



Formulation and Evaluation of Herbal Night Face Cream and Hair Serum by using a home remedies.

Corresponding Author : Kadam Kshitija Rama ¹

Co- Author : Bangar Sampat ¹

Shree Saraswati Institute Of Pharmacy , Tondavali , Kankavali 416602

Abstract

In many parts of the world there is a tradition of using herbal medicine for the treatment of many infectious diseases. The herbal plant involving the solubility improvement, protection against toxicity, best improvement mixture. The herbal formulation made up of active ingredient as the leaves, bark, roots, fruits, flowers, they helps promote health and other chronic condition. Medicinal plants have curative properties due to the presence of various complexes.

The preparation of the medicinal plant for experimental purpose is an initial step and a key to achieve the quality results. Natural has given great deal of less impressive of drug was isolated natural resources. Member of these isolated were based of traditional plant continue to play an essential role in health care. Medical plant have been used for a good time improve human health, medicine competing and alternative, providing food cosmetics are more effective.

This study evaluated a herbal night cream and hair serum formulation using home remedies. The 1st Formulation herbal face cream containing extract Aloe Vera ,Turmeric , Rose water , Brown rice ,for it's topical Anti-aging , Anti-bacterial , Anti-inflammatory, Anti-oxidant activity against oily skin , Dark circles ,Acne, Wound, Hailings. Then 2nd formulation herbal hair serum containing extract for Aloevera , Brown rice, Fenugreek seed ,Clove, Flaxseed seed for it's scalp Anti-bacterial, Anti-oxidant ,Anti-fungal activity against frezzy hair ,hair fall ,nutritional deficiencies ,improve blood circulation, damage hair, silky hair improved.

Key Words – Herbal cosmetics formulation , Herbal Hair serum and Face cream.

Introduction

The medicine of the plant is the oldest from of a human healthcare. Plants have been used by all cultures because of the story. Was a integral part of the development of modern civilization. Human is getting old and appreciate the great diversity of the plant available .The plant has provided food, cotton, wood, medicine , flowers has well defined plant Pharm cops. The vegetable material often some standard , the wording would be the desired quality control test and assessment specifications and the power of certain order material (e.g. ,British Pharmacopeia's , Indian Pharmacopeia's ,United state Pharmacopeia's ,Chinese pharmacopeia's) The investigation of herbal and medicinal plant to prove scientific insights behind the traditional adoption less toxicity , better therapeutic effect, good patients complince and cost effectiveness are the reason for choosing drug from natural origin.

A beauty products including herbal ingridients with desired physiological activity like Smoothing , Good appearance , Freshsyness , Wound , Healing ,Scrach ,Rashes ,conditioning quality is called herbal cosmetics .

This active ingredient used on the human body for the purpose Cleaning , Enhancing attractiveness and altering appearance without impairing the structure of functions of the body are known as herbal cosmetics. Cosmetics required lists because of the financial prices availabale of new ingredients to develop product and maintenance of quality. Efforts are products that apply the body that includes the different types of plant based products. The demand of herbal cosmetics due to the availability of new ingredients the financial rewards for developing successful products and maintaind of quality standards. Cosmetics are the product applying of the body that

includes various types of herbal products. Skin care is most essential part of any beauty process. A woman's always used of herbal cosmetics for their beautiful skin. The skin is largest organ of the body, with a total area of about 20 square metres . The facial cream is used as cosmetics to become cleanliness. The night cream functions is to cover the skin with different environmental conditions precipitation and give skinless effect of skin. The nightmares is special type of designer to use in before for bed time for optimal results. The matter of night is any essential part of any care routine because they propose many advantages that can help keep the appearance of the skin and feel healthy by using the nightmare can help protect skin from the environment and strong chemical of creating a barrier it seems to be hydration. Skin is most important or sensitive part of the body as well as hair is important part of body. Hair is protein filament driving form skin plug. Demoluted hair is most special features loss of hair, dry hair, seprated hair, red hair ,and other problems are common. To probably use in the shampoo, hair conditioner, hair mask,hair serum and other products available in market to help in the problems. Herbal hair serum are applied to the hair to dress it nurture it, and give it a more health aspect they also encourage hair development that is both luxurious and long hair serum , tonic made from medicines. These are essentially therapeutic plantextracts in abase of oil , serum hydrates the scalp while also revers the effects of dry scalp and hair. They are promoting natural hair growth . Hair serum is one of the styling products that coats the surface of the hair known as hair serum . It is not just meant for hair styling they are also for treatment hair concerns like dry hair, dull hair. Hair serum is one of the cosmetics product with very high concentration of active ingredient in their formula for providing intensive nutrients to the deeper skin layer and non- greasy finish products which suitable for skin. It is basically a hair care liquid form it's consistency thicker than water used on wet hair. There are different type of hair serum for different hair problems. Depending on the product formula ,a hair serum might reduce frizzy and improve shine or straighten the hair. They hair impact added shine , smoothness hydration , humidity ,and pollution protection.

• **Herbal Night Face Cream** :-

Ingredients Name :-

1. Home made Aloe vera gel.
2. Home made Turmeric powder.
3. Brown rice flour.
4. Home made Rose water.
5. Xanthan gum .
6. Geogard preservative.

Methods :-Extraction and mixing method used in this formulation preparation.

Information of all excipients :-

1] Aloe vera :-

- **Synonyms** :- Ghritkumari , Musabbar , Aloe vera barbadensis , Aloe indica royl , Aloe perfoliate L. var , Vera and Aloe vulgaris lam , Gwar patha.
- **Kingdom** :- Plantae.
- **Order** :- Asparagales .
- **Family** :- Liliaceae .
- **Genus** :- Aloe.
- **Species** :- Aloe vera.
- **Biological source** :- Aloe is obtained from the dried juice of leaves of Aloe species.

Aloe barbadensis (Curacao aloe)

Aloe forex , *Aloe spicata* (Cape aloe)

Aloe perryi (Socotrine aloe)

Aloe vera (Indian aloe)

Zanzibar aloe - Origin not clearly known , it is regarded as a variety of Socotrine aloe, also known as monkey skin aloe.

- **Geographical source :-** Aloe vera is indigenous to eastern and southern Africa and grown in cape colony, Zanzibar and islands of Socotra. It is also cultivated in Caribbean islands, Europe and many parts of India , including North West Himalayan region. There are about 160 species of Aloe. Aloe vera also known as Aloe vulgaris, Aloe barbadensis or Aloe officinalis found in North Africa. Curacao in West indies.

- **Description :-**

Verities	Form	Colour	Features
Curacao	Opaque masses	Yellow brown to chocolate brown.	Waxy like
Cape	Transparent and glossy	Dark brown to greenish brown.	Smooth and glassy
Socotrine	Opaque	Brownish yellow.	Conchoidal
Zanzibar	Opaque	Liver brown colour.	Smooth and even features

Table no . 1

- **Chemical test :-**

Tests	Procedure	Purpose	Observation	Results	Significance
Borax test	Take 10 ml of aloe solution + 0.5 gm borax and heat.	To detect the presence of aloemodinanthranol.	A green coloured fluorescence indicates.	Tests are positive ,presence of aloe-emodin anthranol.	Aloe – emodin is an anthraquinone glycoside with potential laxative and anti-inflammantory property.
Modified Bortrager,s test (anthraquinone glycosides)	5ml extract + 50ml of 5% fecl3 and 5ml dilute HCl , heat over a boiling water bath .cool the mix and + benzene ,shakewll and separate	To identify the presence of anthra-quinone glycosides.	A pinkish red colour in the ammonia layer indicates.	Test are positive, anthra-quinone glycosides is present.	Anthraquinone glycosides are a key class of compound in aloe vera contributing to it's various therapeutics effects including laxative and anti-inflammatory properties.

	the organic layer.				
Nitrous acid test	little amount of sodium nitrite and few drops of dilute acetic acid to 5 ml of aloe solution .	To detect the presence of certain compound , potentially including anthraquinones.	A pink or purplish colour indicate .	Test are positive , anthraquinones is present.	This test can help identify the purpose of compound that react with nitrous acid , which can include certain type of anthraquinones.
Mayer,s reagent test	Add few drops of con.c HCL to the aloe vera + few drops of mayer,s reagent (potassium mercuric iodide solution) to the mix.	This test is used to detect the presence of alkaloids .	White or cream coloured precipitate	Test are positive ,indicate the presence of alkaloids.	-
Stiasny,s reagent test	Add 15 ml of stiasny,s reagent to 5 ml of aloe vera extract place the mix in water bath at 80 °C for 30 min.	This test is used to detect the presence of tannis.	Precipitate in large flakes .	Test are positive ,indicates the presence of cat°Ceechic tannis.	The presence of tannis that it has bioactive constituent imp.to human health.

