperature of the tobacco raw material does not exceed room temperature without performing any manipulation other than, for instance, an operation for adjusting the temperature or a stirring operation for promoting reactions in the tobacco raw material, as needed.

[0043] In the production method of the present invention the aging step may be followed by a step of lowering the pH of the tobacco raw material through addition of an acidic substance to the tobacco raw material that is obtained. Examples of this step include for instance a neutralization step.

[0044] Examples of the acidic substance include for instance weak acids such as phosphoric acid, citric acid, malic acid and the like, and strong acids such as hydrochloric acid.

[0045] After the neutralization step, the pH of the tobacco material can be adjusted to lie in a range of about 7.5 to 9 by including a step of adding, to the tobacco material, a weak base such as potassium carbonate or sodium carbonate, or a strong base such as sodium hydroxide or potassium hydroxide. Including this step contributes to enhancing the quality stability of the tobacco material that is obtained (by preventing for instance microorganism proliferation).

[0046] The production method of the present invention may include a drying step for drying the tobacco material obtained as a result of the above step. By including the drying step it becomes possible to adjust the tobacco material that is obtained to an appropriate moisture content when in the form of the oral tobacco material. The drying step can be performed even if the neutralization step is omitted.

[0047] Implementations of the drying step include instances where the moisture content of the tobacco material to be obtained is reduced down to a range of about 10 to 40 wt%.

[0048] Drying may be implemented for instance by raising the temperature of the tobacco material to a range of 70 to 90°C.

[0049] Before the tobacco material of the present invention is made into an oral tobacco product, the tobacco material may have added thereto humectants such as glycerin, sweeteners for taste adjustment, and flavors for imparting characteristics to the taste.

[0050] Water may be added to the tobacco material of the present invention for the purpose of conferring an appropriate moisture content as an oral tobacco product. The moisture content when in the form of an oral tobacco product may lie in the range for instance of about 20 to 50 wt%.

[0051] The oral tobacco material obtained as a result of the above step is prepared by undergoing the above process, and is adjusted as appropriate to a pH (approximately 7.5 to 9) suitable for an oral tobacco product, before the oral tobacco material is made into a product.

[0052] As in the case of the above tobacco raw material, the pH of the oral tobacco material obtained as a result of the production method of the present invention denotes a value obtained by extracting 0.2 g of the tobacco material in 20 mL of water at 200 rpm for 30 minutes, adjusting the temperature to room temperature (25°C), and measuring then the pH using a pH meter. The instrument used is LAQUA F-72 by HORIBA Ltd.

[0053] In a case for instance where the oral tobacco material of the present invention is to be made into snus, the oral tobacco material can be obtained by filling the above-described tobacco material, in accordance with a known method, into a packaging material that utilizes for instance a starting material such as a nonwoven fabric. For instance, snus can be obtained by filling the tobacco material while adjusting the amount of the oral tobacco material, and by sealing the whole by resorting to a means such as heat sealing.

[0054] The packaging material that can be used is not particularly limited, but a cellulosic nonwoven fabric or the like is preferably used herein.

[0055] In a case for instance where the oral tobacco material of the present invention is made into gum, the oral tobacco material is obtained by mixing the above tobacco raw material used in the present invention with a known gum base, in accordance with a known method. Except the use of the tobacco raw material according to the present invention, known methods can be used to obtain chewing tobacco, snuff, and compressed tobacco. Moreover, except the use of the above tobacco raw material according to the present invention, known materials and known methods can be used to obtain edible films.

Examples

[0056] The present invention will be explained next more specifically by means of examples, but the invention is not

limited to the examples below so long as the invention does not go beyond the gist thereof. The "%" in the moisture illustrated in the examples and so forth denotes "wt%".

<Example 1>

(Experimental procedure)

[0057] Tobacco slurries were prepared by adding 25 mL of ultrapure water (Milli-Q water) to 5 g of tobacco raw material. Sodium hydroxide was then added to the slurries, to bring the pH to 8, 9, 10 and 11, and the slurries were allowed to stand for 24 hours at 4°C. Hydrochloric acid was added to the slurries having been allowed to stand, for neutralizing the slurries to pH 6, and then sodium chloride was added as appropriate in order to equalize salt concentrations at each level. The neutralized samples were freeze-dried, and samples were obtained by adding an aqueous solution of sodium hydroxide, to bring moisture to lie in the range of 30 to 35% and pH in the range of 8.0 to 8.5. The samples were airtight-packaged, and thereafter storage was initiated in a constant temperature and humidity machine at 40°C, with pH measurements after 1 week and after 2 weeks.

