Bonsucro Production Standard
Revision 5.1 – Overview of the changes to the Production and Environmental Indicators

The webinar will start shortly
Bonsucro Production Standard V5.1 – Environmental and Production indicators

Today’s presenters

Olivia Scholtz – Member SRWG

Pat Brenchley – Vice chair of the SRWG

Nahuel Tuñon – Standards Manager Bonsucro
### Webinar timetable

<table>
<thead>
<tr>
<th>Phase</th>
<th>Start date</th>
<th>End date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch of the Standard and process for Standard Revision</td>
<td>18 May</td>
<td>22 May</td>
</tr>
<tr>
<td>Changes to the structure of the Bonsucro Production Standard</td>
<td>25 May</td>
<td>5 June</td>
</tr>
<tr>
<td>Human and labour rights in the Bonsucro Production Standard</td>
<td>8 June</td>
<td>19 June</td>
</tr>
<tr>
<td>Health &amp; Safety in the Bonsucro Production Standard</td>
<td>22 June</td>
<td>26 June</td>
</tr>
<tr>
<td>Environmental indicators in the Bonsucro Production Standard</td>
<td>13 July</td>
<td>16 July</td>
</tr>
</tbody>
</table>

Consultation closes on the 31st of July
Environmental + Production Indicators in the Revised Bonsucro Production Standard
Principle 3 - **Manage input, production and processing efficiencies to enhance sustainability**

- **Criteria 3.1 - To monitor production and process efficiency**
  - Indicators moved from P5 to P3. – no change on content of indicators
  - New Indicator 3.1.4 – Harvesting efficiency = <16h for mechanical harvesting, <24h for manual green harvesting, <48h for burn cane harvesting

- **Criteria 3.2 - To monitor global warming emissions**
  - GHG lifecycle assessment is being independently updated
  - New indicator on Climate change adaption and resilience plan
  - New indicator on Energy return on investment <9 energy output / energy input
PRINCIPLE 4 - ACTIVELY MANAGE BIODIVERSITY AND ECOSYSTEM SERVICES

• Current Indicator 4.1.3 *The key environmental issues are covered by an appropriate and implemented environmental impact and management plan (EIMP)* is being separated and broken down into 13 separate indicators

• biodiversity, ecosystem services, soil, water, air, climate change, use of crop protection chemicals, use of artificial fertilisers, cane burning and noise

4.1 – **Biodiversity Management plan**, Maintain and enhance biodiversity and Ecosystem services,

4.2 - **Soil Management plan**, measuring health of soil, good practices that minimise control and degradation of soils, etc

4.3 – **Water Stewardship**, mapping users and uses of water catchment areas, titles to use land and water resources, engage in collaborative actions with other water users to manage scarcity, measuring water use productivity, measuring effluent discharge in rivers and streams
PRINCIPLE 4 - ACTIVELY MANAGE BIODIVERSITY AND ECOSYSTEM SERVICES

• Current Indicator 4.1.3 The key environmental issues are covered by an appropriate and implemented environmental impact and management plan (EIMP) is being separated and broken down into 13 separate indicators

• biodiversity, ecosystem services, soil, water, air, climate change, use of crop protection chemicals, use of artificial fertilisers, cane burning and noise

4.4 – crop protection chemicals and fertilizers – identification of pests, implement agro-ecological pest management practices, measuring agrochemical use, banned agro-chemicals

4.5 – Storage of hazardous materials.
These 4 indicators are relevant in successfully implementing P3 and P4, and also monitoring and recording their implementation:

- 1.1.5 - Risk and Impact Assessment are conducted
- 1.2.3 – Objectives and plans are set to control for highest identified risks
- 1.2.4 Corrective actions are implemented and management review conducted.
- 5.1.1 Research and extension plan in place
Interview with Pat

• In this draft, there is a big focus on soil, Why is this important?
• What is an agro ecological protection approach and how does it differ from an IPM?
• What was the thinking around agrochemicals?
• What is a water stewardship approach and what are the expectations for stakeholders?
Soil is key to agro-ecosystem services

Principle 4. Actively manage biodiversity and ecosystem services

- Soil organic carbon
- Sand, silt, clay, & coarse fragments
- Soil pH
- Depth to bedrock
- Bulk density
- Available water capacity
- Cation exchange capacity
- Electrical conductivity
- Soil porosity & air permeability
- Hydraulic conductivity & infiltration
- Soil biota
- Soil structure & aggregation
- Soil temperature
- Clay mineralogy
- Subsoil pans

