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# BONSUCRO MASS BALANCE CHAIN OF CUSTODY STANDARD INCLUDING IMPLEMENTATION GUIDANCE

Version 5.1  
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The global sugarcane platform



Version 5.1  
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## About this Document

Bonsucro Bonsucro Mass Balance Chain of Custody Standard Version 5.1 and Bonsucro EU RED Mass Balance Chain of Custody Standard Version 5.1 were approved by the Bonsucro's Board of Directors on 31st January 2019. They become effective from 11th March 2019.

Any Bonsucro Mass Balance Chain of Custody audit taking place between 11th March 2019 and 11th June 2019 can be carried out against:

- Bonsucro Mass Balance Chain of Custody Standard Version 5.1 or
- Bonsucro EU RED Mass Balance Chain of Custody Standard Version 5.1 or
- Bonsucro / Bonsucro EU RED Mass Balance Chain of Custody Standard Version 4.1

Any Bonsucro Mass Balance Chain of Custody audit taking place from 12th June 2019 must be carried out against:

- Bonsucro Mass Balance Chain of Custody Standard Version 5.1 or
- Bonsucro EU RED Mass Balance Chain of Custody Standard Version 5.1

All Bonsucro Mass Balance Chain of Custody certificate holders must be in compliance with Bonsucro Mass Balance Chain of Custody Standard Version 5.1 or Bonsucro EU RED Mass Balance Chain of Custody Standard Version 5.1 by 12th June 2020.

## About Bonsucro

Bonsucro is a global multi-stakeholder non-profit organisation that exists to promote sustainable sugarcane production, processing and trade around the world. Bonsucro supports a community of over 500 members in over 40 countries, from all elements of the sugarcane supply chain, including, farmers, millers, traders, buyers and support organisations.

Bonsucro's **vision** is a sugarcane sector with thriving, sustainable producer communities and resilient, assured supply chains.

Our **mission** is to ensure that responsible sugarcane production creates lasting value for the people, communities, businesses, economies and eco-systems in all cane-growing origins. Bonsucro's strategy builds a platform to accelerate change for the largest agricultural commodity in the world – sugarcane.

Bonsucro's **strategy** builds a platform to accelerate change for the largest agricultural commodity in the world – sugarcane.



Bonsucro is a full member of the [ISEAL Alliance](https://www.isealalliance.org/) and conducts the process of standards revision in accordance with the ISEAL Standard Setting Code with input from membership, global stakeholders, the Smallholder Steering Committee, and the Bonsucro Technical Advisory Board.

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# INTRODUCTION

## Objective of the Bonsucro Mass Balance Chain of Custody Standard

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

## Scope of the Bonsucro Mass Balance Chain of Custody Standard

The Bonsucro ChoC standard applies to any organisation purchasing, handling and/or trading physical Bonsucro-compliant material who wishes to make any claim about the status of the material or representation of the material. To further detail:

- Any company that takes ownership of Bonsucro Certified products;
- Any company that sells Bonsucro Certified products;
- Mills, traders, refineries, wholesalers & manufacturers (any entity that uses Bonsucro certified Product as a raw material, ingredient or input into their process)
- Independent third parties (like storage facilities and transport) do not need an independent Chain of Custody certification (see ChoC Standard for further details)
- Retailers and distributors of finished products do not need Chain of Custody certification

The Standard describes the requirements to ensure the traceability of Bonsucro-compliant claims by implementing a mass balance supply chain model. Any organisation that wishes to make a claim regarding Bonsucro certified material shall hold a valid ChoC certificate.

Note: Organisations wishing to meet the EU-RED requirements for supplying sugarcane derived biofuels or bioliquids into the European Union shall follow

the requirements laid out in the separate Bonsucro EU-RED ChoC standard. There are important differences in processing to qualify for EU-RED that should be considered by all organisations.

## Structure of the Bonsucro Mass Balance Chain of Custody Standard including Guidance

This document will outline the Bonsucro Mass Balance Chain of Custody (ChoC) Standard indicators AND guidance document on how to implement these indicators correctly. The guidance material is clearly distinguishable as it will be surrounded by a grey box.



