

On Location: the 2011 Table Talk Exhibition, Amsterdam

The flavor industry gathers to evaluate ingredients and network

David Baines, Consultant; with additional reporting by Jeb Gleason-Allured

The British Society of Flavourists' (BSF) third Table Talk Raw Materials Exhibition, held in the historical St. Olof's Chapel at Amsterdam's Barbizon Hotel, took place on February 24 and hosted 144 people from 60 companies, likely representing one of the largest assemblies of flavorists in Europe for many years. Attendance was 40% greater than last year when it was held at the same venue, suggesting flavorists' ongoing interest in evaluating new materials. The geographical spread of participants included the United States, India, Malaysia, Vietnam, Turkey, Latvia, Poland, Sweden, Italy, Spain, Greece, Austria, Switzerland, Germany, France, Holland, Belgium and the United Kingdom.

Over the course of the day 19 supplier companies exhibited more than 200 raw materials in short presentations running simultaneously throughout the day (see **Ingredients on Display**). The exhibition was organized rather like a commercial equivalent of "speed dating" and was a great opportunity for flavorists to experience and evaluate a large number of raw materials over the course of a single day. Presentations lasted for 20 minutes, followed by a 10 minute changeover when delegates moved on to another table. Attendees had the opportunity to attend up to 12 presentations during the day.

Most delegates found it an exhaustive but exhilarating day, and at the end their nasal appraisal abilities had been tested to the full. Feedback forms were returned from 50% of delegates attending and were very positive, with 100% of them stating that the day was very interesting and that they had seen materials that they could use in their work. The majority was in favor of the meeting remaining an annual event (78%) and a number felt that it could be run over two days (27%). A total of 62% of respondents thought that it should remain in Amsterdam next year but a number felt that it could be moved, with the most popular alternative venue being France. All alternatives will be considered by the BSF council but the ease of access, especially from distant countries via Schiphol Airport, and the simplicity of travel to the exhibition venue is a big plus for keeping it in Amsterdam next year.

Ingredients on Display*

Advanced Biotech Europe displayed *natural strawberry extract* (FTNF), which featured a cooked strawberry, jam odor and sweet strawberry, cooked taste.

* Materials listed by alphabetical order of company name.



In center: K.M. Sakthivel (Innovative Health Care Ltd.), receiving a presentation from Destilla Flavours & Extracts.



The Advanced Biotech table.



The Agrumaria Corleone table.

Intended for use at levels of 25–50 ppm, the material is appropriate for yogurt, ice cream, jams, bakery and health bars. The company's **natural cinnamon extract** (FTNF) featured a cinnamon, red-hot spicy odor and spicy, sweet cinnamon taste. Intended for use at levels of 50–100 ppm, the material is intended for use in candy, confections, gum and bakery. A **natural coffee extract** (#5) (CAS# 84650-00-0) had a rich roasted coffee bean and cognac odor and dark roasted coffee taste with brown and caramel nuances. Intended for use at levels of 25–75 ppm, the ingredient is useful in baked goods, beverages, candy and coffee. A water-soluble



The Axxence table.



The Destilla Flavours & Extracts table.



The Döhler table.

