

INNOVATION OF COSMETIC PRODUCTS BENEFICIAL TO THE CONSUMER'S HEALTH

Steluța RADU¹, Daniela-Magdalena HERDEȘ¹

e-mail: istela2013@yahoo.com

Abstract

The cosmetic industry has evolved fulminant between the two world wars as a result of the necessary hygiene products that have demanded worldwide. As a result, the cosmetic industry to dezvoltat after so much pursue major financial interests. This target was achieved by creating an impressive range of cosmetics which currently have a low quality, sometimes harmful. This was the effect of excessive use of chemicals called parabens, which allow keeping the optimum products for long periods Cosmesti 12 months from manufacture. Through this study we aimed to identify materials that can form recipes for cosmetics. We have also innovated a number of four creams obtained from foods of plant products.

Key words: quality of cosmetics and the health of consumer

This work reserch presents the way by which food can be used not for human consumption but for other purposes.

By processing food we can obtain diferent face creams that can be used in a lot of productive ways.

Cosmetic products and especially face creams attract a lot of contradictional attitude because many people will doubt the ingredients used to make them and they will prefer to produce it alone as an handmade activity.

The raw vegan lifestyle is a diet based on the consumption of unprocessed food in their natural state, except for products of animal origin. They are consumed untreated thermally, being represented by the vast majority of fruits and vegetables where we can add seeds, seed germs, algae and a wide range of herbs represented by aroma.

This diet is considered by some to be a diet, a way of living for a healthy life. In combination with sport helps the human body to function in any situation, adapting an physiological and metabolic needs.

The raw vegan products can not be heat-processed, the cooking temperature should not exceed 40 °C, the there shold at which food are considered to lose a number of properties, namely what is considered as living in the food. It is well known that vitamin C is heat-labile and does not withstand temperatures above 40 ° C.

Recently adopted, this lifestyle brings new discoveries in gastronomy, but not only, continues to bring new benefits to life and to our health.

For these reasons, we considered it appropriate to make recipes for cosmetics beneficial to people's health.

MATERIAL AND METHOD

This study has as its main purpose outlining the true problems that appear when in the processe of making face creams different substaces are added such as (parabens) which can be harmful to the epitelial tissue.

So that we have chosen four types of face creams innovate without synthetic parabens or harmful substances. For this we have selected ingredients of animal and vegetal origin that are very rich in vitamins (ProA, A, B1, B2, PP, C) and minerals (Na, K, Ca, Mg, Fe), because we know that microminerals are very important for the nutrition of human tissues.

The working methods were the determination of ash and the determination of vitamin C.

Method of determination of ash

The principle of the method consists in calcination of the sample which had been analyzed at temperatures of the calcination and separating the insoluble mineral substances in HCl.

Echipaments, materials and reagents: analytical balance, water bath, electric oven, thermoreglable for temperatures of 700 - 750 °C, porcelain crucible, desiccant, HCl solution (a volume of HCl d = 1.19 is mixed with 3 volumes distilled water), AgNO₃ 0.1% solution, filter paper.

Procedure: Weight 2 grams of the sample to be analyzed with a precision of 0,002, in a cracked and calcined porcelain crucible. The weighed

¹ University of Agricultural Sciences and Veterinary Medicine of Iasi

sample crucible is heated to the flame of the gas bulb until the sample is converted to ash. Insert 1h into the calciner, removed and cooled on a porcelain plate, moisten with a few drops of water the black spots. To remove water, keep the crucible at the mouth of the oven until the water is completely removed. After that we continued calcination for 2 more hours. The porcelain capsule was removed from the oven and cooled in the desiccator.

Over the ash obtained add 10 ml of HCl, cover the crucible with a glass cover and heat on the hot water bath for 10-15 minutes. Cool the contents and filter through a filter paper. The crucible and the paper are washed with 20 ml of HCl and hot water until all HCl is removed. HCl is considered to be eliminated when the washing water does not form a white precipitate in the presence of silver nitrate. Insert the filter into the porcelain capsule, burn to carbonization paper, place it in the calciner for another 30 minutes. Cool the sample in the desiccator and weigh to the nearest 0,002 g.(3)

Method of determination of vitamin C:

The principle of the method consists in quantifying of ascorbic acid in an extract with oxalic acid or with a solution of meta-phosphoric acid and acetic acid, titration of the extract with 2,6 dichlorophenolindophenol until color pink. Reagents and utensils: oxalic acid, CuSO₄, indophenolic dye, distilled water, Berzelius and Erlenmayer glasses, pipettes, burette, 100 ml bottles.