<Experimental procedure of a control>

[0058] A tobacco slurry was prepared by adding 25 mL of ultrapure water to 5 g of tobacco raw material.

[0059] The slurry was allowed to stand at 4°C for 24 hours in that state. Thereafter, 15 mL of a 3.64 wt% sodium chloride aqueous solution was added to the slurry. The slurry was dried thoroughly, until no moisture was present, in a constant temperature and humidity device at 60°C and 20% RH. Then an aqueous solution of sodium hydroxide was added to bring moisture to lie in the range of 30 to 35% and pH in the range of 8.0 to 8.5.

[0060] The results obtained using the above samples are given in Fig. 1 and Table 1.

[0061] The results in Fig. 1 and Table 1 revealed a trend whereby the higher the alkalinity of the sample brought to a slurry state, the smaller is the decline in pH. This trend was conspicuous at pH 10 or higher.

[Table 1]

Example 1 (influence of pH during treatment)			
	0 days	7 days	14 days
control	0	-1.038	-1.359
pH 8	0	-0.953	-1.225
pH 9	0	-0.688	-1.043
pH 10	0	-0.400	-0.541
pH 11	0	-0.277	-0.389

<Example 2>

(Experimental procedure)

[0062] Herein 20 g of tobacco raw material was weighed, then 0, 100 and 200 mL of ultrapure water was added, and 20 mL of a 1 mol/L aqueous solution of sodium hydroxide was added, with stirring. The obtained slurries were allowed to stand at 22°C for 24 hours. Then 20 mL of 1 mol/L hydrochloric acid was added, with stirring, to neutralize the slurries after standing. The slurries were dried until moisture was 5% or less, in a constant temperature and humidity device at 60°C and 20% R.H. Then an aqueous solution of sodium hydroxide was added to the slurries to bring moisture to lie in the range of 30 to 35% and pH in the range of 8.0 to 8.5, and yield respective samples. The samples were airtight-packaged, and thereafter storage was initiated in a constant temperature and humidity machine at 40°C, with pH measurements after 1 week and after 2 weeks. The results are given in Fig. 2 and Table 2.

[0063] The results in Fig. 2 and Table 2 revealed that the increase in the amount of water added at the time of the aging step after adjustment to alkalinity did not virtually affect the quality stability of the treated oral tobacco material.

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[Table 2]

Example 2 (influence of water addition amount during treatment)			
	0 days	7 days	14 days
Added water 0 mL	0	-0.703	-0.739
Added water 100 mL	0	-0.642	-0.673
Added water 200 mL	0	-0.640	-0.672

<Example 3>

(Experimental procedure)

[0064] Herein 20 g of tobacco raw material was weighed, and 20 mL of a 1 mol/L aqueous solution of sodium hydroxide was added, with stirring. Samples were allowed to stand at 22°C for 1 hour, 6 hours and 24 hours. Then 20 mL of 1 mol/L hydrochloric acid was added, with stirring, to neutralize the slurries after standing. The slurries were dried until moisture was 5% or less, in a constant temperature and humidity device at 60°C and 20% R.H. Then an aqueous solution of sodium hydroxide was added to the slurries to bring moisture to lie in the range of 30 to 35% and pH in the range of 8.0 to 8.5, and yield respective samples. The samples were airtight-packaged, and thereafter storage was initiated in a constant temperature and humidity machine at 40°C, with pH measurements after 1 week and after 2 weeks. The results are given in Fig. 3 and Table 3.

[0065] The results in Fig. 3 and Table 3 revealed that the longer the duration of the aging step after adjustment to alkalinity, the higher is the quality stability of the treated oral tobacco material. However, an excessively long treatment time detracts from work efficiency, and hence the treatment time preferably does not exceed 24 hours.