4.2. Soil Management plan in place to avoid erosion and maintain and improve soil health

Measuring-to-manage an agro-ecosystem

- Iterative process

**Assess** - establish baseline knowledge

**Act** - apply remedial action or best practices

**Monitor** - periodic evaluation to detect change

- 4.2.1 Mapping of soils and/or soil management units on the farm
- 4.2.3 Health of the soil is determined by labile carbon, pH, acidity and salt load to be measured and recorded
- 4.2.2 Health of soil improved and maintained
- 4.2.4 Practices that minimise and control erosion and degradation of soils
- 4.2.5 Burning of sugarcane tops and leaves after harvest is prevented
- 4.2.6 Ratio of fertiliser N, P, K applied to N, P, K recommended by soil or leaf analysis
- 4.2.7 Percentage of fields with samples showing analyses within acceptable limits of acidity or corrected.
Which soil properties to measure and monitor?

**CHEMISTRY**
- Acidity
- Salinity/sodicity
- Nutrients

**CLAY and ORGANIC MATTER**

**BIOLOGY**
- Micro-organisms
- Macro-organisms
- Roots
- Rhizosphere

**PHSYICS**
- Compaction
- Erosion
- Dispersion/sealing
- Water permeability

Measuring labile carbon, acidity, salt, nutrients

Promote practices that improve soil
4.3 - Water Stewardship Plan in place

- ALLIANCE FOR WATER STEWARDSHIP
- Stewardship is about taking care of something that we do not own. Good water stewards recognise the need for collective responses to the complex challenges facing the water resources we all rely on.
- https://a4ws.org/about/
4.3 - Water Stewardship Plan in place

- 4.3.1 – Mapping of water resources and catchment areas and setting objectives for water stewardship - Mill & Agriculture - Whole supply area = 100%
- 4.3.2 Mapping of land/water titles & claims is conducted - Mill & Agriculture - Whole supply area = Yes
- 4.3.3 – Engaging in collaborative action to promote sustainable water use – Mill & Agriculture = Yes
- 4.3.5 – Irrigation Water Productivity - Agriculture = >90 (kg/ha)/mm
4.4 - Agro-ecological Pest, Disease and Weed Management Plans in place

• Towards a definition
• Ecological principles are our understanding about ecosystems and how they function
• “Agro” – in and around the farm
4.4 - Agro-ecological Pest, Disease and Weed Management Plans in place

• 4.4.1 – Identification and monitoring of current, historical and potential pests and diseases - Agriculture - Whole supply area = 80% of area

• 4.4.2 - Agro-ecological pest and disease management practices implemented – Agriculture = 80% of area

• 4.4.3 - Integrated Weed Management plan - Agriculture = 80% of area covered by

• 4.4.4 - Agro-chemicals applied per hectare per year - Agriculture = <5 kg active ingredient / ha/year

• 4.4.5 - Banned agro-chemicals applied per hectare per year - Agriculture = 0 kg active ingredient/ha/y
HCV – Indicators in the revised Standard – Overview of the indicators

• 4.1.3 Percentage of areas of natural ecosystems defined internationally or nationally as legally protected converted to sugarcane on or after 1 January 2008 - Conduct a historic land use change analysis of the unit of certification in order to determine if land converted to sugarcane on or after 1st January 2008 has damaged natural ecosystems defined internationally or nationally as legally protected.

• 4.1.4 – High Conservation Value areas are maintained and enhanced. For areas currently cultivated, the operator must conduct the “Bonsucro HCV risk assessment” and develop and implement the relevant resulting HCV mitigation measures and management plans.

• 4.1.5 – Across the whole supply area future expansion is conducted in non-HCV areas - No expansion into natural ecosystems or on areas defined as HCVs. For greenfield expansion or new sugarcane projects the operator must conduct the “Bonsucro HCV Risk Assessment for expansion”
Interview with Olivia

• what is the Bonsucro HCV risk assessment, and who would conduct it?
• we’ve introduced a Biodiversity Management Plan that covers the whole supply area - what would this look like, does it link to the other indicators (4.1.2, 4.1.4, 4.1.5) and does it need to be done by external consultants?”
Bonsucro Environmental Indicators Webinar
Biodiversity and High Conservation Values
Biodiversity Management Plan

4.1.1 Develop a BMP for the whole supply area

- Links with WSP (4.3), SMP (4.2), PestMP (4.4), Research and ext. (5.1.1), RiskImpactA (1.1.4), control risk and corrective Actions

