US 20140311501A1

(19) **United States**

(12) **Patent Application Publication**

Hoffman

(10) **Pub. No.: US 2014/0311501 A1**

(43) **Pub. Date: Oct. 23, 2014**

(54) **METHOD OF TREATING BURLEY TOBACCO STEMS**

(75) Inventor: **Harald Hoffman**, Seelisberg (CH)

(73) Assignee: **PHILIP MORRIS PRODUCTS S.A.**, Neuchatel (CH)

(21) Appl. No.: **13/995,686**

(22) PCT Filed: **Dec. 22, 2011**

(86) PCT No.: **PCT/EP2011/073787**

§ 371 (c)(1),
(2), (4) Date: **Jun. 20, 2014**

(30) **Foreign Application Priority Data**

Dec. 23, 2010 (EP) 10252212.5

Publication Classification

(51) **Int. Cl.**
A24B 5/08 (2006.01)
A24B 9/00 (2006.01)

(52) **U.S. Cl.**
CPC ***A24B 5/08*** (2013.01); ***A24B 9/00*** (2013.01)
USPC **131/300**

(57) **ABSTRACT**

A method of treating Burley tobacco stems for use in tobacco cut filler comprises the steps of: providing rolled Burley tobacco stems having a rolled thickness of 0.1 to 0.5 mm; conditioning the rolled stems to increase the moisture content; applying a casing solution to the rolled, conditioned stems; heating the rolled stems with the casing solution applied; re-conditioning the stems after heating to increase the moisture content; cutting the tobacco stems from step; and drying the cut rolled stems. The rolled Burley tobacco stems may be combined with tobacco lamina prior to the treatment steps.

METHOD OF TREATING BURLEY TOBACCO STEMS

[0001] The present invention relates to a novel method for the treatment of Burley tobacco stems for use in tobacco cut filler. It also relates to the production of cut filler comprising Burley tobacco stems that have been treated using such a method.

[0002] Conventionally, cut filler tobacco products for smoking articles are formed predominantly from the lamina portion of the tobacco leaf, which is separated from the stem portion of the leaf during a threshing process. The stem portion of the tobacco material that remains after the lamina has been removed and separated is not often used, and a large proportion of the stem portion of the tobacco material is therefore wasted.

[0003] In order to increase the amount of the stem portion of the tobacco material that can be used commercially, it has been previously proposed to process the removed tobacco stems and then blend the processed tobacco stems with the lamina to form cut filler. For example, a known technique for processing tobacco stems involves moistening the stems and then rolling them to reduce the thickness and break down the cellular structure of the stem. Such rolling techniques have been attempted with different types of tobacco, including for example Virginia tobacco, Oriental tobacco, or combinations thereof. Another example of processing tobacco stems includes cutting the stems to reduce their size. The stems are not rolled or further treated before they are incorporated into the cut filler.

[0004] Where the stems are rolled, the resultant flattened stem can be more readily blended with tobacco lamina and incorporated into the cut filler of the cigarette. However, the process of rolling does not typically affect the taste characteristics of the tobacco stems and the tobacco stems may therefore have an undesired effect on the overall taste of the mainstream smoke produced when the cut filler is burned. This is particularly the case with the stems of Burley tobacco leaves.

[0005] It would be desirable to provide a method for treating the Burley tobacco stems so that they have an improved taste and appearance, and therefore become more suitable for use as a blend component of cut filler for smoking articles. It would be particularly desirable if such a method could affect the taste of the Burley tobacco stems such that the inclusion of stems has a favourable taste impact on the mainstream smoke. It would also be desirable to provide a method for treating the Burley tobacco stems using conventional apparatus, therefore making it cost efficient to implement such a method.

[0006] According to the invention there is provided a method of treating Burley tobacco stems for use in tobacco cut filler, the method comprising the steps of:

[0007] providing rolled Burley tobacco stems having a rolled thickness of 0.1 to 0.5 mm;

[0008] conditioning the rolled stems to increase the moisture content;

[0009] applying a casing solution to the rolled, conditioned stems;

[0010] heating the rolled stems with the casing solution applied;

[0011] re-conditioning the stems after heating to increase the moisture content;

[0012] cutting the re-conditioned tobacco stems; and

[0013] drying the cut rolled stems.

