

Sustainable Scents

Two top perfumers provide a guided tour of naturals producer Laboratoire Monique Rémy

“Our business is very simple: take [a botanical] at the right moment, and put it in a form which is available to the perfumer the rest of the year,” says Bernard Toulemonde, general manager of IFF subsidiary and naturals expert Laboratoire Monique Rémy (LMR). “Now you know everything,” he jokes.

For almost 25 years, this small Grasse, France, based naturals boutique has produced essential oils, absolutes and other materials for the flavor and fragrance industry. (IFF purchased the company in 2000.) *Perfumer & Flavorist* magazine has been granted a rare guided tour of the facility hosted by Toulemonde and two top IFF perfumers—Clement Gavarry, winner of the 2006 Rising Star Award for fragrance, and Sophie Labbé, the first woman to win the François Coty prize for best creator of perfumes.



LMR employs rectification, thermal distillation and molecular distillation, slicing materials into distinct pieces and then “reassociating” them, minus undesirable segments.

Gathering Scents across the Globe

In an age of shrinking differentiation among fragrances, new materials—whether new fractions of existing materials or all-new materials from previously unexploited botanicals—are key to giving fragrance companies a technological and creative edge. And no category is booming more than naturals. This is the business of LMR.

During the tour, Toulemonde repeatedly returns to the theme of environmental and corporate responsibility. “We make sure we can cultivate [our raw materials] in a

sustainable way while maintaining the integrity of the planet,” he says, and “taking care of the people cultivating it—the farmers.” While a number of key raw materials, including jasmine and rose, were

once sourced inside of France, increased urbanization in the country and skyrocketing raw material demands means that botanical production now originates from all around the Mediterranean basin and beyond: rose and orange tree in Morocco, orange tree in Tunisia, rose in Turkey and Bulgaria (the climate of the Black Sea is very close to the climate of the Mediterranean basin), jasmine in Egypt, and tuberose in India. With such widespread production and the materials’ inherent fragility, logistics are key to producing high-quality naturals.

“We are treating materials that are very unstable after just a few hours,” Toulemonde says. “Very obviously the first extraction we do of this material has to be where the flowers are grown.” When materials do arrive directly to the IFF facility, the company performs an extraction using an organic solvent such as hexane, to yield the plant’s scent and waxes, which contain key protective antioxidants. All of the solvent is then removed and reutilized. Toulemonde is very aware that the uninitiated may be uneasy about something called “hexane” being used in a naturals process. “Hexane is a natural constituent,” he explains. “Nature knows how to deal with hexane. ... It’s not an artificial molecule created by man.”



LMR held three smelling sessions presenting fine fragrances and the LMR materials that went into them.



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Photo courtesy of IFF

Photo courtesy of IFF

The process concludes only after the resulting concrete is refined through several stages into a usable absolute, which is just a fraction of the original botanical mass. “We downsize to one thousandth [of the original botanical mass] with the first extraction,” Toulemonde explains, and “another half or 10% with the second step. So, for each kilo that we deliver, a very minimum of 1 ton—but very often 10 tons—of vegetal [were processed].” As he speaks, he picks up a small canister of bran absolute, which the perfumers mention has good effects when mixed with jasmine and musk.



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The Economics of Naturals

“IFF has as many staff in the plant as in the lab,” Toulemonde says. As he speaks, he stands before the company’s cold storage area, which prevents light damage. This space contains millions of dollars of raw material inventory, a massive value. Toulemonde explains that the company cannot behave as if it’s in the chemical industry. “We cannot decide ‘let’s process a rose absolute today’ ... If nature did not give you the rose then you do not have the rose concrete, you do not process the rose absolute.” In fact, he says, the company must carry a minimum of 18 months of inventory to ensure supply stability.



Grasse is the birthplace of modern perfumery.

During the tour, Toulemonde shows off a batch of jasmine concrete from India, which strongly resembles crème brûlée. It possesses a strong smell, though not as pleasant as the resulting absolute. Later, Toulemonde displays some jasmine sambac absolute and playfully asks the perfumers if they think the absolute is “OK,” to which they say, “Yes.” “Today they say yes,” says Toulemonde, but “quite often they say no.”

The tour moves along to a modest second workshop where absolutes are refined and fractions extracted to create desirable, unique fragrance profiles. Toulemonde points out a small industrial-scale setup—about one kilo

capacity—on which LMR has recently processed iris, which was distilled drop by drop in 19 different fractions. This produced several hundred grams of iris absolute that is literally worth more than gold.

“We are more craftsmen than [industrialists],” Toulemonde says. “We are dedicated to do the best with the best material in small quantity,” whether dealing with classic or novel materials.

On this day, LMR is processing patchouli extracts, which the company is refining to achieve affects desired by IFF perfumers. In this workshop, LMR employs rectification, thermal distillation and molecular distillation, slicing materials into distinct pieces and then, in Toulemonde’s words, “reassociating” them, minus undesirable segments. These undesirable components include color and allergens, even unwanted fragrance components. Here, individual perfumers can request and receive special variations of materials for new formulations. But how is LMR’s approach different from any other fragrance company?