## Acknowledgements

The Bonsucro Secretariat would like to express their gratitude to the participants of the Standard Revision Working Group (SRWG) who have dedicated time, knowledge and passion to this project. Without their guidance, advice and decisions, the Bonsucro Mass Balance Chain of Custody Standard including Guidance to the Bonsucro Mass Balance Chain of Custody would not have been achieved the expected improvement and relevance.

The Secretariat would also like to thank all stakeholders, including members of Bonsucro and licensed Certification Bodies, who have shared their experience and knowledge with the SRWG and ensure the resulting Standard and guidance are in line with the reality of the industry. Finally the Secretariat would also like to thank Liza Murphy and Arjen Brinkmann who acted as independent consultants in guiding the revision process.

*Nahuel Tuñón*  
*Standards Manager*

### Standard Revision Working Group (SRWG):

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## History of the Document

In September 2018, upon the recommendation of the Bonsucro Secretariat, the Board of Directors agreed to start the revision process of the Bonsucro Mass Balance Chain of Custody Standard and Guidance documents. 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 Working Group (SRWG). The SRWG met remotely in October and December 2018. The SRWG was given the task to draft the new version of the Bonsucro Mass Balance Chain of Custody Standard and Guidance. All meeting minutes are publicly available on the Bonsucro website. The Bonsucro Board of Directors formally adopted the ChoC Standard on 30th January 2019.

PUBLICATION VERSION	DATE OF PUBLICATION	DESCRIPTION OF AMENDMENT
Version 3.0	March 2011	
Version 4.0	October 2015	Revision in light of amendments to RED and FQD, as described in Directive 2015/1513.
Version 4.1	October 2016	Revision in light of amendments to RED and FQD, as described in Directive 2015/1513.
Version 5.1	March 2019	<ul style="list-style-type: none"> <li>• Revision of Mass Balance principle excluding EU-RED principles.</li> <li>• Rewording for consistency and clarity with revised Bonsucro ChoC Standard.</li> </ul>

## 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 Production Standard and/or the Bonsucro Mass Balance Chain of Custody Standard.
- **Carryover:** The positive balance of Bonsucro certified product at the end of the inventory period, which 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 ChoC 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:** 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).
- **Internal Control System (ICS):** A set of rules, procedures, and organisational structures developed and maintained by the certified organisation that ensure that Bonsucro ChoC requirements are met.
- **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.
- **Multi-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 ChoC requirements including the Mass Balance accounting using an Internal Control System (ICS).
- **Organisation:** Legal entity or group of legal entities with one or more sites, seeking or holding Bonsucro ChoC certification. In case the organisation

holds a Bonsucro ChoC certificate, it is also referred to as Bonsucro ChoC Certificate holder or Certificate holder.

- Site: A single functional unit of an organisation or a combination of units situated at one locality, which is geographically distinct from other units (Adapted from ISO draft ChoC 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).

### Symbols and Abbreviations

- ChoC: Chain of Custody
- G: Grams
- GHG: Greenhouse Gass(es)
- Ha: Hectares
- HCV: High Conservation Value
- KG: Kilograms
- KJ: Kilojules
- L: Liters
- MJ: Megajoules
- T: Metric Tonne
- Y: Year

# SYSTEM DESCRIPTION

## Elements Of The Bonsucro Certification System

The Bonsucro Certification System consists of three main elements:

### Standards

- 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.
- The “Bonsucro Production Standard for Smallholder Farmers”, an adaptation of the Production Standard applicable for smallholder farmers.
- The “Bonsucro Mass Balance Chain of Custody Standard” (ChoC) presents the requirements for Mass Balance activities. The standard includes references to Credit Trading however this is outside the scope of this Standard.
- The “Bonsucro EU-RED Mass Balance Chain of Custody Standard” (EU-RED ChoC) which is a separate standard to the ‘generic’ Bonsucro Mass Balance Chain of Custody Standard and contains specific requirements for sugarcane products to be qualified for the EU-RED biofuels and bioliquids markets.

### Guidance for implementation

Bonsucro has developed guidance documents for members that provide further information on how to become compliant with the Bonsucro Production Standard and/or Chain of Custody Standard.