[0014] It has surprisingly been found that subjecting the Burley tobacco stems to the treatment method of the present invention has a significant, positive effect on both the taste and the appearance of the stems. After treatment the Burley tobacco stems develop an improved taste and aroma. When blended with tobacco lamina to form cut filler, the treated Burley tobacco stems can add a new and appealing taste component to the mainstream smoke. The treatment method of the present invention additionally darkens the colour of the Burley tobacco stems such that their appearance is closer to that of the Burley tobacco lamina. In cases where the stems are finely cut to a cut width similar to that of the tobacco lamina, the treated stems are visually indistinct from the tobacco lamina even at relatively high inclusion levels.

[0015] As a result of these positive effects on the Burley tobacco stems from the treatment method of the present invention, Burley tobacco stems can be used as an acceptable component of cut filler. The Burley tobacco stems can also be added to cut filler in significantly greater proportions than previously possible, thereby improving the exploitation of the Burley tobacco material. The use of the method according to the present invention also has a positive environmental impact by reducing the proportion of the tobacco material that is wasted.

[0016] The use of Burley tobacco stems in place of the Burley or other type of tobacco lamina is cost effective, since the stems of the Burley tobacco leaf are typically available at a lower cost than the tobacco lamina. The Burley tobacco stems can advantageously be treated using existing apparatus that is already in use for treating tobacco lamina. This allows the methods according to the invention to be carried out in an efficient and cost effective way. Furthermore, the costs that would otherwise be incurred in relation to the disposal of the Burley tobacco stems can be reduced or eliminated.

[0017] The cut filler into which the treated Burley tobacco stems can be advantageously incorporated may include many types of tobacco material. These types could include, for example, Oriental, Virginia, or Kasturi tobacco. The cut filler could also include a proportion of Burley tobacco lamina which must also be treated prior to blending.

[0018] In preferred embodiments of the present invention, the rolled Burley tobacco stems are combined with Burley tobacco lamina prior to the conditioning of the stems such that all of the subsequent treatment steps are carried out on the combined Burley tobacco stems and lamina. Alternatively, Burley stems could be treated separately on a different production line to the tobacco lamina, and the tobacco lamina and Burley tobacco stems could be blended together after treatment.

[0019] The rolling of the Burley tobacco stems to a thickness of between 0.1 mm and 0.5 mm allows the stems to be produced with similar dimensions to the tobacco lamina. This advantageously means that the blend of Burley tobacco stems and lamina can travel together through the treatment apparatus without separation of the stems and lamina. The blend of Burley tobacco stems and lamina can conveniently be treated together in the same process steps and conditions, if desired. As discussed above, methods of the present invention can therefore be carried out using existing apparatus which is already in use for the treatment of tobacco lamina. This provides an efficient and cost effective way of treating the blend of Burley tobacco stems and lamina without the need for additional apparatus.

[0020] The term 'thickness' refers to the dimension of the Burley tobacco stems that is reduced in size during the rolling process. Typically, the thickness corresponds to the dimension of the tobacco stems in a direction substantially transverse to the direction of movement of the tobacco stems through the rollers. After the treatment of the Burley tobacco stems in a method according to the invention, the thickness of the tobacco stems typically corresponds to the smallest of the three dimensions of each Burley tobacco stem. The thickness of an individual Burley tobacco stem particle can be accurately measured using a conventional measuring device under a microscope. The thickness of the stem particle is measured at the thickest part.

[0021] In the following discussion of the methods of the present invention, any references to the treatment of the Burley tobacco stems applies equally to the blend of Burley tobacco stems and tobacco lamina that will be produced before the conditioning step in certain embodiments.

[0022] The rolled Burley tobacco stems are preferably combined with Burley tobacco lamina to produce a Burley blend with at least 2% by weight of the stems, more preferably at least 5% by weight of the stems, still more preferably at least 6% by weight of the stems. At these levels, the inclusion of the tobacco stems will have a virtually undetectable effect on the taste of the cut filler into which the Burley blend is incorporated. However, due to the improved taste and appearance of the treated Burley tobacco stems, significantly higher proportions of tobacco stem can be included in the Burley blend while still providing an acceptable blend for use in cut filler. The proportion of Burley tobacco stem in the Burley blend may be anywhere up to 100%. However, particularly preferably the Burley blend contains between 2% and 40% by weight of the Burley tobacco stems, more preferably between 6% and 20% by weight and still more preferably between 2% and 20% by weight.

