Book of Specification

of “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu)

I. GI application

- **Kampong Speu Palm Sugar Promotion Association (KSPA)**
- Registered by Ministry of Interior No. 086 Sor.Chor.Nor dated on 20th January 2009
- Address: Ang Ta Pork Village, Cheung Roas Commune, Oukdong District, Kampong Speu Province, Cambodia
- Phone: (+855-17) 815 644
- E-mail: kspa@yahoo.com / kspa2008@gmail.com
- Website: www.kampongspeupalmsugar.org

II. Product Name

- Khmer name: “ស្ករត្នោតកំពង់ស្ពឺ”
- English name: “Skor Thnot Kampong Speu” / “Kampong Speu Palm Sugar”
- French name: Sucre de palme de Kampong Speu, and in any other languages.

III. Category of product

“ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) is palm sugar made from sap of palm sugar tree (Borassus flabellier L.)

IV. Product description

“ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) is characterized by a rich aroma and light brown colour like pumpkin.

There are 4 types of “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) produced, processed and sold on the market:

- Granulated palm sugar
- Paste palm sugar
- Block palm sugar
- Syrup palm sugar

Granulated sugar

Paste sugar

Block sugar

Syrup sugar

Detailed description of the different types of "ស្ករត្នោតកំពង់ស្ពឺ" (Skor Thnot Kampong Speu)

Type	Texture	Color *	Aroma	Taste	Chemical characteristics
Granulated sugar	- No adherent to finger - Size of grain is or smaller than 1.5 mm - From dry to good dry	G3-G4	- Palm sugar aroma - Without aroma: . Mushroom . Burning	- Very sweet - Taste of palm sugar from medium to strong - There is the taste of acid and bitter very little	Brix > 95% pH = 4,5-6,5 Aw ≤0,45
Paste sugar	- No adherent or adherent very little to finger - There is crystal grain from average to many	G1-G5		- Medium sweet to very sweet. - There is the taste of acid and bitter very little - The taste of palm nectar from medium to strong	Brix= 85%-95% pH = 4,5-6,5 Aw ≤ 0,8
Block sugar	- There is crystal grain from average to many - There is powder a little - Dry to very dry	G3-G7		- Medium sweet to very sweet - The taste of palm sugar from medium to strong - There is the taste of acid and bitter very little	Brix = 90%-95% pH = 4,5-6,5 Aw ≤ 0,7
Syrup sugar	- Adherent	G3-G11	Medium nectar smell	- Medium sweet - Medium palm sugar taste - There is the taste of acid and bitter very little	Brix: 50-70% pH = 3,5-6,5 Aw ≤ 0,85

* Please see the reference of color in the annex.

The packaged quantity of palm sugar depends on the packager.

V. Geographical area and proof of origin

5.1 Geographical Area

The delimited geographical area for the production of “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) consists in the following districts:

