

Reformulating the Future

Firmenich's Aldo Uva and Leila Ojeh on the rise of natural flavors, distinctive innovation and adding value

Natural flavors “will completely change our industry in the next 20 years,” says Aldo Uva (pictured), president, Firmenich Flavors. In a recent interview, Uva and Firmenich Flavors’ naturals business development manager, Leila Ojeh, discussed the drivers of the natural flavors market demand and the technological challenges they present.

According to a report authored by Ojeh, approximately 20% of new products launched globally are labeled as containing “natural flavor,” a figure that continues to grow substantially. These natural claims, explains Ojeh, help reinforce health, wellness and authenticity messaging for brands. “Natural” connotes trust, purity, healthiness and quality, positive attributes that can be used to increase product differentiation. The natural trend has evolved toward simplicity, with shorter ingredient labels and local and ethical sourcing, in part as a reaction against processed foods. Consumers, notes Ojeh, are asking for these cleaner, simpler ingredient labels in an effort to better understand what they eat and to achieve an overall healthier lifestyle. They are also increasingly adopting a responsible attitude toward the foods they purchase and consume, as evidenced by a desire for local sourcing, selection of seasonal products and fair trade claims. Overall, the natural flavors trend is driven by developed markets such as North America, Western Europe, Australia and Japan. While the natural trend is widespread geographically, it is seen more as a premium in the developing markets. In addition, beverage categories have been impacted the most by this trend, but savory, dairy, bakery and cereal categories are on the rise.

“There are several categories where natural is a given, such as juices,” says Uva. “You see brands that are trying to reinforce [product] natural claims to make sure all the juices really can be considered natural.” This phenomenon is distinct from previous eras in which companies might have instead focused on the perception of naturalness over literal naturalness.

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Ojeh adds, “There are some categories—I’m thinking of bakery, for instance—where you don’t expect to have any non-natural ingredients, and so companies more and more look to have labels that are as clean as possible. Those that are currently using non-natural products and ingredients are trying to get to that [more rigorous] standard.”

Meanwhile, says Uva, “There are other categories such as carbonated soft drinks or confectionery where ‘natural’ is not a given, but where it is becoming so. These categories are starting to reinvent themselves using natural flavors and sweeteners, because they need to deliver a

certain taste experience in a natural way. It almost reverses the perception of the consumer, going from products being perceived as not good for you to fully natural and thus better for you. You will see a huge reinvention of certain categories. It is evident that the consumer packaged goods (CPG) market would like to follow one route: all-natural for the consumer.” The only question, then, is of affordability. This process, he adds, will follow one of three paths, depending

on the particulars of each category. Some will reinvent themselves rapidly, some that are already natural-centric will work to reinforce their natural positioning, and others will evolve more slowly as technologies and ingredients

make natural claims more affordable for all consumers, thus making them *the* standard.

Uva, who has held positions with Parmalat, Sara Lee and Nestlé, has long monitored the growth of naturals from a CPG perspective. In his current role, he says, “What’s driving our position in naturals is simply the translation of the fact that the consumer is starting to prefer what is ‘truly’ natural over something that has the same taste or the same claim that’s not fully natural. It’s a consumer-driven experience that is moving this forward.”

Ojje adds that the concept of natural extends to consumer expectations of flavor profiles. “Consumers like real fruit, and they will [increasingly] expect the real taste of nature in their products,” she says. “We’re moving away from sweet, candied fruit tastes, for instance, toward fruity, fresh profiles. Authenticity means becoming more according to nature.”

Natural: The Sustainability Paradox

“It is key to understand what consumers associate with natural in general, and their expectations with regard to natural flavors,” Uva notes in Ojje’s report. For consumers, natural is a perception that can be reinforced in everything from packaging to colors to product names to taste. There is little existing legislative framework to broadly define what is considered natural and what is not. However, formulators designing natural flavors are guided by extremely well-defined legislation regarding what can be considered “natural” (see **Changes to EU Flavor Labeling Rules Driving Formulation**). Meanwhile, in the mind of consumers, natural and sustainable concepts go hand-in-hand. However, Uva and Ojje acknowledge there are real challenges in offering flavors that are both natural and sustainable. Indeed, limited natural resources put strains on natural feedstocks, creating a paradox between natural and sustainable. “Initially, when [consumers] think about natural, the implication is of something that is good for you from a health and well-being standpoint and the rejection of everything processed,” says Ojje. “But now what we see is that there is a parallel with the sustainability trend, so not only is ‘natural’ good for you, but it’s good for the planet. Also, the consumer wants to buy [certain] products because they know they will be helping people in the developing world. So there is also social consciousness around ‘natural’ ... which is really picking up.”

