

# **Bonsucro chain of custody standard**

*Draft version of October 17 2018*

*FOR SECRETARIAT & WORKING GROUP REVIEW ONLY*

## **1.Introduction**

### **1.1 Bonsucro**

Bonsucro is a global multi-stakeholder non-profit initiative dedicated to reducing the environmental and social impacts of sugarcane production while recognising the need for economic viability. The mission of Bonsucro is to achieve a sugarcane sector that is continuously improving and verified as sustainable by acting collaboratively within the sector and working to continuously improve the three pillars of sustainability: economic, social and environmental viability. Bonsucro aims to achieve this mission through providing the definition for sustainable sugarcane and all sugarcane derived products through a multi-stakeholder approach. Bonsucro also aims at ensuring the integrity of the implementation of the Bonsucro Production and Chain of Custody Standards, through the implementation of the Certification Protocol.

### **1.2 Objective of the Chain of Custody standard**

The objective of this Bonsucro Chain of Custody (CoC) Standard is to provide assurance that claims of compliance can be tracked along the supply chain. Economic operators undergoing the Bonsucro certification process must comply with Bonsucro CoC Standard. It must also be used by Licensed Certification Bodies and auditors when carrying out certification audits. Finally it may be used by the wider audience of the sugarcane sector and any other interested parties.

### **1.3 Scope of the BonSucro CoC standard**

The BonSucro CoC standard applies to any economic operator purchasing, handling and/or trading Bonsucro-compliant material who wishes to make any claim about the status of the material or representation of the material. It describes the requirements to ensure the traceability of Bonsucro-compliant material by implementing a mass balance supply chain model. Any organization that wishes to make a claim regarding Bonsucro certified material shall hold a valid CoC certificate.

Note: Participants wishing to meet the EU RED requirements for supplying sugar cane derived biofuels into the European Union shall follow the requirements laid out in the separate Bonsucro EU RED standard.

#### **1.4 History of this document**

In xxx 2018, upon the recommendation of the Bonsucro Secretariat, the Board of Directors agreed to start the revision process of the Bonsucro Mass Balance CoC Standard and Guidance. The Board instructed the Secretariat to follow the Standard Revision Procedure set up in line with the ISEAL Code of Best Practice for Standard Setting. The Secretariat called for one representative of each class of membership to form the Standard Revision Taskforce (SRT). The SRT met remotely in October and December 2018. The SRT was given the task to draft the new version of the Bonsucro Mass Balance CoC Standard and Guidance. All meeting minutes are publicly available on the Bonsucro website.

## 2. Definitions

Normative references for definitions referring to:

ISO 9000:2005; ISO 14001:2004; ISO IEC Guide 17000:2004; EU RED (2009/28/EC); EU FQD (2009/30/EC); CEN/TC383

**Bonsucro certified members:** Bonsucro members who have been certified against the Bonsucro Producer Standard and/or the Bonsucro Chain of Custody Standard.

**Cane supply area:** area which a mill defines as the farms/estates supplying cane for the purposes of certification.

**Carryover:** the positive balance of Bonsucro certified product at the end of the inventory period, that is carried over to the next inventory period. The positive balance at the end of the inventory period is calculated as the balance at the beginning of the inventory period, plus the total volume of Bonsucro certified material & credits purchased during the inventory period minus the total volume of Bonsucro certified material & credits sold during the inventory period (taking into account relevant conversion factors if appropriate).

**Certification Body:** i.e. Conformity Assessment Body; Body that performs the audit.

Note 1 - An accreditation body is not a conformity assessment body (ISO/IEC 17000:2004)

(Source: Adapted from ISO/IEC 17011:2005).

**Chain of Custody:** sequence of responsibilities for and control of products or materials as they move through each step in the relevant supply chain (Source: ISO draft CoC standard, 2015).

**Chain of Custody system:** set of measures designed to implement a chain of custody, including documentation of these measures.