Table no. 2

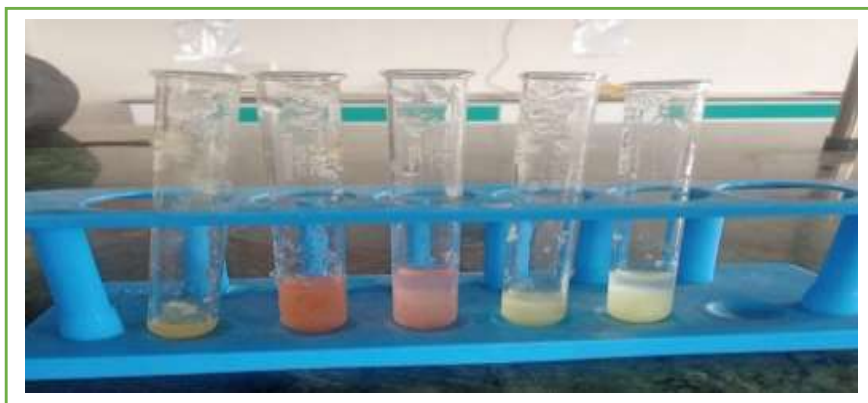


Fig no .1

- Chemical constituents :-** Aloe vera contains over 75 chemical constituents , including polysaccharides (like acemannan), vitamins (A, C, E, B12) ,enzyme ,minerals , sugars ,anthraquinones (aloe ,emodin) fatty acids, and amino acid contributing to its various medicinal properties. Principle of active constituents of aloe s aloin (up to 30%) . Aloin is a mixture of 3 isomer – Barbaloin , B-barbaloin , and Iso- barbaloin .
 Aloesin – Resin present which give purgative action.
 Aloctin – Increase removal of dead cells from skin .

- Substituents and Adulterants :-**

Natal Aloes - It is resembles cape aloe in microscopic characters .

Mocha Aloes – Brittle , black and glassy aloes with strong odour .

Black catechu – Alcoholic extract of aloe under UV light gives deep brown colour, While black catechu gives black colour.

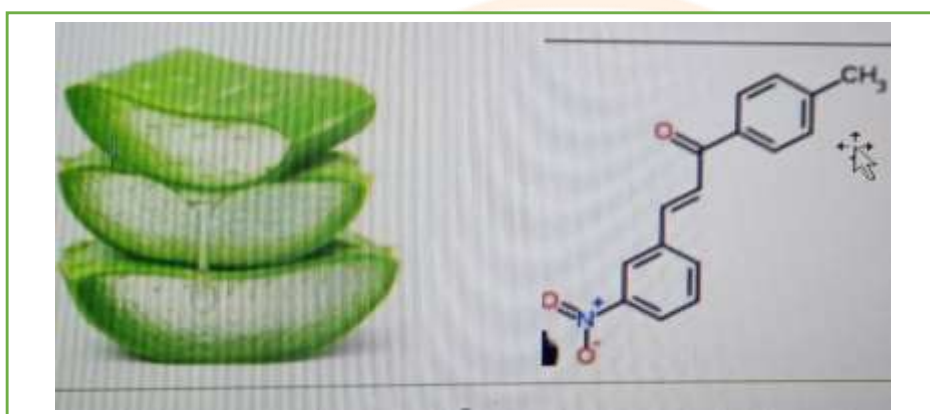


Fig no. 2

- Uses :-**

1. Wound healing – Aloe vera has a long history of use for treating burns , cuts ,and other skin injuries due to its ability to promote skin regeneration and reduce inflammation.

- 2. Anti-inflammatory** - The plant anti – inflammatory properties are believed to help soothe skin irritation and reduce swelling.
 - 3. Anti-microbial** – Aloe vera exhibits antibacterial and antiviral properties , which can help prevent infection in wound and other areas.
 - 4. Digestive health** – Traditional uses include treating constipation, Irritable bowel syndrome, Indigestion, Heartburn ,Reflux .
 - 5. Other potential uses** – Research suggests potential benefits in treating conditions like diabetes , stomach ulcers.
 - 6. Hydration** – Aloe vera is high water content helps moisturize the skin.
 - 7. Anti-aging** – Aloe vera can help improve the firmness and elasticity of the skin .
 - 8 . Even skin tone** – Aloe vera can help inhibit the production of melanin which causes hyperpigmentation and dark spots.
 - 9. Protection** – Aloe vera can leave behind a protective film that protects the skin from wind, salt and pollution.
 - 10. Promotes Hair Growth** – Aloe vera contains enzymes that stimulate the scalp and nourish hair follicles , potentially encouraging healthy hair growth .
 - 11 . Soothes Scalp Irritation** – It is anti-inflammatory properties can help calm an itchy , inflamed scalp , which can be a common problem with dandruff or other scalp condition .
 - 12. Reduce Dandruff** – Aloe vera anti-fungal ,and anti-viral properties can help combat dandruff and reduce flakiness .
 - 13. Provide moisture**- Aloe vera is a great moisturizer for hair ,helping combat dandruff or frizz , especially beneficial for curly hairs .
 - 14. Strengthens Hair** – They can help strengthen hair follicles and reduce breakage.
- **Extraction of Aloe vera :-**
 1. Cut off a leaf from the base of the aloe plant.
 2. Remove any thorns .
 3. Wash the leaf to remove dirt.
 4. Aloe leaf take in a vertical position in a bowl for 10 to 15 minutes to remove yellow color resin.
 5. peel off the thick skin of the leaf .
 6. Scoop out the gel with a spoon or small knife.
 7. Blend the gel until smooth and aqueous.
 8. Filter the gel in the funnel.
 - 9 . Gel store in a clean , airtight container in the refrigerator.



Fig no .3

2. Turmeric:-

- **Synonyms :-** Curcuma longa , Harida , Curcumin ,
- **Kingdom :-** Plantae
- **Subkingdom :-** Tracheobionts
- **Division :-** Mangoliophyta
- **Order :-** Zingiberales
- **Family :-** Zingiberaceae
- **Genus :-** Curcuma
- **Species :-** Longa
- **Biological source :-** The bright yellow spice and dye comes from the underground stems (rhizomes) of the turmeric plant .
- **Geographical source :-** Turmeric grows from rhizomes rather than seeds . Turmeric grows best in well drained, high organic , fertile soils. While turmeric loves the sun and heat, it will grow well in full sun to partial shade. Turmeric is native to tropical South and Southeast Asia. India is a leading producer and exporter of turmeric in the world. Andhra Pradesh , Tamil nadu , Orissa , Karnataka , West Bengal , Gujarat , Meghalaya , Maharashtra , Assam are some of the important states that cultivate turmeric, of which Andhra Pradesh alone occupies 35. 0% of area and 47.0% of production .
- **Description :-** Turmeric is a rhizomatous herbaceous perennial plant, meaning it has underground steam (rhizomes) that grow horizontally and produce new shoots and leaves . The plant has large, simple leaves with long petioles (leaf stems) and yellow orange flowers. The rhizomes are brownish yellow in color and have a central bulbous portion with finger- like lateral of plant . **leaves** -Broad , Oblong , and bright green of , Have prominent parallel veins , Have sheath near the base of leaf , are arranged alternative , The upper surface is dark green and the lower surface is pale green .

Flowers - Yellow- white , Grow on a spike- like stalk

Rhizome – Thick and ringed with the bases of old leaves, Highly branched, yellow to orange ,cylindrical ,and aromatic, can be present in

Different forms, form spherical, conocal ,hemispherical and cylindrical .

Turmeric plant reach about 1 meter (3.3 feet) in hight .

- **Substituents and adulterants :**

1.lead chromate - A bright yellow chemical compound ,was found as an adulterant of turmeric in Bangladesh ,

2. Metanil yellow also known as acid yellow ,used dye for food .

3. Chalk - An adulterant of turmeric powder .

- **Structure :-**



Fig no. 4

- **Chemical Constituents :-** 1. **Curcumin** - It is responsible for turmeric's yellow colour and many properties of health benefits.
- 2. **Essential oil** – Turmeric contains essential oils that contribute to its characteristic aroma and flavor. Turmeric reveals that the herb contains 6-13% moisture, 60-70% carbohydrates, 6-8% protein, 5-10% fat, 3-7% minerals (potassium, sodium, calcium, iron, phosphorus), and trace amount of vitamins.
- **Chemical test :-**

Tests	Purpose	Procedure	Observation	Inference
Water test	To check for the presence of artificial colour and other adulterants.	1 Tebalspoon OF Turmeric powder with water in glass.	Solution turns pale yellow colour, powder dissolve in water.	Test are negative, hence indicate the natural colour or soluble in water.
Metanil yellow test	To detect the presence of mentanil yellow a harmful artificial dye.	Add pinch of turmeric powder to a test tube + Add few drop of strong HCL Shake the test tube.	Solution turns pink.	Test are negative, hence indicate absence of harmful dye.
Lead chromate test	To detect the presence of lead chromate a toxic chemical sometime used as adulterant.	Mix a teaspoon of turmeric powder with water.	The turmeric powder will immediately leak straks of water soluble in colour in the solution.	Test are negative, hence indicate absence of lead chromate.
Cloth test	To detect the presence of natural colour.	Rub turmeric powder on a white colour colth.	If it strains the cloth with a bright not easily washable yellow.	The test is positive, might indicates natural colourants.

Table no . 3



Fig no .5

• **Uses :-**

1. Turmeric was used in Ayurveda and other traditional Indian medical system , as well as Eastern Asian medical systems such as traditional Chinese medicine. India, it was traditionally used for disorders of the skin, upper respiratory tract , joints , and digestive system.
2. Curcumin is a natural anti-inflammatory compound .
3. Turmeric can increase the antioxidant capacity of the body.
4. Curcumin can boost brain – derived neurotrophic factor.
5. Turmeric can help promote clear, smooth , and radiant –looking skin .
6. Turmeric is used in Degenerative eye condition
7. Turmeric helpful in metabolic syndrome .
8. used in Hyperlipidemia (high cholesterol).
9. They are helpful in Muscle soreness after exercise.
10. Turmeric is used in homemade face packs to treat acne and other skin problems .
11. Turmeric is also used to treat wound and injuries.
12. **Other uses** – Relieving gas,
Dispersing worms ,
Improving digestion ,
Regulation menstruation,
Dissolving gallstones.