### The “Bonsucro 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.

## Certification process

- Only after certification (date when the certificate is issued and the organisation starts to be listed on the “certified members” list of Bonsucro’s webpage) are organisations allowed to make public claims about their purchase of Bonsucro certified products and/or sell Bonsucro certified products. Any claims must adhere to the Claims & Labelling Guidelines as published on the Bonsucro Website.
- In order to achieve certification with the Bonsucro ChoC Standard, companies must be members of Bonsucro and be found in full compliance with all indicators of the ChoC Standard.
- The certification decision will be based on the audit report. Documents showing evidence of compliance with the indicators must be presented by the organisation to the independent auditors who will verify them during the audit process.
- The audit must be performed by Bonsucro Licensed Certification Bodies according to the frequency defined by the Bonsucro Certification Protocol.

## Supply chain models

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

This Standard sets the requirements for **mass balance**.

In mass balance the volume of Bonsucro certified output is balanced with a physical volume of Bonsucro certified input. This allows the tracking of Bonsucro claims derived from certified sugarcane 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.

After the end product manufacturer, when the product has been put in its final form and package, there is no further requirement for ChoC certification. This means that retailers and distributors of finished products do not need Chain of Custody certification.

## Unit of certification

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

- **Single site:** A single functional part of an Organisation's operations or a combination of parts situated at one locality, e.g. sugarcane mill, terminal, food processing, storage, tanks. Mills may only be single site units.
- **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, or offices. The sites may be within a single country or across international borders. One site of an included legal entity shall be designated as responsible for maintaining the central administration of the ChoC requirements including the Mass Balance accounting using an Internal Control System (ICS). Mills may not use the option of Multi-Site Certification.

# THE BONSUCCRO MASS BALANCE CHAIN OF CUSTODY STANDARD

# PRINCIPLE 1 – Implementing the Chain of Custody

## Criterion 1.1 The organisation shall implement the Chain of Custody requirements within the scope identified

### Indicator 1.1.1: Overall management responsibility

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

#### Guidance

Procedures shall name the responsible person(s) (i.e. job position) for implementation and compliance with the Bonsucro Mass Balance Chain of Custody Standard, and replacement person(s) in case of absence (i.e. vacations). The management representative and the replacement(s) shall be aware of all procedures and auditors can evidence this by conducting interviews.

### Indicator 1.1.2: Procedures

The organisation shall have written procedures and/or work instructions or equivalent to ensure the implementation of all elements of the Bonsucro ChoC 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 organisation's procedures for the implementation of this standard.

#### Guidance

Procedures shall be available in written form and shall include actions covering all the principles, criteria and indicators of the Bonsucro Mass Balance Chain of Custody Standard. It is not necessary, however, to mention explicitly each indicator individually, i.e. each step of the procedure can cover more than one indicator. The auditor shall evaluate the completeness of the procedures and the number of employees involved, the system for recording data used (e.g. software) shall be adequate to the complexity of the Organisation and will be evaluated according to the auditor's experience. Employees involved shall be aware of procedures and auditors can evidence this by conducting interviews.

For multi-site certification, the procedures and/or work instructions shall also specify the division of responsibilities and tasks between the Central Office and the other sites under the scope of the certificate. Each site is required to be in compliance with the rules of the Bonsucro ChoC standard.

### Indicator 1.1.3: Record keeping

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

#### 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. Records may be kept electronically or on paper. The system for recording data and documents (e.g. software) shall be adequate to the complexity of the organisation. It is not expected that records will pre-date the implementation of the Bonsucro Mass Balance Chain of Custody system. In the case of multi-site certification, the documents (originals or copies) shall be available at the site centrally managing the Internal Control System. Records and reports older than 12 months could be subject to evaluation by the auditor, even if the audit focuses on the 12-month period prior to the audit.

### Indicator 1.1.4: Training

The organisation shall have a training plan on Bonsucro ChoC Standard requirements, which is subject to on-going review. Appropriate training shall be provided by the organisation 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

The training shall be appropriate to the scale and complexity of the organisation. 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 and shall be documented via the ICS.

### Indicator 1.1.5: Internal audits

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

- Conforms to the requirements in the Bonsucro ChoC Standard.
  - Effectively implements and maintains the standard requirements within its organisation. Any non-conformities found as part of the internal audit shall direct corrective actions to be taken. The outcomes of the internal audits and all actions taken to correct nonconformities shall be subject to management review at least annually. The organisation shall maintain the internal audit records and reports.
  - Corrective actions taken as a result of any nonconformities identified in the internal audit shall be documented, including dates and descriptions of actions taken to resolve them.
- The procedure for the annual internal audit process shall be documented.