**Consignment:** quantity (e.g. batch, lot, load) of product mass with attached data specifying the product content in terms of kilograms (or tons of sugar or litres/m<sup>3</sup> of ethanol) and sustainability characteristics.

**Conversion factors:** are the ratio between the output material and the input material. Conversion factors will be specific to facilities and should be accurately and fully documented in the mass balance system.

**Document:** Information and its supporting medium. Note 1 - The medium can be paper, magnetic, electronic or optical computer disk, photograph or master sample, or a combination thereof; Note 2 - Adapted from ISO 9001:2000; ISO 14001:2004.

**EU-RED:** European Union Directive on the promotion of the use of energy from renewable sources (Renewable Energy Directive, 2009/28/CE).

**Inventory Period:** A consistent period over which physical Bonsucro certified product and sustainability data is reconciled.

**Finished product:** A finished product is a product where no further modification occurs (including repacking).

**Mass balance:** A system for administratively monitoring the inputs and outputs of certified material/product throughout the supply chain. It allows for mixing of these materials/products with non certified material at any stage in the supply chain, provided that the outputs of certified material/product do not exceed the inputs of certified material/products.

**Multiple sites:** More than one location either within a single legal entity or across legal entities that are related via an ownership structure (e.g. common holding company). Such locations may be refineries, storage or other processing units. One site of an included legal entity shall be designated as responsible for maintaining the central administration of the CoC requirements including the Mass Balance accounting using an Internal Control System (ICS).

**Organization:** legal entity or group of legal entities with one or more sites, seeking or holding Bonsucro CoC certification. In case the organization holds a Bonsucro CoC certificate, it is also referred to as Bonsucro CoC Certificate Holder or Certificate Holder.

**Site:** a single functional unit of an organization or a combination of units situated at one locality, which is geographically distinct from other units (Adapted from ISO draft CoC Standard, 2015 and EU-RED)

**Supplier:** Previous legal owner of the product in the Chain of Custody.

**Sustainability characteristics:** Confirm & describe compliance with the Bonsucro environmental, social and economic criteria for a consignment of sugarcane, sugar, bagasse and any other product derived from sugarcane, sugarcane residues or sugarcane waste.

**Traceability:** the ability to trace the history, application or location or source(s) of a product throughout the supply chain (adapted from ISO 9001)

### **3.System description**

#### **3.1 Elements of the Bonsucro Certification System**

The Bonsucro Certification System consists of four main elements:

1. The “Bonsucro Production Standard” contains principles and criteria for achieving sustainable production of sugarcane and all sugarcane derived products in respect of economic, social and environmental dimensions. Bonsucro has developed guidance documents for members that provide further information on how to become compliant with the Bonsucro Production Standard.
2. The “Bonsucro Generic Chain of Custody Standard” includes two supply chain models:
  - a. Physical Mass Balance;
  - b. Mass Balance Credits.
3. The Bonsucro EU RED Chain of Custody Standard which is a separate standard to the Generic CoC standard and contains specific requirements for sugar products to be qualified for the EU RED biofuels and bioliquids markets.
4. Certification Protocol: Bonsucro has developed a Certification Protocol for auditors that lists the process and procedures for certification against the Bonsucro Standards. This includes: 1) rules and requirements for independent Certification Bodies to audit against the Bonsucro standards, and 2) audit procedures for independent Certification Bodies to verify compliance with the Bonsucro Standards.

Together, these three elements form the Bonsucro Certification System. As such, these individual documents must always be used in relation to each other.

#### **3.2 Supply chain models**

Bonsucro follows a mass balance approach for tracing Bonsucro certified material in the supply chain, ensuring that at every point in the supply chain volumes of Bonsucro certified outputs match volumes of Bonsucro certified inputs.

