

Lavender: a Perfumer's Perspective

Taking a new look at a classic ingredient.

Nicole Urbanowicz, Associate Editor

Perfumers awaken human emotion through scent, often triggering strong memories tied to loved ones, the carefree happiness of childhood and rediscovery. For Givaudan senior perfumer Marypierre Julien, lavender is one of those ingredients.

"All of us have kind of rediscovered lavender," says Julien. "It's so imprinted; you assume you know lavender and that's it, but when you go to those fields and you see the plant and you rub it in between your hands, it has a very different smell than the oil. It is just part of that magic. There is a big magical part in perfumery—the inspiration."

With bottles of her latest lavender tinkering displayed in Givaudan's New York office, Julien says the ingredient has inspired her from the time she grew up not far from the colorful lavender fields in Marseille, France. Its allure reentered her life when she began her career as a young perfumer at Institut Supérieur International du Parfum de la Cosmétique et de l'Aromatique Alimentaire (ISIPCA) in Versailles. Sixteen years later, she is still using the ingredient.

"I feel sometimes [perfumers] don't say that they have lavender in their creation because [some think] ... it just feels a little bit old," Julien says. "I think there's another way to look at it. When you go to the market, there are people who are selling lavender. So it's something we should not forget. It's a great smell. We should preserve it because it's beautiful. There are just advantages everywhere. Why would you want to bury that?"

Although perfumery has traditionally subscribed to lavender as a key component in men's cologne, rather than women's fragrance, Julien says perfumers can certainly use the ingredient in both masculine and feminine fragrances to add freshness.

"In the vocabulary of the perfumer we have different olfactive families, and lavender is part of the herbal, the aromatic family," Julien says. "Lavender has a floral part and a warm aspect that is not immediate, but that is the part that I am interested in the most."

To that end, the perfumer says that through interesting combinations, this traditional ingredient has the ability to develop a new fragrance persona.

When considering costs with a formulation, "[Fine lavender] is an expensive raw material, so you can combine lavender with lavandin," Julien says, pointing to an example of a fragrance that she created, *Freedom* by Tommy Hilfiger for Men, which balances lavender and its hybrid cousin, lavandin.

"I use a combination of both, because lavandin has a very high pitch and brings a lot of freshness, so it's a nice way for



Senior perfumer Marypierre Julien at Givaudan in New York.

men's fragrance to have this aromatic, fresh top note," Julien says. "And then if you want to carry that freshness after a few minutes, then you get that by having the lavender, because the lavender has more body, so then the freshness continues. It's nicer to use both of them."

Use Levels and Suggested Combinations for Men and Women's Fragrance

A fragrance that Julien recently created for men contained 1% lavender, although she says she typically works in the 1–5% range in masculine scents. For women, she says she also stays in the 1–5% range, though she explains, "It is kind of challenging. It depends whom you work for. If it's a niche [fragrance] then you can go a lot higher."

Julien also created a women's perfume using 5% lavender, and complemented it with mimosa and myrtle, which she refers to as a reminiscence of the Mediterranean's French island of Corsica.

"Basically, for me, whatever grows around the Mediterranean belt, all the plants that we commonly use in fragrances, can go very well with lavender," she explains. "It's a very versatile ingredient."

She continues, "[Lavender] has a very big floral part to it that complements freesia and rose very well. Rose and lavender is a very nice association; rose or freesia increases the freshness of the flower at the lower concentration."

Several other lavender combinations work well, including adding the fresh aspect of citrus, root for a masculine smell, or vanilla.

Lavender Deconstructed

Oliver Fallet, natural specialties category manager at Givaudan Suisse SA Global Purchasing, speaks with *P&F* about the qualities and varieties of lavender and lavandin; Givaudan has implemented a program to help improve the quality of the ingredient in the region.

Fine Lavender and Lavandin

Fallet: Fine lavender (*Lavandula angustifolia*), which is the highest quality, grows a little bit higher in altitude (between 600 meters and 1,200 meters high). The fine lavender is the best quality for the perfumers. The oil yield is about 15-20 kilos of oil per hectare and costs up to 150 euros per kilo of oil. So, it is a fairly expensive product. Fine lavender is native to Provence, and this quality of oil can only be found there. There are lavenders everywhere, but not cultivated to this extent, and not with this oil profile. While this is the best quality, the availability is not so big (about 15 tons of oil per year).

Then, at the other end of the spectrum of the range, you have lavandin (*Lavandula x intermedia*). Lavandin is actually a hybrid and grows in the lower plains; it's much bigger and has more flowers. Basically, you can get 120 to 150 kilos of oil per hectare. The yield is almost 10 times larger than the fine lavender. The total production of lavandin is about 1,000 tons.

