

Notable concepts showcased in Amsterdam

The in-cosmetics event held earlier this year in Amsterdam, The Netherlands, had the most international visitor line-up of any of the shows in the series.

Well-presented stands had much to interest the visitors.

The show seemed very busy and indeed it was sometimes difficult to get onto stands and make the necessary contacts.

A good number of notable concepts were presented. The venue – the Amsterdam RAI – was superb, and most of the participants seemed to like the ambience of the city of Amsterdam, the convenience and location of the venue, and the overall experience of this year's event.

Following is a round-up of information gathered from some of the exhibitors.

Kahl exhibited its new organic carnauba wax Bio-Carnaubawax 6642, which conforms to the EU-Organic Foodstandard 2092/91. Bio-Carnaubawax 6642 is made from hand-harvested carnauba palm leaves. After drying and threshing the wax is obtained by extraction with hot water. In Kahl's factory in Germany the wax is carefully melted and then filtered.

Sabinsa was promoting a variety of ingredients: henna (*Lawsonia inermis*) with lawsone. Sappanwood extract (*Caesalpinia sappan*) brazilin which transforms on oxidation to the red dyestuff brazilein (in an acidic solution brazilin will appear yellow, but in an alkaline preparation it will appear red). Red sandalwood extract – the heartwood of the red sandalwood tree or Red Sanders (*Pterocarpus santalinus* Linn.) also known as ruby wood, sanders red, saunderwood, santalwood, *raktha chandana*. The principal red pigments in red sandal heartwood are santalin A and B, and these are soluble in organic solvents and alkalis, but not in water.



Lipotec launched Decelerine, which slows down and decreases hair growth while having a soothing, cooling and anti-inflammatory effect.

Lipotec's Hilurlip contains particles of sodium hyaluronate, submitted to a technological process after which the particle size is reduced and homogenised up to 1 µm, enhancing its penetration and efficacy. These small particles swell when they are in contact with skin water, producing a long-term plumping effect on the lips. It also incorporates a RCS scavenger, which protects lips' skin from the harmful effects of pollution as it plumps, redefines and minimises fine vertical lines, and keeps the lip contour in shape, so providing a more youthful and appealing look.

National Starch launched a range of organic biopolymers to help formulators

create certified products that offer high performance.

The Naviance range contains four certified ingredients derived from waxy maize and tapioca that deliver silky feel, mildness and easy incorporation. There are four new organic biopolymers. Naviance Maize is the simplest modifier in the range, which also includes Naviance instant Maize that may be incorporated into cold processed formulations and Naviance Tapioca, providing film formation in addition to rheology modification. The final ingredient in the newly launched line is Naviance Tapioca P, which is an aesthetic enhancer that is designed to give powder formulations a smooth feel but that may also be added to emulsions.

Slimming and firming

BASF was presenting a new slimming and skin firming ingredient – the medical solutions division of the chemical company showed the new ingredient Slim-Excess. This ingredient targets the ever growing market for slimming and firming

products, promising to reduce thigh diameter, as well as firming the skin and acting as an anti-cellulite active by beating and boosting effects of caffeine. Slim-Excess, which is derived from a red seaweed, beats slimming ingredient leader caffeine with fast and visible results. However, more importantly, the active also boosts the effects of caffeine as a slimming ingredient.

The clinical trials suggested that Slim-Excess, when used in conjunction with caffeine, was four times as effective as caffeine alone. The ingredient targets and attempts to suppress two effectors, spermine and spermidine, that play multiple roles in adipocyte metabolism.

Primarily the two compounds play a role in the creation of lipocytes – fat cells that once created cannot be removed without surgery. In addition the compounds have a positive impact on phosphodiesterase, the

IN-COSMETICS

target enzyme of caffeine. In other words, spermine and spermidine fight against caffeine treatment, thus explaining the stronger effect that the caffeine can have when in conjunction with a spermine and spermidine inhibiting ingredient. Slim-Excess contains small sugar molecules that interact with the two compounds, effectively trapping them to make them less bioavailable.