Bonsucro recognizes two mass balance approaches:

**Physical mass balance** - the volume of Bonsucro certified output is balanced with a physical volume of Bonsucro certified input. This allows the tracking of Bonsucro certified sugar cane and derived products along the entire supply chain from field to mill (including transportation), through various steps of production (for example conversion processing, manufacturing, transformation) to warehousing, transportation and trade up to and including the end product manufacturer.

**Credit mass balance** - Producers of Bonsucro certified sugar cane are allowed to directly sell the Bonsucro sustainability attributes of their certified volume to any permitted buyer (without requiring a physical link to the product). This transaction removes the certified status from the physical sugar cane product which may no longer be sold as certified. Permitted buyers of credits can use those credits to assign sustainability attributes to a physical volume of a sugar cane derived product using language that clearly explains that the product itself is not directly certified.

Within one unit of certification both supply chain models may be applied subject to a consolidated audit process.

The applicability of the requirements is dependent on the supply chain model to be followed by the organization.

1. For physical mass balance the Chain of Custody requirements shall apply to every organization throughout the supply chain that
  - a. takes legal ownership and
  - b. physically handles BonSucro certified products at a location under the control of the organization including outsourced contractors.
2. For credit mass balance both the seller and the purchaser of the credits shall follow the CoC requirements.
  - a. Additionally the rules for credit mass balance must be followed as noted in document XXX issued by the Secretariat. *(to be discussed with Secretariat)*

After the end product manufacturer, there is no further requirement for certification. This means that retailers and distributors of finished products do not need Chain of Custody certification.

### **3.3 Unit of certification**

An organization has two options for its chosen unit of certification. These are:

1. Single Site - a single functional part of an economic operator's operations or a combination of parts situated at one locality, e.g. sugarcane mill, terminal, food processing, storage, tanks.
2. Multi Site - More than one location either within a single legal entity or across legal entities that are related via an ownerships structure (e.g. common holding company). Such locations may be refineries, storage or other processing units.
  - a. One site of an included legal entity shall be designated as responsible for maintaining the central administration of the CoC requirements including the Mass Balance accounting using an Internal Control System (ICS).

## **4.The Bonsucro chain of custody standard**

### **Principle 1: Implementing the chain of custody**

#### **Criterion 1.1 The organization shall implement the chain of custody requirements within the scope identified**

##### **Indicator 1.1.1: Overall management responsibility**

The organization shall establish and document its commitment to implement and maintain the Bonsucro CoC requirements. The commitment of the organization shall be made available to its personnel, suppliers, clients and other stakeholders.

##### *Guidance*

[yet to be added, if any]

##### **Indicator 1.1.2: Procedures**

The organization shall have written procedures and/or work instructions or equivalent to ensure the implementation of all elements of the BonSucro CoC requirements. This shall include at minimum the following:

- Complete and up to date procedures covering the implementation of all the elements of the supply chain model requirements.
- Complete and up to date records and reports that demonstrate compliance with the supply chain model requirements (including training records).
- Identification of the role of the person having overall responsibility for and authority over the implementation of these requirements and compliance with all applicable requirements. This person shall be able to demonstrate awareness of the organization's procedures for the implementation of this standard.

##### *Guidance*

[to be added, if any]

**Indicator 1.1.3: Record keeping**

The organization shall maintain accurate, complete, up-to-date and accessible records and reports covering all aspects of the BonSucro CoC Standard requirements. Retention times for all records and reports shall be a minimum of five (5) year.

*Guidance*

*This includes e.g. purchase and sales documents, production records and volume summaries, records of internal procedures and changes thereof, records on training of personnel, records of internal audits. The system for recording data and documents (e.g. software) shall be adequate to the complexity of the organization.*

**Indicator 1.1.4: Training**

The organization shall have a training plan on BonSucro CoC Standard requirements, which is subject to on-going review:-

Appropriate training shall be provided by organization for personnel carrying out the tasks critical to the effective implementation of the supply chain certification standard requirements.

Training shall be specific and relevant to the task(s) performed.