[0023] The conditioning of the Burley tobacco stems after rolling is necessary in order to increase the moisture content of the Burley tobacco material. This has been found to improve the effectiveness of the subsequent step in which the casing solution is applied. Prior to the conditioning step, the tobacco stems will typically have a moisture content of around 10% to 11% oven volatiles (o.v.). During the conditioning step, the moisture content of the Burley tobacco stems is increased to at least 15% o.v. and more preferably to around 20% o.v. A corresponding conditioning step may also be carried out on a blend of Burley tobacco stems and Burley tobacco lamina.

[0024] The moisture content of the plant material is expressed herein as "% oven volatiles", which is determined by measuring the percentage weight loss from the tobacco stems due to evaporation upon drying the material in an oven at 103° C. for 100 minutes. The moisture content of the Burley tobacco stems can readily be determined at any stage of the treatment method using this process. Similarly, the re-conditioning of the Burley tobacco stems and the Burley tobacco lamina is also necessary in order to increase the moisture content of the Burley tobacco material following the heating of the material after the casing solution has been applied. The re-conditioning ensures that the tobacco stems are sufficiently pliable to be cut during without damage or breakage of the stems occurring. Following the heating step and prior to the re-conditioning step, the tobacco stems preferably have a moisture content of between 5% and 18% o.v., more preferably between 15% and 16% o.v. During the re-conditioning step the moisture content of the Burley tobacco stems is increased to at least 20% o.v. A corresponding re-conditioning step may also be carried out on a blend of Burley tobacco stems and Burley tobacco lamina.

[0025] The conditioning and re-conditioning steps of the method of the present invention can be carried out using known techniques and apparatus. Preferably, each of conditioning and re-conditioning steps comprises contacting the Burley tobacco stems with steam, water or a mixture of steam and water. For example, in one known conditioning process, the tobacco stems are contacted with a counter flow of steam and water while being tumbled in a rotating cylindrical drum. The tobacco stems may alternatively be conditioned or re-conditioned in a humidity chamber.

[0026] After the conditioning step has been completed, a casing solution is applied to the rolled, conditioned Burley tobacco stems using any suitable means, including for example, spraying. The casing solution is preferably an aqueous solution comprising sugar. Typically, sugar will be the main component of the solution although a suitable humectant, such as glycerine, may be added. Optional flavour components may also be incorporated into the casing solution, if desired. A corresponding step may also be carried out on a blend of Burley tobacco stems and Burley tobacco lamina.

[0027] Advantageously, the rolling of the Burley tobacco stems prior to the application of the casing solution has been found to significantly improve the absorption of the casing solution by the stems. By rolling the stems down to a thickness of between 0.1 mm and 0.5 mm, the epidermis of the stems is at least partly crushed and broken down, so that a larger surface area is available for absorption of the casing solution. Without the rolling step, the rigid structure of the epidermis is still intact and it is difficult for the casing solution to penetrate through the epidermis to the internal structure of the stems. The increased absorption of the casing solution improves the taste and visual appearance of the Burley tobacco stems after they have been subjected to the treatment method of the present invention.

[0028] During the heating step of the method according to the present invention, the Burley tobacco stems to which the casing solution has been applied are heated in order to bring about a reaction between the casing solution and certain components of the tobacco. This step is responsible for the main development of the flavours of the tobacco stems which arises as a result of the reaction of the tobacco compounds with the sugar in the casing solution. Following the casing of the tobacco stems and the subsequent heating step, the flavour of the Burley tobacco stems has been found to be significantly improved compared with the untreated Burley tobacco stems. In particular, the heating step has been found to significantly improve the taste characteristics and after taste of the stem material. This enables the Burley tobacco stems to be used in cut filler whilst providing a neutral or favourable effect on the taste of the mainstream smoke. The combination of rolling and treating the Burley tobacco stems with a casing solution enables the Burley tobacco stems to be used as an acceptable constituent of cut fillers.

[0029] During the heating step, the Burley tobacco stems are preferably heated to a temperature of at least 50° C. The heating of the Burley tobacco stems may be carried out using any suitable means. In preferred embodiments, the tobacco stems are heated by a stream of hot air within a dryer. The stream of hot air is preferably at a temperature of between 70° C. and 140° C., more preferably around 200° C., to bring the

temperature of the tobacco stems up to the preferred temperature of at least 50° C. A corresponding heating step may also be carried out on a blend of Burley tobacco stems and Burley tobacco lamina.