natural chocolate extract (CAS# 8002-31-1) featured a rich, deep chocolate and creamy odor and sweet, well-rounded chocolate taste, in addition to cocoa notes. At levels of 50–100 ppm, the ingredient is intended for use in yogurt, sauces, confections, beverages and bakery. A **natural tobacco extract** featuring 15% nicotine content had a cocoa, chocolate and heavy tobacco odor and tobacco taste. At levels of 10–25 ppm, the material is appropriate for pipe, chewing and smokeless tobacco applications. A **natural cucumber aldehyde** had a faint fatty cucumber odor and cucumber, fatty, green taste, in addition to fresh green melon and vegetable notes. At levels of 25–100 ppm, the ingredient is intended for use in beverages, including waters, and ice cream. A new natural, **γ -undecalactone chiral** (FEMA# 3091), featured a fruity, peach, creamy, fatty, apricot and coconut odor and a fatty, creamy, vanilla, nutty, macadamia and peach taste, in addition to a fuzzy peach nuance. At levels of 50–100 ppm, the ingredient is intended for use in alcoholic beverages, fruit drinks and dairy. Another new natural, **γ -dodecalactone chiral** (FEMA# 2400), possessed a fatty, peach, sweet, buttery fruity odor with creamy, milky, dairy, coconut and cheese nuances, and a creamy, sweet peach taste. At levels of 10–500 ppm, the ingredient is useful in dairy, ice cream, beverages and yogurt. **Natural cinnamyl isobutyrate** (FEMA# 2297) featured a jasmine, fruity, pineapple, cinnamon, floral, spicy, candied apple and jammy odor with floral, spice and cooked pineapple nuances, and a fruity, sweet, pineapple, waxy and spicy taste. At levels of 10–25 ppm the material is appropriate for use in yogurts, candy, ice cream and cream beverages. **Natural β -ionone EEC** (FEMA# 2595) featured a floral, woody, sweet, fruity, berry and tropical odor and woody, berry, floral, green and fruity taste. At levels of 25–100 ppm, the ingredient is appropriate for yogurt, red berries and fruit beverages. **Natural furanone butyrate** (FEMA# 3970) featured a sweet, spicy, fruity and buttery odor and sweet and spicy taste. At levels of 10–50 ppm, the ingredient is appropriate for use in cheese, dairy and cooked butter notes, and cakes, pastry, candy, yogurt, and beverage applications. **Natural isobutyl phenyl acetate** (FEMA# 2210) featured a sweet, floral, honey, chocolate and amber odor and a sweet, cocoa, fruity honey, waxy and spicy taste, in addition to floral, sweet chocolate notes. At levels of 1–25 ppm, the ingredient is appropriate for use in caramel, chocolate, cocoa and honey flavors. **Natural phenol** (FEMA#3223) featured a phenolic, barbeque, grilled, tropical and sulfurous odor and tropical, guava, papaya, smoke and grilled taste, in addition to coffee (at low levels) and medicinal nuances. At levels of 1–25 ppm the material is appropriate for use in sauces, tropical fruits, and barbecue and grilled flavors. A **natural buchufraction replacer** featured a sulfurous, catty, tropical and minty odor and fruity blackcurrant taste. At levels of 1–5 ppm, the ingredient is appropriate for use in peach, berry, grape and tropical flavors. **Natural S-methyl thio-propionate** (FEMA#4172) featured an alliaceous, dairy, sulfurous and vegetable odor and savory, tomato and vegetable taste. At levels of 0.1–100.0 ppm, the ingredient is

appropriate for use in savory, tomato, tropical fruit and vegetable flavors. Finally, **natural 2-methyl-3-furanthiol 5% WS** (FEMA# 3188) possessed a meaty, roasted, sulfurous and fishy odor and a sulfurous, meaty, fishy and roasted chicken taste. At levels of 0.01–15.00 ppm, the ingredient is appropriate for use in beef, chicken, coffee, savory and chocolate flavors.

Agrumaria Corleone s.p.a. displayed a range of citrus products. **Sicilian lemon oil—cold pressed** featured a peely note and floral, green character. Lighter in color than an oil produced using the Pelatrice method, the ingredient was smooth and featured a citral level of 2.5% (minimum). It is appropriate for use in beverages. **Sicilian lemon oil—cold pressed ex Pelatrice extractors** was, as noted above, darker in color, juicy and featured a greater amount of furocoumarins. The ingredient is appropriate for use in cloudy beverages. **Sicilian blood orange oil—cold pressed** was sweet and peely and featured a high valencene content (0.25%) and 500 ppm carotenoids. The material is appropriate for confectionery. The company's **Sicilian yellow mandarin oil—cold pressed** was peely and floral, featuring 0.3% α -sinensal. This material finds use both in beverages and some perfumery. The **Sicilian green mandarin oil—cold pressed** via the Pelatrice method featured some petitgrain facets and finds use in perfumery. The **lemon oil phase/essence oil** was a colorless/low-color material featuring a juicy note, floral odor and 2% citral level. The **bergamot oil phase/essence oil** was a colorless, juicy and floral material featuring a linalool level of 10% and linalyl acetate level of 10%.

Axxence presented **natural phenylacetaldehyde** (FEMA# 2874), which had green, earthy, honey, floral and natural cocoa/chocolate facets. The company's **natural p-cymene** (FEMA# 2356), traditionally a fragrance material, featured citrus, woody and spicy facets appropriate for profiles such as mandarin, lime and mint. A **natural 2,3,5-trimethylpyrazine** (FEMA# 3244), less harsh than the synthetic version, featured roasted, peanut, filbert and cocoa facets appropriate for flavor profiles such as coffee. **Natural thialdine** (FEMA# 4018) featured heated meat, roasted and beef facets useful in sweet tropical flavors and bloody, chopped meat profiles. **Natural 2-menthyltetrahydro-3-furanthiol** (FEMA# 3787) featured powerful cooked meat, roasted and meaty facets appropriate for profiles such as liver sausage.