Records of participants and content shall be maintained

*Guidance*

*In case of multi site certification, training of staff shall be coordinated within the group of entities/sites falling under the scope of the certificate.  
[yet to be extended?]*

**Indicator 1.1.5: Internal audits**

The organization shall conduct an annual internal audit to determine whether the organization;

- i) conforms to the requirements in the BonSucro CoC Standard
- ii) effectively implements and maintains the standard requirements within its organization.

Any non-conformities found as part of the internal audit shall be issued corrective action. The outcomes of the internal audits and all actions taken to correct nonconformities shall be subject to management review at least annually. The organization shall maintain the internal audit records and reports.



iii) corrective actions taken as a result of any nonconformities identified in the internal audit shall be documented, including dates and descriptions of actions taken.

The procedure for the annual internal audit process shall be documented.

*Guidance*

*In case of multi site certification, internal audits shall include a sample of the sites under the certificate, and always include the Central Office.*

**Indicator 1.1.6: Defining the unit of certification**

The organization shall define and document its unit(s) of certification. In the case of multi-site certification, the organization shall define and document the legal entities and sites covered by the multi-site certificate, including details on the site which is the central office for administering Bonsucro CoC data. The relationship between the sites shall be described and documented. The organization shall document any changes that may occur in the scope of the unit(s) of certification, and notify its certification body and the Bonsucro Secretariat at least one week before the change is taking effect.

*Guidance*

*A multi site certificate can be across borders, i.e. including two or more legal entities and/or sites in more than one country.*

*The list of included legal entities and sites, their (organizational) relationship and their scope of Bonsucro certification must be made transparent to the auditor and to the Bonsucro secretariat. The Bonsucro Secretariat publishes details of the multi site certificate on its website.*

**Indicator 1.1.7: Outsourcing activities**

In cases where a Bonsucro CoC certified organization outsources activities to independent third parties (e.g. subcontractors for storage, transport or other outsourced activities), the certified organization shall ensure that the independent third party complies with the requirements of the Bonsucro CoC Standard. This requirement is not applicable to outsourced storage facilities where the management of the Bonsucro certified product(s) and instructions for tank movements are controlled by the certified organization (not the tank farm manager).

A Bonsucro certified organization which includes outsourcing within the scope of their Bonsucro CoC certificate shall ensure the following:

a) The certified organization has legal ownership of all input material to be included in outsourced processes;

- b) The certified organization has an agreement or contract covering the outsourced process with each contractor through a signed and enforceable agreement with the contractor. The certified organisation shall ensure that its certification body has access to the outsourcing contractor or operation if an audit is deemed necessary, including all necessary documentation. If this is not possible, the outsourced contractor shall obtain a Bonsucro CoC certificate independently.
- c) The organization has a documented control system with explicit procedures for the outsourced process which is communicated to the relevant contractor.
- d) the organization shall record the names and contact details of all contractors used for the processing or physical handling of Bonsucro certified products. An up to date record shall be made available to the organizations certification body at its next audit.

*Guidance*

[yet to be added, if any]

**Indicator 1.1.8: Accuracy of measuring equipment**

The organization shall maintain the accuracy of any measuring equipment used.

*Guidance*

*Metering and weighing equipment used by the economic operator or by subcontractors for volume or weight input and output of the mass balance is required calibration with a minimum frequency of once a year (or as per manufacturer's guidelines) preferably by a calibration and testing organization that is accredited for ISO IEC 17025 or equivalent. The equipment used for calibration may not be used for regular production and needs to be stored in a safe place. Methods and proof of verification and validation of results need to be recorded and need to be demonstrated to the auditor. Where it is common practice or required by regulation, seals shall be intact and matching calibration documents.*

## **Principle 2: Validating and reconciling Bonsucro data**

### **Criterion 2.1 The organization shall validate and document Bonsucro data**

#### **Indicator 2.1.1: Verification of Bonsucro status of the supplier**

The receiving organization shall verify the current Bonsucro status of the supplier at the time of the purchase.