[0030] Following the re-conditioning step described above, the rolled Burley tobacco stems are cut to a suitable cut width. The cut width can be adjusted according to the desired use of the Burley blend. For example, a smaller, finer cut width may be preferred for cut filler intended for use in smoking articles, in particular slim cigarettes, than for a roll-your-own or pipe tobacco product. Preferably, the rolled Burley stems are cut to a cut width of 0.3 and 1.3 mm, more preferably between 0.65 and 0.9 mm. A corresponding cutting step may also be carried out on a blend of Burley tobacco stems and Burley tobacco lamina.

[0031] The 'cut width' of the Burley tobacco stems refers to the width of the stem in the direction along which the tobacco stem has been cut. When looking at a Burley tobacco stem particle under a microscope, it will generally be possible to observe the direction along which the stem particle has been run through the cutting apparatus. The cut width corresponds to the distance between the two sides of a particle of Burley tobacco stem along this direction of cutting. The cut width of an individual Burley tobacco stem particle can be accurately measured using a conventional measuring device under a microscope. The cut width of an individual Burley tobacco stem particle is taken at the point along the direction of cutting that yields the largest cross-sectional area. Where a Burley tobacco stem has been cut in two directions, the cut width for the purposes of the present invention corresponds to the largest of the measured cut widths in the two directions.

[0032] In the drying step that follows the cutting step, the cut rolled Burley tobacco stems are dried in order to reduce the moisture level. Preferably, the moisture level is reduced to between 10% and 15% o.v., more preferably between 12% and 14% o.v. The drying step may be carried out at room temperature, but preferably the Burley tobacco stems are heated in a stream of hot air at a temperature of between 70° C. and 200° C. Suitable apparatus for drying of the cut rolled Burley tobacco stems include but are not limited to a rotary dryer and a flash tower dryer. A corresponding drying step may also be carried out on a blend of Burley tobacco stems and Burley tobacco lamina.

[0033] Methods according to the present invention comprising the steps described above may be carried out on pre-rolled stems which have been rolled offline in a previous rolling process, to the required thickness of 0.1 mm to 0.5 mm. For example, the rolling may take place at a separate leaf processing plant or stemmery, so that the starting material of the treatment process described above is the pre-rolled stems.

[0034] However, certain embodiments of the present invention are adapted to incorporate the rolling process as part of the production process of cut filler so that the rolling is carried out at the same factory or production facility as the remaining treatment steps. The rolled stems can then be introduced directly into the production line for the cut filler. Such methods further comprise the additional steps of: conditioning the stems to increase the moisture content; and rolling the stems to a thickness of between 0.1 mm and 0.5 mm. Where the starting material is the Burley stems which have already been separated from the rest of the Burley tobacco leaf, these additional steps can be carried out prior to the treatment steps described above. However, the method of the present invention may be further adapted to incorporate the threshing step so that the starting material of the treatment process is the unprocessed Burley tobacco leaves. In this case, the method further comprises the additional steps of removing the stems from the Burley tobacco leaf; and cutting the stems to an average length of between 15 mm and 80 mm, wherein these steps are carried out prior to the conditioning and rolling of the stems, as described above.

[0035] The stems can be removed from the Burley tobacco leaves using a conventional threshing process. The stems can be broken or cut within the threshing machine, or in a separate step to reduce the length of the stem portions in order to optimise the rolling process.

[0036] The conditioning of the stems prior to rolling is necessary in order to increase the moisture content, so that the stems are sufficiently pliable to be rolled without breakage or damage occurring. Prior to the conditioning step, the Burley tobacco stems will typically have a moisture content of approximately 17% to 20% oven volatiles (o.v.). The conditioning step preferably increases the moisture content to 35% o.v. or less, more preferably 30% o.v. or less. In certain cases, a moisture content as low as 25% to 28% o.v. may be sufficient to prevent damage to the stems during rolling.

[0037] The conditioning of the stems is preferably carried out by contacting the stems with water, steam, or a mixture of water and steam. Preferably, the Burley tobacco stems are left to soak for a period of time in order to allow the moisture to penetrate into the internal structure of the stems.

[0038] After the conditioning steps, the Burley tobacco stems are rolled using a conventional one step or two step rolling process to reduce the thickness of the stems to between 0.1 mm and 0.5 mm. The thickness of the rolled stems is reduced to a level that is close to the thickness of the Burley tobacco lamina. Preferably, the Burley tobacco stems are rolled to a thickness of 0.2 mm to 0.3 mm.