DSM Food Specialties displayed process flavor keys featuring concentrated and pure process building blocks to aid formulation. The company also displayed its **Maxa-gusto** products, intense fried vegetable notes with a high level of captured volatiles. The natural notes are aimed at authenticity and include freshly fried garlic for applications such as seasonings and flavors, noodles, soups, snacks, dressings and meats.

Destilla Flavours & Extracts displayed **fried onion extract**, featuring an aromatic, fresh fried onion character. A **boletus extract** had an aromatic dried *Boletus edulis* (cep mushroom) character. An American **oak wood extract hickory** featured deep, spicy and woody notes. A **cocoa distillate** possessed an aromatic fresh cocoa bean



The Elixarome table.



In center: Silke Hilmer (Symrise) conducting a presentation.



The Lionel Hitchen (Essential Oils) Ltd. table.



Chris van den Bos (Silesia), Peter van der Schaft (Axxence Aromatic GmbH) and Steven van den Bosch (BSF).



A view of the exhibition.



Arnaud Bousquet (Givaudan) and Jean Paul Nelissen (Mondarom-Groven SA).



Anna Bertolini (Kerry I&F Italia) and Nigel Murphy (Kerry Ingredients).



The British Society of Perfumers' organizing team from left: Steven van der Bosch, Mike Tyrrell, Bonnie Tyrrell, Dave Baines, Val Cargill and Jack Knights.



Foreground, standing: David Rowe (Riverside Aromatics) mid-presentation; center, seated: John Brebner (S&D Aroma); background, standing: Steve Pearce (Omega Ingredients).



Mike Tyrrell, president of the BSF, opened the exhibition.



Dave Baines introducing the exhibition.

character, while a **banana FTNF** featured a fruity, ripe, sun-dried banana puree character.

In 2010, new product introductions featuring apple flavors—particularly red apple—were second only to citrus, and so **Döhler's** presentation focused on apple flavors from the named juice (FTNJ). The products were produced using a physical treatment without solvents. The materials, which offer sweet and fresh impressions, are concentrated and fractioned further for refinement. Different fractions can be combined for various effects. In addition to apple flavors the company also has specialties such as guava, kiwi and pineapple. The **582422 natural apple juice flavor 2.500-fold FTNJ** (green, sweet) was green, fresh and juicy. The **582422 natural apple juice flavor 2.500-fold FTNJ** (green, sweet) was green, sweet and fruity. The **582423 natural apple juice flavor 2.500-fold FTNJ** (yellow) was estery, tart, dry and cider-like. The **582424 natural apple juice flavor 2.500-fold FTNJ** (red, orchard) was fully ripe, peely and juicy. The **581753 natural apple juice flavor 15.000-fold FTNJ** was full-bodied and well rounded.

Elixirome's English coriander herb oil (Coriandrum sativum) (CAS# 8008-52-4; FEMA# 2334) was a pale yellow liquid with a characteristic, pungent aroma. The material is produced by a grower cooperative in England. The **natural coffee CO₂ extract F11889** had a roasted coffee bean aroma appropriate for use in beverages (0.03–0.05% in beer; 0.1% in others, including soft drinks), milk products (0.2–0.3%), bakery and cakes (0.15–0.25%), and sauces and fillings (0.1–0.2%). The **natural chocolate flavor F11759**—which includes cocoa and vanilla extract, natural aroma chemicals, propylene glycol and sugar syrup—has a characteristic milk chocolate aroma and flavor appropriate for beverages (0.03–0.05% in beers, 0.1% in beverages and soft drinks), milk products (0.2–0.3%), bakery and cakes (0.15–0.25%) and sauces (0.1–0.2%). The **beer flavor F11976** was sweet on the blotter. The natural flavoring includes hops and malt and the bitterness of beer. It can be applied in tobacco flavors. In beverage applications it can be used at a level of 0.03–0.06%. The company's flowery, sweet **davana oil** (CAS# 91844-86-9; FEMA# 2359) is a clear, orange to brown liquid that is insoluble in water.