• **Extraction process :-**

1. Use a paring knife to remove the skin of the turmeric .
2. Cut the turmeric thinly.
3. Lay the slices in a single layer on a rack.
4. Put the rack in the oven for about 2-3 hours, or until the turmeric is dry and brittle
5. Store the dried turmeric in an airtight container in the refrigerator .
6. Triturate the turmeric in mortar pastel .
7. Collect the roasted powder in clean and airtight container.



Fig no .6

3] Brown Rice :-

- **Synonyms :-** Ofada rice .
- **Kingdom :-** Plantae .
- **Phylum :-** Tracheophyta .
- **Class :-** Liliopsida .
- **Order :-** Poales .
- **Family :-** Poaceae .
- **Genus :-** Oryza
- **Species :-** Oryza sativa .
- **Biological source :-** Brown rice is a whole grain rice that retains the bran layer and germ , giving it a nutty flavor and chewy texture. It contains The pericarp , seed , coat , nucellus , germ , endosperm it is also called as whole-grain rice .
- **Description :-** Brown rice made up of the pericarp , seed , coat , nucellus , embryo , and endosperm .

Pericarp- The outer layer of brown rice.

Seed coat – The outer layer of brown rice .

Nucellus – Outer layer of brown rice.

Embryo – The germ of the rice grain .

Aleurone layer – Encloses the embryo and is part of the endosperm.

Starchy endosperm- The inner endosperm of the rice grain .

Appearance – The plant has erect stalks lanceolate leaves ,and flowers grouped in panicles .The plant has erect stalks that can grow to be 30 -45 in (80 -120) tall.

The leaves are lanceolate and can grow to be 15-30 cm long .

The flowers are grouped in panicles .

- **Geographical source :-** Brown rice is grown in many countries, including Asia , Europe ,and Oceania . The major producers of brown rice are India , Thailand , Bangladesh , and Pakistan.

- **Chemical constituents :- 1. Phytochemicals-**

a] **Anthocyanins** – A natural pigment that gives brown rice its red colour .

b] **Carotenoids** – A bioactive phytochemical found in brown rice.

c] **Proanthocyanidins** – A bioactive phytochemical found in brown rice .

d] **Tocopherols** - A bioactive phytochemical found in brown rice .

e] **Sitosterol** – A bioactive phytochemical found in brown rice .

f] **GABA (gamma –aminobutyric acid)-** A bioactive phytochemical found in brown rice .

B] Phenolic compound.

- **Adulterants :-**

1. Plastic – Rice can be made from potatoes and covered with plastic.

2. Stones – Small pebbles and stones can be added to rice to increase its weight .

3. Clay - Clay can be added to rice to make it appear plump and polished .

4. Other material - Rice can be adulterated with detergent , chalk powder and other material.

- **Chemical test** :- Phenolic compound in brown rice can be tested using ferric chloride test .

Test	Procedure	Observation	Inference
Ferric chloride test	Dissolve the organic compound in water + natural solution of ferric chloride dropwise.	Observe the change in colour.	Test is positive , presence of phenol .

Table no .4

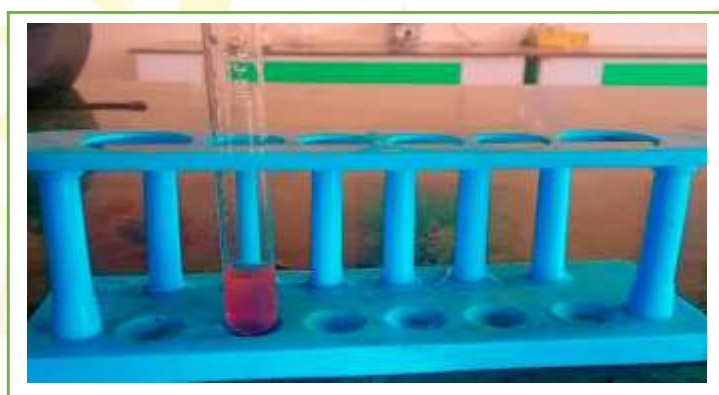


Fig no .7

- **Structure :**

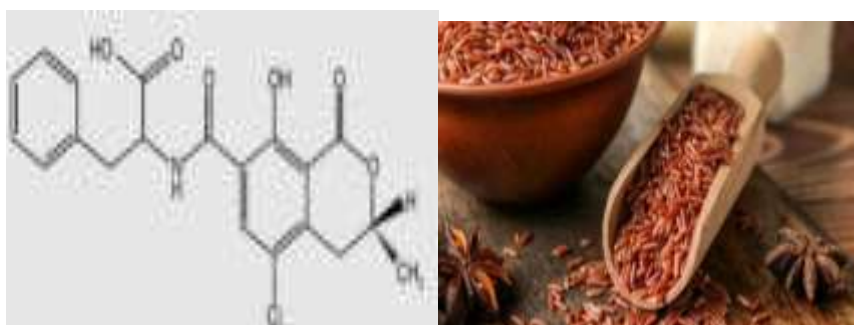


Fig no. 8

- **Uses :-**

1 . Higher in fiber – The bran layer in brown rice contains insoluble fiber , which aids in digestion and promotes bowel regularity.

2. **Rich in Nutrients** – Contains more fiber , magnesium (B1 ,B3, B6 and B9).
3. **Blood sugar control** – Brown rice has a lower glycemic index than white rice , meaning it releases energy more slowly, which can help regulate blood sugar levels and reduce the risk of type 2 diabetes .
4. **Heart health** - Brown rice can help lower cholesterol levels and reduce the risk of heart disease .
5. **Versatile and easy to incorporate** - Brown rice is a versatile grain that can be used in various dishes , making it easy to include in your daily meals .
6. **Gluten free** - It is a gluten free grain , making it suitable for people with gluten sensitivities .
7. **Skin and Hair health** - Brown rice contains antioxidant that can help protect against damage from free radicals, contribute to healthy skin and hair .
8. **Neurodegenerative disease prevention** – Some studies suggest that brown rice may help prevent neurodegenerative diseases. Like Alzheimer's, Brown rice is good for your skin and can treat problems like psoriasis. It can boost your nervous system and immune system quite nicely. It is filled with magnesium and can improve the health of our bones, skin, teeth. The ferulic acid present in brown rice has anti-ageing elements. Brown rice is useful in hair growth because whole grains probably aren't the first thing you think of when you hear silicon . yet this important compound is found in whole grains and is responsible for the growth and shine of your luscious locks. This mineral can keep your hair from thinning and works to help improve circulation.
9. **Nutrients** – Brown rice contains vitamins , minerals , and antioxidant that can help with hair growth .
10. **Silicon** - Brown rice contains silicon , which can help with hair growth and shine .
11. **Antioxidant** – Brown rice contains phenolic acids , tocotrienols , and gamma oryzanol , which can protect hair follicles from damage .
12. **Hydration** – Brown rice can help prevent dryness and brittleness .
13. **Scalp health** – Brown rice water anti-inflammatory properties can soothe the scalp .
14. **Hair strength** – Brown rice water can strengthen hair from within , making it less likely to break .
15. **Detangling** – Softer hair is easier to detangle .

• **Extraction process :- 1. (Face cream formulation extraction)**

To make brown rice flour at home, you can dehydrate the rice , then grind it into a powder .

Dehydration –

1. Place the uncooked brown rice in an oven at a low temperature.
2. Dehydrate for 30 minutes or until the rice is completely dry.

Grinding -

1. Add the dry rice to transfer to the mortar pestal and triturated and form fine powder .
2. Sift the flour through a fine mesh strainer or cheesecloth .

Storage - Store the flour in an airtight container at room temperature for up to 2 months, or in the fridge for longer .



Fig no. 9

2. (Hair serum formulation extraction)

brown rice water can be used as a hair serum by soaking , boiling ,or fermenting uncooked brown rice in water .

1. Take a 5 gm of brown rice wash out the 1-2 time .
2. washed rice soaked in 5ml of water to the overnight .
3. Strain the rice water into a clean bowl .
4. And used making of the formulation .



Fig no. 10

4] Rose water :-

- **Synonyms** - Bakeria , Cottetia .
- **Kingdom** - Plantae .
- **Phylum** - Angiosperms .
- **Class** - Asterids .
- **Order** - Gentianales .
- **Family** - apocynaceae .
- **Genus** - Catharanthus .
- **Species** - *C .roseus* .

- **Biological sources** :- Rose plant grow from stems and buds. You can grow new rose plants by replanting parts of a rose bush,s stem other

Ways to grow new rose plant Budding, Bud grafting , and Layering .

- **Geographical source** :- Most rose species are native to Asia, with smaller no. being native to North America and a few to Europe and northwest Africa.

Bracteatae – 3 Species 2 from China and one from India.

Caninae - Pink and White flowered species from Asia, Europe and North Africa.

Caroline - White, Pink, and Bright Pink flowered species all North America.

Chinensis - White, Pink, Yellow, Red, and mixed colour roses from China and Burma.

Gallicanae – Pink To Crimson and Striped flowered roses from western Asia and Europe.

Gymnocarpae – 1 species in western North America others in east Asia.

Laevigatae - a single White flowered species from China.