[0039] As described above, the rolling of the stems to a thickness of between 0.1 mm and 0.5 mm at least partially breaks down the cellular structure of the stem material. In particular, the rolling at least partially crushes the epidermis of the cells of the tobacco stem material. The breakdown of the cellular structure of the tobacco stems is clearly visible when the rolled tobacco stems are view through a microscope. Further, it will be visually apparent that a casing solution has been applied to the rolled tobacco stems and absorbed into the cellular structure, due to the darkened colour of the Burley tobacco stems after heating. Where Burley tobacco stems have been treated in methods according to the invention this will therefore be apparent from both the rolled thickness and the evidence of the application of a casing solution to the Burley tobacco stems.

[0040] As described above, the treated Burley tobacco stems or Burley blend of tobacco stems and lamina is intended for use as a component of cut filler. According to the present invention there is also provided a method of producing cut filler comprising rolled Burley tobacco stems, the method comprising: treating Burley tobacco stems using a method according to the present invention, as described above; and blending the treated Burley tobacco stems or the blend of treated Burley tobacco stems and Burley tobacco lamina with at least one other type of tobacco lamina, expanded tobacco or reconstituted tobacco to form a cut filler. The other type of tobacco lamina may be, for example, Oriental tobacco lamina, flue-cured tobacco lamina, or a combination thereof. The expanded and reconstituted tobacco,

where present, may be formed of any suitable tobacco type using known apparatus and methods.

[0041] The blending of the Burley tobacco stems with the other types of tobacco material may take place prior to the cutting and drying steps, so that the final blend is cut and dried together in the same batch. Alternatively, the blending may take place after the cutting and drying have been carried out on the Burley tobacco stems, so that the blending is the final step in the production of the cut filler.

[0042] Preferably, the cut filler comprises between 20% and 37% by weight of a Burley tobacco blend, wherein the blend is formed of at least 6% by weight and up to 100% by weight treated Burley tobacco stems, with the remainder of the blend formed of the Burley lamina. The cut filler may therefore comprise between about 0.3% and 37% by weight of the treated Burley tobacco stems produced using the method according to the present invention.

[0043] Cut fillers comprising Burley tobacco stems treated using methods according to the invention may be incorporated into a variety of smoking articles. For example, the cut filler may be used in the tobacco rod of a combustible smoking article, such as a filter cigarette, cigarillo or cigar. Alternatively, the cut filler may be used to provide the tobacco aerosol generating substrate in a distillation based smoking article, or an electrically heated smoking system. Alternatively, the cut filler may be used as a roll-your-own product, or loose tobacco product for example, for use in a pipe.

[0044] Smoking articles comprising cut filler including Burley tobacco stems treated using methods according to the invention may be packaged in containers, for example, containers formed of one or more folded laminar blanks. Suitable containers include but are not limited to hinge lid containers and slide and shell containers.

[0045] The invention will be further described, by way of example only

EXAMPLE

[0046] A method according to the present invention is carried out on pre-rolled Burley stems which have already been separated from the rest of the Burley leaf and rolled to a thickness of 0.2 mm. The rolled Burley tobacco stems are combined with Burley tobacco lamina to form a Burley blend prior to the further processing steps. The Burley blend contains around 6.5% by weight of the rolled Burley stems. It will be appreciated that the combination of the tobacco stems with the lamina is optional and in alternative examples, the tobacco stems may be processed in the same way without the tobacco lamina.

[0047] In the conditioning step, the Burley blend is placed into a cylindrical drum which is rotated to continuously move the tobacco stems and lamina. A counter flow of steam and water is passed through the cylinder into contact with the Burley tobacco blend until the moisture content of the Burley tobacco stems reaches approximately 20% o.v.

[0048] The conditioned Burley blend is then sprayed with a casing solution of sugar in water. In addition to the sugar, the casing solution includes glycerine, which acts as a humectant.

[0049] After the casing has been applied, the Burley blend is then heated in an apron dryer for four to eight minutes with hot air at a temperature of approximately 100° C. so that the temperature of the tobacco is increased to approximately 50° C.

[0050] After the heating step, the Burley blend is cooled and re-conditioned using a similar method and apparatus to the conditioning step described above, until the moisture content of the Burley tobacco stems is brought back to approximately 20% o.v.

[0051] The Burley blend is then mixed with other tobacco materials, including Bright tobacco and expanded tobacco, to form the cut filler blend. The Burley blend provides 25% by weight of the total cut filler.

