



Herbal facial cream from dragon fruit

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Abstract

Hylocereus polyrhizus and *Hylocereus undatus* are two varieties of the commonly called dragon fruits, belongs to the *Cactaceae* family. Dragon fruit contains several types of antioxidants (Betalains, Hydroxycinnamates, Flavonoids) which protect cells from unstable molecules called free radicals, which are linked to chronic disease risk and aging. Dragon fruit is also rich in phyto albumins and vitamin C which are highly valued for their antioxidant properties so make your skin tighter, more flexible and bless you with a beautiful healthy glow. Regular use of this prepared dragon fruit Cream on the face can help in slowing down the process of ageing. It is also used in treating acne and sunburn.

Keywords: dragon fruits, herbal cream, anti-ageing, acne, sunburn

Introduction

A dragon or dragon fruit is the fruit of several cactus species indigenous to the Americas. *Hylocereus polyrhizus* and *Hylocereus undatus* are two varieties of the commonly called dragon fruits, belongs to the *Cactaceae* family and dragon fruits have gained popularity in many countries all over the world.

The dragon fruit has spines that grows up to 1 kilogram in weight. Dragon fruit skin may be yellowish to dark red in color with edible flesh that maybe white or red depending on the variety. It has a lot of black small seeds that is also edible. Dragon fruit is rich in naturally-occurring flavonoids, which are primarily found in dragon fruit peel. Dragon fruit is also rich in phyto albumins which are highly valued for their antioxidant properties. It helps us to fight free radicals in our body. It also helps to slow down the aging process after the free radicals are reduced. Due to this, the skin looks young, flexible and tight. Dragon fruit contains high amounts of vitamin C, vitamin B1, B2, and B3. It is also rich in many important minerals as iron, calcium, phosphorus. Apart from this, it contains a good proportion of protein, fiber and niacin and last but not the least, 80 percent water. Hence you can easily call it a 'super fruit' that helps in enhancing nutrition and corrects body ailments. Not only that, dragon fruit can be a vital ingredient in your daily beauty regime even. Dragon fruit seeds contain unsaturated fat and fights bad cholesterol.

Dragon fruit face cream to fight the aging process

To prevent premature aging, you may apply a dragon fruit facial cream once in a week. Owing to its antioxidant properties this facial cream effectively slows down aging progression of cells.

Dragon fruit face cream to treat acne

As dragon fruit is rich in vitamin C, it is really useful for treating acne. Apply this regularly, if possible twice a day for best result.

Dragon fruit face cream to soothe sunburned skin

As dragon fruit is rich in vitamin B3, it soothes and moisturizes dry sunburned skin. The dragon fruit juice also works as a wonderful sun shield. Before going out, fruit cream apply it on face. Allow the skin to absorb and wash your face with cold water. This will protect you from the harmful effects of UV rays.

Dragon fruit face cream for bright glowing skin

Apply cream on face, neck, and on the rest of your body. Let it absorb in your body. Take a shower. Do it twice a week.

Procedure for extraction of vitamin C from dragon fruit peel

Carefully remove Dragon fruit peel and allow drying at 70°C for 2 hr. the dried peel is then powdered and remove the large particles. Accurately weigh 5gm of powdered peel is transferred in beaker which containing 70% hydro alcoholic mixture and set in water bath for 1 hr. Filter the extract and wash the residue with the same solvent. Allow to cool, concentrate and store in proper container.

Procedure for extraction of vitamin C dragon fruit pulp

Separate the pulp from peel and weighed pulp is transferred in 100 ml of hot water and homogenize for 15 min. separate the seed from pulp by filtration through muslin cloth. The filtrate is stored in proper container.

Formulation Procedure

Table 1: Formulation for Cream

Ingredients	Quantity
Stearic acid	2 gm
Isopropyl Alcohol	0.4ml
Triethanolamine	0.26 ml
Mineral Oil	0.7 ml
Cetyl Alcohol	0.2 gm
Propyl paraben	0.004 gm
Pulp/Peel Extract	5 ml
Glycerin	q.s.
Water	q.s.