**Guidance**

Annual internal review of performance shall be carried out for each site individually, in the case of multi-site certification. Desk reviews are allowed and can take the form of checklists and document sampling, for example. Outsourced locations shall be included.

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

The organisation shall define and document its unit(s) of certification. In the case of multi-site certification, the organisation 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 ChoC data. The relationship between the sites shall be described and documented. The organisation 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 legal entities and borders, i.e. including two or more legal entities with a common ownership and/or sites in more than one country. The list of included legal entities and sites, their (organisational) 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 ChoC certified organisation outsources activities to independent third parties (e.g. subcontractors for storage, transport or other outsourced activities), the certified organisation shall ensure that the independent third party complies with the requirements of the Bonsucro ChoC 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 directly by the certified organisation (not the tank farm manager).

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

- The certified organisation has legal ownership of all input material to be included in outsourced processes;
- The certified organisation 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 ChoC certificate independently.
- The organisation has a documented control system with explicit procedures for the outsourced process which is communicated to the relevant contractor and compliance is monitored.
- The organisation 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 organisations certification body at its next audit.

**Guidance**

Any outsourced activity shall be listed and its role in the mass balance system shall be defined. Records of internal reviews shall be available (indicator 1.1.5). In the case that the organisation is not able to influence or check the procedures in place concerning the outsourced activities, the third party shall seek chain of custody certification independently. It is allowed for a third party to be included in the mass balance procedures of more than one Organisation.

**Indicator 1.1.8: Accuracy of measuring equipment**

The organisation shall maintain the accuracy of any measuring equipment used. Calibration shall be carried out at least annually.

**Guidance**

Metering and weighing equipment used by the Organisation 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 if more frequent) preferably by a calibration and testing organisation 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 organisation shall validate and document Bonsucro data

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

The receiving organisation 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 ChoC certificate. All Bonsucro certified entities and certificate numbers 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.

#### Indicator 2.1.2: Verification of data of the incoming Bonsucro certified product

In case of mass balance, the receiving organisation shall verify that the supplier contract, invoice and/or 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 m<sup>3</sup>).
- Specification of sugar (sugar content in % sucrose), molasses for fermentation (% Brix), or specification of ethanol (alcohol content in % v/v) or for any other derived products the appropriate measure of purity.
- Evidence showing compliance with the Bonsucro Production Standard.
- Buyer and seller contact information.

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

##### Guidance

'Evidence showing compliance with the Bonsucro Production Standard' means evidence that the producer from which the sugarcane was obtained holds a valid Bonsucro Production Standard certificate. For Supply chain actors evidence means that the suppliers from which the Bonsucro certified material is purchased from holds a valid Bonsucro ChoC Standard certificate.

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

The sustainability characteristics of the batch may be delivered in any form or layout and are required to reference the specific batch. For example, the sustainability characteristics may be included as part of the delivery note, and invoice or be attached as an annex to the chosen contract document.

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).

### Indicator 2.1.3: Conversion rates

The 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, % Brix 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

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 organisation 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 ChoC certified Organisation 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 tonnes x 97% = 970 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.,  $2,000 \times 97\% \times 90\% / 99\% = 1,763.6$  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 Organisation is compliant with indicator 2.1.2.

### Indicator 2.1.4: 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 over claiming 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 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.

**Calculation Example**

"Sweet Sugar" bought 1,000 tonnes of Bonsucro certified white sugar and 500 tonnes of non-certified beet white sugar on May 4th. On the next day, it bought another 2,000 tonnes of non-certified beet white sugar. Since the products are fungible, they were mixed and stored in the same warehouse. On May 6th, it sold 1,000 tonnes of sugar from this mixture as Bonsucro certified sugar. This is possible since the products are fungible and therefore, "Sweet Sugar" is compliant with indicator 2.1.4.