S&D Aroma, which specialises in organic and fair traded materials, launched new organic sandalwood oil from Australia which is not only from a sustainable source but also helps support the Aborigine people who harvest it and their culture. The eco-friendly news is that this oil can be extracted from dead wood and yet still has a perfect volatile oil composition. The extractors are also replacing trees at a faster rate than they are using them. S&D Aroma also had new organic broccoli seed oil (*Brassica oleracea italica*) which is cold pressed using no solvents or chemicals. The fatty acid composition of broccoli is almost unique and is composed of 50% erucic acid. The oil is described as light, non-greasy and easily absorbed.

Kaden Biochemicals had a 100% natural detergent from soap nutshells (*Sapindus mukorossi*) which has been standardised to more than 35% natural saponins. It is readily biodegradable (OECD 3018). In India, the soap nuts are commonly used for washing hair and clothes and also used for polishing jewellery. The material is provided as a pale beige to brown powder.

The fruit of the aronia plant (*Aronia melanocarpa*) has outstanding antioxidant properties. Besides being extremely rich in anthocyanins – compounds not present at this concentration in any other red or blue berries – aronia is also high in proanthocyanidins. When working in combination, these two phytochemicals are especially effective at combating free radicals and inhibiting inflammations. The aronia extract developed by Kaden Biochemicals contains over 15% natural anthocyanins and has an ORAC value of over 7300 $\mu\text{molTE/g}$, making it an outstanding and economical alternative to other antioxidant extracts. The aronia plant, which is native to eastern North America and commonly known as black chokeberry, produces violet-black berries having a noticeably astringent, sweet-sour flavour with bitter notes.

Greentech had a new material called Timiline (a new slimming active with a new mode of action) which allowed for a



significant decrease in the hyperplasia and hypertrophy of adipose tissues via a direct and localised action at the level of the adipocyte itself. A transcriptomic study, using DNA microarray analysis, demonstrated that this new material locally induces at the level of the adipocyte an over-expression of the gene FIAF and the protein, adipokine, with which it is associated. The adipokine synthesised and secreted by the adipocyte directly inhibited the activity of the enzyme Lipoprotein Lipase (LPL) essential for the transfer of fatty acids from lipoproteins towards the adipocytes. The reduction in the flux of fatty acids into the adipocyte induced a significant decrease of lipogenesis and hence of fats storage. Adipokine also activated the enzyme Adipose Triglyceride Lipase (ATGL) which was responsible for lipolysis and release of stored fatty acids, as triglycerides, at the level of lipidic vacuoles. Finally, the transcriptomic study also showed that Timiline (Agrobacterium-fermented polysaccharide) favoured the transport of these free fatty acids from the adipocyte towards peripheral tissues so that they could be used as an energy source.

Gattefossé launched a new ingredient for under-eye bags and shadows. Cytobiol Lumin-Eye reduces both dark circles and puffy skin under the eyes, with visible results in 28 days. It joins the Cytobiol family of ingredients which are all formed by mixing a plant extract with a vitamin and an oligo element. Lumin-Eye incorporates an extract of ash bark, an organic silicone and vitamin D3, which helps to improve microcirculation in the eye area.

The France-based company is also releasing Gatuline In-Tense, a rapid reaction anti-wrinkle ingredient that claims to have visible results with one application. The ingredient is based on an extract from the flower buds of a South African plant –

it is a concentrated oily extract from the upper part of the *Spilanthes acmella* plant (Asteraceae family), also called Paracress. It is awaiting BDIH natural certification.

Organic lecithin

Lucas Meyer, which is well-known for its lecithin, has now launched an organic lecithin, which is NOP certified, from organic soy fields, and is extracted using a solvent-free process. In addition to its emulsification properties, because of its high phospholipids content, it is also quite non-tacky and imparts a softness and protective barrier to emulsions and so decreases trans-epidermal water loss (TEWL).

The company also had Sunflohair, which was sunflower phospholipids and oil with an antioxidant activity similar to vitamin E. In hair care shampoo (at a level of 2%) it reduced the combing force of wet hair significantly – by 55%. It is Ecocert registered. Another sunflower phospholipids-based technology enabled Lucas Meyer to produce Heliocfeel, a polyvalent emulsifier.

