Project acronym: *InnCoCells*

Grant agreement no: **101000373**

Project full title:

Innovative high-value cosmetic products from plants and plant cells

Start date of project: 01/05/2021
Duration: 48 months

Deliverable number	D6.1
Deliverable title	Survey on consumer attitudes
Work package	WP6
Lead beneficiary	CosVal
Due date of deliverable	31/05/2022
Actual submission date	31/05/2022

Summary

This deliverable report presents an overview of two surveys carried out by the InnCoCells project to determine the expectations of consumers with regard to cosmetic products and particularly those containing our innovative ingredients.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101000373.

1. Partners responsible and target of the survey

The aim of this survey was to get more insights on the consumers expectations of the new cosmetics products and ingredients.

The association Cosmetic Valley (**CosVal**) is the coordinator of the French cosmetics industry that comprises 3 200 companies. For 26 years, it has been supporting economic growth in the cosmetics industry by organizing the network, helping to drive exports, and fostering innovation. **CosVal** was in charge of a survey (D6.1 "Survey on consumer attitudes") designed at better understanding the expectations of consumers from the cosmetic industry. **SCAND**, a producer of finished cosmetic products involved, has participated to define questions in the survey. **SCAND** has also contributed to consumer insights and market info in this deliverable.

CosVal engaged this survey through its contacts within cosmetic companies (raw material producers, formulation producers, manufacturers, producers of packaging for cosmetic products) and managed to interrogate them about their views on consumer attitudes.

2. Diffusion of the survey

Two consecutive surveys were proposed at two important events for international cosmetic industry:

- COSMETIC 360 https://www.cosmetic-360.com/: The global showcase for innovation in the fragrance and cosmetics industry organized by **CosVal**, in October 2021 in Paris.
- IN COSMETIC GLOBAL https://www.in-cosmetics.com/global/en-gb.html: The European showcase dedicated to raw materials for the cosmetic industry in April 2022 in Paris.

3. Surveys

3.1. First survey

3.1.1. The responders

36 companies took part in the survey. Their positions in the value chain are presented in **Fig. 1**.

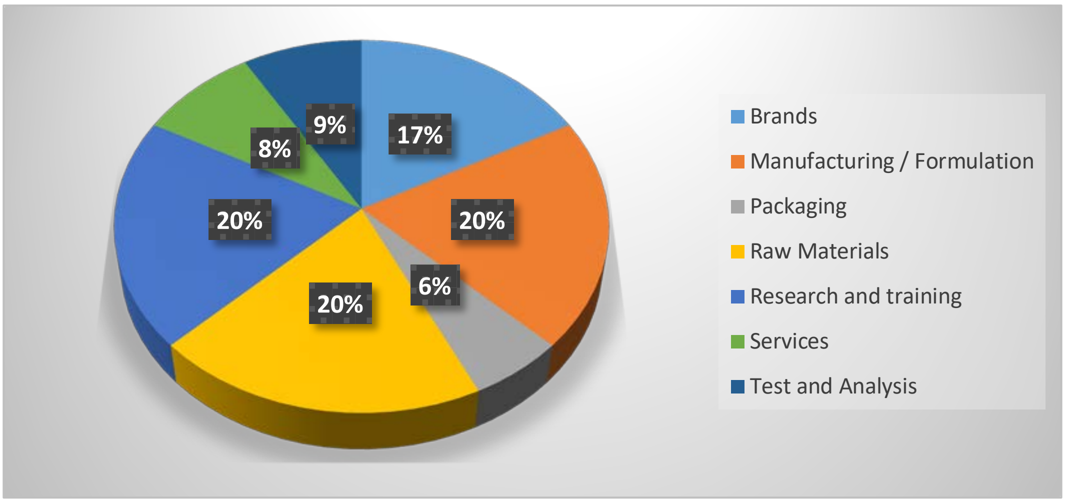

Fig. 1: *Market positioning of the 36 companies that answered our first survey.*

It is important to note that the impact field of **CosVal** is the entire value chain of the cosmetic industry, therefore answers were gathered from the very different actors in the entire value chain.

3.1.2. Questions and answers given

Several questions were asked to visitors of the event. These questions were:

Q1: What are the main consumers trends for cosmetic product related to the green transition? Please classify on a scale from 1 (less important) to 4 (more important).

