



Evaluation of The Cosmetic Potential of *Spirulina Species*

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ABSTRACT

Spirulina (SR), which is actually blue – green (BG) algae forming the lake floor, boasts many skin advantages. SR is also considered as a nutritional substitute to feed the inside out with powder or tablet. SR will improve the skin's general health and radiation and avoid the growth and inflammation of acne. SR is high in carbohydrates, vitamins and both fatty and amino acids; it lowers inflammation, shades the skin, and promotes cell regeneration to promote youthful taint. SR also acts well on dull, congested skin, as it softly detoxifies and stimulates regeneration of cells, as is the case with many super food (SF) ingredients. It helps to preserve safe, illuminated glow by facilitating the removal of dead skin cells.

Key words: Spirulina, blue-green algae, natural antioxidant, skin care

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INTRODUCTION

SR is BG algae; it is considered to be one of the earth's oldest forms of life. SR, used by Aztecs for the first time to improve stamina, is a SF- a whole-in-one source of nutrients, like egg-like protein [1]. The Aztecs also used SR to cure different illnesses, and legends suggest that messengers of the Empire used algae to support their marathons [2]. Modern study advances all of the supposed advantages of SR and further studies its propensity for health issues [3]. SR has a bitter flavour, meaning that it's mostly mixed to enhance its taste, with yoghurts, juices and smoothie. SR is usually included in natural food shops as a supplement. SR also contains magnesium [4]. This mineral performs daily functions including heartbeat and muscle. The company still processes and produces energy for protein—but most people have not enough to feed [5].

SR is perhaps the most used word for its many uses in terms of health supplements. Let's start with the basics for those of you who don't know about SR. SR (not grown out) are a type of algae which has many advantages [6]. It is a naturally occurring algae with a highly protein, carbohydrates, iron and antioxidants scientific term for that Cyanobacteria [7]. Two *Cyanobacterial species* – *A. platensis* and *A. maxima*, are derived from SR.

SR is the BG algae that are full of vital nutrients such as protein, beta-carotene, chlorophyll, complex vitamin B, minerals, essential fatty acids, and other essential nutrients which our bodies require [8]. Green Factor (chlorophylls) – helps to eliminate toxin and cleanses blood waste carefully [9]. Good quality protein SR has a strong protein content of 60 - 70%. For example, SR contains 20 times more protein than soybeans per acre [10].

Important fatty acids, which is high in gamma-linolenic acid, contribute to joint and heart health. Relevant problems such as weight loss and premenstrual syndrome also benefit [11]. Vitamins A, C, E and B, including vitamins B12 and B6. Vitamins Diverse minerals – potassium, calcium, chromium, copper, iron, magnesium, manganese, phosphorus, selenium, zinc and sodium are present [12].

Color chlorophyll-pigments. - phycocyanine - a BG colour can be special in its growth, and can help strengthen immune systems and cancer [13]. -Beta carotene – beta carotene SR is ten times stronger than carrots. It helps stimulate antioxidant defences in the body and is beneficial for safe vision and eyes [14]. It differs from other algae that the body can quickly consume and absorb. Often considered as one of the strongest alkaline food, it helps to turn a stable alkaline into a poor acidic body state [15].

It is a nutritional supplement and also a whole diet. Supplements in pills, powders *etc.* are available. Nutritionists today make it a "SF" for its astonishing properties, such as its potential to reduce cholesterol

levels, improve immunity, provide steam, combat allergies, etc. The supplement also has some amazing skin advantages, so you can discover how your skin routine can be changed [16,17].

Glowing skin

SR, powerfully filled with antioxidant agents, can do glow and taint wonders for your face [18]. The facial mask is the skin's greatest detoxifier. Add 1 cubic metal SR powder to 1 cubic metal organic sweet mix well. To your cleansed face, apply this mask uniformly. Leave on, and then wash with warm water for 20 minutes [19,20].

Acne

The anti-inflammatory effects of SR contribute to swelling, acne and further breakouts [21]. It stimulates the metabolism of your skin that allows healing easier and also prevents the overgrowth of bacteria [22]. In addition to feeding, SR-induced skincare ingredients may also be used to treat acne problems [23].

Dark circles

The SR that tends to minimise dark circle and spots on your scar, often called a SF by some nutritionists, is present [24]. SR can be consumed in various ways—you can add a powder to the water or drink it to a smoothie [25]. They are available in tablet shape as well. Using SR powder in household face masks, or induced SR products commonly available on the market, such as sheet masks [25-27].

