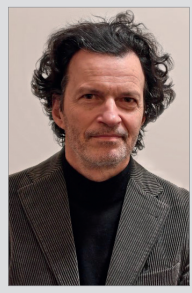


Panel Discussion on

GIORGIO DELL'ACQUA
ADVISOR NYSCC 2023

Giorgio Dell'Acqua is currently the Chief Science Officer at Nutrafol, a company specialized in natural based supplements and topicals for healthy hair and scalp. Giorgio is also the 2023 Advisor of the NY Chapter of the Society of Cosmetic Chemists (NYSCC) and a member of its Scientific Committee. After obtaining his PhD in Cell Biology in 1989, Giorgio worked in Academia for 15 years as an investigator in applied medical research. Moving to the private sector in 2000, he has spent the last 23 years as an executive and cosmetic scientist in the personal care industry. During his career, he directed R&D, Innovation, Science, and Product Development at multiple companies. He has helped bring more than 200 successful active ingredients and finished products to market, has authored more than 80 publications in medicine and cosmetic science, he holds 2 patents and has been a keynote speaker on clean beauty, natural ingredients, and sustainability.



Keywords: Natural, sustainability, farming, clean.

Commentary article

NATURAL INGREDIENTS: WHAT WE LEARNED AND WHAT IS NEXT

During the past 20 years we have seen the presence of natural ingredients in finished cosmetic products rising. The main reason being an increase market demand for natural formulated cosmetic products considered safer than their non-natural or partially natural counterpart, but still carrying some efficacy. Unfortunately, producers of natural based cosmetics have often short cut in their development to bring products with little efficacy and with an inferior sensorial experience to their non-natural based counterpart when related to aesthetic, texture, and application. Furthermore, limited technology available from natural ingredients suppliers and/or the ingredients cost in use made the task of the formulator harder to achieve an effective natural based formulated product. More recently, consumer have put the bar higher when considering purchasing a natural formulated product and safety is not the only requirement. The clean beauty movement has also redefined safety and challenged the myth of natural equals

safe by adopting some safe chemicals in their formulation offer, (i.e., a good balance of chemicals and naturals) as well as a minimalistic ingredient approach around a balance of safety and efficacy. What is needed today is more technology and more science associated to the development of natural based products. A strong imprint of sustainability is needed as well.

As I discussed in the past in different occasions, technology is available to develop and test natural ingredients, to make sure safety and efficacy is present at concentrations that allow the ingredients to be incorporated in finished products.

More concentrated extract (standardized for actives ingredients), better bioavailability, better stability, as well as specific active are part of the suppliers offer with the advantage in using less material. Testing is more cost effective (including clinical studies) thanks also to increase interest by laboratories/CROs to meet the cosmetic market and therefore proposing interesting testing packages that contains latest tech (omics) and accurate end points.





NATURAL INGREDIENTS

Sustainability is center piece, and the industry is moving in the right direction (both suppliers and manufacturers) but more need to be done, and sustainable practices are not mainstream yet. Also, more work is needed to implement the social pillar by suppliers and smaller brands (and not just larger corporations) more effectively. The dimension between the environment and communities needs to be develop further creating conditions that benefit both (the intersection with business as the third pillar). More conversation around the social pillar is needed in the industry and a cross functional think tank including suppliers and manufacturers would be very welcomed. Finally, I would like to challenge the regulators that are facing the growing market demand for naturals that work. The so called "grey zone" between drugs/OTC and cosmetics is getting wider by the day. The need for a new defined category is needed as not every business has the capacity to move a cosmetic into an OTC if they don't want to restrict label claims around efficacy. Consumers are looking for efficacy and current allowed labeling could be misleading in both ways (either

overpromising or under promising). Brands that are working on real efficacy cannot label claim their difference and it is possible that a new category such as "Cosmeceuticals" will be inevitable to avoid by the legislators moving forward.

The future of naturals is brighter than ever! I want to thank the amazing panel of experts that participated in this debate and that were kindly enough to answer my questions and/or elaborate on them. I am looking forward to following up on this very exciting debate.

