



INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X

Impact factor: 6.078

(Volume 6, Issue 1)

Available online at: www.ijariit.com

Study on preparation of ready to serve mixed petal beverage and its health benefits

Shrinath Tatte

shrinath07223@gmail.com

Sau, Vasudhatai Deshmukh College
of Food Technology, Amravati,
Maharashtra

Rupali Deshmukh

rupali.deshmukh28@gmail.com

Sau, Vasudhatai Deshmukh College
of Food Technology, Amravati,
Maharashtra

Rohit Pawar

rohitpawar7218@gmail.com

Sau, Vasudhatai Deshmukh College
of Food Technology, Amravati,
Maharashtra

ABSTRACT

In our surroundings, thousands of edible flowers are found such as hibiscus, rose, lotus, jasmine, etc. Up till now flowers were not popularly known as an edible commodity but were widely used for decorative or worship purposes. But some research has found that several flowers contain Vitamin A and Vitamin C, calcium, phosphorous, iron and potassium [1]. This study focuses on the preparation of mixed petal juice with added mint leaves, lemon juice, and sugar syrup. Flower petals were washed and then boiled in water with the addition of sugar and mint leaves and lemon juice for change in organoleptic values.

Keywords— Rose, Hibiscus, Mint, Petals

1. INTRODUCTION

According to recent studies, several edible flower petals were found to have great nutritional value, they were found to be a rich source of vitamins and minerals such as phosphorus, calcium, iron, etc. According to Arfa Samreen who is the dietitian at Vikram Hospital Bengaluru “Edible flower contains phytonutrients, flavonoids, and antioxidants all of which reduce the risk of cancer” [2]. Edible flowers consist of new sources of bioactive compounds, carbohydrates were the most abundant macronutrient in petals followed by protein. Fructose, sucrose, and glucose were found in nearly all petals studied [3]. While preparing mixed petal beverage all the nutritional and anti-nutritional factors in flowers were considered and petals of Rose and Hibiscus were selected. Lime juice, Mint leaves extract and sugar were added to enhance sensory qualities of the final product. Some of the health benefits of ingredients are enlisted below:

- (a) **Rose Petals:** Rose petals are well known for the cytotoxic and antioxidant effects [4]. Thus, it helps to fight against various types of mutagenic diseases. They also contain excellent anti-allergic properties. Rose petals can reduce oxidation of lipids and protein in hair and thus helps to reduce hair damage [5]. Rose petals also contain essential oils, vitamins (A, B, E) and minerals such as Iron and Potassium. The extract obtained from rose petals is also found to have antidepressant, antibacterial, antifungal, antiseptic, digestive stimulant, kidney tonic and menstrual regulatory property [6].
- (b) **Hibiscus petals:** Hibiscus is rich in organic acids such as citric acid, malic acid, tartic acids. It is also well known for its β -carotene content, Vitamin C and proteins. Hibiscus also contains some phytochemicals and thus it is used to treat many cardiovascular disorders, helminthic diseases and also cancer [7]. According to some research, hibiscus is capable to lower blood pressure, and also significant to reduce levels of fat and sugar in the blood. Hibiscus also show significance to cure stomachache and spasms in the intestine and uterus. Hibiscus was also found to work like antibiotics to kill bacteria and parasites [8]. Hibiscus flower contains zero calories and is also caffeine-free [9]. As it is rich in Vitamin C it helps to boost up the immune system. A study has also found that consuming hibiscus extract for 12 weeks would result in lower body weight abdominal fat and BMI. Hibiscus extract also reduces the risk of fatty liver disease that is the most common cause of liver failure [10].
- (c) **Mint Leaves:** Mint is an excellent source of Vitamin A and also is a potent source of antioxidant as compared to other herbs and spices. Essential oils in mint mean menthol has found to have a relaxing effect on muscle and digestive tract and also help to fight against symptoms against IBS (Irritable Bowels Syndrome). The aroma of mint leaves shows that it could also improve the functioning of the brain. Chewing mint offers fresh breath and provides micronutrients such as calcium, potassium, magnesium, iron, dietary fibers, and manganese. Mint oil is also antipruritic and antiseptic values and hence is beneficial for the skin. There is a mixed opinion regarding the treatment of sterility problems in women’s [11].

2. PRODUCT PREPARATION

- (a) **Selection of Raw Materials:** -Fresh petals from Hibiscus and Rose were selected it is very important to ensure that selected petals should be free from pesticides. To ensure this the plant was isolated from any kind of pesticides before plucking. Mint leaves must be fresh and should contain a good aroma with very little spoilage. Fresh lemon is also necessary. Sugar used for beverage preparation must be free from sulphur free.
- (b) **Cleaning:** Selected petals must be separated from anther and other floral parts. We must be very carefully and gently wash petals in chlorinated water all the pollen grains must be thoroughly washed from off as it may cause allergic symptoms in some people. Mint leaves must also be separated from the shoot portion only fresh leaves must be selected and they must also be washed in chlorinated water.
- (c) **Preparation of Extract:** 100 GramRose petals were grinded and then subjected to boiling and 100-gram hibiscus leaves were directly subjected to boiling in 500 ml of water reason for grinding of rose is to ensure maximum extraction of essential oils from petals. Both the petals were boiled in water at 100 degrees for 15 min. At about 80-degree Celsius mint leaves were added to the extract for extraction of essential oils. Essential oils may also be added by first extracting from leaves by steam distillation and then adding to the petal extract. When the extract gets purple color extract thus to change in appearance 20 ml lemon juice is added addition of lemon juice reduces pH and changes the color from purple to red.
- (d) **Preparation of sugar syrup:** About 80 grams of sugar was converted into a syrup of 65 Brix. The little amount of citric acid was also added to clarify the impurities present in the sugar [12].
- (e) **Mixing:** Both the petals extract, and sugar syrup was then mixed at a mild temperature no additives are added to the product to minimize the use of the additive and gain maximum health benefits.
- (f) **Packaging:** Packaging of the product must be done in glass or plastic but air tight containers. With labels as per the specification of the FSSA 2006.
- (g) **Storage:** Storage must be done in cool conditions and must be kept away from direct sunlight for preventing the change in color.