FD Copeland's spearmint and cardamom blend included US and Chinese spearmint with clean mentholic notes and a hint of cardamom. The effect softens the herb and carvone notes of the spearmint, leaving a sweet woody note rather than a typical spice profile from the cardamom. The blend is intended for use in high-boiled sugar confectionery. The **peppermint and lavender blend** features a soft *Mentha piperita* profile that is complimented and lifted by the sweet floral, herbaceous and slightly sweet profile of the lavender. The blend is intended for use in high boiled sugar confectionery. The **double mint blend** featured soft, creamy US and Indian *Mentha piperita* complimented with a mix of US Far West spearmint and freshened with a hint of *Mentha arvensis* and rectified Chinese spearmint. The blend is intended for use in soft-grained sugar confectionery. The **fresh mint blend** is a mix of highly rectified Chinese



Center: Peter van der Schaft presenting at the Axxence Aromatic table.



The S & D Aroma table.



The Symrise table.



The Treatt table.



The Omega Ingredients table.



Joost van Neck, Tanja Henke and Harry Scholten (all Axxence Aromatic GmbH).



Arthur Godfrey-Phillips (Elixarome) showing ingredients to Jeb Gleason-Allured (Perfumer & Flavorist magazine).



Hans Elzenga (BAT), Thomas Golz (Borgwaldt Flavor), Yalcin Akpinar (Borgwaldt Flavor) and Franz Merzbach (BAT).



Delegates gathered during the coffee break.



Bruno Griffoul and Amandine De Santi (both Naturex).



Nienke de Jonge (Buteressence), Andrea Cavallero (Kerry I&F Italia) and Wendy van der Hout (Buteressence).



Cosimo Figliuzzi (Silesia), Simone Schreiber (Silesia) and David Baines.

and Indian *Mentha arvensis* oils delivering a clean mint profile. The blend, intended for use in breathfresh sugar and sugar-free confectionery, is enhanced by the cooling effect of the sorbitol carrier.

Frutarom's asafetida extract featured strong alliaceous notes appropriate for natural onion, garlic and scallion flavors. The **broccoli extract** featured sulfur and vegetable notes complimented by leafy and herbal backnotes. It also featured low levels of tropical and berry nuances. The **tomato extract** featured tomato notes and a cooked, brown, sweet character appropriate for application in salsa, soups and savory sauces. The **maitake mushroom** extract had brown, intense and slightly sweet burnt notes, in addition to strong umami character. The **nori seaweed extract** possessed intense, briny, seafood and fish notes. It brings out crab and shrimp notes and has strong umami character.

Kalsec's galangal extract features a citrus, piney aroma and a flavor that pairs well with ginger, imparting a slight peppery heat. The **kaffir lime extract** features the character of freshly harvested leaves of the kaffir lime tree. The **curry leaf oil** features the typical flavor of a mild curry powder, with a strong herblike aroma, citrusy notes and hints of bell pepper finished with a mild bitterness. The **jalapeno extract** is characterized by pungency and green notes. The **chipotle extract** features full smoky, roasted and dirty-earthly notes rounded out with a robust heat.

Lionel Hitchen (Essential Oils) Ltd. showed its **lemon fresh FN12145** in a beverage. The material features fresh, light, peely and juicy oil character, capturing the flavor and aroma of a whole lemon. The **lime fresh HD7258** was shown in a beverage and featured soft, green, juicy and fresh character. The **cinnamon oleoresin FN13124**, shown in chocolate, had a full, sweet, rich, creamy character of Korintje cinnamon. The **fenu-greek oleoresin FN13221**, shown on crisps, features a savory, mealy, brown, vegetable character appropriate for use in seasoning blends. The **spearmint FN12011**, shown in a beverage, features a fresh, green, herbal, soft minty character of newly harvested leaves.

Naturex's HINOTES passionfruit essence (FTNJ), presented in a juice, was fruity and ripe and reduced the acidic taste of the juice. The **HINOTES strawberry essence (FTNJ)**, presented in a juice, features a ripe strawberry and sweet, jammy profile. The **HINOTES peach essence (FTNJ)**, featured in a juice, imparted a yellow peach, juicy and fresh character. The **Creapec natural flavor precursor**, presented on crackers, imparts a beef and cooked note flavor profile developed during the Maillard reaction. A Thai green curry featured **rose extract**, **fenu-greek extract**, **lemongrass oleoresin**, **galangal oleoresin**, **garlic essential oil**, **cilantro oleoresin**, **black pepper oleoresin** and **capsicum oleoresin**. The extracts imparted the fresh notes of cilantro and lemongrass, which were enhanced by rose extract. Capsicum and black pepper added pungency.

