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NATURAL AND ORGANIC PRODUCTS: MYTHS AND FACTS IN DIETARY AND COSMETIC INDUSTRY

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Any product which is labelled as "natural" – it must contain no artificial ingredients or added colors, and must be minimally processed, according to U.S. Department of Agriculture (USDA). The products are claimed as natural which guarantees that they do not contain genetically modified (GM) ingredients, parabens, phthalates, synthetic colors, dyes or fragrances.

Any food or cosmetic products are labelled as "organic" – it has been produced through approved methods. If the organic standards describe the specific requirements that must be verified by a USDA-accredited certifying agent, those can be labelled as USDA organic. Interestingly FDA does not regulate the use of the term "organic" on food as well as cosmetic labels. The USDA oversees the National Organic Program (NOP) and enforces the NOP regulations and standards. The organic regulations prohibit the use of pesticides and synthetic chemicals, irradiation, fertilizers made with synthetic ingredients and bioengineering.

If the product is labelled as organic, it will not give the indication on safety. Organic farmers use manure or compost for this purpose. Unfortunately, the use of manure can lead to E. coli and Salmonella contamination. Salmonella can survive in the soil for almost a year. The organic cleaning products are less effective than the synthetic compounds, which will lead to an increased likelihood of bacterial surviving on products. The heavy metals naturally present in soil and water may also contaminate the organic products. Hence it is always advised to test the organic products for contaminants, heavy metals, pesticides residue, PAH, dioxin, etc. before using. The manufacturer must use well-researched ingredients supported by safety and efficacy, maintaining uniformity from one batch to another batch (also called as standardization), sustainable, genuine and authentic raw materials in their products. So that companies ensure the quality products throughout their product supply.

There is no legislation in the cosmetic sector using natural or organic ingredients by USFDA. But the cosmetic products / ingredients are regulated by the Federal Food, Drug, and Cosmetic Act. They do not require to have FDA approval before they go on the market, but are to be safe when consumers use them according to their labelling.

Natural / Organic products are sourced by ethically and should be cruelty-free. The raw materials sourced either from the approved vendors or contract farming or own cultivation of the botanicals make the manufacturer reliable and sustainable. In this processes, the flow of raw materials from the farmer to a vendor to a manufacturer, will not include refugees, child labours, bonded labours or animals.

Natural ingredients: pitfalls, challenges and opportunities in formulating natural and organic products that are safe, aesthetically pleasing and performing

In Ayurveda, each herb comes with its unique benefits and carry equal importance. It is depending on the factors like plant part used, the method of extraction, identification of the right bioactive as marker(s) and also delivering them in the correct dosage form.

One of the greatest challenges faced by the industry is the constant supply of raw material and adulteration since a majority of the raw materials used are in dried form and the chances of adulteration are maximum. With increasing demand for natural products in the market, there is a tendency among manufacturers to use cheaper sources of raw material, to adulterate natural products. A typical example is that where the natural curcuminoids are often adulterated with synthetic curcumin.

Other challenge includes standardization of herbal extracts. Also, the secondary metabolites may vary due to the geographical conditions, time of collection, an age of the plant, method of preparation etc. For example, during summer vasicine content is highest but during monsoon, it is very low. The plant also contains contaminants like heavy metals, pesticides which is also the biggest challenge for the industry to control in the final products. The use of herbal extracts is based on traditional knowledge, hence safety and toxicity is also a challenging aspect. The finished formulation is also challenging since it is based on the nature of the active and the delivery target.

Finally, care and attention have to been given to the use of packaging materials for natural ingredients, since few are prone to oxidation while others may be hygroscopic in nature. To overcome all these challenges, Sabinsa has its own contract farming to supply the authentic and genuine raw materials and state-of-art analytical facility to carry out the testing protocols.