[Table 3]

Example 3 (influence of treatment duration)			
	0 days	7 days	14 days
1 h	0	-0.703	-0.739
6 h	0	-0.614	-0.618
24 h	0	-0.351	-0.427

<Example 4>

(Experimental procedure)

[0066] Herein 20 g of tobacco raw material was weighed, and 20 mL of a 1 mol/L aqueous solution of sodium hydroxide was added, with stirring. The obtained slurries were allowed to stand at 40°C, 22°C and 4°C, for 6 hours. Then 20 mL of 1 mol/L hydrochloric acid was added, with stirring, to neutralize the slurries after standing. The slurries were dried until moisture was 5% or less, in a constant temperature and humidity device at 60°C and 20% R.H. Then an aqueous solution of sodium hydroxide was added to the slurries to bring moisture to lie in the range of 30 to 35% and pH in the range of 8.0 to 8.5, and yield respective samples. The samples were airtight-packaged, and thereafter storage was initiated in a constant temperature and humidity machine at 40°C, with pH measurements after 1 week and after 2 weeks. The results are illustrated in Fig. 4.

[0067] The results in Fig. 4 and Table 4 revealed that the higher the temperature of the aging step after adjustment to alkalinity, the better was the storage stability of the treated oral tobacco material. However, the temperature of the aging step is preferably 40°C or lower from the viewpoint of changes in the quality of the oral tobacco material.

[Table 4]

Example 4 (influence of treatment temperature)			
	0 days	7 days	14 days
4°C, 6h	0	-0.789	-0.864

(continued)

Example 4 (influence of treatment temperature)			
	0 days	7 days	14 days
22°C, 6h	0	-0.614	-0.618
40°C, 6h	0	-0.336	-0.444

(Analysis methods)

[0068] The various analyses used in the present research were carried out in accordance with conditions 1) through 4) below.

1) Moisture analysis method

[0069] The empty weight [a] of a tare and the weight [b] after filling with 1 g of cut are measured, and the whole is dried for 1 hour in an oven having been pre-heated beforehand to 100°C. The weight [c] after cooling was measured, and the moisture content was calculated on the basis of Expression (*) below.

[Math. 1]

$$\text{Moisture content} = \frac{[b] - [c]}{[b] - [a]} \times 100(\%) \cdots (*)$$

2) pH analysis method

[0070] In the case of samples of cut, 0.2 g of crushed product was extracted in 20 mL of water at 200 rpm for 30 minutes, and pH was measured using a pH meter. The instrument used was LAQUA F-72 by HORIBA Ltd.

<Example 5>

[0071] Tobacco slurries were prepared by adding 25 mL of ultrapure water to 5 g of tobacco raw material. Then sodium hydroxide was added to the slurries, to bring pH to 11, and the slurries were allowed to stand for 2 hours in a constant temperature and humidity machine at 22°C, 40°C, 60°C and 80°C. Hydrochloric acid was added to the slurries having been allowed to stand, for neutralizing the slurries to pH 6, and then sodium chloride was added as appropriate in order to equalize salt concentrations at each level. The neutralized samples were dried, and were thereafter adjusted through addition of an aqueous solution of sodium hydroxide, to yield samples at each thermostatic temperature.

[0072] A flavor component (furfural) in the aged samples was analyzed by HS-SPME-GC/MS as described below.

[0073] Then 0.2 g of each of the obtained samples was weighed in respective vials. After the volatile components in the headspace (HS) where each sample was placed had reached an equilibrium state, the samples were caused to adsorb onto SPME fibers, and were analyzed by GC/MS.

[0074] The GC/MS conditions are given in Table 5.

[Table 5]

GC column	HP-INNOWAX capillary (30 m × 250 μm i.d. × 0.25 μm film thickness)
SPME fiber	75 m - Carboxen/Polydimethylsiloxane fiber (Spelco)
Extraction	40°C, 30 min
Inlet temperature	250°C
Oven heating program	40°C → 205°C at 3°C/min → 250°C at 10°C/min with a final hold time of 20 min
Carrier gas	He at 1 mL/min (constant flow mode)

(continued)