“A responsible company today should really put sustainability at the center of the agenda,” says Uva. “It should be imbedded in everything you do; it’s having a responsible group of people trying to preserve the resources of the planet as much as they can in order to make sure we do not consume [too much]. We are launching flavors from a sustainability platform that has different pillars that will involve different types of activities that are not just related to source of products or materials, but also behaviors. If we can encourage a different set of behaviors we will have a different culture.” To address the natural-sustainable paradox, Firmenich is focused on: 1) responsible sourcing, 2) efficiency in

supply chain/yield + waste and 3) innovation/technology to produce natural building blocks mimicking natural processes, and using natural fermentation and enzymatic processes. “Natural is an evolution,” Uva says. “It’s becoming much more holistic [due to] natural and sustainable ingredients that can help the planet to survive and recover from what has been done in the past—the draining of resources.”

Changes to EU Flavor Labeling Rules Driving Formulation

In addition to changing consumer and customer demands, European Union (EU) flavor labeling rules set to come into force in January 2011 will further instigate formulation changes around the world. Among other things, the legislation, EC/1334/2008, defines different classes of “natural.” For example, to label a flavor as “natural x flavoring,” 95% of the flavor would need to be derived entirely from the named vegetable or animal source. The statement “identical to natural flavourings” has been removed.^a

This new legislation has already had drastic effects on the way in which natural flavors are formulated.

“We looked at this very early,” says Ojje. “Our education campaign helped our customers understand what the new regulations were about and the challenges they create.”

“It’s a one-to-one education,” says Uva. “Everybody can read what the regulations are about, but it’s a matter of working flavor-by-flavor with each of the customers. This is not a one-size-fits-all type of approach, because each customer has different needs, strategies, understandings and visions for the future.”

Internally, the new flavor labeling rules have necessitated a reengineering of the company’s flavor portfolio and ingredient palette.

Uva notes that customers seek one-to-one natural equivalents of conventional flavors—at the same price. “On average a natural solution is 2–3 times more expensive,” he says.

And, he says, the price impact of natural products currently has different effects on consumer habits depending on category. “We cannot formulate something that is natural at the same price as something that is nature identical simply because today the innovation in the process of naturals is in its infancy. There is going to be a big push to make sure that we give the consumer the right product at the right price. Will it be the exact same price as today? I don’t know. Time will tell. Sometimes the customer will pay a few cents more if a health benefit is clearly there.

“Natural flavoring raw materials simply don’t have the same cost [parameters] as nature identical ones, creating the need to find cost-effective alternatives. The [EU flavor labeling] regulations will oblige everybody to start putting more efficiencies into the process. Everybody needs to work in a different way to take costs out of the system in order to reduce the cost of the product and reinvest in

^ahttp://europa.eu/legislation_summaries/consumers/product_labelling_and_packaging/l21090_en.htm

sustainable naturals innovation.” The flavor industry, he says, cannot aim for all-natural without a sustainability plan. “If we try to deliver all flavors as natural for all products over the next 20 years we’ll be consuming four to six times the resources on the planet. This is when ‘natural’ goes against ‘sustainable,’ and so ‘sustainable naturals’ become the new frontier.”

“The new legislation in Europe is changing the way flavors are created, requiring new types of raw materials,” says Ojje, adding that this necessitates more performative flavoring preparations. In addition, the flavor business must also manage the diversity of its ingredients palette to ensure a diversity of profiles is available to flavorists. Because the range of natural raw materials is limited, performing matches of nature-identical profiles for customers is a complex process. Meanwhile, sourcing differentiating naturals can give flavor formulators an edge. To that end, Uva notes that the company reinvests 10% of revenue in R&D every year and invest heavily in areas of natural aroma analyses, green chemistry, and enzymatic and bio-fermentation processes.

“The heart of our company—and our industry—is how to create natural building blocks,” says Ojje. “We’re able to create highly unique building blocks or materials that make the difference. You use ppm [levels] of them in your formulations and they bring signature. And being able to produce them in a natural way is where we add value. These are very clean and green [processes] and very sustainable in terms of using minimal natural resources, energy and water. Another big area of investment is rethinking traditional extraction techniques. We have created a naturals business unit dedicated to improving processes, yields, waste management and using clean technologies to create added-value specialties, as opposed to simple commodities.” As an example, Ojje points to supercritical fluid extraction, which meets standards for high yields and clean technology with no residual solvents, while also producing differentiated specialties.

Meanwhile, Uva explains that the company maintains at-source positions for key ingredient segments as part of its vertically

integrated naturals strategy. “This is an important point,” he says. “The more we control our source of natural ingredients the more we can leverage and maximize the use of those ingredients.” This control, he says, contributes to quality control, sustainable and steady supply, cost controls, and supply chain transparency for categories such as citrus, vanilla and seafood.

Research

To support its natural portfolio, the company maintains a number of research and technology partnerships. In the arena of sweet enhancers for sucralose, sucrose, fructose and stevia, Firmenich has partnered with Senomyx, helping to deliver on nutritional profiles that do not sacrifice

taste. It also works with Danisco for taste and texture solutions. And, as part of Firmenich's ModulaSense^b program, Firmenich has formed a sweet-enhancement partnership with Pure Circle for stevia. These enhance the upfront sweetness of reduced sugar products, mask off notes, and add body and mouthfeel to low-sugar products. These and other technologies have been launched to support the health and well-being goals (e.g., reduced sugar, salt and fat) with naturals.