Procedure: Weigh 10 g of the product to which we mixed, then add 50 ml of oxalic acid and homogenizing the mixture. After homogenization, the sample is placed in to 100 ml volumetric flask and made with distilled water and then filtered the extract with a filter paper.

After whole of the filtration, from the homogeneous sample, introduced 5 ml of the extract into a titration beaker and titrate with indophenolic dye until the pink color turns, recording the volume entering the titration. In parallel, a blank sample of 10 ml of oxalic acid and titrated with indophenolic dye was made as in the case of the initial sample, noting this time also the volume entering the titration.(4)

The working method is based on the creation of four cosmetics for the purpose of hydration, antiacnee, fat and exfoliating creams.

In this context we have used: honey, natural yogurt, eggs, natural starch, sweet almond oil, olive oil, coconut oil, orange, lemon, sea buckthorn, cucumber, chamomile and mint.

1. The almonds are used to produce almond oil and almond butter, similar to peanut butter. All of these are finally products which to make the vitaminization and mineralization of skin epithelial tissues. It's contained vitamin E, fibers, riboflavin, Mn, Mg, Cu, P, Ca, K, Fe and antioxidants. (7)

2. The coconut and coconut kernel contain microminerals and nutrients that are essential to

human health and therefore coconut is used as food by peoples in tropical countries. (2)

3. The lemons contain a very important source of vitamin C and fiber. In addition, we can highlight the presence of antioxidants and phytochemicals that help the human body to prevent diseases. (7)

4. The oranges contain vitamin C, thiamine and fiber, most soluble, which greatly help in regulating blood glucose and reducing cholesterol. An important nutritional intake of this fruit is given by vitamins A, B6 and minerals - Ca, Mg, K, folic acid and pantothenic acid. In addition to this, some antioxidants, such as betacytotoxanthin, zeaxanthin and lutein, can be added, and these are presented in a smaller amount. (7)

5. The honey contains many compounds such as organic acids, proteins, amino acids, minerals, flavonoids, polyphenols, vitamins, aromatic compounds. All of these along with phenolic compounds play an important role, contributing to the maintenance of people's health. (1)

6. The eggs are used in creams binder and coagulant capabilities and due to their proteins content it allows the maintenance of human body cells.

7. The yogurt obtained by fermentation and natural coagulation of milk due to its nutrients (K, B2, A, B1, C, Fe, Mg, Ca) nourishes the tissues of the skin and in particular produces their mineralization.(6)

8. The buckthorn is used in the food, pharmaceutical and cosmetics industry. The sea buckthorn contains twice as much vitamin C as the carrot and 10 times more than the citrus fruit. Vitamins present in the fruit are: A, B1, B2, B6, B9, E, K, PP. We also find cellulose, betacarotene and microelements such as P, Ca, Mg, K, Fe, Na and complex oils.(8)

9. The cucumber contains proteins, vitamins B1, B2, B3, B6, C and microelements such as Fe, Mg, P, K, Zn. In the cosmetics industry, cucumber is widely used in various creams and lotions for the skin, having a calming effect, restoring PH's skin, being slightly astringent and has a strong moisturizing effect due to excess water in the pulp.(8)

10. The leaves of the mint represent the raw material which contains volatile oil (0.5-3.5%). It also comes in the composition of various medicinal teas. Mint leaves contain a large amount of volatile oils, polyphenolic substances, tannins, flavonoids and bitter principles. Due to its content in volatile oils, it is much used not only as a medicine but also as a flavoring in the cosmetic and food industry. In cosmetics it is said that mint reduces pores, heals acne by its anti-inflammatory action and reduces excess sebum. (5)

11. The chamomile flowers are the richest in active principles and contain volatile oil (0.5-1.5%) rich in azulenes and other valuable compounds. They have antiseptic, anesthetic, carminative, anti-

inflammatory actions. Teas or pharmaceutical products are used internally in inflammation of the digestive tract or disease so that it in the gastric, colonic, sweat-based teas. It is used for various cosmetic preparations.(5)

The pH of the skin varies depending on the area, so the normal skin has a pH of 6, is therefore a balanced skin, the dry skin has a lower pH of 6, is therefore acidic and the fatty complexion has a PH higher than 6 , so it's an alkaline skin. Hygiene and care, cosmetic products play a significant role influencing the skin pH, so it is important to consistently appeal to the right compositions.