Proposed answers and total numbers are indicated in **Fig. 2**.

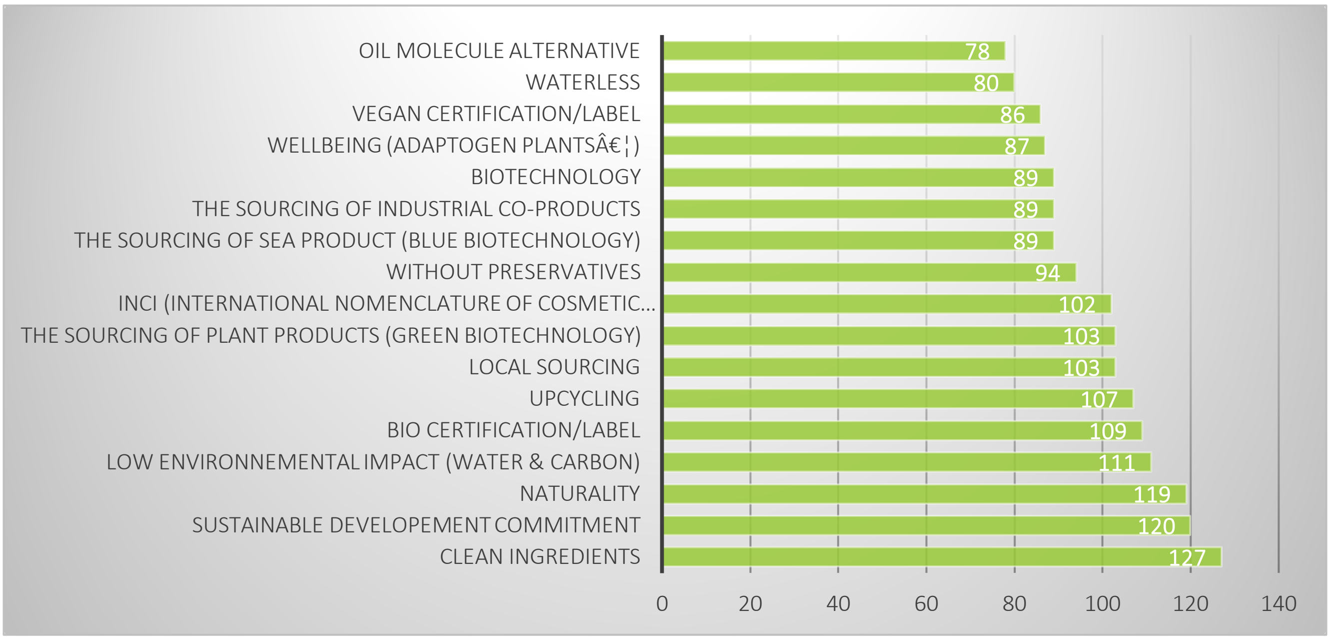

***Fig. 2:** Priority domains for customers.*

Q2: What are the main skin concerns encountered by consumers?

Proposed answers are indicated in the x-axis of the **Fig. 3**.

