

Inside REACH

REACH expert Joris Theewis discusses preregistration, SIEFS and data sharing issues

Clearly the flavor and fragrance industry is far more complex than REACH's creators ever imagined, a fact illustrated by companies' innovative maneuvering under this looming regulatory burden. IFF alone has preregistered all of the eligible—and even some of the non-required—ingredients it manufactures, according to the company's REACH compliance manager, Joris Theewis. Comprising ~1,000 materials, the company's portfolio preregistration process—shared with IFF subsidiary Laboratoire Monique Remy—began with Theewis' appointment in 2004. "Things are moving fast," he said during his address to Centifolia's delegates. "Since last year we have added a second full-time person to help me out." In addition, the company has brought on a full-time REACH toxicologist. The group further liaises with US-based toxicologists and another REACH expert. The periods before and after preregistration require coordination of these personnel with everyone from R&D staff to purchasing. Despite the total number of materials with which IFF deals, only a select number rise above the one ton threshold, meaning that in the future there will be REACH compliant fragrances containing just, for instance, 80% REACH-registered ingredients, with the remainder being more exclusive, low-volume ingredients.

With REACH preregistration coming to a close, Theewis took some time following his address to provide *P&F* magazine an insider's view into the next phase of the process: data sharing within consortia.

Well over a year ago, Theewis attended IFF's first fragrance industry consortia meetings in Brussels. "Our industry has a long history of cooperation," he said. "Our answer for dealing with [substance information exchange forums (SIEF)] is the consortia." IFF belongs to 15 consortia (of which two are focused on so-called "natural complex substances"), which seek to ease the REACH

process by grouping similar materials and facilitating read-across data. The costs for testing some high-volume substances can cost companies vast sums of money. As a case in point Theewis cited IFF's REACH testing budget, which is currently several million euros and expected to increase over the years. While the costs are a hindrance, the amount of collected safety data will be unprecedented. "There will be fewer ingredients when REACH is done," he noted. However, he added, there are opportunities for companies to innovate with low-volume exotic naturals, which do not need to be registered.

"The only thing the [REACH] agency provided was the pre-registry tool," Theewis says. "After that there are very few tools [available] to communicate with the other pre-registrants." Once a substance was preregistered, companies found themselves dumped onto a list among

The Next Chapter in Naturals: Monique Remy Addresses Delegates

Why is it that the industry seems to be talking so much about defending naturals, asked Monique Remy (founder of the eponymous IFF-owned natural material boutique) during comments delivered to the delegates of this year's Centifolia event in Grasse, France. After all, she added, they're able to defend themselves. Nature is capricious, Remy explained via an English interpreter. *It* decides quality.

This year's event, which explored the intersections of the naturals boom, safety and regulatory burdens, ecological sustainability and (most poignantly) fair dealings with local producers around the globe, served as a summit for the fragrance industry to chart the next chapter in the history of natural materials.

What is sustainable development? Remy asked. The industry certainly doesn't want it to be a mere advertising claim. She argued that the term means taking responsibility for actions, responsibility toward local populations. It is the reconciliation of ethics, quality, health and safety. In other words: protect the ecosystem and reduce poverty. The risk is not for the planet, she concluded, but rather for all human beings. Let's learn to share.

REACH Resources Online

ec.europa.eu/environment/chemicals/reach/reach_intro.htm

echa.europa.eu

ifraorg.org

rifm.org

effa.be

other SIEF members who had registered the same material. By all accounts this was less than user-friendly. "They are slow," said Theewis of the online lists. "They can take several minutes per substance." For companies registering as many materials as IFF, this added up to prohibitively long periods. In addition, the sheer number of SIEF members can be daunting, sometimes numbering well over 100. "SIEFS take a lot of energy and leadership," Theewis noted.