RESULTS AND DISCUSSIONS

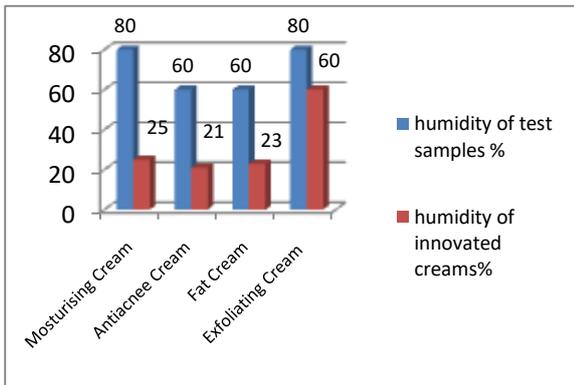


Figure 1 The dynamics of the humidity samples

We have registered 25% humidity for the moisturising cream, 60% humidity for exfoliating cream which are destined for cleaning of skin tissue and 21%, 23% for antiacnee and fat cream. The results are corresponding with the sample's destination (figure 1).

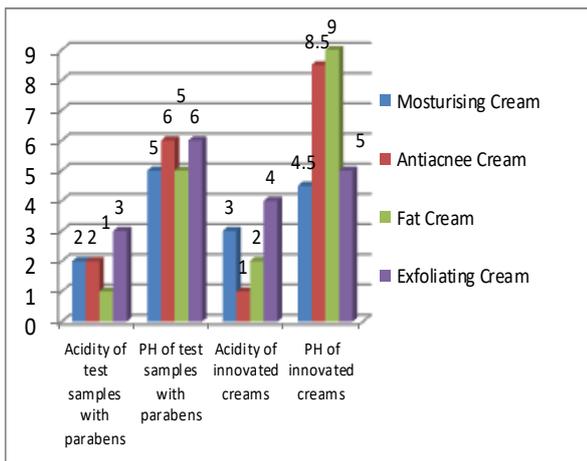


Figure 2 The dynamics of the acidity and PH creams

Testing the acidity of the samples we should be say that moisturising and exfoliating creams have an acidity by 3-4% more than antiacnee cream which having just 1%, and fatty skin cream with 2%.

Coresponding the moisturising cream and exfoliating cream have a PH by 4,5-5 and

antiacnee cream have a PH by 8,5 and fatty skint cream 9,0 what means an alkaline pH.

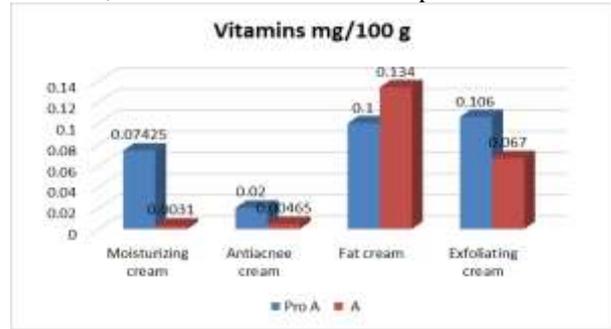


Figure 3 The dynamics of the vitamins in the cosmetic recipes

Analysing the vitamis content of each cream we have registrated that the first recipe (moisturising cream), the third recipe (cream for fat) and the fourth recipe (exfoliating cream) have about 0.074 - 0.134mg/100g ProA and A, while the second recipe which presents the antiacnee cream has a low content of vitamin A. The cause of vitamin A growth is related to the presence in the recipes of raw materials sources: yoghurt, coconut oil, almond oil, sea buckthorn, cucumber.

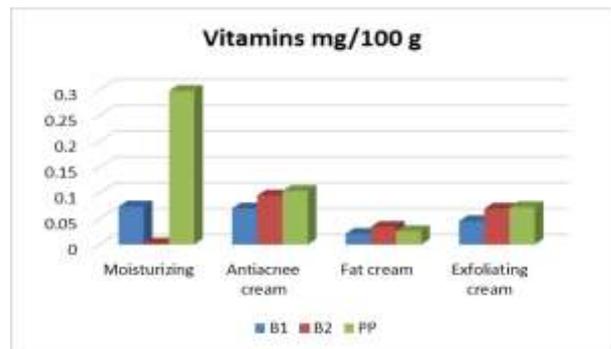


Figura 4 The dynamics of the vitamins B and PP at the cosmetic recipes

Regarding the B1 and PP content of vitamins, we found an increased content of vitamin B1 and PP in the moisturizing cream compared to other anti-acne and exfoliating creams and for fatty pointment, where the vitamis B1 and PP content is lower. In this situation, vitamin B content has been improved as a result of the use of the following ingredients: egg, honey, olive oil and yogurt.(figure 4)



Figure 5 The dynamics of the vitamin C content

Figure 5 shows that the moisturizing cream recipe contains 21.65 mg/100g of vitamin C, compared to 5.3 mg/100g of fat cream and only 3.3 mg/100g for exfoliating cream. Anti-acne cream does not contain vitamin C.