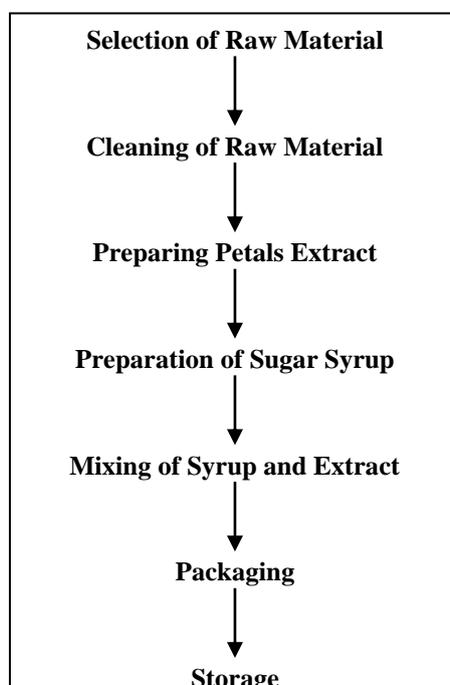


Fig. 1: Flow chart

2.1 Sensory Quality Evaluation

Sensory Quality of the product was determined by conducting an organolyptic test. The examination was done by students of Sau. Vasudhatai Deshmukh College of Food Technology, Pala, Amravati. Marks were given out of 10.

Table 1: Sensory Quality Evaluation

| Name | Color | Odor (Mint) | Taste |
|-----------------|-------|-------------|-------|
| Shreya Wadbudde | 9 | 7 | 8 |
| Rohit Pawar | 8 | 8 | 9 |
| Akshay Raut | 7 | 8 | 8 |
| Shubham Shelke | 9 | 8 | 8 |
| Dipak Kopulwar | 9 | 10 | 10 |
| Dhiraj Chauhan | 10 | 8 | 9 |
| Vaibhavi Chati | 9 | 8 | 10 |

Average Marks for color = 8.71 (Bright Red)

Average Marks for Odor = 8.14

Average Marks for Taste = 8.85

Table 2: Results of Chemical Analysis

| Sr. No | Name of Test | Result | Method of Analysis |
|--------|--------------|--------|-------------------------------|
| 1 | Protein | 7.65% | IS 7219: 1973 |
| 2 | Fat | 0.02% | AOAC 20 th Edition |
| 3 | Fiber | 0.69% | AFE System |
| 4 | Carbohydrate | 13.26% | By Calculation |
| 6 | Calcium | 0.65% | FSSAI Manual |
| 7 | Moisture | 85.45% | FSSAI Manual |
| 8 | Total Ash | 0.1% | FSSAI Manual |

3. CONCLUSION

The principle component found in the product was moisture followed by Protein. The juice may be served as a high protein drink for gym worker and it may also help to overcome the deficiency of protein. It is also refreshing and found to have good organolyptic values with zero caffeine content. The product also has a moderate amount of calcium. Due to changes in pH bright red color appeared thus, there was no need for the addition of artificial colorant that was not required. It also contains several phytochemicals that help to fight against various mutagenic diseases. The drink is excellent for the people who need a rich vegetarian source of protein in their diet.

4. REFERENCES

- [1] The Seattle times “Edible petals pack nutrients” by Barbara Quinn May 29, 2016
- [2] Sridevi KR – Add flower power to your daily diet: Lavender, dandelion, hibiscus is packed with antioxidant vitamins– Economics time
- [3] Pires TC- Food chemistry 2017- Nutritional and chemical characterization infusion: Valorization as a new food ingredient.
- [4] Cytotoxic, Antioxidant, Antimicrobial properties, and chemicals- Journal of Food and Agriculture, US National Library of Medicine, National Institute for Health.
- [5] Clinical Evaluation of new formula shampoo for scalp seborrheic- Annals of dermatology US National Library of Medicine, National Institute for Health
- [6] Sonali Nando- Medicinal efficiency of Rose plant: AA mini Review PRINT ISSN- 23946679
- [7] Prayag Singh – Nutritional And health Importance of Hibiscus Sabdoriffa: A Review: Journal of Nutrition Health and food engineering.
- [8] <http://www.webmd.com/vitamins/ai/ingredientmono-211/hibiscus>
- [9] <http://www.oaklandcountymoms.com/hibiscus-flower-health-benefits-24354/>
- [10] 7 hibiscus tea health benefits you should know about, by CRISRTINE YOU, women’s health.
- [11] Keith Pearson, Ph.D., RD on December 13, 2017- 8 health benefits of mint
- [12] <https://www.diffordsguide.com/encyclopedia/486/cocktails/sugar-and-sugar-syrup>