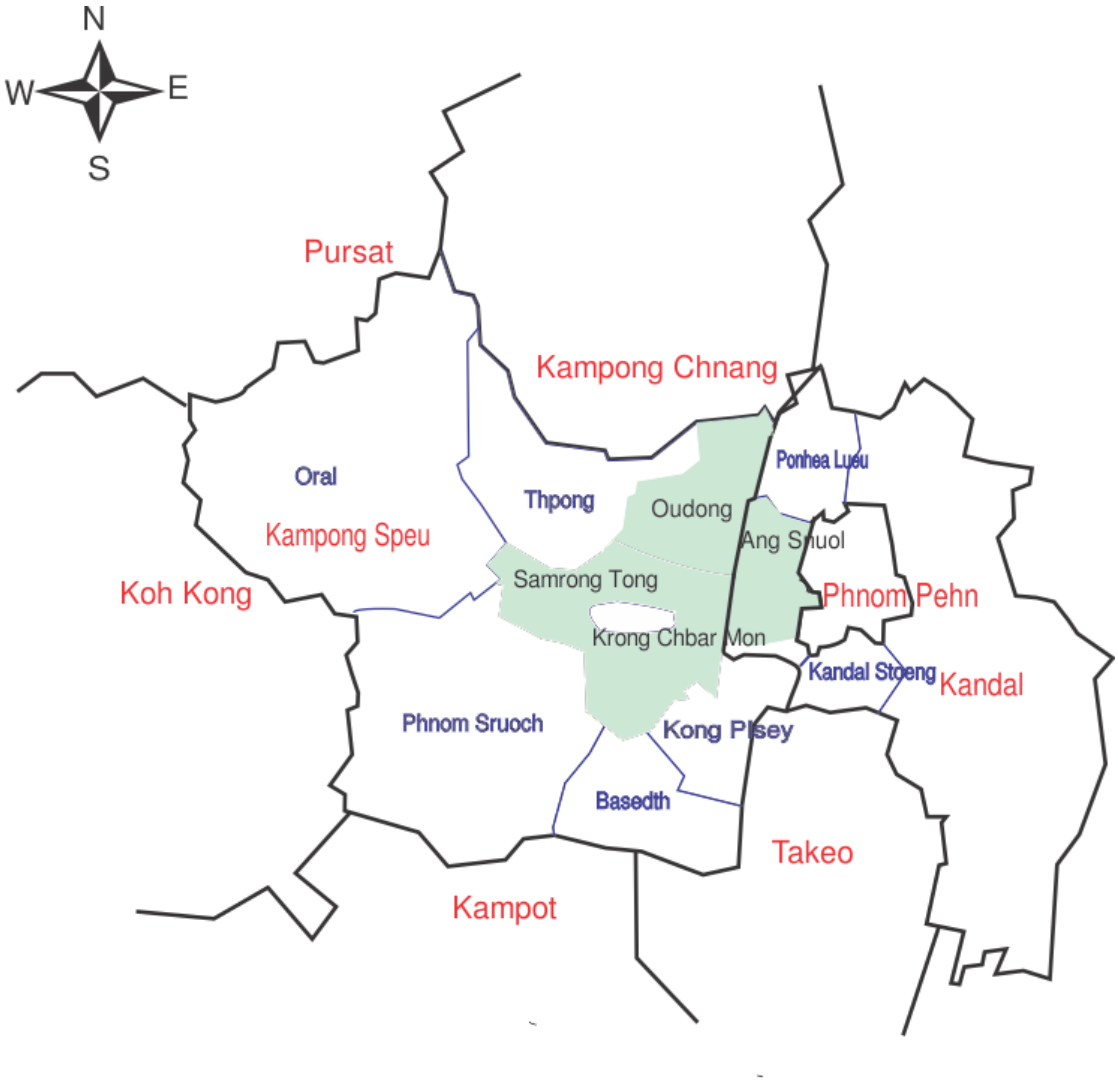
- Oukdong and Samrong Tong district, Kampong Speu province;
- Ang Snuol district, Kandal province

To produce “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu), the producer has to harvest the sap of the palm trees which are in the district above and the palm trees have to grow on sandy soil with at least 0.80 meters of deep, gravel soil and well drained.

The sap collection and the processing of “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) have to be done in the 3 districts above.

Starting from January 01, 2021, all packaging of “ស្ករត្នោតកំពង់ស្ពឺ” or “Skor Thnot Kampong Speu” can be done inside or outside the production area of “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu).

Map of Production area of “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu)



Legend

District Boundary

Provincial Boundary

“ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) production area

Note: The palm tree that could be harvested to produce “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) is located on the type of soil defined in the point 5.1 in the book of specification.

0 20 40 Km

5.2 Proof of the origin

To be entitled to produce and market “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu), the operator has to register at the Kampong Speu Palm Sugar Promotion Association and to be accredited. The declaration of volume produced is required for all operators, as well as registration of transaction. A traceability system is developed, in order to follow the product from the producer to the market.

Random samples are taken to check the compliance of the product with the criteria defined as “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) specificities (See “§.4 Product Description”).