Promoted was the use of linseed yielded active polysaccharides which had a high capacity to absorb up to 30 times their own weight of water. This is a property much sought after in the modification of facial contouring to fight against sagging skin. Sculptessence is an anti-sagging remodeller that is based on this chemistry and is Ecocert registered.



Spilanthes acmella.

Stephenson has introduced Soap Base Noodles Opal ECO PF to counter concerns about the palm oil feedstock being produced from trees that have been planted in (or at the expense of) sensitive rainforest areas. This soap is made from European rapeseed oil [INCI: Sodium rapeseedate, aqua, sodium cocoate etc] and produces bars that are less prone to marking. It is also able to take quite intricate shapes and so can yield lower reject numbers in production. The company also launched Crystal ECO-PF which is also free from palm oil and relies heavily on olive oil (30%) and yields a hot-pour soap base that is translucent [INCI: Glycerin, aqua, sodium stearate, sodium olivate, sorbitol, sodium cocoate, sodium chloride, citric acid, etc].

It has been shown in the past that the betaine found in sugar beet has a good moisturising activity and so the choice of this excellent plant and starch would seem to be a good starting point to look at a new material for the care of the skin.

CLR has developed DayMoist CLR, a natural, plant-derived active ingredient potently supporting the Natural Moisturising Factors (NMF) in arranging a high level of hydration in the outer layers of the skin and an immediate and long-lasting boosting effect. Just one single application of a cosmetic formulation containing 3% to 5% of the new raw material improved the hydration level of the upper layers of the skin, a fast-acting effect which lasted for at least 24 hours. 1% of DayMoist CLR gave a significant moisturisation for more than 8 hours. The moisturising properties have been proven objectively and reliably by a combination of two *in vivo* technologies: confocal Raman microspectroscopy and corneometry. *In vivo* confocal Raman microspectroscopy is a state-of-the-art technology which provides information about the distribution of molecular components in the skin. It is currently the only method that enables reliable, rapid and non-invasive determination of molecular gradients in the *stratum corneum*, as is shown in the case of NMF. [INCI: Water, hydrolysed starch, *Beta vulgaris* root extract].

Yeast Complex B is a unique composition of organic yeast extract and natural identical thiamin (vitamin B1) and pyridoxine (vitamin B6). The B vitamins are a family of water-soluble vitamins with a wide range of activities in cell metabolism. They function as cofactors in a wide variety of biochemical pathways. The product reduces sebum production by multiple interactions.

CLR has also developed Cutipure CLR, a new active ingredient which shows



beneficial effects in dealing with oily skin and especially with its elevated risk of forming pimples and pustules. The active has strong anti-inflammatory and antibacterial properties. It has multiple rebalancing effects on elevated sebum production and the formation and maintenance of pimples, pustules and comedones.

Codif has utilised a plant called *Salicornia herbacea* (which is also known as Glasswort because its ashes were used in primitive glass-making). Skin dryness is determined by both external and internal factors. In both cases, it is essentially caused by a deficiency of Natural Moisturising Factors (NMFs). The major component of NMF is urea (produced by the mitochondria) which plays an essential role in skin hydration. The discovery of AQP8 in the epidermis led to the investigation of a new means of moisturising the skin and Hydrasalinol made it possible to rapidly assess the scope of this discovery by activating the synthesis of AQP8 in the skin. Hydrasalinol acted at the heart of urea metabolism and produced an immediate moisturising action on even the driest skins and (because of its combined action on the binding proteins of the epidermis and lipid cement of the cornified layer) it increased the cohesion of the skin and reduced the water losses to provide a visible and prolonged action. [INCI: *Salicornia herbacea* extract (and) caprylic/capric triglyceride].

Earthoil has an impressive list of fixed and speciality oils and its EEC and NOP certified oil list was comprehensive and may be useful to those seeking a large range of organic materials and extra choice. The strawberry seed oil (*Fragaria vesca*) and yangu (*Calodendrum capense*) particularly stood out as unusual and different.

IN-COSMETICS

Soft focus

Momentive had Velviesil FX gel-powder which was a blend of boron nitride in a Velviesil chemistry carrier to provide a very smooth, even and exceptionally soft application that gave soft focus to help blur lines and wrinkles. [INCI: Cyclopentasiloxane, boron nitride, caprylyl methicone, C30-45 alkyl cetearyl dimethicone crosspolymer].