Following the consortia kick-off meetings, says Theewis, "You really saw people's attitudes changing. It works so much more efficiently now. We share all the data. There's a lot of willingness to cooperate; people know each other now." (Of course there remain companies that preregistered but did not wish to join the consortia.) "In our consortia, we have data sharing—a Web site to store files—which is very well organized."

REACH requires data cost sharing "to be carried out in a fair, transparent and non-discriminatory way. ... It is up to the registrants to decide and agree on how the costs for the test should be documented." The question remains: What exactly is fair, transparent and non-discriminatory? "In our consortia we hired a lawyer to write down the agreement [among members], so that should take care of these concerns," explained Theewis. He believes that these members generally are moving forward with a cooperative mindset in determining the best data and sharing it. While the larger companies that manufacture a wide range of materials tend to have the most extensive data and expertise in dealing with REACH issues, Theewis has been very impressed also with the level of engagement by smaller players.

Complicating matters, Theewis said, customers that indirectly import substances to Europe have asked IFF to help them assign only representatives. However, this would create a huge and daunting administrative issue for the company. "You need to know which fragrance materials they're bringing in, and how much," he explained. These customers may ask for IFF to graft their

Regulatory Feed

www.perfumerflavorist.com/regulatory

tonnage (since IFF has already preregistered the material in Europe) onto their own totals—however, under the rules of REACH, this is not a simple matter, and liability needs to be carefully managed. By default, each importing company must separately preregister for its own tonnage figures. Even companies the size of IFF have come to realize that they are first and foremost fragrance houses and not regulatory consultants. Customers are increasingly accustomed to their suppliers taking the initiative on regulatory issues. However, under REACH this scenario is not practical. "It's very complex. It takes a lot of time to explain to people," says Theewis. Overall, how well have customers been keeping up with REACH? "It really depends, company by company."

At the time of the discussion, with preregistration coming to a close on Nov. 30, 2008, Theewis was focused primarily on that segment of the program. However, he noted that the company, as end-usage reports came in from customers, could find some surprises with regard to end-use of the raw materials they manufacture. "It provides better insight into how the product is used. If there's a use that is hazardous we can advise against it. On the other side, customers will learn more about the substances in their fragrances, what the safety of those products is." That knowledge will trickle down to retailers and consumers, he added. "Consumers under REACH have the right to request information about 'are there any substances of concern in the product I'm going to buy?'" The retailer has 45 days or so to react. All of those things will hopefully help stimulate consumer confidence." In the end, the positive outcome for the industry is that consumers will come to better understand that natural does not necessarily equal safe and synthetic does not equal hazardous.

The Three Pillars of Smart Sustainability in F&F

Solutions for ecology, society and economy

Norman Bourlag—agronomist, Nobel laureate and founder of the "green revolution"—has spent the last decade and more imploring the world to take a clear-eyed view of agricultural productivity, particularly as it relates to organics.* While he doesn't deplore organic farming, Bourlag does stress that the mechanics of such a growing system can have unintended, ecologically

disastrous effects. For instance, he estimates that all of the available organic manure in the world could help feed just about 4 billion people. In addition, clearing lands for organic and natural crops and nitrogen-bearing livestock could potentially decimate already threatened forests.

*Read an in-depth talk with Bourlag at reason.com/news/show/27665.html.

Read part two of our Centifolia highlight coverage in the March issue;
www.perfumerflavorist.com/subscribe.

Yet Bourlag's points are far from common knowledge among consumers and even some manufacturers. The result is that the consumer continues to demand "safer and greener" organic products, customer companies place high value on launching organic lines, and the flavor and fragrance industry labors to manage and meet the demand. Is this sustainable?

Such was the tone of Firmenich global sustainable development director Boet Brinkgreve's nuanced presentation before Centifolia delegates. "We want to make sure the next generation has what we have now," he said.

