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Colours Of Nature: Extracting Natural Pigments From Plants

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Abstract :-

Every year we like to paint our home, furniture, etc. for decoration, protection, identification, sanitation. But we forget the impact of paint on our environment. This can cause some serious hazardous effect on our body like headaches, trigger allergies, asthmatic, etc. and not only paint but also its byproduct or by which paint creates are also more dangerous to us and our environment. To out come from this problem this study aimed to find the alternative choice which is apart from artificial colour in creating artwork by comparing the colours of plants of flowers i.e., *Bougainvillea buttiana* and *Caesalpinia pulcherrima* L. Natural colours are made by removing the pigments from the natural sources through selective physical or chemical methods. Resulting materials contains primarily pigments from the natural colour source and excludes any flavours or nutritive elements. Honey as binder in paints, had beneficial impact on healthy *(Bell SG, 2007)*. These plants used as Agricultural fencing and xerophytic plants. Honey will be got from farm by using Brood chamber. It also beneficials business for economic purpose.

Keywords: *Bougainvillea buttiana* and *Caesalpinia pulcherrima* L. flower, Mortar Pestle, Muslin cloth, Beaker, Honey, etc.

Background of problem

The World Health Organization (WHO) has reported a 20-40% increased risk of certain types of cancer (in particular lung cancer) for those who come into regular contact with, or work with paint as possibilities of neurological damage. Paint generally includes pigment (the colour), carried by a resin and/or binder, a solvent to help the paint application, and a dryer. In vinyl and acrylic paints, they will also include plastics compounds. Some will include formaldehyde, arsenic, thinners, and foamers. Paint typically consists of pigment, resin, solvent and additives. The most important environmental impact from paints is the release of volatile organic compounds (VOCs) during the drying process after the coating is applied *(Tina Porwal, 2015)*. VOCs involves in the ozone formation, the most toxic component of the form of pollution commonly known as smog *(Scélo, Metayer et al., 2009)*. Ozone attacks lung tissue, and is very injurious, even in very low concentrations. Lead in house paint is a problem only if it is damaged or disturbed. Lead can also be a hazard when it is on surfaces subject to friction or impact such as windows and doors, or on railings where children can chew it *(Linda et al., 2002)*. The main environmental impacts associated with paint come from the manufacturer of the components, rather than manufacturing of the product itself.

To overcome from problem, here we utilisation of colour pigments from plants for painting. In *Bougainvillea buttiana* (*J. Yang et.al., 2016)* and *Caesalpinia pulcherrima (Pawar CR et.al., 2008)* beneficial characters are present which maintained the health good in condition.

Taxonomical Classification

1.Bougainivillea spectabilis

Fig. *Bougainivillea spectabilis*

Kingdom: Plantae

Subkingdom: Tracheobionta

Superdivision: Spermatophyta

Division: Magnoliophyta

Class: Magnoliopsida

Subclass: Caryophyllidae

Order: Caryophyllales

Family: Nyctaginaceae

Genus: *Bougainivillea*

Species: *buttiana* L.

2. Caesalpinia pulcherrima

Fig. *Caesalpinia pulcherrima*

Kingdom: Plantae

Division: Tracheophytes

Infrodivision: Angiospermae

Class: Rosids

Order: Fabales

Family: Fabaceae

Genes: *Caesalpinia*

Species: *pulcherrima*

Methods and methodology:

Collect plant material from surrounding area.

↓

Bring it in lab and wash with distilled water for removal of dust particle.

↓

Crush in mortal and pestle and made crude extract.

↓

Filter the extract by muslin cloth.

↓

Add honey as binder in extract.

↓

Now color is ready for use.

Fig.1.Crush in mortal and pestle and made crude extract

Fig.2 Filter extract by muslin cloth

Fig.3 Crude collected

Fig.4 Honey

Fig. 5 Mixing of Honey Into crude

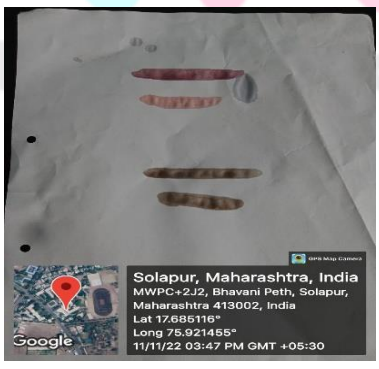

Fig.6 Paint on paper

Conclusion

Due to side effects of synthetic chemical paints use colours extract from plants flower and other parts of plant body. In plants various characters are present i.e., Anti-inflammatory, Antimicrobial, Antioxidants, Antiviral, Cardiotonic, Cytotoxic, Antibacterial, Anticancerus, cardiovascular, Antiparasitic and insecticidal in function. Honey as binder used in paints acts as antioxidant, antimicrobial, Apoptotic activity, Anticancerus, Antidiabetics. In Agriculture Use of these plants as protection from grazing animals. Due to presence of thorn on plants body they are locate as fencing.

Benefits:-

Anti-inflammatory, Antimicrobial, Antioxidants, Antiviral, Cardiotonic, Cytotoxic, Antibacterial, Anticancerous, cardiovascular, Antiparasitic and insecticidal in function.

Effects:-

Headaches, trigger allergies, asthmatic reactions, irritate skin, eyes, and put increased stress on vital organs such as the heart, Cancer (Particular lung cancer).

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