Pimpinellifoliae - White, Pink, bright yellow, mauve and striped roses from Asia and Europe.

- **Chemical constituent** :- Main chemical constituents isolated from a dozen of medicinal plants of the Rose are Flavonoids, Triterpenes, Tannins, Phenolic acids, Polysaccharides, Fatty acids, Organic acid, Carotenoids and Vitamins. Pharmacological effect such as Anti-neoplastic, Anti-cancer, Anti-inflammatory, Anti-oxidant, Liver protection, Regulate blood sugar, Anti-microbial activity, Anti-viral activity, Nervous system protection.
- **Description** :- Their stems are usually prickly and their glossy, green leaves have toothed edges. The leaves are borne alternately on the stem. In most species they are 5 to 15 cm long. The sharp growths along a rose stem, though commonly called thorns. Rose flowers vary in size and shape. They burst with colours ranging from pastel pink, Peach and cream to vibrant yellow, orange and red.



Fig.no 10

- **structure :-**

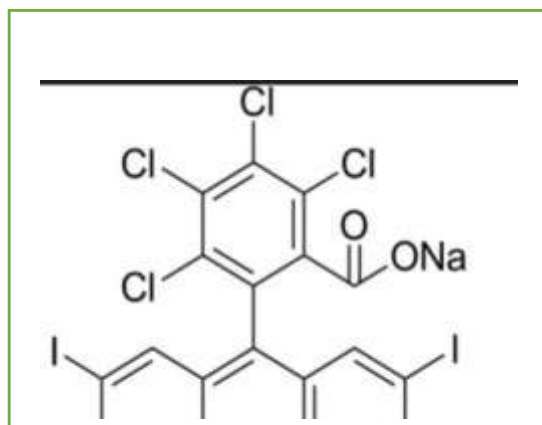


Fig no .11

- **Adulterants :-** Rose plants and rose products can be adulterated with a variety of substances , including synthetic compound , vegetable oil and other essential oils .

1. Rose oil - Geraniol , Palmarosa oil , Guaiac wood oil , Vegetable oil , Glycols , Essential oil , Exhausted drug (no active Medicinal compound). Artificial dyes .

- **Chemical test :-**

Tests	Procedure	Observation	Inference
Oil test	Add few drops to water if it separates it might contain added oil .	Should be create a clear solution .	Test is negative ,hence rose water is natural .
Paper test	Sprinkle on blotting paper .	Oily or colour stain indicate additive	Test is negative, hence not add in additive.
Patch test	Apply a small amount to skin wait .	24 – 48 hours to check for irritation .	Test is Positive , No irritation of skin .

Table no . 5



Fig no .12

- **Uses :-**

- 1. Perfume :-** Rose perfumes are made from rose oil , rose petals . and used in cosmetics products .
- 2. Food and drink :-** You can add rose water to teas such as Hibiscus tea or flavor other food such as Ice cream or Yogurt . A sweet preserve of rose petals called Gulkand .
- 3. Soothe skin irritation :-** Rose water contain phytonutrients that may give it anti –inflammatory properties .
- 4. Reduce skin discoloration :-** Rose water antimicrobial properties may potentially help reduce the risk of certain infection.
- 5. Skin health :-** Rose water as an ingredient in beauty product , such as sprays and mists. They also help the Wrinkles , Sun Damage . Tightens the pores of the skin and smoothens its texture .
- 6. Relive cuts , scars and burns :-** Rose water shows Antiseptic and Antibacterial properties , rose water may help Wound heal Faster and reduce the risk of infection in cuts and burns .
- 7. Reduce infections :-** The same anti –inflammatory properties can also reduce discoloration and puffiness .
- 8. Soothing in aromatherapy:-** Rose water and Rose essential oil are commonly used in aromatherapy and may have anti-Inflammatory properties can also reduce discoloration and puffiness .

- **Extraction procedure :-**
 - 1.** Fresh rose petals are placed in a vessel , and steam in 20 min .
 - 2.** Steam causes the water in the petals to vaporize .
 - 3.** The vaporized mixture is then condensed , filter the mix and seprate the water .
 - 4.** Store in clean ,and air tight container .



Fig no .13

5] Xanthan gum :-

Xanthan gum is polysaccharide produce from simple sugars by a specific type of bacteria enzyme as the main organism . It natural , Non toxic ,and Non irritating . It is commonly added along with other thickening agent , stabilizers , for better Texture , Fluidity , and Surface quality . This ingredient enhance the emulsion structural stability over a range of temperature and pH conditions .

Benefits :-

- 1. Thickening and Stabilising** - Xanthan gum is one of the most common thickeners in skincare and is used to help stabilize emulsions. It helps in benefiting the desirable consistency of products to avoid lumps or phases .
- 2 . Improved product performance** - Xanthan gum can help in improving the effectiveness of other ingredient associate with skincare .
- 3 . Safe to use** - Xanthan gum is natural and non-toxic ,so there are no reported side effects from using it in skincare product .
- 4.** Xanthan gum is an important ingredient in skincare , it ,s used as a Binder , Emulsion ,stabilisers , Surfactant Skin conditioner and Viscosity increaser .
- 5.** It creates a shield-like layer on the skin,s surface to help it retain moisture and stop Transepidermal water loss (TEWL) , which can result in dryness and dehydration .

• Properties of Xanthan gum :-

- 1. Solubility** :- Xanthan gum is readily soluble in both cold and hot water , forming a highly viscous solution .
- 2. Stability** :- It is stable across a wide range of pH levels and temperature , and it is generally inert to other chemicals.
- 3. Thickening and Stabilizing** :- Xanthan gum ,s ability to form a viscous solution makes it an excellent thickening agent, preventing separation and maintaining a uniform texture in various product .

4. **Emulsifying :-** It can bind moisture and prevent products from separating , acting as an effective emulsifier .
5. **Pseudoplasticity :-** Xanthan gum exhibits pseudoplastic decreases under shear stress (like stirring or shaking) and then returns to its original Viscosity when the stress is removed .
6. **Non –toxic :-** Xanthan gum is considered safe for human consumption and is widely used as a food additive .
7. **Insoluble in Organic Solvents :-** Xanthan gum is practically insoluble in organic solvents.

• **Image :-**



Fig no. 14

6] Geogard (Preservative) :-

Uses – Geogard preservative is validly used in cosmetics and pharmaceutical preparation .

- | | | |
|------------------|----------------------|-----------------------|
| 1. Anhydrous | 8. Eye cream and gel | 15. Hand soap , |
| 2. Baby care , | 9. Eye shadow , | 16. Lipstick / gloss |
| 3. Baby wipes , | 10 . Face lotion , | 17. Make up remover , |
| 4. Body butter , | 11. Face wipes , | 18. Mascara , |
| 5. Conditioner , | 12 . Facial cream , | 19 . Powder , |
| 6. Cream , | 13. Foundation , | 20. Shampoo , |
| 7 .Deo , | 14. Hair gel | 21. Sun care , |
| 22. Toner | | |



Fig no . 15

- **Characteristics of Herbal Cream :-**

1. Not irritant to the skin .
2. It Should be spread easily on the skin .
3. It should be have Good Appearance .
4. They should be remove oil, sebum , dirt , dead cells from skin .
5. They should be also provide softening , lubricating and protecting the skin apart from cleaning .
6. They should be non-greasy and non-staining .

- **Master Formula :- (Herbal Face Cream)**

Ingredient	Quantity	Category
Aloevera extract	5 g	Humactant
Turmeric extract	1 g	Anti – bacterial
Brown rice flour	1.5 g	Anti- oxidant
Rose water	7 to 8 drop	Fragrance
Xanthan gum	0.7 g	Thickinning agent
Geogard	2 to 3 drop	Preservative

Table no .6

- **Procedure :**

1. Take clean bowl , add 5gm of home made Aloevera gel and add 0.7 g of xanthan pharmaceutical ingredient .
2. Add 1 gm of home made Turmeric powder.
3. Add 1.5gm of home made Brown Rice flour .
4. Mix 7 to 8 drops of home made Rose Water.
5. Mix 2 to 3 drops of Geogard preservative , and mix continuously and form semi-solid formulation .
6. Cheak the pH using pH paper .
7. Transfer the cream the clean and air tight container .
8. Stick the proper label to the container .



Fig no . 16



Fig no . 17

• Uses of Herbal Cream :-

1. Herbal night face cream consist of natural nutrient like Vitamins , And Minerals that keep skin healthy , glowing And Lustrous .
2. These Herbal creams are used to Stimulate blood circulation , Rejuvenates those muscles and helps to maintain the elasticity of the skin and remove dirt from skin pores .
3. They used in moisturize to skin, because that used in active ingredient of Aloe vera they helps dry irritated skin due to high water content and soothing properties .
4. These Herbal cream act as a Anti- inflammatory ,properties can be used on the face to reduce acne , lighten dark spots ,even skin tone , and promote a natural glow because that used in 2 nd active ingredient of Turmeric .
5. These Herbal cream act as Anti-bacterial properties because that used in Brown rice flour .they help in repair

damaged skin ,dull and drab skin ,it sleek and soft .

6. Herbal cream used as clean in skin , and freshness.

7. These cream are the semi solid dosage form which are used for Moisturizing , Nourishing , Whitening of skin. These cream preventing dryness and flakiness of skin.