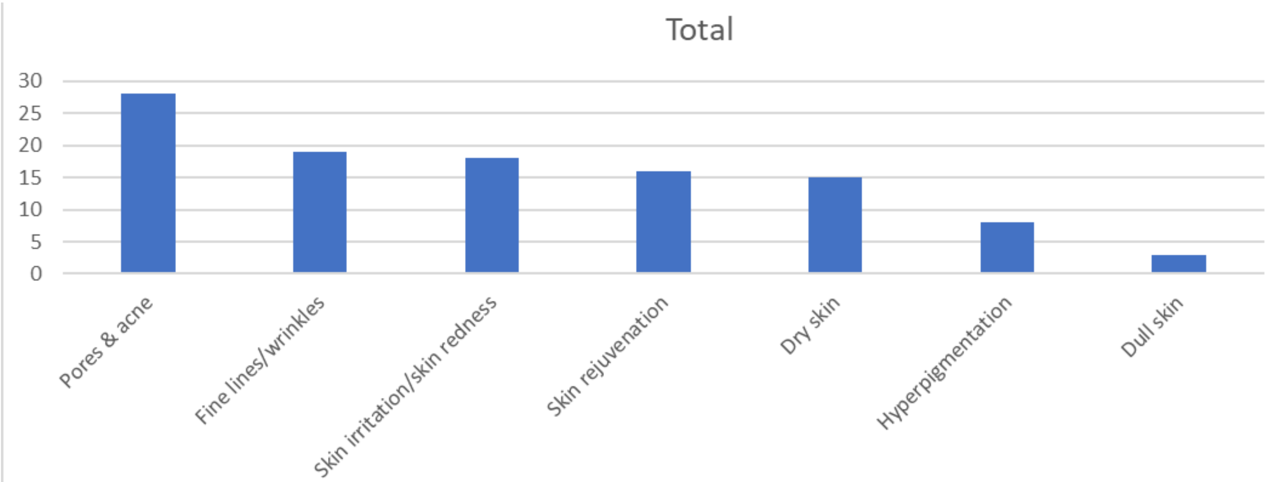

***Fig 3:** Main skin concerns according to customers.*

3.1.3. *Conclusions of the first survey*

This first survey led us to conclude that the main consumer trends for cosmetic products related to the green transition are naturality, sustainable development commitment and clean ingredients.

Upcycling (use of co-products to produce raw materials) and local sourcing are also important subjects for consumers. It is interesting to note that certifications and transparent labeling also seems to be important for consumer, helping them to be reassured by the product they use.

According to responders, the most important skin problem encountered by consumers is related to acne and skin pores. However, wrinkles and skin rejuvenation can be categorized into "**skin ageing problems**", constituting another big topic of concerns. Skin irritation/redness and dry skin can be easily related to **pre-atopic dermatitis** situations, clearly underpinned by **proinflammatory situations**. Hyperpigmentation (lentigo) is another important market segment within the cosmetic industry, related to skin ageing and **melatonin synthesis and accumulation**.

All these domains constitute very interesting potential targets for future ingredients, that can be elaborated on within *InnCoCells*.

3.2. Second survey

In order to gather more information about consumer's expectations on natural products, a second survey composed of four questions was conducted. The questions were about the importance of naturality, efficacy, safety, production methods, the information given by certifications and the costs.

3.2.1. *The responders*

13 companies took part in the survey. Their positions in the value chain are presented in **Fig. 4**.

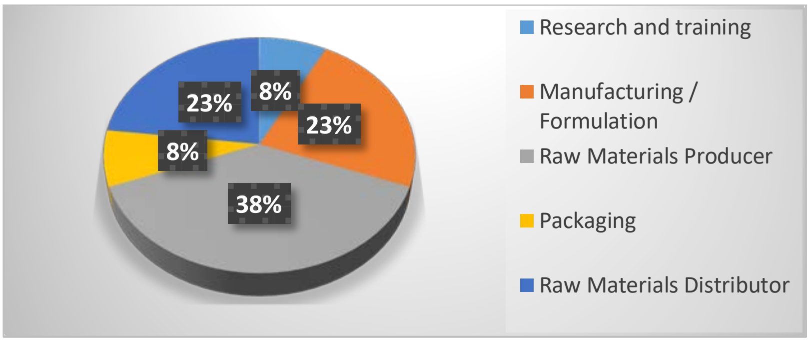

Fig. 4: *Market positioning of the 13 companies that answered our second survey.*

3.2.2. *Questions and answers given*

Q1 Do consumers base their choice of product on efficacy rather than naturally derived?

The answer was 1 if agreed and 6 if disagreed (**Fig. 5**).