[0052] The cut filler blend including the Burley tobacco stems is then cut to a standard cut width of 0.9 mm and subsequently dried to a moisture level of around 13% o.v. before being transferred to storage, or directly to a cigarette manufacturing line.

[0053] It will be appreciated that the moisture levels, rolled stem thickness, cut width, proportion of Burley tobacco stems and other parameters of the treatment process may be varied, as described above, depending upon the desired characteristics and intended use of the final cut filler.

1. A method of treating Burley tobacco stems for use in tobacco cut filler, the method comprising the steps of:

providing rolled Burley tobacco stems having a rolled thickness of 0.1 to 0.5 mm;

conditioning the rolled stems;

applying a casing solution to the rolled, conditioned stems;

heating the rolled stems with the casing solution applied;

re-conditioning the stems after heating;

cutting the re-conditioned tobacco stems; and

drying the cut rolled stems.

2. A method according to claim **1** wherein the rolled Burley tobacco stems are combined with Burley tobacco lamina prior to the conditioning step such that all of the subsequent steps are carried out on the combined Burley tobacco stems and lamina.

3. A method according to claim **1** wherein during the conditioning step a moisture content of the Burley tobacco stems is increased to at least 15% oven volatiles (o.v.).

4. A method according to claim **1** wherein during the re-conditioning step a moisture content of the Burley tobacco stems is increased to at least 20% o.v.

5. A method according to claim **1** wherein each of the conditioning and reconditioning steps comprises contacting the tobacco with steam, water or a mixture of steam and water.

6. A method according to claim **1** wherein during the heating step the Burley tobacco stems are heated to a temperature of at least 50° C.

7. A method according to claim **1** wherein the cutting step comprises cutting the rolled Burley stems to a cut width of between 0.3 mm and 1.3 mm.

8. A method according to claim **1** further comprising the additional steps of:

removing the stems from the Burley tobacco leaf;

cutting the stems to an average length of between 15 mm and 80 mm;

conditioning the stems to increase moisture content; and

rolling the stems to a thickness of between 0.1 mm and 0.5 mm,

wherein the additional steps are carried out prior to the steps of claim **1**.

9. A method according to claim **8** wherein the conditioning of the stems increases the moisture content to 35% o.v. or less.

10. A method of producing cut filler comprising rolled Burley tobacco stems, the method comprising:

treating Burley stems using a method according to claim **1**; and

blending the treated Burley stems with at least one type of tobacco lamina, expanded tobacco or reconstituted tobacco to produce cut filler.

11. A method according to claim **2** wherein during the conditioning step a moisture content of the Burley tobacco stems is increased to at least 15% oven volatiles (o.v.).

12. A method according to claim **11** wherein during the re-conditioning step a moisture content of the Burley tobacco stems is increased to at least 20% o.v.

13. A method according to claim **1** wherein during the conditioning step a moisture content of the Burley tobacco stems is increased to at least 15% oven volatiles (o.v.) and wherein during the re-conditioning step a moisture content of the Burley tobacco stems is increased to at least 20% o.v.

14. A method according to claim **2** wherein each of the conditioning and reconditioning steps comprises contacting the tobacco with steam, water or a mixture of steam and water.

15. A method according to claim **2** wherein during the heating step the Burley tobacco stems are heated to a temperature of at least 50° C.

16. A method according to claim **2** wherein the cutting step comprises cutting the rolled Burley stems to a cut width of between 0.3 mm and 1.3 mm.

17. A method according claim **2** further comprising the additional steps of:

removing the stems from the Burley tobacco leaf;

cutting the stems to an average length of between 15 mm and 80 mm;

conditioning the stems to increase the moisture content; and

rolling the stems to a thickness of between 0.1 mm and 0.5 mm,

wherein the additional steps are carried out prior to the steps of claim **1**.

18. A method according to claim **17** wherein the conditioning of the stems increases the moisture content to 35% o.v. or less.

19. A method of producing cut filler comprising rolled Burley tobacco stems, the method comprising:

treating Burley stems using a method according to claim **2**; and

blending the treated Burley stems with at least one type of tobacco lamina, expanded tobacco or reconstituted tobacco to produce cut filler.

20. A method of producing cut filler comprising rolled Burley tobacco stems, the method comprising:

treating Burley stems using a method according to claim **8**; and

blending the treated Burley stems with at least one type of tobacco lamina, expanded tobacco or reconstituted tobacco to produce cut filler.

* * * * *