

VANILLA SYMPOSIUM 2019

# Pushing for Sustainability with a Social Impact

Players from across the vanilla supply chain assembled in Tanzania to tackle today's most pressing issues in the industry, including sustainability, market volatility, and fusarium control.

by Daphna Havkin-Frenkel and Juan Guardado

In the last few years, the vanilla industry has been put under stress as vanilla prices hit upwards of US\$600 per kg and disputes over the quality of beans have ensued. As a consequence of rising prices and questionable quality, due to early picking and improper storage, the use of real vanilla has been cut by nearly 50% compared to that from a decade ago. Today, the market is around 2,000 tons worldwide and in response to market volatility, many in the industry have reverted to a product called natural vanilla flavor with other natural flavors (WONF).

## Price & Quality Instability

The use of WONF has resulted in controversy, with nearly 50 class-action lawsuits related to brands allegedly skirting the standard of identity (SOI) as defined by the US Food and Drug Administration (FDA). According to vanilla's SOI, the only flavor to have such a classification, food products that label vanilla as the main characteristic flavor should contain only real vanilla; otherwise, it should be labeled as artificial vanilla. Most natural vanilla flavor WONF, however, contains added vanillin and other natural ingredients that are not made from vanilla beans.

The use of WONF is rising with Innova Market Insights reporting an 8% average annual growth in food and beverage launches containing natural vanilla flavor (US, CAGR 2015-2019). Mean-

while, from 2009 to 2019, the percentage of food and beverage launches tracked with "real vanilla" in the US shrank from 0.7% to 0.4%.

One of the greatest challenges in the industry is a lack of sustainability and transparency. These factors allow middlemen to flourish, further increasing prices, and putting quality at risk. For example, when the landed price in the US and Europe was US\$600 per kg, the growers received US\$30-50 per kg for green beans; before that, farmers received only a few dollars per kg. The main winners during peak times are middlemen and exporters, mainly those in Madagascar, who set the benchmark world price for the season. However, neither extreme of the price spectrum can be a sustainable model for the industry. Price stability and supply reliability would ensure that real vanilla could continue to be accessible to consumers at an affordable price.

## Coming Together

One of the aims of the Vanilla Symposium 2019 was to assemble everyone in the industry to find a way to ensure everyone in the vanilla chain is compensated fairly for their services. Bako Flavors in collaboration with Natural Extracts Industries (NEI) held the meeting in Moshi, Kilimanjaro, the heartland of vanilla production in Tanzania, and sponsored local farmers to be

able to participate.

"One of the highlights of the meeting was getting the opportunity to talk to the farmers directly on their land," notes Daphna Havkin-Frenkel. "If the price crashes and farmers don't get their fair share, the farmers will simply grow something else, which is what happened in the last crisis." Other highlights from the symposium are outlined below.

## New Geographical Locations

The geographical locations represented included a new development in Ecuador, a conservation forestry project in Indonesia,

and approaches being taken in Tanzania and in neighboring Uganda to scale the value chain with more sustainable approaches. Also attending were participants from other origins such as Papua New Guinea, India, and Tahiti.

Tanzania and Uganda are scaling up their production of vanilla. The use of vacuum packaging and early picking, particularly in Uganda, has been reduced from the previous year. Uganda produced about 80 MT of vanilla in 2019, whereas Tanzania achieved less than 10 MT. Both origins are significantly down from their peak production levels some 10-15 years ago.

Nicolas Uzcatogui of Vainuz USA shared his successful business story of growing *Vanilla tahitensis* in Quito, Ecuador. Over the course of time, a few groups started producing vanilla in Latin American countries, which have ideal growing climates. This intense agricultural growing of vanilla is done under nets with artificial support. As a result, the yield should be higher than in other places. This company uses the traditional curing process. It also has a social impact, empowering women, helping the local community, and providing a safe workplace with benefits.



Nick Scott of Pollinium UK spoke on the conservation-focused vanilla development in Indonesia and the importance of reforestation for biodiversity. Vanilla plants introduced back after many years have been planted below the forest canopy among other spice-producing plants. Vanilla responds well to these growing conditions as it more closely resembles its original habitat, though no one expects this semi-wild arrangement to produce a high yield per vine. However, it is very important to reintroduce vanilla back to the forest as a means of sustainable economic development. This entire process will encourage the community to begin growing vanilla again and to profit from it while conserving their forests.