The company was also showing Tospearl 150KA microspheres which are silicone microspheres with a proprietary, spiky surface that can help the delivery of enhanced soft focus benefits in skin care and colour cosmetic products. In addition, Tospearl 150KA microspheres continue to display outstanding lubricity and buttery feel. [INCI: Polymethylsilsequioxane].

Cognis was really “looking outside the box” with its “Crazy Textures” which formed a range of innovative and outstanding ideas for new body cleansing products. Primarily intended for use by manufacturers of products for children and teenagers, the concept aimed to transform personal hygiene from a chore into a pleasure, with unusual scents and foaming sensations that add fun to the daily cleansing routine. The products ranged from looking like frothy coffee using Lactolan which was a blend (milk protein, milk sugar, lactic acid and minerals) to shower powder. They also had a formula for a jelly super foaming shower gel that was so jelly-like that you could cut it. The company had also formulated an almost rigid stick for the shower as well. There were many zany ideas to showcase the company’s range of raw materials, particularly the Rheocare TTA for suspending air bubbles of all shapes and sizes, and Rheocare TTN for producing highly viscous and clear surfactant gels. [INCI: Acrylates copolymer].

“Green” was also an important topic for Cognis. It offered a “green” surfactant for oral care applications that combines environmental sustainability with mildness and improved taste, making it an excellent choice for toothpaste formulations. Plantacare 1200 GLY might be the answer for managers of natural brands who are annoyed by being continually criticised for using sodium lauryl sulfate (SLS), which, I hasten to add, is perfectly safe and has superb foaming characteristics but does, however, contribute to the taste.

There are not too many choices for pearlescing agents which can claim a “green” pedigree, but Cognis had on offer Euperlan Green which was a blend of lauryl glucoside and stearyl citrate. Those brand managers who prefer not to use amide feedstocks or have any ethylene oxide

IN-COSMETICS

associated with their materials might like to consider this offer. The raw materials are all from natural sources and are seeking Ecocert and BDIH approval.

Laboratoires Sérobiologiques has developed a preservative-free active ingredient called Pilisoft LS 9760, which is based on gymnemic acid's role in the inhibition of hair follicles' activity. This mild and vegetal active ingredient enables the prolonging and enhancement of depilation benefits. Clinical tests have shown significant effect after one month of treatment. Pilisoft LS 9760 is one of the new generations of raw materials that inhibit hair follicle activity. In this case the effect is caused by the increase in the level a cAMP

Soliance has a product that sounds too good to be true, but the results for Abdoliance are impressive. It is made from a bitter orange peel extract rich in hesperetine which has anti-aromatase activity of hesperetine (IC50 = 3 µM) and a guarana extract rich in caffeine, obtained from the shrub *Paullinia cupana* cultivated in South America which has lipolytic activity by stimulating the b-adrenergic receptor and inhibiting phosphodiesterase. The combination of active ingredients was encapsulated through Spherulite technology. Application of Abdoliance at 2% in a cream on the abdominal area, once a day during 28 days, reduced waist size by up to 4.5 cm in one month. This reduction of the waist size was valid for 86% of the panel.

Soliance's Easyliance is an optimised blend of two natural ingredients with synergistic properties, namely a biopolymer and acacia gum. The biopolymer is naturally produced by a microorganism living in plant roots through a symbiosis system. The hydrolysed polymer used in Easyliance is obtained through a patented industrial process. There are no GMO strains and it comes from vegetal renewable resources. The acacia gum is an exudate obtained from the stem and branches of the African tree harvested by incision of the bark. The process is unique and specifically designed for this acacia gum quality, and is supported by local actions integrated in a sustainable development programme that limits deforestation and desertification, has good practices of harvest for a sustainable production, and an educational programme (respect for the environment). Easyliance smoothes the skin and is perceived as a good tightener. [INCI: Acacia senegal gum (and) hydrolysed rhizobian gum].