8. Herbal face cream used in Ayurveda help to reduce Wrinkles , Pimples and Acne and Dark circles .

• Images :-



Fig no . 17

▪ Label :-

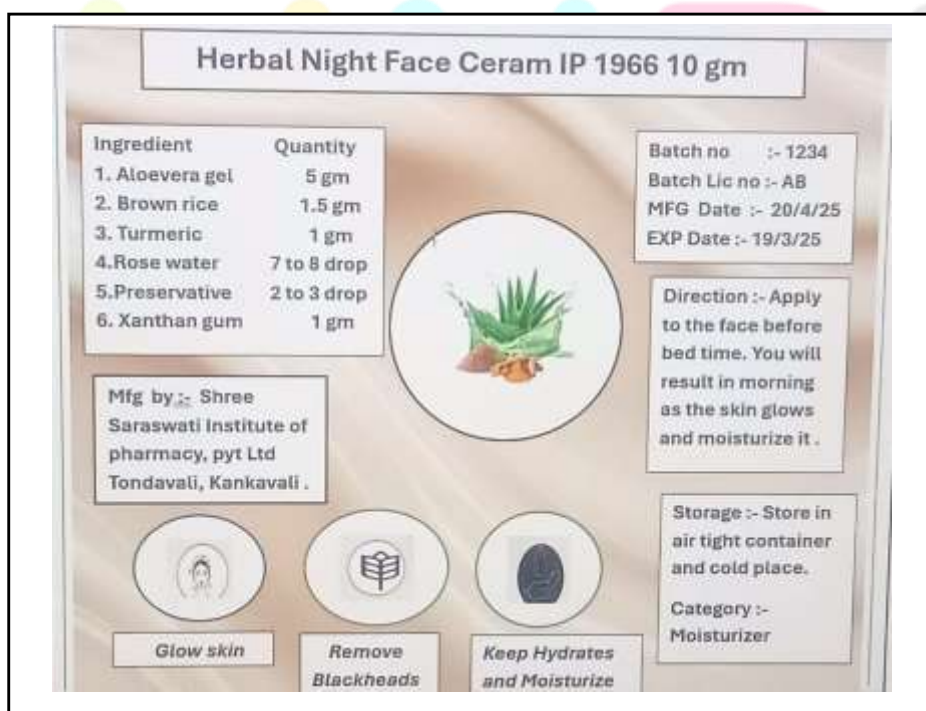


Fig no . 18

Evaluation test :-

1. PH Test :- The pH balance of the product is important it affect skin and surface on which there used .



Fig no . 19

The pH of the formulation was found to be 5

2. Patch test :-



Fig no. 20

3. Washability :- Cream was applied on the skin and there ease extends of washing with water then result found in easily washable cream .

4. Odor :- Pleasant smell.

5. Texture :- Smooth in texture formation .

6. Spreadability :- Easily spredebal.

7. After feel test :- Cream after application of skin the better feel in skin surface .

8. Irritancy test :- After apply ceram I skin surface was evaluated for the non irritancy of our skin and no redness , edema and inflammation .

9 . Stability test :- To assess the formulation stability , the stability studies were done . cream stored in room tempreture . for a month and observerd for physical stability like colour . no sepration occurs so it found to be stable .

10. Viscosity :-**Fig no. 21****Result for the optimized formulation**

	Parameters	Result
1 .	Colour	Yellow
2 .	Odor	Pleasant smell
3 .	State	Semi-solid
4 .	Consistency	Smooth consistency
5 .	pH	5
6 .	Spredability	Easily Spredability
7 .	Washability	Easily washable
8 .	Irritancy test	Non – irritant
9 .	Viscosity	666.0cp
10 .	Phase separation	No phase separation
11 .	Stability	No separation occurs

Table no .7▪ **Image :-****Fig . no 22**

Herbal Hair Serum :-

Hair Serum is a Liquid or Based product that helps with a variety of hair concerns ,such as Frizz , Shine , Damage.

1. **Shiny :-** Hair serum can make hair look shinier and glossier .
 2. **Smooth :-** Hair serum can smooth hair cuticles and reduce frizz and flyaways .
 3. **Protective layer :-** Hair serum can form a protective layer over hair to protect it from damage .
- **Method :-** Herbal hair serum formulation prepare using Extraction , and Mixing method .

• Ideal Characteristics of Hair serum :-

1. They should be Nourishing properties Moisturizes and soothes the scalp , Nourishes hair follicles the scalp, Nourishes hair follicles, Improves shine and softness, and Reduce protein loss.
2. Hair growth properties Enhances hair growth , Improves blood circulation to the scalp , and Promotes hair growth.
3. Protects hair from environmental damage like UV radiation , pollution ,and free radicals.
4. Shields hair from free radical harm .
5. Deters hair loss and scalp infection .
6. Acts as a protective barrier for the hair .

• Ingredient name :-

1. Fenugreek seed
2. Flaxseed
3. Clove
4. Roesmary oil
5. Aloe vera
6. Uncooked rice
7. Geogard preservatives

1] Fenugreek seed :-

- **Synonyms :-** Trigonella foenum-gracecum L .
- **Kingdom :-** Plantae
- **Division :-** Magnoliophyta
- **Class :-** Magnoliopsida
- **Order :-** Fabales
- **Familly :-** Fabaceae
- **Sub-family :-** Papilionaceae
- **Genus :-** Trigonella

- **Species** :- Foenum-graecum
- **Biological source** :- It is obtained from Dried seeds of Trigonella foenum .
- **Geographical source** :- Fenugreek is native to the Mediterranean region , Southern , Europe , and Western Asia . and is now cultivated in various parts of the world including India , Argentina , Egypt .
- **Description** :-
 - 1 . Fenugreek is an annual plant that can grow up to 60 cm tall.
 - 2 . It produces triangular yellow flowers and pods that contain seeds .
 - 3 . The leaves are made up of 3 small leaflets .
 - 4 . Fenugreek is a winter crop that is resistant to frost and low temperatures .
 - 5 . It is well suited to areas with moderate to low rainfall .
 - 6 . The endosperm of the seed is the most valuable part .

- **Structure** :-

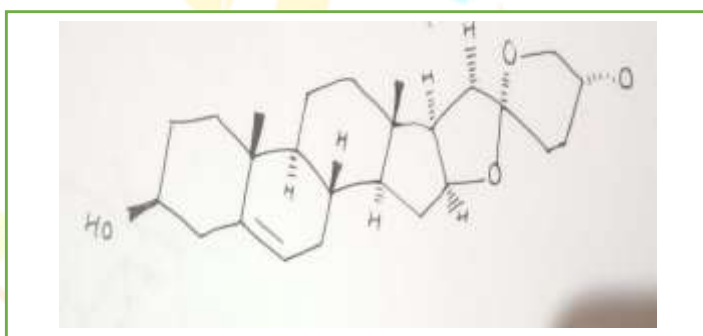


Fig no .23

- **Chemical constituents** :-
 1. **Protein** – Fenugreek seed contains 20-30% protein , which is high in lysine and tryptophan .
 2. **Fiber** - Fenugreek seed contains 45-60% carbohydrates , including 20-30% dietary fiber .
 3. **Lipids** - Fenugreek seed contains 5-10% fixed oils , which are mainly triacylglycerol and diacylglycerols . Fenugreek seeds also contain phytosterol , monoacylglycerol and free Fatty acid .
 4. **Alkaloids** - Fenugreek seed contains pyridine alkaloids , choline , trigonelline , gentianine , carpaine.
 5. **Flavonoids** – Fenugreek seed contains flavonoids including apigenin , orientin , luteolin , quercetin Vitexin and isovitexin .
 6. Fenugreek seeds contain vitamins A , B1 , B2 , C and nicotinic acid .
 7. Fenugreek seeds contain calcium and iron .
 8. Fenugreek seed contains saponins .
 9. They contain glycosides that yield steroidal sapogenins on hydrolysis .
 10. They contain cholesterol and sitosterol .
- **Adulterants** :- Fenugreek seeds can be adulterated with small stones or grit because they look like stones . Fenugreek seeds can also contain toxic metals like cadmium , lead , and cobalt .

• **Chemical Test :-**

Test	Purpose	Procedure	Observation	Inference
Shinda,s test	Shinda,s test is a qualitative method used to identify the presence of flavonoids in plant extract .	Small quantity of the seed dissolved in alcohol + magnesium +add con.c HCL drop wise and solution is heated .	Appearance of a magneta colour indicate , some studies mention a yellow or orange colour as indicate .	Test are positive , Presence of flavonoids .

Table no .8

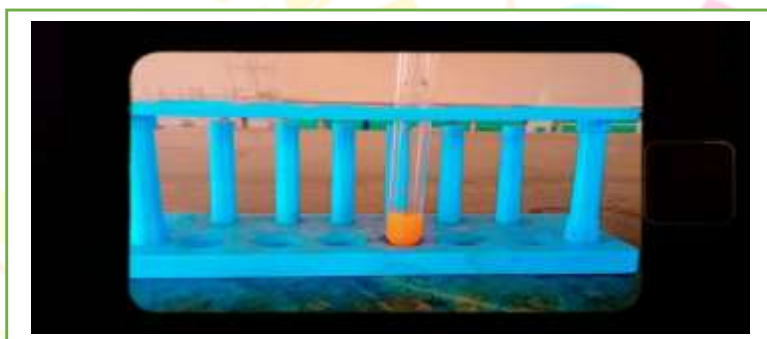


Fig no .24

• **Uses :-**

- 1. Hair growth** - To prevent hair loss and thinning , and reactivate follicle for hair regrowth .
- 2. Dandruff** - Fenugreek seeds can help remove excess oil buildup from the scalp , which can lead to Dandruff .
- 3. Scalp health** - Fenugreek seeds can help maintain a clean and healthy scalp , reducing issues like dryness and itchiness .
- 4. Hair conditioning** - Fenugreek seeds can help moisturize the hair and make it softer and shinier .
- 5. Blood sugar** - They help lower blood sugar levels in people with diabetes .
- 6. Menstrual cramps** – Mey help reduce menstrual pain .
- 7. Breastfeeding** - Fenugreek seed increase Milk production .
- 8. Digestive health** – They promote regular Bowel movements and help with weight management .
- 9. Skin health** - They help relieve inflammatory conditions and promote wound healing .
- 10. Muscle strength** – They help improve muscle strength , endurance , and lean body mass .
- 11. Anti-inflammatory** - They help reduce pain and swelling in arthritic conditions .