Omega Ingredients' kombu extract imparts the flavor of the Japanese sea vegetable with flavor enhancing and umami effects. The **vanillin crystals ex vanilla**



The Mane table, standing from left: Jean Pierre de Mattos and Christian Eberhardt.



The Naturex table.



The Sensient table.



The Kalsec table.

beans feature a creamy, smooth, vanilla character. The **vanilla oil** is a natural extract of vanilla beans. The **Scottish raspberry aroma** has a typical raspberry, seedy and juicy character. The **English blackcurrant concentrate** features a sulfury, juicy, blackcurrant character.

R.C. Treatt's ginger Treattarome 9745 features a fresh, strong pungent lemony aroma with rooty, potatolike overtones strongly reminiscent of freshly grated ginger. The material has a fresh ginger character, without the heat and tingling associated with ginger oil. The **spearmint Treattarome 9764** possesses the aroma and flavor impact of freshly crushed US native spearmint leaves, reminiscent of a classic mojito drink. The taste imparts leafy greenness and sweetness that is not present in conventional spearmint oil. The

Citreatt lemon essence 3148 is a terpeneless lemon oil derived from lemon juice. It has been concentrated to retain fresh lemon juice character and to give enhanced alcohol solubility and high flavor impact. The material imparts a sweet rounded lemon flavor and juicy character with no harsh notes. The **tomato Treattarome**

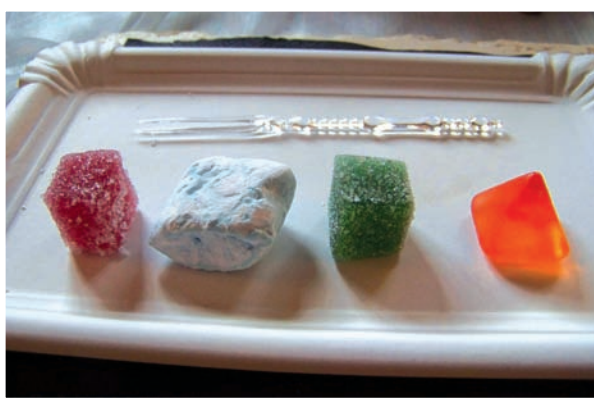
9725 has a powerful tomato flavor and green top notes and ripe nuances, providing a pure tomato impression distinct from that of tomato leaf. The **S-methyl thioisobutyrate** (CAS# 42075-42-3; JECFA# 1937; FEMA# 4586) has a cabbagelike impression and sulfury, fruity, vegetative and mustard notes. The material is appropriate for use in beverages (0.1–0.5 ppm), snack foods, confectionery and chewing gum (0.2–2.0 ppm).

3-(Methylthio)propyl mercaptoacetate (CAS# 852997-30-9; JECFA# 1914; FEMA# 4561) has a distinct eggy note and scorched milk character. This artificial material has a radish, nutty, meaty, fatty, salad cream character appropriate for use in baked goods (1–5 ppm) and non-alcoholic beverages such as instant tea and coffee and milk products (1–10 ppm). The **ethyl 3-(methylthio)butyrate** (CAS# 233665-96-8; JECFA# 0480) is nature identical and features a mildy sulfurous, overripe tropical, fruit pulp, red fruit and strawberry/pineapple character appropriate for use in tropical soft fruit, mango, kiwi, pineapple, blue cheese, mushroom and savory flavors. **Propyl 2-mercaptopropionate** (CAS# 18788-50-2; JECFA#

1667; FEMA# 4207) is a powerful material for use at low levels. Its ripe, fruity, tropical character becomes strawberrylike in dilution. The material can bring a ripe tropical fruit note for soft fruit flavors at a level of 1 ppm. **3-Mercaptohexyl acetate** (CAS# 136954-20-6; JECFA# 554; FEMA# 3851) is a sulfurous material with facets of passion fruit, tropical fruit, black/red berry and guava facets. The material can be used in passion fruit and tropical flavors (0.5–1.0 ppm), and chicken and pork flavors for savory roasted notes. **1-(Methylthio)pentan-3-one** (CAS# 66735-69-1) is nature-identical (found in radish, kohlrabi and tomato paste). The material has sour and cheesy facets appropriate for use in savory vegetable and HVP flavors at a level of 0.1–1.0 ppm.



The space at St. Olof's featured exhibitors on two floors; center lower floor: Arthur Godfrey-Philips at the Exlixarome table; top floor center: Nahal Bushri and Christian Eberhardt at the Mane table.