Alan Chambers from the University of Florida laid out for attendees what breeding can do for the spice, a long term but concrete proposition. At the moment, only two species of vanilla are recognized by the FDA to be used in food. However, if the industry finds a new hybrid that is resistant to fusarium, gives a high yield, and flowers early, then the FDA may agree to allow the use of more species. Florida has the weather conditions to grow vanilla, although it can be too hot in the summer. Nevertheless, there is wild vanilla growing

in Florida that has adapted to the weather and can be used for breeding as well.

#### Quality Control of Vanilla

Havkin-Frenkel of Bakto Flavors gave a talk on the quality control of vanilla beans and vanilla extract aimed at explaining to the producers in attendance what to expect from beans, and why the beans should not be in vacuum packs. "Vanilla beans should be stored in atmospheric pressure and not in anaerobic conditions. Vanilla has live microorganisms in it and if we produce anaerobic conditions selectively, some microorganisms will start growing and produce off-flavors and perhaps even some toxic substances," Havkin-Frenkel warns.

As vanilla is sold by weight, maintaining the moisture content in a vacuum seal is appealing to many. "However, when releasing the vacuum, everything from the surface gets inside the beans, including spores, insect eggs, and everything that comes from the soil, which will start growing a few hours after the release," she flags.

Havkin-Frenkel suggests keeping vanilla beans on the vine until the flavor is fully developed (8-9 months after pollination). Following the talk, attendees were able to sample extracts from different origins and species, as well as discover a broad selec-

tion of products made from vanilla beans on the US market today.

#### Improving Curing of Vanilla Beans

Chaim Frenkel from Rutgers University and Glory Jonas Mungure, Production Lead at NEI, discussed the traditional curing process vs controlled curing, and how we can aim for the highest quality of beans.

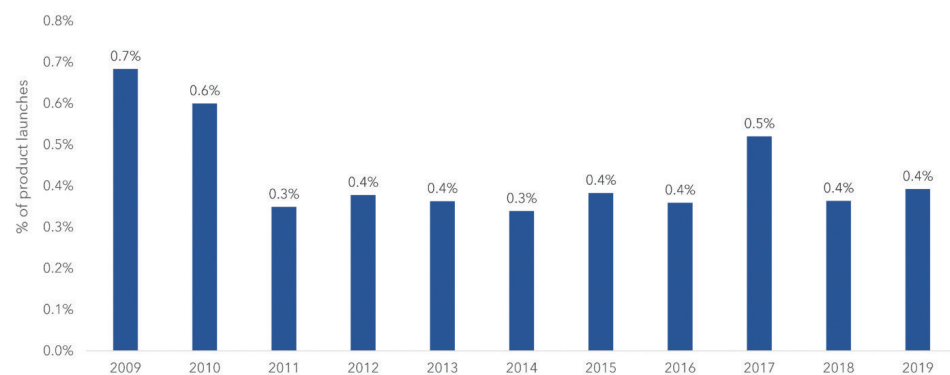
These two lectures were especially important to the vanilla industry. Using controlled curing, the time from green to cured is two months or less vs traditional curing that takes 4-6 months. The controlled method also gives a much more consistent product. The attendees had a chance to see for themselves the new controlled curing process at NEI's facility, which has climate control throughout the process rather than being at the mercy of the weather. Another advantage is that one can produce large amounts of cured beans in a relatively small area, ranging from 10 kg per sqm in traditional sun drying to 25 kg per sqm in a drying tunnel and even 130 kg per sqm in a drying container.