VI. Production method

6.1 Palm tree exploitation

Palm sap is harvested after the squeezing and the cutting of palm inflorescence. The palm sap collection and as “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) production starts from 1st December till 31st May of each year. The sap can be harvested from both male and female flowers.

Starting from 01 January 2020, palm sugar producer can use Bamboo container or Plastic Container **called “Bampong”** for harvesting palm sugar from the sap of palm sugar tree. Containers have to be cleaned between each use with cool water and boiling water. A small piece of *Popèl wood (Shorea cochinchinensis*, *Hopea recopei* and *Shorea roxburghiana*) or *Koki wood* (*Hopea helferi*, and *Hoepa pierrei*) wood is put in each container before to put it on the tree, in order to slow down the fermentation of the sap.

The use of gutter (*“phnear”*) is prohibited to channel palm sap from several flowers to the container. The producer can put 1 female flower or 4 male flowers of palm tree per 1 container at maximum.

Containers shall be collected from the palm tree within 15 hours after the time they were installed, and the processing of the sap harvested shall start within 2 hours after the sap is collected.

The use of chemical substances (such as Sodium Hydrosulfite - known by producers as "*tnam sar*") to decrease the fermentation of palm sap and to whiten palm sugar is prohibited at all stages (such as in the container before the palm sap collection as well as during the palm sap processing ... etc.)

After taking containers from the palm trees, the producer has to put palm sap directly to the pan. It means that the producer shall not pour the palm sap into another container such as a box, or a plastic bottle or any other container before the processing.

Before the processing, the producer has to filter the palm sap by using a tight strainer (15 microns for a maximum). After use, the producers have to clean materials used for palm sap filtration with cool water and then boiling water.

Photo 01: Cleaning of the containers

Photo 02: Putting Poel in the containers

Photo 03: Cutting flowers


Photo 04: Pressing flowers


Photo 05: Palm sap collection


Photo 06: Using strainer to filter palm sap before processing

6.2 Processing of palm sap

From 01 December 2009, the producer has to transform the palm sap by using the improved cook stove (i.e. stove equipped with chimney), which decreases the firewood and prevent contamination of the sugar by smoke or ashes into the cooking wok during the transformation. The use of improve cook stove helps to obtain a clearer color of palm sugar because during the transformation, there is no burning around the mouth of the wok/cooking pan).

The cooking place is arranged and covered with leaf or zinc and it has the good hygiene (plant wastes are cleaned, there is not dung pile near the cooking place, etc.).

Wood, rice husk, sawdust and dry vegetal material can be used as fuel. In the case of using gas to cook, the producers can use normal cook stove. It is prohibited to add anything during the processing.

- **Granulated sugar:** The duration of boiling is 3 hours and 15 minutes and the duration of agitation is at least 30 minutes. After agitation, the producers have to use the material for sifting the powder sugar and its dimension is 1.50 mm for a maximum.
- **Paste sugar:** The duration of boiling is 3 hours for a maximum and the duration of agitation is at least 15 minutes.
- **Block sugar:** The duration of boiling is 3 hours and 15 minutes and the duration of agitation is at least 20 minutes.

- **Syrup sugar:** Syrup sugar is produced from palm sap and the duration of boiling is 2 hours and 30 minutes for a maximum.

While the evaporation as reached the target point, the pan is taken out of the stove and start to crystallize in order to whiten the palm sugar:

- For the Granulated palm sugar, the agitation or crystallization has to be done by a kind of churn (*"Antok"*) and with a stick (*"Khno"*) made from wood or inox).
- For other palm sugar, the agitation or crystallization has to be done by *"Antok"* or *"Khno"*.

One palm tree can produce 100kg of "ស្ករត្នោតកំពង់ស្ពឺ" (Skor Thnot Kampong Speu) sugar paste (or the equivalent proportion in other forms: black, granulated or syrup) in one season.