There are also some farmers starting to grow it in other countries, but it's [cultivated] mainly France; 90% is France, and then a little bit in Spain. Within lavandin you have four main subspecies: Grosso, Abrialis, Sumian and Super. And they have slightly different olfactive notes, but Grosso is really, again, 90% of the total lavandin because it's the most resistant [to disease] and it's the one that is being mainly utilized and planted by the farmers.

The Grosso costs about 22 euros a kilo, and the smell is more camphorous, it's rougher. It's really what you [use] for detergents ... Abrialis and Super are the weakest of the four [to disease]. Sumian is also quite resistant, but somehow perfumers don't like it too much. It just has another smell and it's rougher and people have been used to Grosso ... There

has been more research on finding stronger strengths of Grosso by R&D bodies in France, and people are basically focusing on this variety. Super used to be grown in Spain quite a lot, but the others were mainly grown in France. And if anybody was going to grow more lavandin, they would grow Grosso because that is really where the market is.

Clone Lavender

Fallet: Within the same field you could have up to 20, maybe 50, different subspecies as well ... Usually, if you have this "population lavender," you will see all of these colors in the same field. So then, what the farmers have done is select the stronger plants ... They make cuttings of them and multiply them by cloning. And by selecting these, they make then a monolithic lavender oil, which doesn't have the bouquet of the fine lavender, but a specific smell to this special clone. That is the third grade of lavender, which takes its place between fine lavender and lavandin. The smell

is not as good as fine lavender, but it's better than lavandin. The yield is better than fine lavender, but it's not as good as lavandin. It's an intermediate solution that can be used as well for fine fragrance as personal care products, but not very much for detergents because it would still be too expensive. [It is] a middle range quality.

This middle range lavender is also grown in other countries. It's been exported to China, Bulgaria and England, so there's more competition in the market. There are a lot of variations between all these kinds of subspecies, so there's more work to put into it to come [up] with something reliable.

What's happening now is that the R&D bodies are working at selecting those species that are the most resistant to the sickness to this disease [*Stolbur phytoplasma*].

The most resistant ones are not necessarily the best ones in terms of smell ... A solution that's favorable is going to take another four years at least. You'd like to have it today, but it's agriculture. It's one crop a year.



"You can blend lavender and vanilla ... because of the balsamic aspect of the lavender," she adds. "Lavender also combines very well with vanilla because of its coumarin side. It also works very well in a floral bouquet because it brings brightness and freshness to the composition in low dosage without smelling aromatic."

Although lavender and fruit isn't a combination that she's likely try in fragrance (although she says lavender honey cocktails are divine), Julien says this type of gourmand combination depends on the balance of the other ingredients.

"I think a good way to look at lavender in a modern way is how pastry chefs have been using it," she says. "I think it could be a great way to use the lavender by adding some gourmand notes. I've seen lemon drops with lavender, and cake with lavender. I was actually working on a roasted caramel, tonka [gourmand fragrance] and I'm playing with a little bit of lavender inside, linking the old with the modern perfumery taste."

For masculine fragrances, Julien says lavender works well with synthetic musks, typically in combination with lavandin. She also says its warm characteristic works well with ambery and woody notes.

"Lavender works well with modern ambery notes such as Karanal^a (CAS# 117933-89-8; synonym: 2-(2,4-dimethylcyclohex-3-ene-1-yl)-5-methyl-(1-methylpropyl)-1,3-dioxane), which I like using in men's fragrances for its strength, and because it helps the lavender stay fresher in the dry down," she adds.

Keeping Lavender in Balance

Although a perfumer's taste is personal, Julien says lavender can create slightly undesirable results if it's not used in proper levels.

"There is a part in the lavender, it's a fruity part, but at one point it becomes a little cheeselike [at high levels]," she explains. "It becomes a little bit too much, so you need to be able to hide that part of the lavender, because there's also a very nice coumarin part, the balsamic part ... It's tobacco, ambery. But the fruity top note can disguise that very nice part, so you have to play with the dosage."

At high levels, "besides the fruity note, sometimes it has some kind of hay note," Julien adds. "That's why musk can help to cover that hay note. I would just put a drop of lavender in. It's so complex."

Most importantly, Julien says not to skimp on quality.

"It's really important for us to use the best of the best ingredients and not to compromise with quality or pricing and

quantity," she says. "And I think the customer really appreciates that. You know everybody appreciates quality as opposed to quantity, especially when it comes to perfume."

She continues, "When you try to get the best of the ingredients, you do the best in your creation. I hope that by doing this preservation [effort] with [lavender] plants (see sidebar) that one of us is going to have the courage to use the lavender in a different way and maybe create something creative and new for women and men."

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^aKaranal is a tradename of Givaudan.