- **Extraction procedure :-** Fenugreek seed extract can be made by Boiling or Soaking the seeds in water .
 - a] **Boiling – 1.** Wash and air dry the seeds .
 2. Boil the seed in Distilled water in 20 minutes .
 3. Filterate the solution with fiter paper .
 4. Transfer the extract to the clean and air tight container in 2 to 4 dayes .
 - b] **Soaking – 1.** Wash the seeds 1 times .
 2. seeds soak overnight in 2 glass of water .
 3. After 24 hours filterate the solution using funnel .
 4. Transfer the extract to the clean and air tight container in 2 to 4 dayes .



Fig no. 25



- **Images :** Fig no .26

2] Flaxseed :-

- **Synonyms :-** Linseed , Oilseed ,Oil-rich seed .
- **Kingdom :-** Plantae
- **Division :-** Angiosperm
- **Order :-** Malpighiales
- **Family :-** Linaceae
- **Genus :-** *Linum*

- **Biological source :-** The flax plant is an annual plant that produces Small , Oval-shaped seeds called flaxseed .
- **Geographical source :-** Flax grows best in moderate to cool temperature . Flaxseed is native to the Mediterranean , West Asia , India . It is cultivated in many countries , with the largest producers being Kazakhstan , Russia , Canada China . South-west Asia , only oil types are grown .
- **Description :-** It grows in fertile , well-drained , medium to heavy –textured soils with a pH between 5.5 and 7.0 .
 1. Flax is an erect plant that can grow up to 1.2 meters tall .
 2. It has Slender , Grayish-green stem and narrow , alternate leaves .
 3. The flowers are pale blue, with 5 petals , they born in on stem growing from the branch tips .
 4. The fruit is round , dry capsule that contains the seeds .
 - 5 . Flax grows best in deep , moist soils rich in sand , silt , and clay .
 - 6 . Slender stalks 2.5 to 4 mm in diameter and with branches concentrated at the top.
- **Chemical constituents :-**
 1. **Fatty acids** – Flaxseed is a rich , good source of essential fatty acids , particularly alpha-linolenic acid (ALA) , a types of omega-3 fatty acid . It also contains linoleic acid (an omega-6 fatty acid) and other fatty acid like oleic , stearic and palmitic acids .
 2. **Lignans** - Flaxseed is a rice source of lignans ,a type of phytoestrogen with potential health benefits .
 - 3 . **Phenolic compound** – Flaxseed seed contain various phenolic compound ,including phenolic acids and flavonoids, which are known for their antioxidant properties .
 - 4 . **Cyanogenic glycosides** – Flaxseed also contains cyanogenic glycoside , which can release hydrogen cyanide upon Digestion .
 - 5 . **Other constituents** - It also contain carotenoide , cyclolinopeptides and linatine .
- **Adulterants :-** Flaxseed seed adulterated with small stone , Flaxseed oil can be adulterated with Rapeseed , Corn , Peanut , Sunflower seed , Soybean , or Sesame oil .
- **Chemical test :-**

Tests	Procedure	Observation	Inference
Flavonoid test	Add a few drops of ferric chloric solution to the test tube and add Flaxseed .	Solution turns Blackish , Red , colour.	Test are positive , Flavonoids are present .
Protein test	Take test tube ,and add few drops of 3% copper sulfate and a few drops of 10 %	Solution turns violet , or red colour .	Test are positive ,Protein are present .

	sodium hydroxide to the Flaxseed .		
Ninhydrin test	Take test tube add few drops of 0.2 % freshly prepared ninhydrine solution .	Solution turns purple colour .	Test are positive , protein are present .

Table no .9**Fig no . 27**

• **Extraction Procedure :-**

1. Washout the Flaxseed seed in 1 time .
2. Heat water in a pot over medium heat .
3. Add flax seeds .
- 4 . Stir to prevent the seeds from sticking to the pot .
5. Cook until the mixture thickens and forms a gel .
6. Strain the mixture while it's hot .

**Fig no. 28**

- **Uses :-**
 1. Flax seeds can be used for hair in a variety of ways , including in hair masks , in your diet , or as a gel . flax seeds are Rich in omega-3 fatty acids and vitamin E, Which can help with hair growth , shine , and texture .
 2. **Hydration** – Flax seeds help prevent dryness and add shine to hair .
 3. **Frizz** - Flax seed can help calm frizzy hair .
 4. **Dandruff** - They can help reduce dandruff .
 5. **Hair growth** - They can help stimulate blood circulation , which can help hair grow .

6. Breakage - They can help prevent hair breakage .

- **Structure :-**

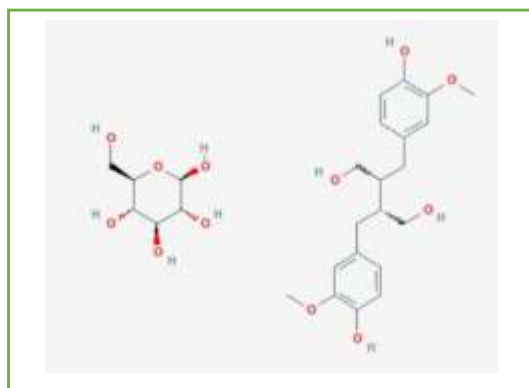


Fig no . 29

- **Images :-**



Fig no. 30

3] Cloves :-

- **Synonyms :-** Caryophyllum
- **Kingdom :-** Plantae
- **Order :-** Myrtales
- **Family :-** Myrtaceae
- **Genus :-** *Syzygium*
- **Species :-** *S. aromaticum*
- **Biological source :-** Clove is obtained from dried closed flower buds of *Eugenia Caryophyllus* (*Syzygium aromaticum*) .
- **Geographical source :- Native Region -** The molucca Island in Indonesia are the original home of the clove tree , *Syzygium aromaticum* .

Major Producers –

- 1. Indonesia** - Remained a major producer , with the Moluccas still being a significant growing region .
- 2. Zanzibar** - Significant producer , known as the Island of clove .
- 3. India** - Clove cultivation is also found in hilly tracts of Tamil Nadu , Kerala and Karnataka .
- 4. Madagascar** - Another major producer .
- 5. Sri Lanka** - Also a clove-producing region .
- 6. Other producer** – Clove are also cultivated in other areas , including Pakistan and parts of South America .

- **Description :-**

- 1.** Clove consist of a stalk and head .
 - 2.** The clove tree is an evergreen that grows up to 8 – 12 meters (26-39) tall ,With large leaves and crimson flowers group in terminal cluster .
 - 3.** The flower buds initially have a pale hue , gradually turn green , then transition to a bright red when ready for harvest .
 - 4.** Cloves are harvested at 1.5 -2 cm long ,and consist of a long calyx that terminates in 4 separating sepals , and 4 unopened petals that form a small central ball .
 - 5.** Cloves stalks are slender stems of the inflorescence axis that show opposite decussate braching . Externally , they are Brownish , Rough , and irregularly Wrinkled longitudinally with short fracture and dry , woody Texture .
- **Chemical constituents :-**
 - 1. Volatile oil** – 70-90 % Is eugenol (phenylpropane derivative) .
 - 2. Other constituent** – Gallotannic acid , Caryophyllenes , eugenol acetate , tannis , aldehyde , ketone . bicornin Eugenitin , myricetin , gallic acid , ellagic acid , kaempferol , stigmasterol , crategolic acid .
 - 3. Methyl amyl ketone** - Aroma of clove .
 - **Adulterants :-**
 - 1. Mother clove (Anthophilly)** - Dark brown contain Starch , Ovate ripened fruits of clove tree .
 - 2. Blown clove** – Expanded flowers of the clove tree .
 - 3. Clove Stalk** - During collection buds are collected along with stalk .
 - 4. Exhausted clove** - Clove from which oil has been removed by distillation .

• **Chemical tests :-**

Tests	Purpose	Procedure	Observation	Inference
Ferric chlorid test	Detect the presence of Tannis .	Take a test tube and add few amount of Cloves extract + Ferric chloride .	Solution turns Blue – Green colour .	Test are positive , Presence of Tannis .
Gelatin test	Detect the presence of Tannis .	Take a test tube and add few amount of clove extract + Gelatin solution .	Solution turns curdy white precipitate .	Test are positive, Presence of Tannis .
Brad,y test	Detect the presence of Carbonyl group (aldehyde and ketone) .	Take a test tube and add few amount of clove extract + Brad,y reagent .	Indicating the Black precipitate .	Test are positive , Presence of Carbonyl group .
Mayer,s test	Test used to identify the Alkaloids .	Take a test tube and add few amount of clove extract + Mayer,s reagent .	Appearance White precipitate .	Test are positive , Presence of Alkaloids .
Tollen,s test	Detect the alpha and aromatic aldehyde .	Take a test tube and add few amount of clove extract +Tollen, s reagent .	Appearance of Red precipitate .	Test are positive , Presence of Aldehyde .
Sodium nitroprusside test	Detect the Ketones group.	Take a test tube and add few amount of clove extract + Sodium nitroprusside solution .	Solution turns Red colour .	Test are positive , Presence of Ketone group .