Free radicals are seen everywhere and cause the skin to worsen. To keep the free radicals away from your blood, SR will remove toxins from your skin. The metabolism of the skin will also change, which will enhance the cell recovery and healing of the skin [28]. SR has a lot to share as far as skincare and protein, calcium, mineral products and fatty acids are concerned. In the following ways it improves your skin:

Regeneration of the skin

SR also contains proteins that help our cells renew. Phycocyanin, a pigment giving a blue green hue to SR, has anti-inflammatory effects to regenerate cells and to prevent all sorts of skin inflammation [14]. For all skin types, but particularly for dry and problematic skin, especially acne, SR is therefore recommended [20]. SR's detoxificant effects spontaneously contribute to radiation of the skin and quickly remove stored toxins over time. The high chlorophyll of SR also contributes to the retention of skin moisture.

Suppleness, softness and elasticity of skin

SR provides everything needed to delay the skin ageing and stimulate collagen formation, as amino acids, trace elements and vitamins [16]. The elasticity and flexibility of our skin are normally found in our bodies. Over time the synthesis decreases and the skin shrinks and the fine lines and wrinkles emerge. Used in the form of a mask, SR helps the skin retain collagen levels or promotes elasticity and softness. It is incorporating an active ingredient in topical procedures [18].

Clogged Pores

It is famously drying to pore-clearing clays and tough humidifiers prefer to clog — yet algae do it all, so you can't find one ingredient to detox and moisten. Chlorella, green microalgae, "rich in B vitamins, magnesium and zinc that tend to detoxify the skin, is chosen for deep detox [20].

Skin Toner

The high vitamin A, vitamin B-12, vitamin E, calcium, iron and phosphorous content of SR are all vital for your skin's health. Free radicals make the skin weary and cunning. Taking SR supplements regularly helps the skin to look toned, young and vital. It treats even fable skin by removing and improving the whole body's metabolic waste materials [21].

Detoxifies Skin

SR tends to enhance the quick turnaround of skin. It extracts free radicals and toxins from the skin to enhance the metabolism of the skin. Candida overgrowth, which can cause acne breakouts, is also avoided [30-32]. The advantages of SR for skin recovery are now more generally known and accepted. SR is not only suitable for consumption. SR has some advantages for the skin:

SR is a natural toner, which helps to make the skin brighter and better. High phosphorous, vitamin A, vitamin B-12, vitamin E, calcium, and iron. These components fight the influence of free radicals and help to reduce them. SR cleanses cells of the skin by removing toxic free radicals from the skin, resulting in better skin appearance.

Just like SR works to strengthen the kidneys, it also serves for the skin as a strong detoxifier. The incorporation of SR into the skin in a topical medication helps speed up the recovery of skin. Faster rates of cell turnover increase the frequency at which the skin is able to cure itself and allow dry and dead cells to dull the colour of the skin. The increased rate of skin cell turnover leads to an enhanced skin metabolism that contributes to healthy glow and maintenance [26].

It is known to be an important anti-aging factor because of the high levels of selenium, vitamin E and tyrosine present in SR. SR contains strong antioxidants that reduce the ageing of skin cells and exclude toxic

free radicals from the skin. The high chlorophyll content in SR also helps to maintain skin moisture. The skin becomes hydrated, stable, and lighter when sticking to the moisture of the skin. The properties of chlorophyll washing detoxify and boost skin quality as well [27].

It has also demonstrated that SR helps remove dark circles by improving the immune response of the body. The resilience and elasticity of a skin are improved by this strengthening. The chlorophyll contained in SR helps the body's immune system by detoxifying the skin, according to some dermatologists, and decreases the presence of obscure circles and shadows under the skin. SR has also found to assist in the fight against acne by eliminating toxic toxins and bacteria on the surface of the skin which have proven to cause breakdown. The launch of a SR-containing natural skin product could minimise the appearance of skin breakouts by enhancing overall skin health [28-32].

Conclusion

The BG alga SR is normal and has existed for three billion years, but recently the colour and health of the skin has been greatly improved. This wide range of skin advantages makes SR an excellent component for skin products. The advantages of SR in the goods that have shown pollution elimination, skin tone and brightness improvement and a reduction in the number of outages.

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