"This is something that is opening a lot of new doors and opportunities," says Uva. "Access to scientific platforms is something we will leverage more and more. We were looking at taste modulation 10 years ago and now we are commercializing it. The focus of this company is on long-term innovation. Taste modulation, applied to flavors, is opening a new direction. It pushes flavors in a [health and wellness] direction. They are adding value for consumers.

"Alliances among the partners and stakeholders will be one of the key areas for the future," he adds. "We need to partner with those who can bring capabilities that we do not have in order to produce something that is cost-effective and fully natural." And so, he says, reinvestment in research and understanding of the natural trend is crucial. "This is the way in which you will separate flavor houses that are likely to work in the commodity area of our industry from flavor houses that invest in research and innovation to build the products of the future.

"We're investing a lot in research in understanding how to create something that can deliver natural flavors without only working with the concept that naturals can only come directly from nature," he adds. "In Europe the regulation is only fast forwarding the process of finding efficiencies, fast-forwarding the finding of alternatives to what is sold today. It *will* have an impact on cost and, as I said, if we don't want to have an impact on the pockets of consumers, we need to work to find efficiencies in the overall system and processes."

^bModulaSense is a trademark of Firmenich.

Drivers of the Flavor Industry's Future

"The flavor industry has suffered like all the other industries in the crisis of the past two years," says Uva, "but out of all the other businesses, it is now benefiting from a rebound of the overall economy. Things are starting to improve."

Yet, he says, the industry is changing. "What is very clear is that this industry is transforming from a pure flavor industry to a much more product-concept industry. The more you go toward health and wellness, the more you realize that the flavor by itself is a very old concept. You need to make sure the creation of flavors is always attached to a benefit, to something that can really deliver an added value to a product. Nutrition and health and wellness will have a huge impact on those things. They are applied to different platforms and different ages. For example, nutrition, health and wellness for a teenager are completely different from that for a senior citizen. The way in which you have to deliver your flavor to add benefit to different types of people is something that we really need to take into consideration as it impacts our research, our creation, our flavorists, our applications labs, everything. If you look at a big CPG's strategy you discover there are a lot of dimensions in this platform, and we need to make sure we follow what they do. The impact on the way in which we create a flavor and apply a flavor to a certain product will be affected."

He adds, "So, today the customer is asking not just for a flavor, but for some kind of distinctive innovation. They really want breakthrough innovation, something that can make their product completely different. This is something that is pushing the trends today. This is where investments in research pay off. To have an efficient supply chain is clearly important, but to have state of the art research and innovation is really important today. These drivers are clearly changing the way in which we

allocate our resources, because that way we can win. So, the evolution is going from making sure we can deliver a strawberry flavor on time to making sure we can deliver, on time, a distinctive strawberry flavor that can add value for the consumer.”

Meanwhile, he says, emerging markets, bottom of the pyramid (BoP) included, are of increasing importance in growing the company. BoP consumers represent the poorest 3.14 billion people in the world, who, according to the World Bank, live on less than \$2.50 a day.

“When we talk about BoP we talk about products that usually have to ship into areas where you do not have access to means to store a product,” says Uva. “That is where we need to be extremely creative to work with the CPGs and understand how we can offer an affordable price for the industry and the consumer. In some areas it’s a challenge to be present because of lack of certain business structures.”

However, he says, the opportunities are vast. “When you consider those markets that are going to drive consumption, you ask how can you keep growing your industry while [addressing] the needs of emerging markets. That is something that poses a lot of serious challenges and questions and will force the whole industry to reinvent its distribution, formulations and delivery.”

“The more emerging markets grow, the more clearly we need to invest in understanding the local tastes and habits and how to serve them in the right way,” says Uva. “It’s global, but regional. Today you need to leverage your worldwide expertise in certain categories, but with a lot of regional understanding of the market. To sell something that is flavored mango or strawberry or pineapple in China is completely different from what the same taste profile is in Latin America.” The question then is how to deliver the right solution that is relevant to the local consumer. As these markets grow, imitations of Western products fall by the wayside in favor of a new paradigm featuring location-specific flavor profiles.

To power the innovation needed for value-added flavors and solutions for emerging markets, says Uva, unique consumer and sensory insights are needed.

“They should not be in duplication of what CPGs do, but should look at the world in a different way,” he explains. “We cannot go to a big CPG food company and talk to them about consumer insights the way we normally do—how the consumer is behaving, what problems they’re facing in the future, etc.—because they [already] do that. What we need to deliver is the flavor view of the consumer insights, what a flavor point of view means for a certain consumer trend. These things are what our customers are looking for: What does it mean for the consumer to perceive something as fresh and clean when they drink something or eat something? This is something we can give to them.”