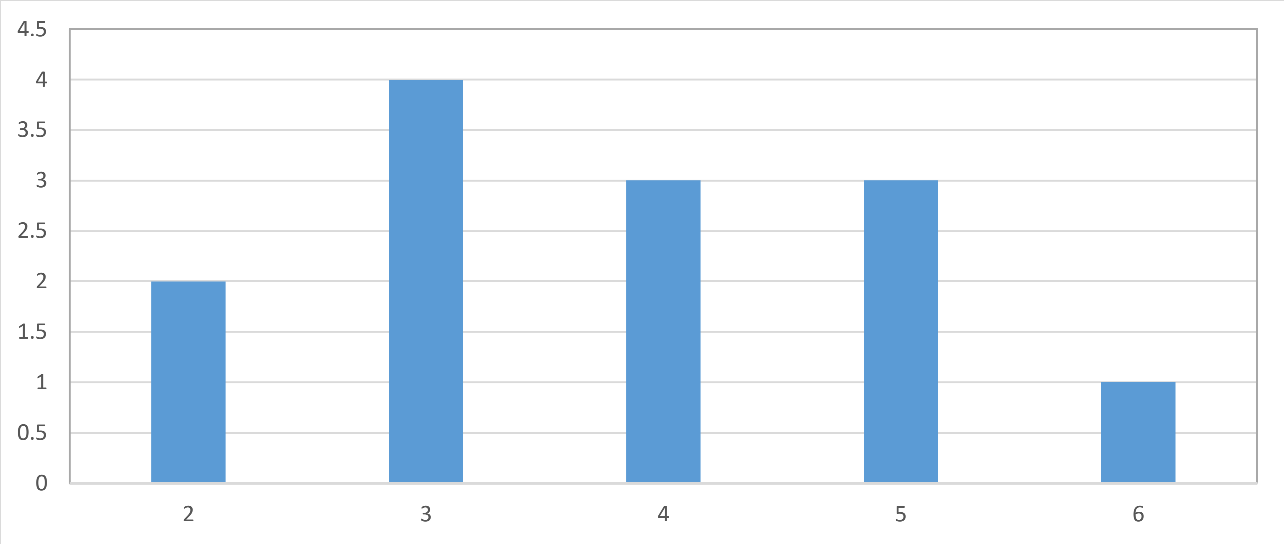

Fig 5: *Preference towards efficacy (lowest marks) vs. naturality (highest marks).*

It appears that the answers are very balanced between the two proposals. No one supported that efficacy is definitely more important for consumers than naturality. Roughly half of the respondents (7 out of 13) supported that naturally-derived product was more important than efficacy.

Q2: Are consumers well informed/aware by the natural/organic certifications in the market?

The answer was 1 if agreed and 6 if disagreed (**Fig. 6**).

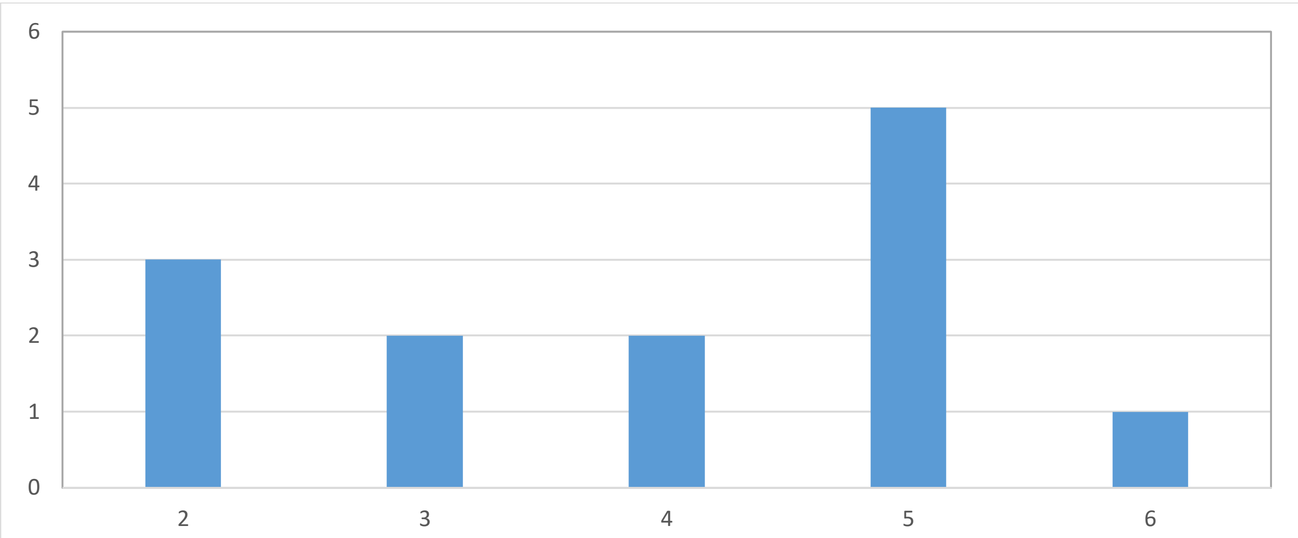

Fig. 6: *Preference between feeling well-informed (lowest marks) vs. not well-informed (highest marks) as regards natural/organic certifications in the cosmetic market.*