The raw materials used to make the moisturizing cream were: sea buckthorn, orange peel, almond oil and yoghurt. The graph shows that when we use sea buckthorn as a raw material with excess of vitamin C and the final product are vitaminized in excess.(figure 5)

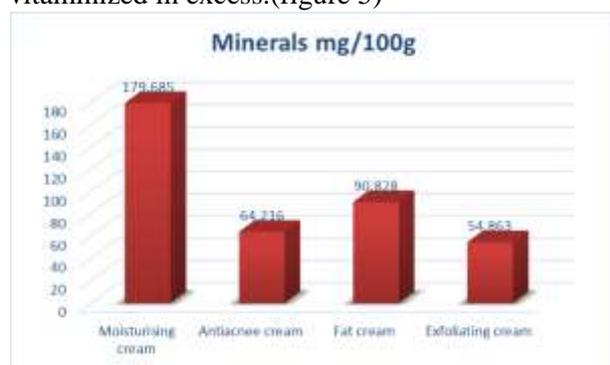


Figure 6 The dynamics of total mineral content

Analyzing of the mineral content of the four cosmetic products we can see that the recipe 1 - the moisturizing cream contains the highest amount of minerals 179.685mg/100g, followed by the recipe 3 - cream for fat skin with 90.828mg/100 g, then the recipe 2 - anti-acne cream and recipe 4 - exfoliating cream. The cause is the ingredients used in making: almond oil, coconut oil, yoghurt, honey, sea buckthorn, lemon juice and egg.(figure 6)

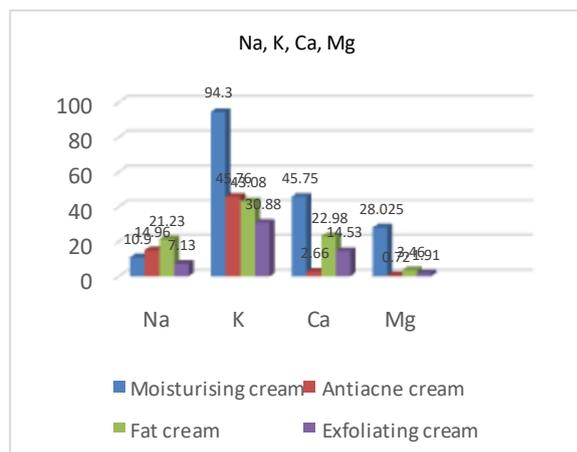


Figure 7 The dynamics of the mineral content

The creams obtained at the laboratory were designed both to increase the vitamin content and to improve the mineral content of Na, K, Mg, Ca and Fe.

Figure 7 shows that the anti-acne cream recipe has the highest mineral content: K (94.3mg/100g), Ca (45.75 mg/100g), Mg (28.025 mg/100g), Na (10,9 mg/100 g).

In the hierarchy of second-hand cosmetic products there is a fat cream, followed by a moisturizing cream and finally an exfoliating cream.

It is noted that all innovated creams contain minerals in different proportions depending on the ingredients chosen for the recipes made.(figure 7)

CONCLUSIONS

1. Cosmetic innovation products it's accomplishing the moisturizing, vitaminsing and cleansering as a result of bio-nutritional ingredients containing, which are beneficial nutrients that are absorbed by epithelial tissue.

2. The selection of biofood products taking into account the high content of certain vitamins, such as vitamin C, vitamin B or minerals like as: K, Mg knowing that these micronutrients feed on epithelial tissue.

3. We recommend the storage of cosmetic products obtained at temperatures between 4 and 10 °C for 14 to 21 days.

4. The cosmetic products innovated didn't containing parabens and are nutritionally beneficial to people's health, preventing the appearance of skin problems.

5. Choosing ingredients like as: honey, natural yoghurt, yolk and egg white, natural starch, sweet almond oil, olive oil, coconut oil, orange, lemon, sea buckthorn, cucumber, mint has been make with the recommendations for pH skin or pH epithelial tissues. Thus, PH acid hydration cream is recommended for dry and acidic skin, anti-acne and exfoliating creams are recommended for a pH < 6, and fat cream is recommended for skin with pH > 6, what means pH alkaline.

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