Table no. 10



Fig no. 31

- **Uses :-**

- 1. Improve blood circulation** - Eugenol ,a compound in cloves , stimulates blood flow to the scalp ,which helps deliver nutrients to hair follicles .
- 2. Strengthen hair follicles** - Cloves contain antioxidant and nutrients that can strengthen hair follicles .
- 3. Reduce hair loss** - Cloves can help prevent hair loss and premature graying .
- 4. Condition hair** - Eugenol in cloves can make hair smoother and easier to comb .
- 5. Cooking** - Cloves can be added to soups , stews , and bread to enhance flavor .
Cloves can be help to used to make clove tea .
- Cloves have anti-bacterial , anti-inflammatory , and anti-oxidant properties .
- Cloves can help to relive toothaches , treat inflamed gum , skin eruption , or muscle and joint pain .
- Cloves can be used to treat infection , reduce pain , and improve digestion .
- Cloves can be used to treat problems like irritability in the stomach , flatulence , nausea , and dyspepsia .
10. They can stimulate digestion and boost immunity power .

- **Structure :-**

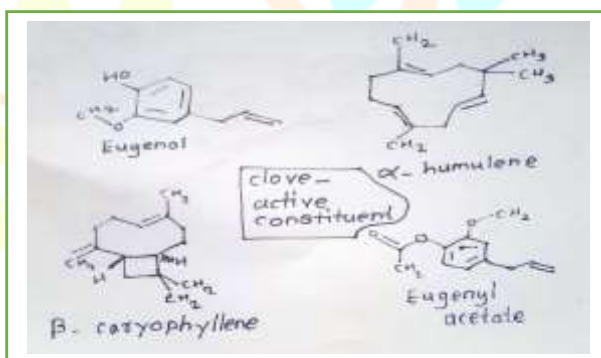


Fig no . 32



Fig no .33

- **Extraction procedure :-**

1. To make home made clove extracts ,you can crush 1gm clove in mortar pastel .
2. Crushed clove powder dissolve in 1ml water .

3. Transfer the clove extract in clean and air tight container , and used making hair serum .

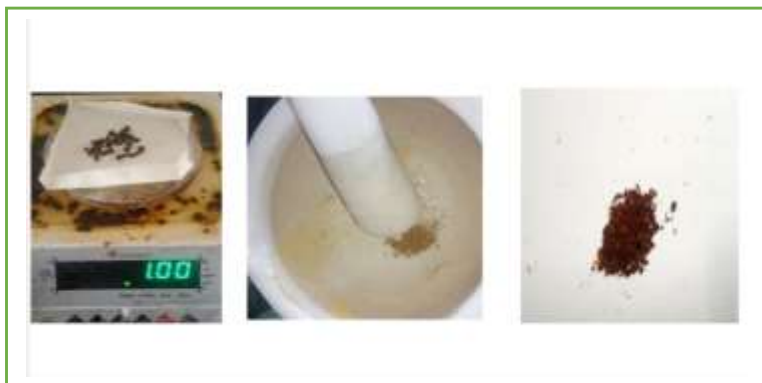


Fig no. 34

4] Roesmary oil :-

- **Synonyms** :- Salvia rosmarinus essential oil .
- **Kingdom** :- Plantae
- **Division** :- Magnoliophyta
- **Class** :- Magnoliopsida
- **Order** :- Lamiales
- **Family** :- Lamiaceae
- **Genus** :- Rosmarinus
- **Species** :- *Rosmarinus officinalis* .
- **Biological source** :- Oil of Rosemary is distilled from the flowering tops of leafy twigs of *Rosmarinus officinalis* .
- **Geographical source** :-
 - 1 . **Mediterranean region** - Rosemary is native to the dry , rocky areas of the Mediterranean , especially along the coast
 2. **Specific location** - It thrives in the hills along the Mediterranean Sea coast , in Portugal , and Northwestern Spain .
 - 3 . **Climate** - Rosemary prefers warm , dry climate and is well – suited to regions with a Mediterranean climate .
- **Description** :-
 - 1 . **Growth habit** – Rosemary is a perennial shrub that can grow up to 6 feet tall , with woody stems and branches .
 2. **Leaves** - The leaves are evergreen , needle-like , and dark green on the upper surface , with a paler , slightly hairy underside .

3. Flowers - The small 2 lipped flowers are typically blue , purple ,or pink , bloom in clusters along the branches .

4. Aroma - Rosemary is known for its strong , aromatic scent , which is due to the presence of essential oils in the leaves and flowers .

• **Chemical constituents :- Major components -**

1. 1,8- Cineole (Eucalyptol) :- A major component , often found in high concentration .

2. α -Pinene - Another significant constituents .

3. Camphor – A common component , though its presence and concentration can vary .

4. Borneol

Other constituents -

1. Camphene

2. Limonene

3. Verbenone

4 . Linalool

Phenolic acids –

1. Rosmarin

2 . Ursolic acid

3 . Caffeic acid

4 . Carnoic acid

5. Carnosol

Terpenes -

1 . Diterpenes

2. Diterpenoids

3. Triterpene

- **Adulterants :- Eucalyptus oil** is a common adulterant of rosemary oil because the scents are similar . Eucalyptus oil is known for its therapeutic Properties and contribute to the characteristic aroma of rosemary oil .

- **Uses :-**
- 1. Hair growth** – Rosemary oil may stimulate hair growth by increasing blood flow to the scalp .
 - 2. Dandruff** – Rosemary oil acts as antifungal they helps reduce dandruff.
 - 3. Scalp itch** – they help with an itchy scalp by balancing the scalp oil.
 - 4. Acne** - Rosemary oil antibacterial and antiseptic properties they help with acne and blemishes .
 - 5. Signs of aging** – Rosemary oil antioxidant properties may help treat signs of aging .
 - 6. Sun damage** – Help protect the skin from sun damage .

Aromatherapy –

1. Stress - They help relieve stress and anxiety .

2. Concentration – They increase concentration and memory .

3 . Mood – Rosemary oil may help lift the mood and reduce tension .

Other uses -

1. May repel certain bugs.
2. Reduce joint inflammation .
3. Promote nerve growth .
4. They used in Soaps and Perfumes .

- **Structure and Images :-**



Fig no .35

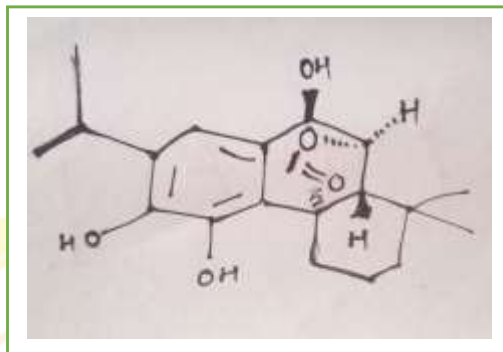


Fig no . 36

- **Master formula :- (Herbal Hair Serum)**

Ingredient	Quantity of ingredient	Category
Homemade Aloe vera gel	32 ml	Humactant
Homemade Brown rice extract	5 ml	Anti-oxidant
Homemade Fenugreek seed extract	5 ml	Emulsifying agent , Anti-oxidant
Homemade Flaxseed gel	5 ml	Humactant
Homemade clove extract	1 ml	Anti-inflammatory
Geogard preservative	2 – 3 drops	Preservative
Rosemary oil	1 ml	Fragrances

Table no . 11

• **Procedure :-**

1. Take a clean Bowl , and add 32 ml of Homemade freshly prepared Aloe vera gel .
2. Add next active ingredient , 5 ml of Homemade freshly prepared Brown rice extract .
3. Subsequently, add 5ml of Homemade freshly prepared Fenugreek seed extract .
4. Then add 5 ml of Homemade freshly prepared Flaxseed gel .
5. Mix the 1 ml of Homemade freshly prepared Clove extract .
6. Mix the solution continuously and add 1ml of marketed Rosemary oil , and add 2 to 3 drops of Geogard Preservative .
7. Ingredient mix with each other properly and form Thick liquid , Semi-liquid solution .
8. Transfer the solution clean, air tight container .
9. Stick the proper label to the container .



Fig no. 37



Fig no . 38

▪ **Label :-**



Fig no . 39

- **Uses of Herbal Hair serum :-** Hair serum is Liquid or Gel-based product .
 1. **Frizz control** – Hair serum can help control frizzy by sealing the hair cuticle and preventing moisture from causing hair to puff up.
 2. **Shine** - Hair serum can enhance the natural shine of hair by reflecting light .
 3. **Damage repair** – Hair serum can help repair damaged hair by nourishing it from within .
 4. **Heat protection** - Hair serum can help protect hair from damage caused by heat styling tools .
 5. **Taming Flyaways** – Hair serum can help tame flyways by coating hair strands and working against static charge .
 6. **Hydration** - Nourishes and moisturizes hair .
 7. **Environmental protection** – Can help protect hair from pollution , dirt , and dust .
 8. **Hair texture** – They can help improve hair,s texture and appearance .
 9. **Hair growth** – This serum are formulated with active herbal ingredient that promote hair growth and reduce hair fall .
 10. **Preventing Split ends** - This serum can help to mask split ends and prevent further damage .