MS mode	Total Ion Chromatogram
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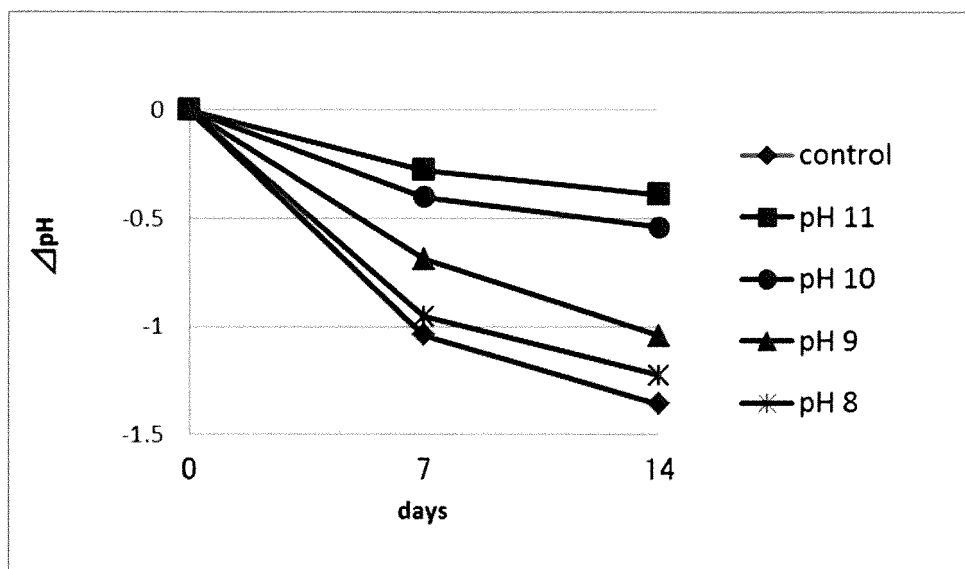
[0075] Fig. 5 illustrates the detection intensity (n=2) of furfural in each sample in the results of the analysis of furfural by GC/MS. The results revealed that the flavor component in the tobacco raw material decreases significantly when using a temperature in excess of 40°C as the temperature of the aging step.

[0076] The production method of the present invention includes a step in which the tobacco raw material is adjusted to alkalinity, and is then aged at a temperature not exceeding room temperature; as a result, no buffering agent for adjusting the pH of the tobacco material is required, and an oral tobacco material of high quality stability and good flavor can be provided even without heating the tobacco material containing a basic substance.

