

Last Word: Sustainable Beauty in Naturals—Ylang-ylang and Vanilla

During a presentation at Givaudan's Manhattan offices, executive vice president Cosimo Policastro stressed that a sustainable fragrance industry cannot add manmade waste to the earth's crust, deforest its surface, harm its water supplies, nor rely indefinitely on petrochemicals. What the industry must do, he concluded, is harness green chemistry to find new sustainable ingredients, improve yields in natural and synthetic ingredient production, and use less biomass to produce more material. Most of all, a sustainable industry must meet the needs of the earth's people.

Securing key ingredients: "This is more than marketing or nice stories," said Rémi Pulverail, naturals category manager for Givaudan, as he outlined two programs that highlight an emerging model for ethical and sustainable natural ingredient sourcing. Givaudan accounts for ~25% market share of the flavor and fragrance industry, making its purchasing strategy a major factor throughout the market. In addition, via its Innovative Naturals program, the company sources about 200 naturals for fragrances. In some cases, Pulverail said, the company might purchase 20% of total available crops for key materials. Complicating matters is the fact that aromatic crops around the world are competing with food crops. Truly sustainable ingredients must be economically viable for local grower communities.

Ylang-ylang: Givaudan typically purchases 15–20% of the commercially available world supply of ylang-ylang, Pulverail explained. The ingredient functions as a booster/synergizer in fragrances, explained perfumer Rodrigo Flores-Roux, adding that it works well with citrus and spice. To achieve the best chemistry and yield, flowers must be picked at the height of maturity. However, said Flores-Roux, when farmers on Moheli in the Comoros Islands were paid based on poundage only, they picked green ylang-ylang flowers that upon processing imparted burnt, overly spicy off notes. Sustainability initiatives are meant to overcome this in part by guaranteeing purchase of material, establishing long-term commitments, working with local authorities, funding local infrastructure such as schools and medical clinics, and eliminating middlemen. By returning to best agri-



Michel Girard, Rémi Pulverail and Rodrigo Flores-Roux (all Givaudan).

cultural practices and securing the best qualities during ylang-ylang's 14-hour distillation period (the top qualities yield in the first two to four hours), Flores-Roux said it was possible to "go back to the classic quality" that distinguished such legendary scents as *Valentino*.

Vanilla: Perfumer Michel Girard discussed the company's ethical and sustainable sourcing efforts in Madagascar, the epicenter of global vanilla production. As with ylang-ylang, he noted that patience is crucial to a quality product; the period from vanilla plant flowering to final cured beans lasts nine months. In addition, plants must be hand pollinated and sorted for quality and off notes. In perfumery, said Girard, formulators must use a light touch with vanilla. Too much of the ingredient can get overly smoky or oriental, he said. And so it comes as no surprise that just 10% of the company's total vanilla supply goes to perfumery. Girard explained that as many as 5,000 people are involved in the hand-intensive production. Givaudan has updated processes by mapping plots with GPS, engaging in rice intensification programs to feed locals, and investing in educational infrastructure. In all, vanilla plays a major role in the well-being of 17 Madagascan villages.

Sustainability in fragrances extends from ingredients through formulation, said Policastro. He noted that perfumers must ask themselves "does everything play a role?" and "can I use less and deliver more?" The right quality of ingredients at the right ratio may ultimately mean fragrances can be applied at lower concentrations. In some scenarios, he added, fragrance loads of 18–33% could be avoided.

Policastro concluded, "You can deliver the same beauty at ... a lower concentration if you're given the flexibility to use quality raw materials."

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