• **Images :-**



Fig no. 40



Fig no. 41

• **Evaluation test :-**

- pH test –** The pH test will be determined by using Digital pH meter. Dipper of digital pH will be deep into the sample of serum formulation and the pH value will be recorded .

The pH of formulation was found to be 5.



Fig no . 42

- Homogeneity –** A clean and dry object glass was smeared with the hair serum, and a cover glass was sealed. The appearance under the light of some coarse particle/homogeneity was investigated .

- Physical appearance –**

A] Texture :- liquids or fluid texture in appearance .

B] colour :- Pale brown colored .

C] Smell :- Good smell of hair serum.

- Viscosity -** Viscosity of the formulation is determined by Brookfield viscometer at 100rpm , using spindle type model S64 100 ml of the serum. The serum will placed in a big mouth container with the spindle dipped in it for about 5 min. before the measurement .



Fig no . 43

5. Pacth test :-



Fig no . 44

6. Spreadability test :- 1 gm hair serum was pressed between 2 horizontal plates plates
Of dimension 20×20 cm, the upper of which weight 125 g . spreadability was
Calculate using the following formula :

$$S=M \times L / T$$

Where , S- Spreadability ,

M- Weight in the pan ,

L – Length moved by the glass slide ,

T- Time .

7 . Stability test :- The herbal hair serum was kept for 3 month at room
temperatures . compared with original pH viscosity.

Result for optimized formulation

Parameter	Result
1. Colour	Pale brown colour
2. Texture	Liquid or fluid texture
3. Odor	Good
4. State	Liquid
5. Homogeneity	Good
6. pH	5
7. Spredability	Easily seprdeble
8. Washability	Easily washable
9. Patch test	No Irritation
10. Viscosity	328.8cp
11. Phase sepration	No phase separation
12. Stability	No sepration occur

Table no .12**Conclusions :-**

Herbal plant important role play in Pharmaceutical and Cosmeceutical formulation. Herbal cosmetics are the modern trend in the field of beauty and fashion. Most women prefer natural product over chemical for their personal care to improper their beauty as these product supply the body with nutrients , and less side effect compared to the synthetic cosmetics . The formulation of all these cosmetics products includes addition of various natural additives like Waxes , Oil, Natural color , Natural fragrances and parts of plants like leaves , root ,bark , etc. The demand of herbal cosmetics is rapidly expanding .The advantages of herbal cosmetics are lowcost , side effect free , environmental friendly ,safe to use etc. This Herbal Night Face Cream prepared by using plant extract which are commonly used traditionally and lauded for the skin moisturizing action . The herbal face cream way prepared by Extraction method , mixing and trychurate method and further evaluated for various evaluation parameter. The Herbal night face cream shows the good physical appearance with color , smooth consistency; pleasant odor or semi-solid state . This hair serum maintains sebaceous gland and promotes natural hair growth . our research shows that herbal hair serum contains a number of vital ingredients that hair growth .

References :-

1. Jain PK, Jain P, Kumar Jain P, Das D, Jain P. pharmacognostic and Pharmacological Aspect of Bacopa Monnieri : a Review Article Int J Pharm Sci . 2016; 4 (3):7-11. Available from: <https://www.reserchgate.net/publication/303883137>.
2. More B, Khandebharad V, Kene M, Vyawhare P, Tasgoankar R. Systematic Review on Herbs with Anti-dandruff Property. 2023 .
3. Pundkar AS, Murkute PM , Wani S, Tathe M. a Review: Herbal Therapy Used in Hair Loss. Pharm Reson. 2020;3(1):1.
4. Thiab S, Mhaidat NM, Taha MA, Thiab S, Koraysh S, Abutayeh R, et al. A systematic and review of randomized controlled trials assessing phytochemicals and natural ingredients for skin and hair care. J Appl Pharm Sci. 2021; 11(7):020-45.
5. Review paper a review : different types of plants and its extract use in hair loss and hair growth therapy . :1-12 .

6. Taylor V.E., Brady R.L, Robbers E.J., Pharmacognosy'' , 8th Edition, Lea Febiger, USA, 1981; 57-77.
7. Wallis T.E. Test Book of Pharmacognosy , 5th edition, CBS Publisher and Distributer, New Delhi, 2003; 214-215 , 368-369 .
8. Pandey Shivanand, Meshya Nilam, D. viral. Herbs play an important role in field of cosmetics, International journal of pharm Tech Research .
9. Rao Diwan PV (2001) Herbal formulation useful as therapeutic and cosmetic applications for the treatment of general skin disorders. US6200570 B1, March 13.
10. Marini JL (2007) Cosmetic herbal composition. EP125845 A1, August 29.
11. Shah C.S., Quadry J.S. Text book of Pharmacognosy B. S. Shah Prakashan, Ahmedabad 5th edition 1985-86, 2007-289.
12. Kokate C.K ., Purohit A.P., Goyal S.B. Pharmacognosy Nirali Prakashan , Pune , 29th edition, 2004; 167-250.
13. Trease E.G., Evans C.W., Pharmacognosy , ELBS Publisher, USA. 12th, 1985, 383-413 , 488-509.
14. Kadam VS, Chintale AG, Deshmukh KP, Nalwad DN., Cosmeceuticals an emerging concept: A comprehensive Review , International journal of research in pharmacy and chemistry , vol. 3, pp.308-316,2013.
15. Jakhethia V, Patel R, Khatri P, Pahuja N, Sunil Garg , Pandey S. Journal of Advanced scientific Research. 2012; 1 (2):19-23. Available from: http://www.sciensage.info/journal/1359303580JASR_3006121.pdf.
16. Warade DD, Bhosale PM. a Review on Herbal Cosmetics Used in Skin and Hair Care. Int Res J Mod Eng Technol Sci. 2023; (04):5662-71.
17. Penkar G, Salkar M, Chavan P, Ambade M, Parab S, Sawant M, et al. Formulation and Evaluation of Herbal Hair Serum in Treatment of Various Hair –Related Problems. Res J Pharmacogen Phytochem . 2023;15(02):105-10.
18. R. A, N. A, J. N, K.H, Shaikh AR, Y. S, et al. Formulation and evaluation of herbal hair serum –a review. Int J Basic Clin Pharmacol. 2023;-12(5):759-Saini L, Kumar A, Naaz A, Ali A, Saxena P, Singh V. Herbal Hair Serum : Design , Development and Evaluation .2023;3(1).
19. Jain K, Pandey A, Jain PK. The wonder of Ayurvedic medicine-Nyctanthes arbortristis . Int J Herb Med. 2016 ;9(4):9-17 .
20. Penkar G, Salkar M, Chavan P, Ambade M, Parab S, Padte T, et al. An Overview on Indian Herbs in Hair Care Therapy . Res j Pharmacogn Phytochem. 2023;15(02):161-6.
21. Mishra AP, Saklani S, Milella L, Tiwari P. Formulation and evaluation of herbal antioxidant face cream of *Nardostachys jatamansi* collected from Indian Himalayan region. Asian Pac J Trop Biomed 2014; 4: 679-82.
22. Boullata, J.I., Nace , A.M. (2000). Safety issue with herbal medicine . Pharmacotherapy, 20(3): 257-269.
23. <http://sunitapanchawat.articlesbase.com/alternative-e-medicine-articles/standardization-and-evaluation-of-herbal-drug-formulation-1317004.html#ixzz1ZmySaGbV>.
24. Mali AS, Karekar P, Yadav AV. Formulation and evaluation of multipurpose herbal cream. Int J Sci Res. 2015; 4(11):1495-1497.
25. Dhyani A, Chander V, Singh N. Formulation and evaluation of multi-purpose herbal cream .J drug deliv ther. 2019;9(2):341-343.
26. Sah AK, Vijaysimha M, Mahamood M. The , queen of green medicines :Biochemistry and pathophysiology-a review. Int J Pharm Sci Rev Res. 2018; 50(20):106-114.
27. Kapoor S , Saraf s. Formulation and evaluation of moisturizer containing herbal extracts for the management of dry skin. Pharmacog J. 2010; 2(11):409-417.

28. Ashara K, Soniwala MM, Paun J, Chavan PS. Formulation and evaluation of cold cream . *Inventi Rapid Pharm Tech* . 2013: 1-2 .
29. Mohiuddin. Skin Care Cream : Formulation and uses *Dermatology Clinical and Research* , 2019;5(1):54-59.
30. Bhavana Patil, Neha Yadav et all. Formulation and evaluation of Multipurpose Herbal Cream . *Journal of Emerging Technological and Innovative Research* , 2022; 9(3): 2349-5162.
31. Gayatri Vishnu Tadge. Formulation and Development of Herbal Moisturizing Cream . *International Journal of Novel Research and Development* , 2023; 8 (1):537-541.
32. Chandrashekhar B Badwaik , Updesh B Lade, Tikesh Agarwal, Formulation and Evaluation of Herbal Face cream. *International Journal of Pharmaceutical Research and Application* ,2022;7(1): 955-960.
33. Mohiuddin . Skin Care Cream: Formulation and uses. *Dermatology Clinical and Research* , 2019;5(1);238-271.