Melt Stearic acid in china dish on water bath at 70°C. In a beaker dissolve Triethanolamine and propyl Paraben and liquid paraffin in water, add glycerin to it. Mix the above solution with extract. Heat this aqueous extract solution up to 70°C on water bath. When both aqueous and oily phase reaches the same temperature (70°C), add aqueous phase to the melted stearic acid with continuous stirring. Remove the dish from heat and continue the stirring. When the temperature reaches 40°C, add perfume and mix uniformly until it becomes cool and a homogenous Cream is obtained.

Evaluation Parameters

Appearance and Homogeneity

Developed cream was tested for physical appearance and homogeneity by visual observation.

Viscosity

The measurement of viscosity of prepared cream was measured using Brookfield Viscometer. The reading was taken at 100rpm using spindle no.6

Spreadability

The Spreadability of the cream formulation was determined by measuring the spreading diameter of 1g of cream between two horizontal plates (20cm*20cm) after one minute. The standard weight applied on the upper plate was 125g.

Skin Irritation Studies

Cream was applied on the human volunteers and treated skin was examined visually for erythema and edema.

Content of Vitamin C

It is determined by plotting calibration curve of Pure Ascorbic Acid aqueous solution treating with KMnO_4 that reduces the color of permanganate. The color intensity is being measure at 530nm in UV/VIS Spectrophotometer.

Dye test

The scarlet red dye is mixed with the Cream. Place a drop of the Cream on a microscopic slide covers it with a cover slip and examines it under a microscope. If the disperse occurs in w/o type Cream i.e. the disperse globules appear color less in the red ground. Globules appear red the ground colorless. The Cream is o/w type i.e. reverse condition.

After feel

Emolliency, slipperiness and amount of residue left after the application of fixed amount of Cream was checked.

Type of smear

After application of Cream, the type of film or smear formed on the skin were checked.

Removal

The ease of removal of the Cream applied was examined by washing the applied part with tap water.

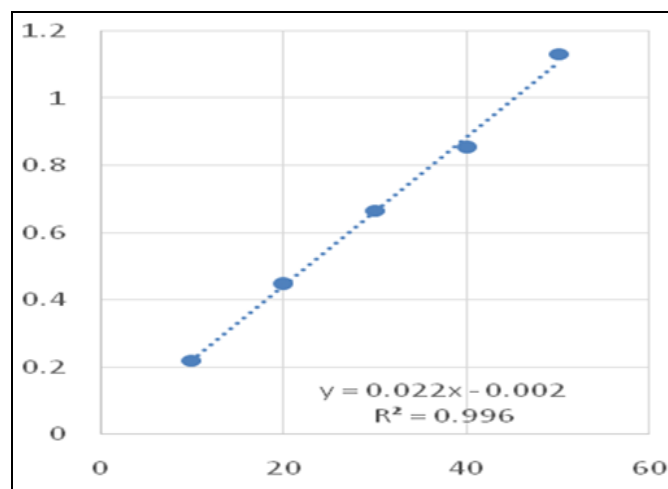


Fig 1: Calibration Curve of Vit. C

Calculation

$$Y=0.0222x+(-0.0025) \quad \dots(1)$$

Where Y= absorbance of solution of cream containing vitamin C =1.39

X=concentration of the solution of cream containing vitamin C

$$1.92=0.0222x+(-0.0025)$$

$$X=86.59\mu\text{g/ml (pulp extract cream)}$$

$$2.60=0.0222x+(-0.0025)$$

$$X=117.22\mu\text{g/ml (peel extract cream)}$$

Result

Table 2: Result Table

Parameter	Pulp Extract Cream	Peel Extract Cream
Appearance and Homogeneity	Smooth appearance Completely Homogeneous	Smoothly appearance Completely Homogeneous
Viscosity	Highly Viscous	Highly Viscous
Spreadability	Easily spreadable	Easily spreadable
Skin irritation test	No irritation	No irritation
pH	7.2	7.1
Content of Vit. C	86.59 $\mu\text{g/ml}$	117.22 $\mu\text{g/ml}$
Dye Test	O/W type	O/W type
After Feel	Slipperiness	Slipperiness
Type of Smear	Smooth smear	Smooth smear
Removal	Easily removed	Easily removed

Conclusions

This Cream fights signs of aging, treats acne, soothes sunburn, promotes skin health and provide essential moisture to dry skin.

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