Brinkgreve noted perhaps the direst aspect of sustainability for all industries: the booming world population. "It's only getting worse," he said. Referring to a graph, he explained, "In 2050, there will be almost 10 billion people. The issue is that the less-developed countries are growing the most. For that reason, there will probably not be enough to eat. I think that's a real sustainability issue. We can talk about luxury products, but not being able to eat is [obviously] worse." The food-scarcity issue, he continued, will increase pressure on ecosystems, which is bad news for the flavor and fragrance industry because, in the larger balance, essential oil-bearing crops will always lose out to food crops. "We have to find solutions for this above anything else."

But how do consumers view sustainability, and what do they want? Brinkgreve outlined three tiers of consumer priorities:

- Tier 1, self: What's in it for me? How can I protect my overall health and well-being? How can I have a clear environmental and social conscience?
- Tier 2, loved ones: How can I make sure my family is protected?
- Tier 3, global: What can we do for the rest of the world?

"Nature itself is not going to help us. We need technology."

But how can the industry deliver on the promise of sustainable naturals that deliver on consumer expectations but which also adhere to the world's ecological realities? "It's clear that you can only do this through technical and scientific solutions," said Brinkgreve, "delivering on naturals and reducing the environmental impact. Nature itself is not going to help us. We need technology." With this in mind, Brinkgreve presented three pillars of sustainability: ecology, society and economy.

Eyes Wide Open Ecology

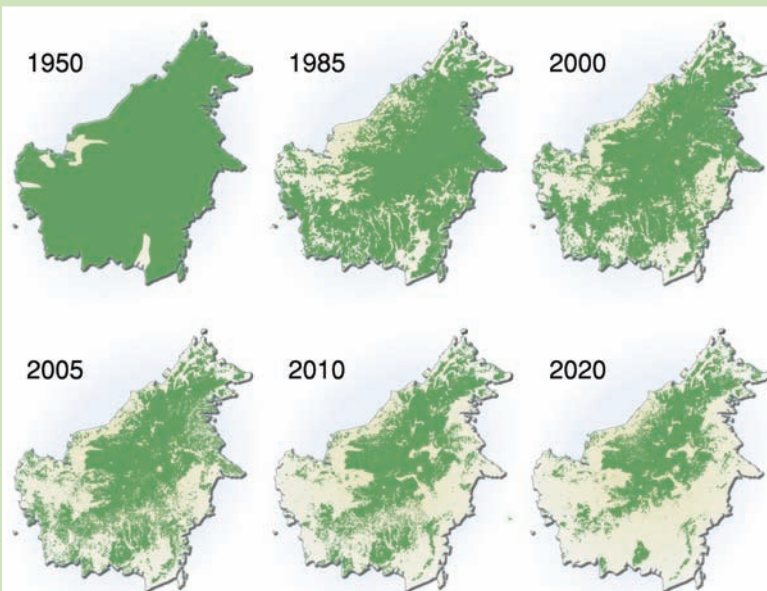
"Everyone says that agriculture and naturals [are] the solution for the [ecological] issues in the world," said Brinkgreve. "I think it's partly true." He reminded the audience of forestry and agriculture's prominent role in global CO₂ emissions. With that in mind, Brinkgreve asked, "Are naturals really the answer? Or are artificial molecules maybe better for creating fragrances? I understand that we want naturals and the consumer wants naturals, but we should not forget that technology can help us there and [with] the [ecological] impact we are going to have by selling more natural fragrances. I'm not saying we should [stop using naturals], but we should be concerned."

The exploitation of land in the quest for botanical resources has had stark consequences, as with the deforestation of Borneo (**see F-1**) and Indonesia. "I've just come back from Indonesia where I saw how people burned down the rainforests with petrol just to get a little bit of palm oil," said Brinkgreve. "I think we need to be more conscious of what we do there. There is less land available and [thus] more pressure on it. Quality will also be impacted. We ask too much of the earth."