*Guidance:*

*This includes checking the validity of the supplier's Bonsucro CoC certificate. All valid Bonsucro certificates are displayed on the Bonsucro website. In cases of uncertainty, the Bonsucro secretariat must be contacted for clarification.*

*No incoming material certified under other schemes can be considered as Bonsucro compliant.*

#### **2.1.2 Verification of data of the incoming Bonsucro certified product**

In case of physical mass balance, the receiving organization shall verify that the supplier contract, invoice and supporting documentation, including associated sustainability characteristics of Bonsucro certified products meet the following requirements:

- Description of the raw material of Bonsucro compliant product (sugarcane or sugarcane residues or wastes)
- The mass (kg or tonnes) or volume (litres or m3)
- Specification of sugar (sugar content in % sucrose) or specification of ethanol (alcohol content in % v/v)
- Evidence showing compliance with the Bonsucro Production Standard
- Buyer and seller contact information

In case of mass balance credits the organization who purchases the credits shall comply with the requirements as detailed in the separate document with rules on mass balance credit trading.

The data shall be entered into the receiving organization's administrative system within one week of taking ownership.

#### *Guidance*

*In case of discrepancies between the documentation and the material received, the receiving organization shall contact its supplier and require for data correction. Corrected data shall be received and entered into the receiving organization's administrative system before sustainability data are passed on to the next organization.*

*Multiple receipts with common supplier and with identical sustainability characteristics may administratively be combined as one batch for reporting purposes (internally and for client documentation).*

*Calculations and units shall be 'traceable' to the starting material. The way of calculation and the ratio used shall be made transparent and shall be documented, and the applied method shall be used in a consistent manner for the inventory period. The organization shall account for losses and they shall be proportionate to Bonsucro compliant and non-compliant product.*

*Example 1: "Sweet sugar" is a refinery and Bonsucro Mass Balance CoC certified economic operator that buys Bonsucro certified raw sugar for refining purposes. Typically, the average of the conversion factor from raw to white sugar at "Sweet Sugar" is 90%. "Sweet Sugar" buys 1,000 tonnes of Bonsucro certified raw sugar and 2,000 of non-Bonsucro certified raw sugar (other). The raw sugar they buy was measured at 97% purity and their final white sugar has 99% purity. This means that the real certified volume of raw sugar is  $1,000 \text{ tonnes} \times 97\% = 970 \text{ tonnes}$ , which will result in 881.8 tonnes of Bonsucro certified white sugar, applying the 90% conversion factor, meaning 873 tonnes of sucrose content. The same conversion factor is applied to the non-Bonsucro certified volumes, i.e.,  $2,000 \times 97\% \times 90\% / 99\% = 1,763.6 \text{ tonnes}$  of non-Bonsucro certified white sugar. Since "Sweet Sugar" documents the conversion rates and applies the losses equally to the product regardless of certification, the economic operator is compliant with indicator 3.1.2*

#### **Indicator 2.1.3: Conversion rates**

A conversion rate describes the change in quantity of a specific material that occurs due to processing of the respective material at a specific site. Conversion rates and the resulting changes of quantities shall be site-specific and product-specific. Conversion rates shall be based on actual data (e.g. processing or production data). The output weight or volume after conversion shall be expressed as 100% sucrose or ethanol equivalents.

Conversion ratios used shall be documented and are subject to verification during the audit.

Conversion rates shall be provided by all the elements of the chain of custody each time such a change in quantity occurs.

In the case of multisite certificates the designated Central Office shall keep records of conversion ratios realized at each site included in the multisite certificate and for all products processed on those sites.