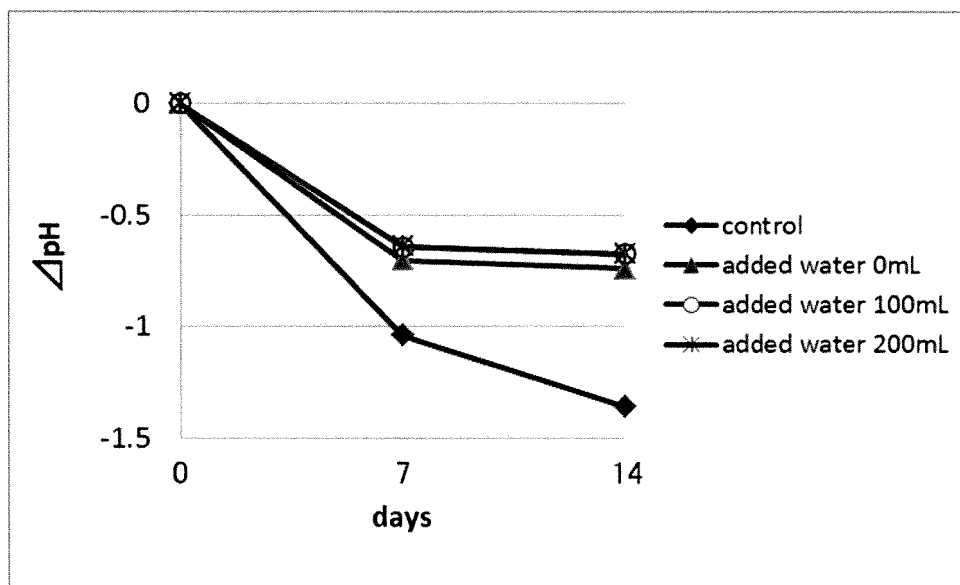
Claims

1. A method for producing an oral tobacco material, the method comprising a step of preparing an alkaline tobacco raw material by adding a basic substance to a tobacco raw material, and aging the obtained tobacco material in an environment not exceeding room temperature.
2. The method for producing an oral tobacco material according to claim 1, wherein duration of the aging step is 0.5 hours or longer, and a temperature range in the aging step is 40°C or lower.
3. The method for producing an oral tobacco material according to claim 1 or 2, wherein pH of the alkaline tobacco raw material takes on a value higher than 9.
4. The method for producing an oral tobacco material according to any one of claims 1 to 3, further comprising a neutralization step of, after the aging step, adding an acidic substance to the obtained tobacco material.
5. The method for producing an oral tobacco material according to any one of claims 1 to 4, further comprising a drying step of, after the aging step, drying the obtained tobacco material.
6. An oral tobacco material, which is obtained by the method for producing an oral tobacco material according to any one of claims 1 to 5.

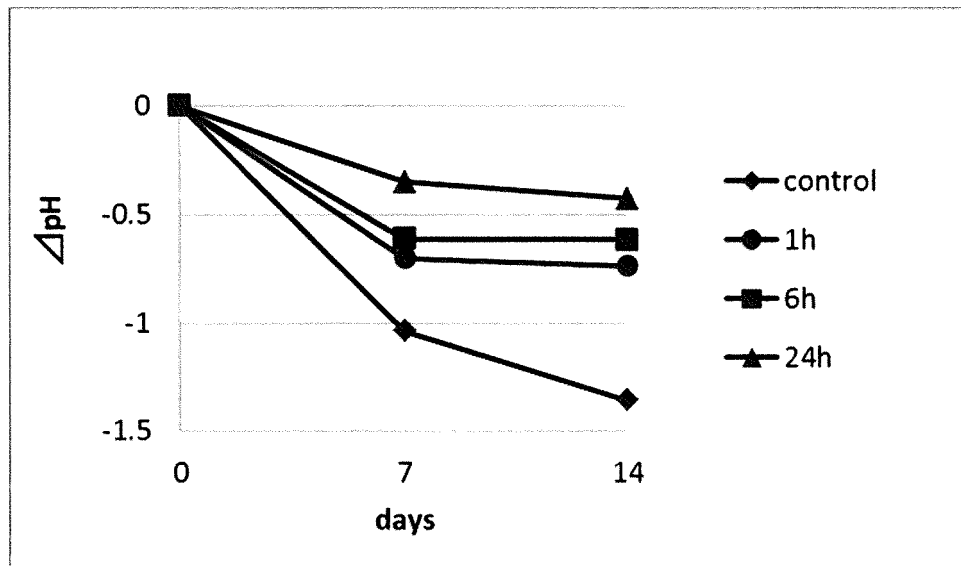
[Fig. 1]



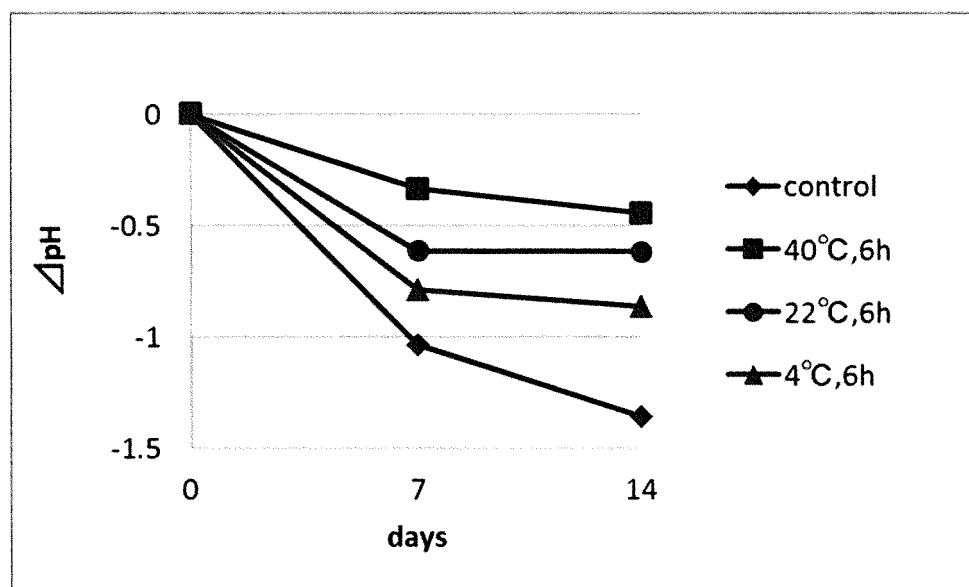
[Fig. 2]