Photo 7: Crystallization of palm sugar


6.3 Storage

The material that could be used for palm sugar storage before the packaging are as below:

- Soil jar (Pottery);
- Plastic container or plastic bag compatible for food;

	Granulated sugar	Paste sugar	Block sugar	Syrup sugar
Duration of temporary storage before the packaging	3 months	3 months	3 months	3 months
Duration of use (Best before)	3 years	1 year	1 year	2 years

The condition of storage:

- Dry place
- Clean place
- Far from the sunshine

6.4 Packaging

The packager can't use the materials that could affect the quality of "ស្ករត្នោតកំពង់ស្ពឺ" (Skor Thnot Kampong Speu).

The packaging shall:

- Not have any chemical reaction between the package and the product
- Maintain product in good condition
- Be environment friendly (manufacturing, recycling and the transportation of materials)

Photo 08: Packaging of powder sugar

6.5 Hygiene

In the process of “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) production, the producer has to well clean its hand with soap, in particular at the three following stages of the process:

1- Before putting palm sap into the pan,
2- Before starting the agitation, and
3- Before transferring the palm sugar into the storage materials.

The producers have to clean all the materials used;
The producers have to clean the cooking place.

VII. Justification of the link to territory

The name of "Kampong Speu" is related to sugar production and palm sugar is known as a traditional production of this area (several guide books or articles refer to this, as for instance the article in ASIA-Life attached with the application for the GI registration).

The production area is within the districts mentioned in § V zones are characterized by the presence of “Red-yellow podzol soil” (sandy soils, with good drainage capacities). All professionals of palm sugar (producers and local traders) acknowledge that the localization of trees on deep sandy soils is a key factor of the quality of the sugar. Sap appears to be more concentrated, which explains the rich aromatic level of Kampong Speu palm sugar. In addition, the Kampong Speu area is characterized by low rainfall that contributes to the high sugar concentration of the sap.

The results of the analysis of palm sap coming from different districts and provinces show that in the 3 districts of the delimited production area, the sugar concentration in the sap is the highest. (Results of the study are annexed to the application for registration of the GI)

VIII. Control

8.1 Registration and accreditation of producers and operators

As mentioned in § 5.2., the producers and operators have to register at the Kampong Speu Palm Sugar Promotion Association and to be accredited according to the book of specification.

Each producer has to declare the number of palm trees he is exploiting and the association will check. The producers should identify the trees they are exploiting by putting their member-code on the trunks.

The palm tree that could be exploited to produce “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) have to located in the delimited area defined in §5.1. above, and on soils complying with the characteristic defined in §5.1. and §7 above.

Each operator must sign a contract of commitment and be inspected before starting their first production of “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu).

Each operator must keep at home: statutes of the association, the book of specification of “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) and the contract (or letter of commitment to follow the book of specifications) signed at their house.

8.2 Control of compliance with the book of specification

The producer can't refuse the inspection of internal controller and external controller. They can propose to postpone the inspection program to another date only one time. The internal control is done with 100% of producers during the production season of “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu). The producer can't refuse the inspection of internal controller and external controller. They can propose to postpone the inspection program to another date only one time. The internal control is done with 100% of producers during the production season of “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu). The external control is done on a sample of 10% to 30% of producers, depending on the internal control result.

8.2.1 Control of production methods

Control will be done without warning at the producer level or other operators in order to check the compliance of production system (palm sap collection, processing, storage, and packaging) of “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) with the book of specification. In the process of internal control, a sensorial analysis commission will evaluate the compliance of the product with the Book of Specification on some samples taken at analyses the batch of

palm sugar of packagers like trader or company at least 5 batches per year and for each member. Sensorial analysis could be done by external control if it is necessary. The sensorial analysis commission has to be trained.

8.2.2 Control on the product

Control on the product is done by sampling from producers or traders in order to check the compliance of the product with the book of specification. The taking and analysis of sample is mandatory for all packagers, and shall be done on a minimum of 5 samples (from 5 different batches of product) per year and per packaging-operator.

Before to proceed with the sensorial analysis, the members of the sensorial analysis commission have to be trained. Sensorial analysis may also be done by the external controller if necessary.