*Guidance:*

*The conversion rate of a specific product for a certain period is defined as follows:  $C (\%) = A_o/A_i * 100$*

*C: Conversion rate*

*A<sub>i</sub>: Amount of the process input material*

*A<sub>o</sub>: Amount of output yielded by the internal process based on input A<sub>i</sub>*

*The amount of sold or withdrawn sustainable products within one period should not be larger than the product of the amount A<sub>i</sub> going into the process multiplied by the conversion rate C. The allocation of sustainability characteristics to outgoing batches is limited by the conversion factor relevant for the biofuel related supply route. Example: A COMPANY W is converting X into Y and Z. If the conversion factor for Y is 40%, then for 1000 tons of X input material the sustainability characteristics can be allocated to 400 tons of Y output. It is not possible to assign additional credits from the 600 tons of Z to Y.*

*Note to the Secretariat: For the Assurance document - suggest requiring the conversion ratios are included in the audit report. (not public on the cert)*

#### **Indicator 2.1.4: Attribution of sustainability characteristics**

Whenever multiple sugarcane-derived products are produced at a given step in the sugarcane supply chain (e.g. mill), sustainability characteristics shall be attributed to all materials equally.

*Guidance:*

*Examples of multiple products include:*

- *Juice and bagasse, following the crushing of sugarcane;*
- *Sugar and molasses, following the refining of sugarcane juice;*
- *Ethanol and vinasse, following the fermentation of molasses*

**Indicator 2.1.5: Mixing of Bonsucro certified products with products fungible with sugarcane-derived products**

In every case where a batch of Bonsucro certified product was mixed with other products which are fungible with sugarcane-derived products, the Bonsucro data may be allocated to any physical consignment taken from that batch, provided that input and output of Bonsucro data match (no overclaiming of Bonsucro data) .

*Guidance:*

*Examples of products which are fungible include any type of ethanol (e.g. corn, wheat, sugarcane) or any type of sugar (cane, beet). Bonsucro/Bonsucro data cannot be allocated to products which can't be made from sugarcane, for example no Bonsucro/Bonsucro data could be allocated to vegetable oil biodiesel or wheat flour.*

**Indicator 2.1.6: Supply of Bonsucro certified product**

The organization shall provide that the delivery contract, invoice and supporting documentation, including associated sustainability characteristics of Bonsucro certified products meet the following requirements:

- Description of the raw material of Bonsucro compliant product (sugarcane or sugarcane residues or wastes)
- The mass (kg or tonnes) or volume (litres or m3)
- Specification of sugar (sugar content in % sucrose) or specification of ethanol (alcohol content in % v/v)
- Evidence showing compliance with the Bonsucro Production Standard
- Buyer and seller contact information

The sale data shall be entered into the organization's administrative system within one week terminating ownership

### *Guidance*

*Multiple receipts with common supplier and with identical sustainability characteristics may administratively be combined as one batch for reporting purposes (internally and for client documentation).*

*Mass Balance Credits shall be sold only by sugar cane producers. Requirements on mass balance credit trading have been described in a separate document.*

### **Indicator 2.1.7: Inventory periods**

The organization shall undertake inventories of the input/output balance of the Bonsucro certified product at fixed regular intervals, for each operation site, with the intervals not exceeding three months. The inventory shall include checking the physical mass balance stock-keeping and the credit mass balance stock-keeping (if any), taking into consideration relevant conversion rates.

Fixed inventory periods shall be continuous in time, i.e. gaps between inventory periods shall not occur. During any periods without movement of Bonsucro certified material mass balances shall be kept.

The inventory periods for the certification period shall be clearly documented at the beginning of the certification term by the organization and shall be verified during the audit. For each inventory period a mass balance calculation including sustainability data transfer to the next period (carry over) must be documented and provided during the audit.

The inventory shall be undertaken at the level of the unit of certification (i.e. a single site, a multi-site or a group).