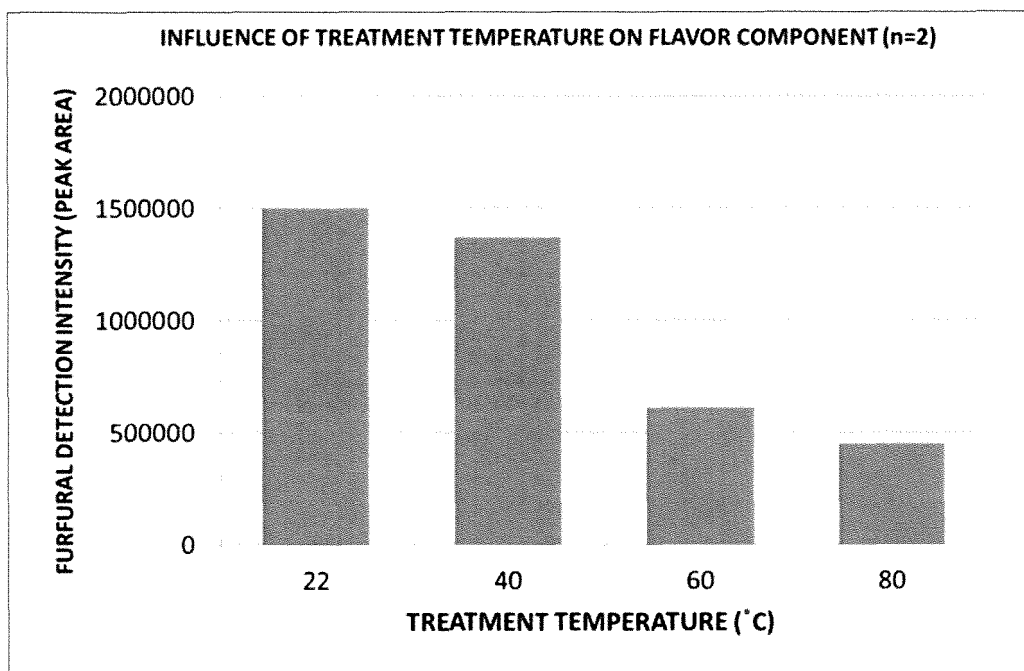
[Fig.3]



[Fig.4]



[Fig. 5]



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2015/065762

A. CLASSIFICATION OF SUBJECT MATTER

A24B15/28(2006.01)i, A24B13/00(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A24B15/28, A24B13/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho 1922-1996 Jitsuyo Shinan Toroku Koho 1996-2015

Kokai Jitsuyo Shinan Koho 1971-2015 Toroku Jitsuyo Shinan Koho 1994-2015

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 4848373 A (HELME TOBACCO CO.), 18 July 1989 (18.07.1989), column 3, line 18 to column 6, line 41; fig. 2 to 3 (Family: none)	1-3, 5-6 4
A	JP 2011-507510 A (Swedish Match North Europe AB), 10 March 2011 (10.03.2011), entire text; all drawings & US 2010/0294292 A1 & WO 2009/082331 A1 & EP 2219479 A & CA 2708883 A & KR 10-2010-0118105 A & RU 2010130502 A & MY 149720 A	1-6

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

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Date of the actual completion of the international search
25 August 2015 (25.08.15)Date of mailing of the international search report
01 September 2015 (01.09.15)Name and mailing address of the ISA/
Japan Patent Office
3-4-3, Kasumigaseki, Chiyoda-ku,
Tokyo 100-8915, Japan

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REFERENCES CITED IN THE DESCRIPTION

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- WO 2013156544 A [0009]
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- JP 2009508523 PCT [0009]
- WO 2009082331 A [0009]