The answers show that consumers are not well informed/aware by the natural/organic certifications presently found on the market. This is a valuable information since there are a lot of certifications available (Cosmos, Nature, UEBT, Organic etc.) partially or completely overlapping each other.

Q3: Are consumers willing to pay more for a natural/organic certified product?

The answer was 1 if agreed and 6 if disagreed (**Fig. 7**).

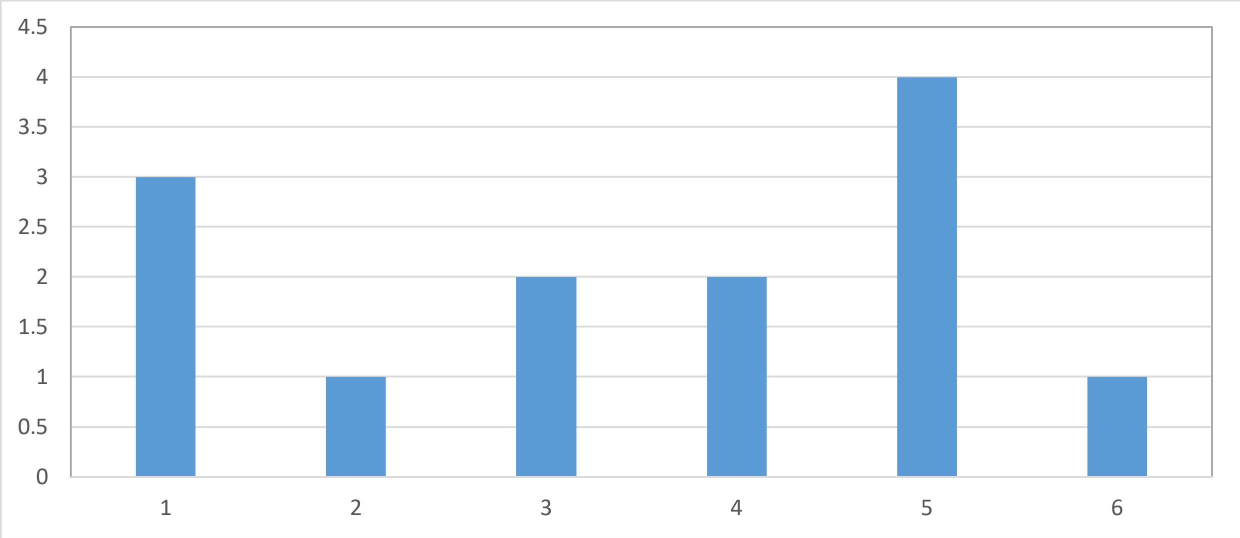

Fig. 7: *Preference towards willing to pay more (lowest marks) vs. not to pay more (highest marks) for a organic/natural certified product.*

There seems to be no clear tendency on this topic as the answers are spread all over the panel of responses.

Q4: Do consumers perceive biotech-derived ingredients as more safe than natural-derived ingredients?

The answer was 1 if agreed and 6 if disagreed (**Fig. 8**).