This article will come to life with Giorgio Dell'Acqua moderating and HPC Today journal organizing the "Lunch & Learn: Natural Ingredients" session during NYSCC Suppliers' Day, May 2, at the Javits Convention Center in New York City. Hear from global innovators, brands and renowned consultants while lunch is served during this short, pithy presentation that will provide the answers, nuances and understanding of what defines natural. For more information and to register, visit: www.nyscc.org/suppliers-day



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Nowadays **naturalness** is an overused and controversial word. While suggestive of being good for both us and the environment, the term 'natural' could be a little misleading, with no real, concrete, recognised definition. Everybody talks about natural ingredients, without considering the real sustainable and safe essence of these materials.

Sustainability, eco-consciousness and the newest **Clean Beauty** trend are reshaping the personal care market. Consumers are becoming increasingly aware of their impact on the environment, as well as of what they put in and on their bodies, and how it can affect their well-being. Brands are therefore strongly encouraged to shift towards natural and natural-derived ingredients, traditionally considered '**greener**' or '**safer**' compared to conventional products.

Although it is implied that the ingredients originate from natural sources, they do not always respect the principles of **eco-ethics**: they could derive from animal or non-renewable origins, which are not quite so in-keeping with the kind-to-nature connotations the term alludes to. At the same time, naturalness on its own does not guarantee safety for human use.

Making a long story short, naturalness is no longer enough. Not all natural ingredients are currently sustainably sourced, and certifications such as RSPO are gaining importance year over year. **Ethical sourcing** is also sought after, as most large companies have strict requirements. With growing consumer knowledge and awareness of ingredients and environmental issues, the

industry needs to provide greater transparency. More information about the ingredients used into the products is required, not only in terms of their function and safety, but also related to their origin, supply chains and production methods (1).

Clean beauty: a natural evolution

In the age of conscious consumerism, sustainability that was once a 'nice to have' has rapidly become a 'license to operate'. Interest in naturals and a constant need for innovation are driving the personal care industry. By 2025, the global organic and natural personal care market is expected to reach more than 50 billion US dollars (2).

Cosmetic companies, also driven by the upcoming legislation changes, are now looking for **low environmental impact** of products and processes, as well as **social sustainability**. **Respect for resources** and ethical sourcing are therefore important building blocks for a renewed all-round approach.

Sustainability is open to multiple interpretations, but the most commonly accepted comes from Brundtland report 'Our Common Future', stating it is 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. It therefore encompasses **environment, society** and **economics** (3).

On top, the new Clean Beauty trend embraces **nature, ethics** and **science**, looking for sustainable chemistry and environmental benefits. Consumers require products that are effective but also respectful of the environment and of people. **Formulations need therefore to balance novelty,**

efficacy, pleasant texture, safety and respect for the environment. This can definitely be a challenge in the development of new personal care products.

Researchers and formulators need to target a new alliance between environment and human behaviour, **nourishing respectful science** and good chemistry. Personal Care companies can be agents of change, reducing consumption of non-renewable raw materials by investing in low impact, upcycled or recyclable materials. Thus, the industry has to focus on designing a new generation of products that suits our changing world and its future.

Nature and science: together for innovative solutions

Nowadays cosmetic formulators feel the pressure to find suitable replacements for synthetic and semi-synthetic ingredients, developing products that could be marketed as natural. **Despite a great number of materials offered by nature, anyhow, often their characteristics do not have a perfect fit with the needs of personal care formulations and consumers.** Additional complexity is linked to demanding levels of **performance, safety** and **sensorial appeal** required for cosmetic products. Frequently, there is therefore the need to modify what nature offers, improving its characteristics to meet consumers' desires. **Hence the extreme importance of chemical innovation, always with an eye to sustainability: a sustainable-by-design approach is the key to develop new ingredients, in line with market expectations.**

Thus, commitment to **responsible chemistry**, respect for nature and people and an **eco-design vision** are essential for a new and sustainable industrial development. Technologies need to be constantly improved to reduce the environmental impact of production processes and to provide new **sustainable solutions**, maintaining a strong focus on

performance and quality. With full awareness of their responsibility, companies need to guarantee clear and transparent communication to all stakeholders.

Sustainability, always science and data-backed, is a great opportunity to innovate. We have only just scratched the surface: there is still a long way to go.

References and notes

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