"Pesticides are a problem as well," he continued, "and so we say we want organic. There are no pesticides, so it's good. But I ask myself: are organics the solution?" Here Brinkgreve cited Bourland's skepticism of organic farming's promise, adding that he has witnessed the detection of pesticides in organic products. "Can we really say that we'll go to organics for our natural fragrances and cosmetics? Organics are one of the few things that consumers

Projected deforestation in Borneo—1950 to 2020.

F-1



Credit: Radday, M, WWF Germany. 2007. "Borneo Maps," personal e-mail (Jan 24, 2007); Cartographer/Designer Hugo Ahlenius, UNEP/GRID-Arendal.

understand. However, it probably makes more sense to talk about a more holistic certification of naturals, which cover far more things than just the environmental impact of using pesticides."

This holistic solution, which in Brinkgreve's opinion would factor in all impacts of a material, would work in tandem with a call to local populations to cease deforestation. Meanwhile, in cases in which it made sense, the industry could employ greener synthetics to spare natural resources.

"Treat the soil right and make sure you can get the right quality [crops]," he said. "We should exchange distillation and extraction technology to get the most out of the land and use new methods of chemistry so that ... we get the most out of the biomass."

Sociological Ethics

The societal impact of the naturals trade is something overlooked by many, noted Brinkgreve. Yet he views it as a key pillar of sustainability. Unstable societies will invariably net unstable supply streams. "Most of our suppliers, especially in the southern hemisphere, are living below the poverty line," he explained. "The average lifespan of our suppliers is below 45 years." The main threats, he said, include malaria, limited access to clean drinking water and critical nutrition, and insufficient financial means to purchase medicines. In addition, there is little education, and the labor-intensive nature of disadvantaged farming means that children may be exploited for production. "It's shocking to see," said Brinkgreve. "Our products are used for luxury."

He outlined some efforts with which he had firsthand knowledge, including partnering with NGOs such as the Bill & Melinda Gates Foundation, providing microfinanc-

ing to women in Ugandan vanilla farming communities, ISO certifying another Ugandan farm, helping local communities diversify crop and livestock production to more easily weather bad times, and enacting a technology exchange program to boost yield and quality per hectare.

Ethical Optimization of Value Chains

The final pillar of Brinkgreve's sustainability outlook is one which no industry can exist without: economics. To illustrate, he displayed the value chain for patchouli, which involves some 60,000 farmers, most of whom are buried beneath many layers of traders and other middlemen.

"I'll never forget a meeting I had about a year ago with one of the biggest patchouli traders in the world. He had two Rolexes and a diamond ring the size of a golf ball. He said to me, 'You really have to pay me this price because these farmers are so poor—they need to have more money.' They make the money off the backs of the poor farmers."

The result, which he displayed on a chart, has been the exaggeratedly inverse fates of patchouli availability and pricing, as seen in 1997 and 2008. Meanwhile, those farmers that haven't made sufficient profits have allowed their land and equipment to erode. "This," he said, "is because of the traders."

"We think most farmers don't know what the market cost of their products should be," Brinkgreve continued. "Because they don't know the [proper] cost, they price at or below cost. We should help them to find the fair price—and don't confuse this with [fair trade]. Because there you see people flying business class to the other side of the world to certify farmers that live on less than a dollar a day."

Finally, he encouraged the institution of long-term commitments with local growers, rather than hopping from trader to trader for the "best deal of the day." "If you really want to improve something, you have to have a long-term commitment to your supplier," Brinkgreve stressed. "We all have the obligation to work on a solid price calculation—don't start shortcutting each other to go under the price." The benefits, he said, include stable pricing, a shortened supply chain and farmers making reasonable profits.

In closing, Brinkgreve discussed his company's sustainability index, which sets benchmarks based on the fulfillment of all three pillars. In lieu of the current environment of competing sustainability marketing claims, he encouraged a standardized, transparent system. "We [as an industry] need to have the same way of measuring these things."

To purchase a copy of this article or others, visit www.PerfumerFlavorist.com/articles. 