### *Guidance:*

*Example: During the month of January, the economic operator buys 50 tonnes of Bonsucro certified sugar and 50 tonnes of non Bonsucro certified sugar. In February, the economic operator sells 70 tonnes of Bonsucro certified sugar. At the end of the month of February, the balance is negative by 20 tonnes. However, in March, the economic operator buys 30 tonnes of Bonsucro certified sugar, bringing the balance at the end of the 3-month period to +10 tonnes and, therefore, the economic operator is compliant with indicator 3.1.8.*

*An organization may choose an inventory period less than three months.*

### **Indicator 2.1.8: Balancing Bonsucro volumes during and between inventory periods**

The volume of Bonsucro certified product received shall be greater than or equal to the volume or quantity of Bonsucro certified product supplied to clients over a fixed inventory period of maximum three months.

Where the balance of inputs and outputs is positive at the end of organization's inventory period, sustainability data for the positive balance may be carried into the next inventory period. This is called carry over. Carry over is only possible from one inventory period to the next if at least the equivalent amount of physical material is in stock, as registered in the sustainability data stated in the bookkeeping records. This means it is not possible to have more carry over into the next inventory period than the quantity that is physically in stock at the end of any inventory period.

*Guidance:*

*Balancing shall be separate for physical mass balance and mass balance credits. This means that a shortage in physical mass balance shall not be offset by mass balance credits.*

### **Indicator 2.1.9. Expiration of Bonsucro sustainability data**

Sustainability data entered into an organization's mass balance system shall no longer be attached to outgoing consignments after three years from the date of entry into the system. Carryover is to be adjusted downward to reflect any expiring date of the material.

If the organization's CoC certificate is no longer valid, any remaining sustainability data in the organization's administrative system becomes invalid.

*Guidance:*

*Example: Mill "Sugarcracker" is 100% Bonsucro certified and produced on May 10th 2014, 200 m<sup>3</sup> of ethanol and 500 tonnes of sugar. Those volumes are valid until May 9th 2017. On the next day, it produced additional 300 m<sup>3</sup> of ethanol and 600 tonnes of sugar, which validity expires on May 10th 2017. Its first sale of Bonsucro certified product occurred on July 20th of the same year. It sold 1000 tonnes of Bonsucro certified sugar to Trading "ChainX", who registered in its system the volumes on the same day. These 1,000 tonnes are valid until July 19th, 2017. "Sugarcracker" decided that it would not renew its certification on June 5th 2016. This means that "Sugarcracker" cannot sell the remaining 100 tonnes of sugar and 500 m<sup>3</sup> of ethanol as Bonsucro certified. TradingX, however, can still sell the 1,000 tonnes it has on its book, until July 19th, 2017 or until it is certified, whichever occurs sooner.*



*Mill "Sugarcracker" Quality department*

| <i>Date</i>       | <i>Product</i> | <i>Quantity</i> | <i>Válido até</i> |
|-------------------|----------------|-----------------|-------------------|
| <i>10/05/2014</i> | <i>Ethanol</i> | <i>200</i>      | <i>09/05/2017</i> |
| <i>10/05/2014</i> | <i>Sugar</i>   | <i>500</i>      | <i>09/05/2017</i> |
| <i>11/05/2014</i> | <i>Ethanol</i> | <i>300</i>      | <i>10/05/2017</i> |
| <i>11/05/2014</i> | <i>Sugar</i>   | <i>600</i>      | <i>10/05/2017</i> |

*Commercial department*

| <i>Date</i>       | <i>Product</i> | <i>Quantity</i> | <i>Client</i> |
|-------------------|----------------|-----------------|---------------|
| <i>20/07/2014</i> | <i>Sugar</i>   | <i>1000</i>     | <i>A</i>      |

*Trading "ChainX" Procurement department*

| <i>Date</i>       | <i>Product</i> | <i>Quantity</i> | <i>Supplier</i> | <i>Valid to</i>   |
|-------------------|----------------|-----------------|-----------------|-------------------|
| <i>20/07/2014</i> | <i>Sugar</i>   | <i>1000</i>     | <i>A</i>        | <i>19/07/2017</i> |