Mane's presentation paired "cocktails" with edible elements, including a fruit cube flavored with ginger, a marshmallow flavored with γ -nonalactone, a fruit cube flavored with orris and pyramid gelatin gum flavored with vanilla.



Gianluca Giannini (Enrico Giotti S.p.A.) and Andrea Cavallero (Kerry I&F Italia).



Ben Barlow (Pepsico) and Philip Riley (FT Technologies).



K.M. Sakthivel (Innovative Health Care India) and Huw Griffiths (Be Smoke).

Riverside Aromatics' dimethyl sulphide (FEMA# 2746) is a byproduct of ethanol production, condensed and purified by processing. The natural aroma chemical has a clean, crisp, sweet corn, asparagus character that adds freshness to many vegetable flavors. The **ethyl dimethyl pyrazine** (FEMA# 3149) has roasted, brown, nutty and chocolate facets. The **β -damascenone** possesses a fruity, fermented character appropriate for soft fruit flavors. The **2-isobutyl thiazole** has a tomato leaf and vine impression and imparts a fresh, herbaceous green character. The **2-ethyl-4-methylthiazole** (FEMA# 3680), a byproduct of coffee roasting, features a sweet, fruity,

tropical impression. The **2-isopropyl-4-methylthiazole** (FEMA# 3555) possesses a peachy and tropical character, with more sweet notes and greenness and less sulfurous character than typical synthetic materials. The **trans-2,trans-4-decadienal** (FEMA# 3135) imparts a fatty, chicken and citrus impression. It can act as a precursor for the processing of other ingredients.

S&D Aroma displayed **carrot leaf absolute**, featuring an earthy, slightly fruity note reminiscent of cranberries. The **basil absolute** was somewhat reminiscent of a genuine Genoese pesto note. The **buchu oil** imparted a refreshing black fruit/berry note with a hint

of savory meat notes. The **South African lemon oil** was clear, clean and zesty.

m's **fucus seaweed CO₂ extract** possesses shellfish, ozonelike, green, watery, green tea and marine notes. It is slightly metallic. The **Indonesian white pepper CO₂ extract** is rich, characteristic, heat stable, hot, spicy, and slightly animalic. The **Jamaican ginger CO₂ extract** is fruity, spicy, balsamic, hot, citrusy, earthy, rooty, and slightly woody. The **fresh basil CO₂ extract** is green, fresh, fragrant, herbal, and leafy. It adds freshness in flavoring applications. The **Scottish heather honey extract rich ingredient** is warm, sweet, balsamic and fragrant, with a sweet perception of caramel, dried fruits and sugar.

Symrise's **methyl tridecanal-12** 10% (FEMA# 4005) is an artificial/nature identical material with beef fat, cooked meat, liver and aldehydic notes at levels of 0.1–5.0 ppm. At lower levels it has cocoa notes. At higher levels fatty notes increase, give body to formulations and smooth out roasted notes. The **acetyl thiazoline-2** (FEMA# 3817) is high-impact and possesses baked bread crust and roasted facets. It gives lift and improves roasted notes. It can be used in roasted flavors, basmati rice and nuts. The **furfurylthio acetate** (FEMA# 3162) has a roasty, fresh roasted coffee, roasted meat and sulfury character. At levels of 0.01–1.00 ppm the ingredient is appropriate for use in coffee, roasted meat and onion flavors. The **natural caryophyllene oxide** (FEMA#

4085) possesses a dry woody, cedarwood, carrot, ambery character. The ingredient cuts candy notes in blackcurrant soft drinks. On the blotter it imparts carrot seed notes and mango and woody impressions. At levels of 50 ppb–10 ppm the ingredient is appropriate for use in mango, blackcurrant and other fruit flavors. The **natural triisobutyl dihydrodithiazine 15%** (FEMA# 4017) features burnt, roasted and crispy bacon notes. In application it imparts body and sweetness and boosts cocoa powder notes in candy. At levels of 500 ppb–200 ppm the material is appropriate for use in roasted meat and onion flavors.

V Mane Fils presented ingredients in food and drink pairings (ex: pink pepper and mango drink with a vanilla gelatin gum). The **juniper berry Pure Jungle Essence** features aromatic, woody, fruity and terpene notes. The **pink pepper Pure Jungle Essence** features spicy, peppery and fruity grapefruit facets. The **cardamom Pure Jungle Essence** was spicy, floral, gingerlike and aromatic. The **ginger Pure Jungle Essence** was spicy, citrusy, woody and hot. The **γ-nonolactone** has brown and powdery, coconut, and fruity facets.

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