Toulemonde explains, “What is unique to this company is the fact that we are able to use specific techniques that enable us to deliver unique products.” Focusing on every step of the process, including the sourcing of high-quality raw materials, is what Toulemonde believes distinguishes IFF naturals. “Very often you achieve a superior quality not by a unique technique, unique technology or unique people—you just need to have the best technology, the best people and the right commitment.”



Sophie Labbé loves LMR’s osmanthus for its fruity, non-leathery facets, while Clement Gavarry likes the effect of combining patchulol and patchouli.

From Field to Fragrance

IFF's naturals facility is often approached by perfumers who may like an essence, but would prefer it minus one or two notes. The company also employs new solvents and equipment in the expansion of perfumers' palettes. In addition, there are teams dispersed out into the fields and jungles of the world—Vietnam, Laos, Africa, Europe—seeking out new crop material. These novel botanicals are taken to the lab, extracted and then sent to a perfumer for evaluation. If the perfumer is sufficiently happy, then the viability of cultivation is assessed. Here, Toulemonde stresses environmental responsibility. "It has to be sustainable," he says. If the process sounds daunting, that's because it is. "We have about 200 [botanical] candidates per year," Toulemonde says.

A very good question is, is there anything really new out there to find? Toulemonde answers this way: new tones of paint are released each year, though no one would ever argue that they are actually new colors that break out of the red-yellow-blue-white-black mold. But indeed, there are new notes to be had. For example, basil verbena from Vietnam.

"It's in the family of basil," says Gavarry. "It smells like soft basil notes, but in a verbena connotation—citron, citronellalike, lemon." The material has found use in 2005's *Euphoria* (Calvin Klein).



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Smelling Session

Labbé and Gavarry sit at a conference room table and direct a smelling of *Euphoria* and some of the LMR-derived materials used in its creation. Formulated by IFF perfumers Carlos Benaim, Loc Dong and Dominique Ropion, the scent features notes of pomegranate, persimmon, champaca, black orchid and mahogany. The first blotter to make the rounds is the ambergris-like labdanum, derived from the plant's branch sap. Labbé says she likes the material's ambery, leathery notes. Next comes galbanum, which Gavarry describes as fresh-smelling. Next, during the smelling of a decolorized patchouli molecular distillate, Gavarry notes that he likes the effect of combining patchulol and patchouli. "They compliment each other," he says.

Labbé describes the tagette oil that is passed around as fruity, apricotlike, with some hints of rum. But it's the China-derived osmanthus that she likes most. "I love the new osmanthus," she says. "It's unbelievable; it's very



IFF-formulated fragrances have included LMR materials such as galbanol, jasmine absolute and labdanum resinoid.

different from the osmanthus we had before. Usually we have ... leathery notes. Here, it's more fruity." Toulemonde points out that, "Osmanthus is not extracted from the fresh flower. The flowers are left in salted water for two to five months. The flower is fermented."

Next comes the violet leaf absolute, whose distillation was previously described. During the smelling, Gavarry describes it as very powerful. Finally, blotters of basil verbena are passed around smelling very lemony.

Next, Labbé and Gavarry discuss *Armani Code*, formulated by IFF perfumers Carlos Benaim, Olivier Polge and Dominique Ropion. The mandarin oil making the rounds has been decolorized through molecular distillation. Gavarry explains that mandarin oil is usually quite dark orange. In this iteration, he finds the oil fresher, cleaner, and more airy and sparkling as a result of the processing. It is also less fruity. Labbé finds it more concentrated. Following the spicy cardamom oil is the jasmine absolute sambac, which Gavarry declares slightly greener and more animalic than typical jasmine. Meanwhile, Labbé points out the flower's traditional use in weddings and other ceremonies in India; the sambac variety comes from a larger bush than other varieties, sporting more but smaller flowers. Its scent holds the other notes together.

Finally, the smelling session concludes with a lively gourmand scent—*Cacharel Liberté*. The fragrance—constructed by IFF perfumers Domitille Bertier and Olivier Polge—is built around the regional French sweet favorite, Chamonix a l'orange, which Labbé describes as "very addictive." "When we smell *Liberté*," she continues, "[we get] a feeling of odor specificity of the orange, all of the facets[.]" The fragrance's bitter orange and patchouli heart was achieved through specific fractions, which resulted in a patchouli with a less rooty, camphoraceous character than is typical—less "dirty." Labbé explains that *Liberté*'s orange scent includes both its freshness and candylike aspects. "It's a new way to work around with a chic kind of patchouli," she says.

"Sometimes," she continues, "we are very surprised with a new ingredient we have known for years—it smells different because the extraction [technique] is different. The possibilities are virtually endless."

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