**Procurement department**

Date	Supplier	Product	Feedstock	Certification	Quantity
04/05/2018	X	White Sugar	Sugarcane	Bonsucro	1000
04/05/2018	Y	White Sugar	Beet	N/A	500
05/05/2018	Y	White Sugar	Beet	N/A	2000

**Commercial department**

Date	Client	Product	Certification	Quantity
06/05/2018	A	White Sugar	Bonsucro	1000

**Indicator 2.1.5: Supply of Bonsucro certified product**

The organisation shall ensure that the delivery contract, invoice and/or 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 product purity (sucrose content % in sugar), molasses for fermentation (% Brix), or specification of ethanol (alcohol content in % v/v) or for any other derived products the appropriate measure of purity.
- Evidence showing compliance with the Bonsucro Production Standard.
- Buyer and seller contact information.

The sale data shall be entered into the organisation's administrative system within one month of terminating ownership

### Guidance

'Evidence showing compliance with the Bonsucro Production Standard' means evidence that the producer from which the sugarcane was obtained holds a valid Bonsucro Production Standard certificate. For Supply chain actors means evidence that the suppliers from which the Bonsucro certified material is purchased from holds a valid Bonsucro ChoC Standard certificate.

The sustainability characteristics of the batch may be delivered in any form or layout and are required to reference the specific batch. For example the sustainability characteristics may be included as part of the delivery note, and invoice or be attached as an annex to the chosen contract document.

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).

### Indicator 2.1.6: Inventory periods

The organisation 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 mass balance stock-keeping and the credit 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 organisation 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 also be undertaken at the level of the unit of certification (i.e. a single site, a multi-site or a group).

### Guidance

An organisation may choose an inventory period less than three months.

Example 1: During the month of January, the Organisation buys 50 tonnes of Bonsucro certified sugar and 50 tonnes of non Bonsucro certified sugar. In February, the Organisation 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 Organisation buys 30 tonnes of Bonsucro certified sugar, bringing the balance at the end of the 3-month period to +10 tonnes and, therefore, the Organisation is compliant with indicator 2.1.6

Example 2: Organisation A has controls in place in order to compile all information regarding incoming and outgoing products on a monthly base. By 2nd of the month, the analyst forwards all information to the management regarding the previous calendar month. In the information that is compiled, there is specific mention to the balance of Bonsucro certified product. In this case, the inventory period is 1-month. Therefore, the Organisation is compliant with indicator 2.1.6.

Example 3: The accounting year of Organisation B is from April to March. Information is closed on a quarterly basis. This means that the analyst compiles information regarding the period 1st of April to 30th of June and follows it to the management by 15th of July. In this case, the inventory period is of 3-months. Therefore, the Organisation is compliant with indicator 2.1.6.

Example 4: The financial year of Organisation C goes from January to December. There are no procedures in place for analyzing the balance of Bonsucro certified products in a shorter time frame. The inventory period of Organisation C is 12-months. Therefore, the Organisation is not compliant with indicator 2.1.6.

### Indicator 2.1.7: Balancing Bonsucro volumes during and between inventory periods

The volume of Bonsucro certified product received shall be greater than or equal to the volume 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 organisation's inventory period, sustainability data for the positive balance may be carried into the next inventory period. This is called carry over.

#### Guidance

For multi-site certification, the total volume of Bonsucro certified products received by all sites under the scope of the multi-site certificate shall be greater or equal to the volume of Bonsucro certified products supplied by all sites under the scope of the multi-site certificate, meaning that a shortage of one site can be offset by a surplus of another sites. All sites shall use the same fixed inventory period.

#### Example:

A company has a multi-site certificate covering sites A, B and C. The inventory period runs from January - March.

In January site A purchases 10,000 tonnes of Bonsucro certified sugar, site B purchases 5,000 tonnes of Bonsucro certified sugar, and site C purchases 20,000 tonnes of non-certified sugar. In March, site C sells 15,000 tonnes of sugar as Bonsucro certified. This is allowed, as the balance over the three sites falling under the multi-site certificate is zero.

### Indicator 2.1.8. Expiration of Bonsucro sustainability data

Sustainability data entered into an organisation's mass balance system shall no longer be attached to outgoing consignments after three (3) years from the date of entry into the system. Carryover shall be adjusted downward to reflect any expiring date of the material.

If the organisation's ChoC certificate is no longer valid, all remaining sustainability data in the organisation's administrative system becomes invalid.

#### Guidance

The organisation shall record the date of entry of the sustainability data into the system. For mills, sustainability data are valid for three years counted from the date of production. For organisations other than mills, sustainability data are valid three years counted from the date of purchase.

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