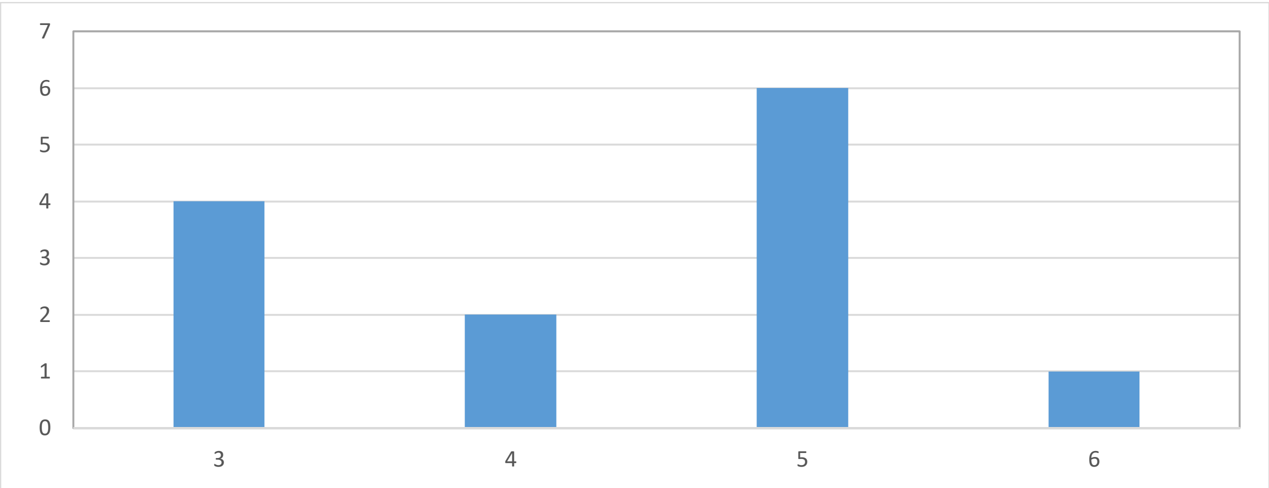

Fig. 8*: Preference towards biotech-derived (lowest marks) vs. natural-derived (highest marks) for a safe cosmetic ingredient.*

Nobody answered 1 or 2, and there seems to be a clear inclination towards natural-derived ingredients for consumers in regards to safety considerations. Although there is a low number of answers, there is a risk that biotech-derived ingredients produced by *InnCoCells* would not match the expectations of safety. Therefore, *InnCoCells* will have to explain that biotech-derived ingredients can obviously match high safety expectations, sometimes higher than with more conventionally produced ingredients.

3.2.3. Conclusions of the second survey

Despite our efforts, this second survey collected too few answers to be statistically relevant. However, these answers show a slight tendency that:

- according to some producers of raw materials and manufacturers of finished products, naturality seems equally important for consumers as efficacy

- natural/organic certifications in the market don't give enough information to be clear and easy to understand for consumers

- according to some producers of raw materials and manufacturers of finished products, consumers do not think that biotech-derived ingredients are as safe as natural-derived ingredients.

3.3 General conclusions of the both surveys

Despite our efforts on two consecutive international events, we could only collect a small number of responses. It seems difficult to mobilize companies in the sector and provide answers to a survey, most presumably because companies optimize their time spent on these types of events, preferring doing business rather than responding to questionnaires.

In addition, the fact of questioning companies manufacturing ingredients and cosmetic care products brings a bias to the results. Indeed, these companies have their own strategic position (e.g. development of active ingredients, excipients, dermo-cosmetic care products with claiming significant activity or products strongly focused on naturality). The responses provided by these companies therefore reflect more their positioning and the type of products they offer, rather than the real consumers' expectations.

As a consequence, we have worked on a study more oriented towards the analysis of the market and current trends in natural cosmetic products. The objective of this exercise is to give a supported orientation to the assets developed in the *InnCoCells* project.

4. Tendency and market study about expectations of consumers

4.1. Skin concerns

The skincare market is continuously increasing and the demand for cosmetic formulation containing bioactive ingredients, also called cosmeceuticals, is the fastest growing segment of the cosmetic market. The cosmeceutical market is projected to grow from USD 54.75 billion in 2022 to USD 96.23 billion in 2029. This represent a CAGR of 8.4% in the period (https://www.fortunebusinessinsights.com/cosmeceuticals-market-102521).

Consumer insight reports have identified the most common consumer skin concerns and the ability to cover these areas with bioactive formulations represent an opportunity in the market place (**Table 1**).