4.1.2 Maintain/enhance biodiversity on and around farms by implementing the plan

- Min req to implement measures on-surrounding farms, mitigating impacts from unit of certification
- BMP across supply area provides basis for collective action and collaboration Research and ext. (5.1.1), RiskImpactA (1.1.4), control risk and corrective Actions

4.1.4 and 4.1.5 Maintain/enhance HCVs in on-going and expansion

- Tailored HCV risk-based procedures

- Bonsucro guidance for mills to develop BMP
- May be done internally with external ‘input' on information sources and consultation
- Recourse for BMP by external consultants more likely in ‘high-risk' situations
The six High Conservation Values

- Globally most recognized framework for identifying critical features in production landscapes
- Overlaps with other environmental and social safeguards in Bonsucro Standard
- Risk-based procedures to maintain/enhance natural ecosystems and HCVs for:
  - Ongoing cultivation
  - Expansion of cane. Across the supply area

Biodiversity Management

- Overlap with other environmental and social safeguards in Bonsucro Standard
- Risk-based procedures to maintain/enhance natural ecosystems and HCVs for:
  - Ongoing cultivation
  - Expansion of cane. Across the supply area

Biodiversity Management

- Overlap with other environmental and social safeguards in Bonsucro Standard
- Risk-based procedures to maintain/enhance natural ecosystems and HCVs for:
  - Ongoing cultivation
  - Expansion of cane. Across the supply area

Biodiversity Management

- Overlap with other environmental and social safeguards in Bonsucro Standard
- Risk-based procedures to maintain/enhance natural ecosystems and HCVs for:
  - Ongoing cultivation
  - Expansion of cane. Across the supply area

Biodiversity Management

- Overlap with other environmental and social safeguards in Bonsucro Standard
- Risk-based procedures to maintain/enhance natural ecosystems and HCVs for:
  - Ongoing cultivation
  - Expansion of cane. Across the supply area

Biodiversity Management

- Overlap with other environmental and social safeguards in Bonsucro Standard
- Risk-based procedures to maintain/enhance natural ecosystems and HCVs for:
  - Ongoing cultivation
  - Expansion of cane. Across the supply area

Biodiversity Management
Risk-based approaches

- Bonsucro tailored HCV Simplified approach to implement HCV requirements, completed by the mill
- HCV Common Guidance Reference Materials
- Separate RA for on-going cultivation and cane expansion
- Links to:
  - Principle 1: Assess and Manage Risks: Mapping vulnerable S-Hs (1.1.2), Land and water claims (1.1.3), Risk & Impacts Assessment (1.1.4)
  - Principle 4: Biodiversity and ecosystem services: BMP, SMP, WMP, ESIA
  - Principle 5: Research & ext.

Need for more detailed assessment to identify HCVs and natural ecosystems, management and monitoring procedures

Instructions on additional mitigation measures or further risk analysis

Existing safeguards

HCV risk questionnaire
Questions?

*Please use the questions and answer box provided*
Consultation process

• The consultation will run from the 18\textsuperscript{th} of May to the 31\textsuperscript{st} of July

• The draft Production Standard V5 and summary of changes are available in English, Spanish and Portuguese

• Comments can be provided by filling out the consultation questionnaire; available in English, Spanish and Portuguese and sending it via email to info@bonsucro.com

• If you have any questions, please feel free to write to me at any time: Nahuel@bonsucro.com

• There will be a series of webinars over the coming weeks to highlight the main changes introduced to the Bonsucro Production Standard

• All webinars will be recorded and published on the website.
## Webinar timetable

<table>
<thead>
<tr>
<th>Phase</th>
<th>Start date</th>
<th>End date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch of the Standard and process for Standard Revision</td>
<td>18 May</td>
<td>22 May</td>
</tr>
<tr>
<td>Changes to the structure of the Bonsucro Production Standard</td>
<td>25 May</td>
<td>5 June</td>
</tr>
<tr>
<td>Human and labour rights in the Bonsucro Production Standard</td>
<td>8 June</td>
<td>19 June</td>
</tr>
<tr>
<td>Health &amp; Safety in the Bonsucro Production Standard</td>
<td>22 June</td>
<td>26 June</td>
</tr>
<tr>
<td>Environmental indicators in the Bonsucro Production Standard</td>
<td>13 July</td>
<td>16 July</td>
</tr>
</tbody>
</table>

Consultation closes on the 31st of July