Vegetan Premium, from Soliance, is an optimised combination of



dihydroxyacetone (DHA), the self-tanning reference obtained through a fermentation process and an allomelanin-like polymer (brown to black pigments naturally produced by plants and microorganisms) obtained by caffeic acid polymerisation (a patented process). Vegetan Premium is said to outperform DHA/erythulose combinations and gives a natural tan with quick and intense coloration and is a blend that also has antioxidant activity.

Skin inflammation reduction

Alp-Sebum, from **Alpafior**, is produced from the rare Alpine plant *Epilobium fleischeri*, which is known for its inhibiting properties of 5α-reductase. *In vitro* tests have shown that this new extract reduces skin inflammation (inhibition of IL-1 and IL-8) as well as the production of 5α-reductase. Furthermore, *in vivo* tests show the excellent activity as a real treatment against sebum production that reduces the size of pores.

Thus this new material is ideal for products designed to treat oily and oily-appearing, shiny skin, "oil-free" products and product lines, T-zone oiliness and combo skin products, skin care products for young skin, whitening treatments targeting pore size reduction, soothing cosmetic products for oily and combo skin, and natural and/or organic cosmetic formulations. It is certified by Ecocert SAS FR 32600.

Mibelle was promoting AstraForce, a liposomal extract of *Astragalus membranaceus* roots, which is an effective anti-ageing active especially for blemish-prone, oily or combination skin. Traditionally it is used for its capability of enhancing the immune system and the metabolism, notably micro-circulation. This new material, with its double proven activity, improves firmness, smoothness and hydration while reducing imperfections, inflammation and sebum flow.

Mibelle's PhytoCellTec Malus Domestica is a liposomal preparation of apple stem cells developed by a novel, patent pending plant cell culture technology. It is a technology that has been invented to cultivate dedifferentiated callus cells from a rare Swiss apple. These apple stem cells are rich in epigenetic factors and metabolites, assuring the longevity of skin cells. This new extract has been shown to protect skin stem cells, delay the senescence of hair follicles, and provide a revolutionary anti-ageing performance for real rejuvenation.

SulforaWhite, from Mibelle, is a liposomal preparation of Swiss garden cress sprouts rich in sulforaphane, a powerful whitening antioxidant phytonutrient. It effectively inhibits pigmentation by targeting the two upstream key reaction steps in the melanin cascade: it neutralises reactive oxygen species and inhibits the binding of a natural hormone which stimulates skin pigmentation. It reduces the effects of daytime stressors and helps to prevent the formation of melanin for a brighter, more luminous skin complexion.

Ensuring optimal water balance

Sederma was offering Aqualance, which supports normal cell osmoprotectant strategy and ensures there is an optimal water balance in the skin. It contains an osmotic module to mimic estuary flora, and particularly that of the microalgae *Platymonas subcordiformis*. *In vitro* studies showed that Aqualance improved the skin water holding capacity and provided the cells with a strong resistance to desiccation and hypotonic and hypertonic shocks. It was also found to help keratinocytes as it provided osmoprotection that assisted resistance against UV induced apoptosis.

Essenskin, from Sederma, was developed to cater for the ever-growing ageing population and this targeted



Epilobium fleischeri.

fortifying and restructuring thin and fragile skin for those aged 60+. Mature skin suffers from essential nutrient deficiencies (minerals, vitamins, amino acids) causing skin slackening, skin thinning, dull complexion, irregular skin surface, dehydration and age spots. The new ingredient is a complementary source of calcium and essential amino acids and is especially designed to reboot cell metabolism and protein synthesis, rebalance ion flow and recreate calcium gradient in order to regulate the barrier homeostasis and the epidermal differentiation. Sederma carried out a series of *in vitro* and *in vivo* tests to substantiate these benefits.

Sederma's O.D.A.white is a skin brightening ingredient with a new mechanism of action from the heart of the melanocyte and is used to treat skin pigmentation disorders such as freckles, melasma, hyperpigmentation and the darker tone of ethnic skin. The enzyme tyrosinase seems to limit the rate of melanogenesis. The new product does not mediate melanin synthesis reduction by a direct inhibition of tyrosinase but can inhibit the whole melanin synthesis pathway from the melanocyte nucleus by targeting the tyrosinase gene via the PPAR complex and *in vitro* and *in vivo* tests visually showed spectacular skin brightening effects.