Table 1: *What consumers want from skin care according to Denise Herich, The Benchmarking Company (March 1, 2019):* https://www.gcimagazine.com/marketstrends/segments/skincare/What-Consumers-Want-from-Skin-Care-506561451.html

AGE	ALL	GEN Z(18-24)	MILLENNIALS(25-38)	GEN X(39-53)	BABY BOOMER(54+)
Rank					
1	Acne/breakouts	Acne/breakouts	Acne/breakouts	Fine lines/wrinkles	Fine lines/wrinkles
2	Dark eye circles	Dark eye circles	Dark eye circles	Dark eye circles	Dark eye circles
3	Fine lines/wrinkles	Uneven skin tone	Uneven skin tone	Uneven skin tone	Sagging skin
4	Uneven skin tone	Oily skin	Large pores	Under eye bags	Under eye bags
5	Large pores	Large pores	Fine lines/wrinkles	Acne	Deep lines and wrinkles

Our concerns about our skin have not changed much in recent decades, desired outcome is still achieving high efficacy with clear message of transparency and sustainability.

In general all these issues are related to the following three main topics:

- Acne and inflammation
- Ageing, wrinkles and fine lines
- Pigmentation and sun damage

These findings are consistent with our survey done on 36 companies responding to the survey 1 (see **Fig. 3**).

Focus groups in Norway conducted in 2020-2021 also underline that the consumers are primarily looking for bioactive efficacy in their skincare regimen, but also that the consumers increasingly focus on the sourcing elements of ingredients and skincare formulations. It supports that the complexity of the consumer choices are increasing and the fact that sustainability will play an important role in the choice of skincare products.

4.2. Sustainability and transparency

Active ingredients for skincare and haircare are mainly focused on natural products today. The trend towards "clean beauty" sets a shift away from animal-based or artificial raw materials towards plant-derived, sustainable alternatives. Ingredients are more and more sustainably sourced by upcycling. This guarantees that the production and sourcing of cosmetic ingredient is not in competition with farming for food supply[1].

A study from 2018 have outlined how different age groups focus on sustainable and transparency in the choice of skincare (**Table 2**).

[1] https://cosmetics.specialchem.com/news/product-news/mibelle-biochemistry-natural-products-in-cosmetics-000227365

Table 2: *AlixPartners global health and wellness study carried out in 2018.*
https://www.alixpartners.com/media/12673/ap_millennial_preferences_beauty_personal_care_may_2019.pdf

AGE	18-34	35-54	55+
Rank			
1	All natural or pronounceable ingredients	Allergen free	Detailed and transparent labelling
2	Sustainable source	All natural or pronounceable ingredients	Allergen free
3	Detailed and transparent labelling	Sustainable source	Sustainable source
4	"Free from"	"Free from"	All natural or pronounceable ingredients

"Clean beauty" is the most important movement happening in the market today. This particularly resonated in times of the COVID-19 pandemic. With consumers now prioritizing credentials such as safety, sustainability and full transparency.

"Responsible sourcing" is crucial for brands to implement together with an eco-conception approach at every step of the development and production process, and that includes sourcing. "*Because we take from nature, we must work to preserve and protect it*." Many brands to implement new eco-conscious sourcing processes and move towards more sustainable solutions:

- Upcycling
- Biodiversity Preservation
- Ethical Sourcing

Our first survey also support these findings showing that the industry is very focused on clean ingredients with a clear sustainable development commitment (see **Fig. 2**).
The major trends of natural-derived skincare ingredients can be categorised into the following segments:

4.2.1. Inspired by nature

- **Bio-mimicry:** understanding natural plant or marine organism adaptation to environment and taking the best of the plant to provide activity to the skin.
- **Plant-based:** every part of the plant at every stage of its life can be used to produce actives such as leaves, bark, root, fruit, flower or seed and even plant stem cells. The efficacy and activity depend on the compound of the plant. Most oils' activity is on moisturizing properties for example. Plant extracts are mainly based on actives[2].
- **Marine-sourced:** compared with terrestrial bioresources, marine ones are shown to display high activity, new properties and new mechanisms of action and have the capability to capture the consumer's attention with their unique and exotic sourcing. Algae contain specific polysaccharides useful for active ingredients developed in extreme environmental conditions that can benefit the skin with superior activity[3].