#### How to Fight Fusarium

One of the most looming and persistent threats to vanilla is fusarium, which is spread by obtaining infected cuttings or by carry-

## Real vanilla is less often used in new food & beverage products

Figure 3 Real vanilla as percentage of food and beverage launches tracked with vanilla (U.S., 2009-2019)



Source: Innova Database

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ing contaminated soil on footwear and farm implements. Roni Cohen from the Agricultural Research Organization in Israel gave suggestions on reducing the spread of fusarium, which included testing all the nursery supplies on a timely basis and sterilizing all the green houses and surfaces or liquids that come into contact with the vanilla plants. In addition, he suggested growing vanilla in a detached substrate. However, the most important advice is treating vanilla plants with fungicides on a regular basis to prevent spores from germinating and becoming a problem for neighboring vines. "We need to develop methods for early detection that will aid us even more. After the vines and soil or substrate are already infected, it becomes much harder to deal with the problem, so the principal message here is prevention," says Cohen.

### NGO-Led Development

A number of speakers from non-governmental organizations shared with attendees their hard work on improving the lives of farmers. Don Seville of the Sustainable Vanilla Initiative updated attendees regarding the regulatory initiatives underway in Madagascar to make the value chain more sustainable for growers and traders.

Jonathan White of the National Cooperative Business

Association shared how the cooperative model for farmers is currently working in Madagascar and Indonesia, the benefit it brings to farmers, and the protection they receive from the organization. As history shows us, small farmers can find themselves at the mercy of middlemen and unscrupulous traders, but when they unite together into an association, they can reap major benefits.

The executive secretary of the Association of Vanilla Exporters of Uganda (VANEX), Chariton Namuwoza, reflected on the challenges that have afflicted the Ugandan vanilla sector. From a promising peak production of 500 MT of black vanilla, Uganda's sector has dropped to less than 100 MT, and although there have been limited government efforts to revitalize the sector, it has never returned to its former glory. With the support of Catholic Relief Services and the Sustainable Vanilla Initiative, VANEX is the face of the vanilla processors and exporters in Uganda, and advocates for the development of adequate policies and controls of the value chain, including adopting similar policies as used in Madagascar to help improve quality.

Julie Wiesman of Elan Chemicals gave attendees an update on the organic vanilla market, which the company pioneered decades ago. She reported that

demand for organic vanilla remained strong even throughout the recent pricing crisis.

### NEI's Traceability Model

Juan Guardado explained how NEI is tackling the sustainability challenges in Tanzania and its push to establish traceability throughout the local value chain. NEI manufactures sustainably grown, ethically sourced, all-natural flavor ingredients. The company adds value through local manufacturing of extracts, creating a vertically integrated model, free from middlemen, while delivering extensive agronomic training services directly to farmers.

This integrated approach is the crux of their sustainability model, because it allows the company to offer full value chain transparency to customers. All products are digitally traceable to over 5,000 smallholder farmers, which is becoming a fundamental requirement to meet food safety standards set out by the Global Food Safety Initiative (GFSI). NEI equips its entire field workforce with smartphones containing a custom app that enables GPS-accurate geolocation of farms, detailed crop information, visibility into farmer touchpoints including harvest procurement, a control system for certifications like organic, and cash management. This technology has helped deter errant behavior

such as theft and side selling, because farmers cannot easily explain how they came into possession of a higher volume of vanilla than was forecast using data gathered on the app.

To showcase the final steps from farm-to-plate, attendees then heard from Christian Rodriguez of High Road Craft Ice Cream regarding actual real-life applications of Tanzanian vanilla extract in their products, how they are addressing the "experiential consumer" and how they are opening new markets through premium private label products. He stressed the importance of meeting GFSI standards as the minimum requirement for bridging the gap between farmers and consumers in the global specialty foods market.

The Tanzanian value chain, however, is not immune to the global vanilla market dynamics, and as such NEI continues to seek ways to buffer farmers from price volatility. At the conference, NEI announced the launch of a comprehensive productivity improvement initiative, combined with income diversification, in order to accomplish a higher economic impact per individual farmer and generate sufficient scale to cement Tanzania as a reliable, sustainable new origin for vanilla.

The symposium concluded with hope for the future of vanilla's sustainability, along with new insights on curing, growing, and limiting the spread of fusarium. Most importantly, the event brought all players in the industry together, from CEOs to farmers. Both sides of the industry working together can make vanilla a sustainable crop, but it will require all players to take part in the process. The next meeting, Vanilla 2021 is planned to take place in Bali, Indonesia. ▼

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