Ovaliss, also from Sederma, was shown to visibly reduce the double chin and reshape the facial contours. The chin is prone to laying down fat and the most common reason for getting a double chin is that too much fat is being stored below the jaw. The new material, which is based on glucaine, allows a reconstruction of the skin's support tissue by adipose tissue reversion.

Moravol is located in south-east of the Czech Republic and its technology is based on its long-term experience with special plant growing. There was focus on milk thistle (*Silybum Marianum*) production, including post-harvesting treatment, drug preparation for the extraction procedure and utilisation of the by-products, e.g. milk thistle oil. The company also had other unusual plants, namely Moldavian Dragonhead (*Dracocephalum Moldavica* L.) and Maral root (*Leuzea Carthamoides* DC) which are available as virgin and refined oils. Alpha-linolenic acid is the main active of the oil obtained from the seeds of the medicinal plant Moldavian Dragonhead. This substance supports the skin's immunity behaviour and protects against oxidative stress and nourishes the deep layer of the skin. Moldavian Dragonhead oils and their



derivatives are advantageously used in advanced cosmetic preparations as anti-ageing and anti-wrinkling agents.

Silab was promoting Papiactyl D which was designed for the resilience for the skin and which targets the preferential zone of intrinsic skin ageing: the papillary dermis. It is rich in oligosaccharides purified from the tubers of an African plant called tigermut (*Cyperus esculentus*). It reinforces the meshwork and deformable structure of the papillary dermis for resilience and powerful anti-wrinkle effect which increases the deformability, elasticity and resistance of the skin and has very high anti-wrinkle activity after 56 days of treatment.

Silab's Eye Regener is produced from a combination of white lupine and alfalfa. It provides an under-eye anti-bag effect which stimulates the lymph drainage, reduces the oedema caused by the accumulation of interstitial liquids, and so reduces the surface of under-eye bags.

Mediacalm, from Silab, is described as being the neurocosmetic answer for sensitive skins. It both reduces the amplification of the inflammatory reaction and encourages the production of an anti-inflammatory mediator and so restores the normal skin sensitivity threshold.

SMS Energy is the second active ingredient of Silab's range for men and is said to assist male skin fight the signs of fatigue, stress and ageing. It acts like a reservoir, enabling skin cells to regulate the energy reserves required for their correct operation and the efficiency of their metabolic processes. It improves radiance of the complexion and tone of the skin.

BiotechMarine was underlining the benefits of Alariane and Kalpariane – two new active ingredients that are obtained from a brown seaweed called *Alaria esculenta* that is harvested in Brittany, France. Alariane is dedicated to hair care applications, whereas Kalpariane is

specially adapted to skin care. Alariane protects and smoothes hair, adds shine and gives an easy combing effect. It is said to be perfect for unruly, wavy or wispy curled hair.

Kalpariane helps the skin to combat elastase and collagenase. It reinforces the hydro-lipidic barrier and provides suppleness and elasticity to the skin and so helps prevent stretch marks and wrinkles.

Dr Straetmans had designed a range of conditioners made of either starch of potato or cassava (notably sustainable ingredients). The brand name Amylomer is constructed from the words amylose and polymer. It consists of a range of liquid products with film forming properties which increase the performance of hair and skin care applications.

Amylomer is a range of polysaccharides which are made of selected fractions from different starch sources to achieve specific sensory profiles for skin and hair care. They are flexible in molecular weight and variable in cationic substitution and so offer specific solutions for different hair care requirements that are compatible with a broad range of hair care ingredients and allow their deposition on hair or skin. The price/performance ratio is good.

Conclusion

The in-cosmetics show in Amsterdam was an extremely interesting event, with too many elements to cover in three days. The in-focus Utopia, to explore the philosophy of personal care; lectures on marketing trends; a full conference programme; and seminars examining innovations meant the visitor had tough decisions to take regarding what exactly to see and visit.

I apologise if your new product is not one of those reviewed. I welcome promotional material and technical information being sent, at any time, to tony@dweckdata.com

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