Fruity, nutty, floral, spicy?
Why assessing cocoa flavours matters

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Fruity, nutty, floral, spicy? Why assessing cocoa flavours matters

In the world, we consume (and enjoy!) the equivalent of 4,500 chocolate bars every second. Even though consumption and demand for different quality and flavours are on the rise, there is no agreed standard way to define these very characteristics. Working with cocoa producers, researchers and manufacturers, Bioversity International is coordinating efforts to develop international standards for the assessment of cocoa quality and flavour. These standards will benefit all the actors along the cacao value chain, from farmers to buyers and consumers.

The challenge

Demand for cocoa products has never been higher. Chocolate connoisseurs – much like those with a taste for fine wines – are willing to pay top dollar for specific cocoa flavours. To respond to this expanding market, cocoa beans buyers and chocolate makers seek a variety of quality and flavour profiles from the different cocoa cultivars, producers and regions. However, there is no standard way to define cocoa quality and flavour. What exactly do we mean by descriptors such as fruity, nutty, floral, spicy? This is not just a language problem. What tastes great to one person might not to another. A standardized system to define cocoa quality and flavour is essential for all the actors along the cacao value chain, facilitating communication among producers, buyers and consumers, and most importantly enabling cocoa farmers to negotiate better prices.

Our solution

Building on the consolidated experience of the Cocoa of Excellence (CoEx) Programme, a working group to develop international standards for the assessment of cocoa quality and flavour was established in 2015. Coordinated by Bioversity International, the group has been gathering information on practices that exist in the cacao sector and for other crops, and developing detailed protocols for sample preparation and sensory evaluation of cocoa beans as coarse powder (unroasted beans), cocoa liquor (roasted beans) and chocolate (based on a standard recipe of cocoa liquor with sugar) based on the CoEx protocols.

A crucial step in the flavour evaluation of beans is their processing into cocoa liquor done by most bean buyers and chocolate manufacturers. The liquor is a melted paste consisting of 100% cocoa after the beans are dried, roasted, and separated from their skins. They are then grounded and melted, and this is when the magic happens, with the release of all the different flavours. Sensory evaluation of the cocoa liquor can provide a more complete picture of the possibilities that a specific cocoa bean sample can offer.

The flavour profile – once exposed in full – allows cocoa bean buyers and chocolate makers to pick and choose the precise flavour characteristics they want to enhance (or minimize) in a commercial chocolate based on the taste preferences of their target market.

Photo: Gate74 from Pixabay

Photo: Sensory evaluation of cacao samples. Credit: Salon du Chocolat

Producers urgently need access to the tools and knowledge that would allow them to evaluate the quality and flavour of their cocoa beans independently of the buyers, and negotiate a more equitable price. The protocols and their implementation in cocoa-producing countries will offer this opportunity.

Results

Through CoEx and the working group, we now have a considerable amount of scientific data to support development of evidence-based protocols. For example, research is being conducted on the optimum roasting protocol for the range of cocoa bean genetic diversity, the key chemical compounds characterizing excellent chocolate products, and the development of reference cocoa liquor samples for panel calibration.

In addition, the CoEx database on cocoa beans provides valuable information on the genetic and geographic origin, production and post-harvest process of each sample, its physical characteristics, the sample preparation parameters, and results of the sensory evaluation.

After several international and regional consultations, a first version of the protocols will be published in mid-2019 for review from a broader stakeholder's group, and updated consequently. The standards will be translated into Spanish and implemented in six target countries – Ecuador, El Salvador, Guatemala, Honduras, Nicaragua and Peru – by the end of 2019. With our partners, we will support countries to build the capacity at cocoa producer- and cooperative-level, aligning with the quality and flavour diversity requirements of the manufacturers. To help institutionalize the standards, we will use coffee as a model – standards in coffee developed over 30 years have had a significant impact in the differentiation of the market with speciality coffees.

Potential for impact

Impact evaluation of CoEx indicates that cocoa-producing countries that have participated in more than one edition of the International Cocoa Awards have increased their capacity to produce high-quality cocoa beans, which is the most important goal of CoEx. It also indicated that producers who won an International Cocoa Award were able to earn more for their beans.

The implementation of the protocols will benefit all the actors in the value chain. Farmers with the technical capacity to provide a standardized and objective evaluation of the quality and flavour of their cocoa beans will be better equipped to defend the quality and uniqueness of flavours of their product and ask for a better price. Buyers, traders and chocolate makers will be better able to identify and locate the diversity of flavours necessary for creating a wide range of chocolate products to satisfy a growing and increasingly demanding market.

Crucial to successful implementation is the establishment of cocoa quality and flavour laboratories at national level, and the development of training in sample preparation and sensory evaluation.

References and further reading

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