[2] https://www.sofw.com/en/news/latest-news/personal-care/2129-ashland-revealed-natural-nature-derived-and-biodegradable-personal-care-solutions-and-nature-positive-stem-education-program-for-village-farmers-in-india-during-in-cosmetics
[3] https://www.personalcaremagazine.com/story/38374/fermented-multi-plant-ingredients-in-cosmetics

4.2.2. *Microbiome and fermentation*

- Cosmetic ingredient to heal the holobiont, the term used to describe the supraorganism of the human body and its microbiome[4].
- Cosmetic claims are on restoring skin barrier: rebalancing the antimicrobial arsenal - immune-modulatory barrier[5].
- Eco-friendly cosmetics to preserve the natural skin ecosystem: using probiotic-derived ingredient obtained from specific strain. It is developed through innovative biotechnological processes that preserve its structural integrity and, at the same time, amplify its cosmetic sensorial properties and help to strengthen the natural skin defences, prevent the colonization of the pathogens, and provide metabolic support to the physiological skin microbiota.

4.2.3. *Natural active for well being*

Consumer with modern lifestyle is prone to stress and anxiety, this trend is enforced with pandemic and global warming anxiety. Generation Z the most concerned about anxiety, sleep deprivation and burnout due to a stressful life.

Natural cosmetics ingredients are addressing these concerns with the following answers:

- **Well-ageing:** switching from anti-ageing with ageing baching and culpabilisation toward ageing well enhancing skin tone, radiance. But also working on inflammation and glycation due to ageing process and not only fighting against wrinkle and sagging[6].
- **Holistic approach:** today's well ageing targets are not only the body with biological symptoms, but also the mind. The trend is brought by a more oriental way of taking care of the whole person, its body but also its mind and wellbeing[7].
- **Psychodermatology:** biomimetic ingredients like peptides provide better biodisponibility that are acting on neuromediators and neurohormones (cortisol, endorphin, melatonin), in order to boost the mood and also have an impact on the skin or scalp through lowering inflammation and easing the stress[8].
- **Adaptogen** are 100% plant-derived natural actives with particularly effective stress-fighting properties. Adaptogens are herbal pharmaceuticals. They work to counteract the effects of stress in the body. Stress causes very real physical changes in the body, including harming the neurological, endocrine, and immune systems. Adaptogens have stimulant properties that help counteract those harmful effects[9].

5. Discussions and conclusions

Major tendencies can be clearly drawn with regards to today's biological targets in cosmetics, and active cosmetic products are expected to tackle acne and inflammation, anti-ageing, wrinkles and fine lines, hyperpigmentation and sun damage. Beyond these biological targets, consumers want to be convinced of a product's efficacy immediately or even before they used it. This is an important expectation: it is necessary to

---

[4] https://www.personalcaremagazine.com/story/38383/marine-holobionts-novel-multi-functionals
[5] https://www.personalcaremagazine.com/story/37139/the-skin-microbiome-getting-the-balance-right
[6] https://cosmeticsbusiness.com/news/article_page/Naolys_introduces_Unwind_Sacred_lotus_and_Serene_Skin_Sage/200193
[7] https://www.personalcaremagazine.com/story/38371/endorphin-peptide-based-wrinkle-treatment

[8] https://www.personalcaremagazine.com/story/38268/cover-story-jasmine-to-connect-skin-biology-and-emotions
[9] https://www.industries-cosmetiques.fr/les-laboratoires-expanscience-lancent-un-nouvel-actif-et-un-nouvel-ingredient-sensoriel/

scientifically prove the effectiveness of the ingredients used. In addition, consumers do not want a trade-off between efficacy and sustainability. They want both science-driven and consciously created formulas.

To support and disseminate the information to consumers, it is absolutely necessary to have a clear, understandable and transparent labelling displaying both efficacy and sustainability credentials. These are important directions that the *InnCoCells* project must take into account to ensure that the ingredients developed can reach the market with a high success rate.

6. Additional references

Accenture (2021): From me to we: The rise of the purpose-led brand.

Burt’s Bees. (2021): Impact 2020 + 2025 impact vision.

Boston Consulting Group (2020): Sustainability matters now more than ever for consumer companies.

Global assessment on biodiversity (2019): Intergovernmental science-policy platform on biodiversity and ecosystem services report.

HAPPI (2021): Vegan beauty and wellness boutique opens In Boca Raton.

Personal Care Products Council (PCPC) 2019: Creating a more beautiful world – Sustainability report.