8.3 “Matter accounting” and “Treaceability”

Each operator in the commodity chain has to keep records of all transactions on “ស្គរត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu), (volume produced and sold, purchases, storage and sales for traders), shall make these documents available for control purpose, and shall declare its stocks once a year.

In addition, a traceability mechanism is set up in order to be able to track each batch and to identify the source of the product.

8.4 Sanctions

Products that do not comply with the book of requirement will be disqualified and shall not be marketed under the name of “ស្គរត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu).

Corrective measures and/or sanction shall apply to operators who do not comply with the book of requirement or who do not keep appropriate records available for control purpose. Sanction scale must be decided by association; the list of sanction is the SANCTION CATALOGUE. Each sanction is organized according a **sanction scale** from the less severe to the most severe. Sanction scale is decided by the association and applied by the certification body. The

association and external control body can decide by them-self to apply such sanctions according to all relevant information or to the result of the internal control or external control. The association can take the temporary measure based on the internal control results.

The external control body have the power to decide and implement the sanction but the association can implement the sanction level 1 (Remark) and level 2 (Warning) by him-self and takes temporary measures by applying the sanction level 3 (Disqualification of a batch of product) until there is the intervention of external control body.

Severe infringement shall lead to the exclusion of the operator from the Kampong Speu Palm Sugar Promotion Association, and shall be punished according to the law.

8.5 Control implementation

The association implement internal inspection system to control the implementation of their member with the book of specification. The association contacts the external control body accredited by the norm of ISO 65.

IX. Labelling

A- The labelling of “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) have to include the name “ស្ករត្នោតកំពង់ស្ពឺ” or “Skor Thnot Kampong Speu”, that may be accompanied by a translation in any relevant language(s), in a font size big enough that we can see clearly on the label. The mention “Protected Geographical Indication” (in relevant language) has to appear close to the name “ស្ករត្នោតកំពង់ស្ពឺ” or “Skor Thnot Kampong Speu”.

B- If “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) is sold inside Cambodia: the label has to add at least some information as following:

- The logo of the Geographical Indication “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu),

- The National logo of Cambodian Protected Geographical Indications, and/or
- Other logos of Protected Geographical Indication of other countries or group of countries where the “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) has been registered as Geographical Indication.

C- If “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) is sold outside Cambodia: the label has to add at least some information as following:

- The original name “ស្ករត្នោតកំពង់ស្ពឺ” or “Skor Thnot Kampong Speu” (that may be accompanied by a translation in relevant language), and
- The logo of the Geographical Indication “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu), and/or
- The National logo of Cambodian Protected Geographical Indications, and/or
- Other logos of Protected Geographical Indication of other countries or group of countries where the “ស្ករត្នោតកំពង់ស្ពឺ” (Skor Thnot Kampong Speu) has been registered as Geographical Indication.

The label shall also include batch number to ensure the traceability of the product, in case it isn’t on the package or on a specific label.

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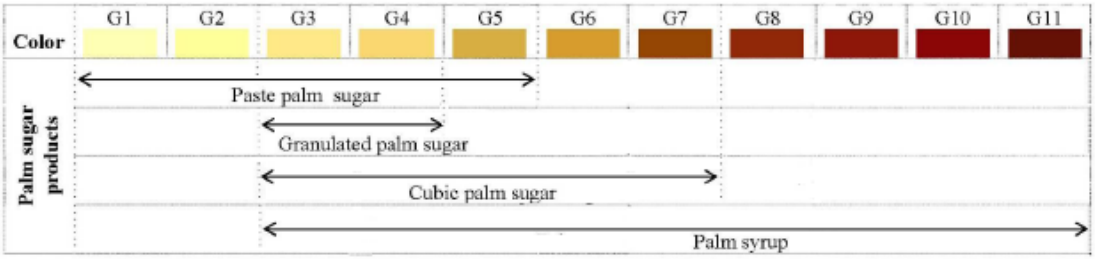
Color of Reference for Thnot (Palm) Sugar Products



Date : January 11, 2016