



## An Analytical Study on the Valuable Sources and Potential Therapeutic Applications of Selected Edible Flowers in the New Normal

Sunil Kumar<sup>1</sup>, Jagbir Singh Dalal<sup>2</sup>, Vinay Punia<sup>3</sup>, Dr. Akhilesh Pandey<sup>4</sup>

<sup>1</sup>Research Scholar, (Hospitality Management), School of Hotel Management, Airlines and Tourism, CT University, Ludhiana, Ferozepur Rd, Sidhwan Khurd, Punjab 142024

<sup>2</sup>Assistant Professor, Department of Hotel Management, BPS Women's University, Sonipat Kanpur, Kalan, Haryana

<sup>3</sup>Assistant Professor, Hotel and Hospitality Management, Graphic Era Hill University, Haldwani, Uttarakhand

<sup>4</sup>Associate Professor, School of Hotel Management, Airlines and Tourism, CT University, Ludhiana, Ferozepur Rd, Sidhwan Khurd, Punjab 142024

### Abstract

The cultivation of edible flowers is essentially a matter of enhancing their aesthetic value to attract insects and other forms of pollination. Construct started to emerge in paying tribute to the deceased, fertility, enlightenment, and even knowledge. The notion of the environment, the dimensions that make up the flowers with cultural value, is presented to God as a symbol of devotion. This is done to preserve the environment. This complex flower is consumed all over the globe, and the time interval between the feedback is often rather an extensive component. Consuming flowers were thought to fulfill both traditional culinary and medical practices at one point in history. This consumption dates back to ancient times. Edible flowers have played an important role in the culinary traditions of many ancient civilizations, including Rome, Greece, and China. These flowers were used in cooking to improve the flavor and add to the dish's visual appeal. There is a reference to a medieval feast in some of the earliest manuscripts from Europe. At this feast, venison was cooked with marigolds, and salads were created with violets. Roses, for example, were used in ancient Rome to add taste and sweetness to various foods. They were included in beverages, salads, purees, omelets, and desserts. There have been documented instances of the usage of edible flowers by indigenous tribes. Calendula officinalis, more often consumed as calendula, had its flowers used in culinary salads as far back as the Middle Ages in France.

According to a survey that was carried out on flower species that have a well-established reputation for being edible, the majority of young people in the country who are unaware may be informed about the rich culinary and cultural heritage of the country through various platforms, especially online dissemination within the new normal. There is a segment of the population that consumes edible flowers. Still, for this market to grow, there has to be more research, more studies, and more dissemination of this information, which will make it possible



to manage edible flower production more effectively and efficiently. In this regard, having a general perception of society is more important than having intellectual skills. It is important to refer to the fact that in addition to the statistical significance, certain issues may have motivated the responses relating specifically to individual likes and dislikes. In this regard, we need a general perception of society rather than intellectual skills. Last but not least, the environmental scanning system analyzes the consumption patterns of edible flowers.

**Keywords:** Edible Flowers, New Normal, Cuisine, Medicinal, Culinary Heritage

---

## Introduction

Because they are one of a kind and have their own distinct flavor, edible flowers have become increasingly popular as a creative and innovative ingredient in the world of gastronomy and the fields of research and human health. These developments also have implications for the fields of agriculture and the economy. It is essential to have a solid understanding of their medicinal significance, particularly concerning their strong anti-oxidant activity for human consumption. Infusions of the flowers, such as teas and wines, as well as additions to preserves, marinades, sauces, and other foods, have been reported to be prepared using these flowers. They have also made their way into the menus of full courses via crystallization as either a dessert or an accessory for desserts. In contrast to the widespread skepticism over their culinary applications, one of the most foolproof salads to enjoy edible flowers is in a salad.

The majority of edible flowers that are used in cooking are prepared from organically grown produce. The edibility of the flowers allows for various classifications, ranging from completely edible to just partly edible (in certain cases, only the petals, in other cases, only the stigmas, etc.) The quantity of these flowers that are consumed must be considered since some flowers, such as linden flowers, may only be consumed in limited amounts at a time. Consumption of a greater quantity may affect the heart. Therefore, as the reason, a questionnaire survey was employed to investigate the acceptability, perception, and advantages of selected edible flowers and their usage pattern in the context of Indian culture.

In earlier times, the ingestion of flowers was thought to fulfill traditional culinary and medicinal practices. Therefore they were used for both. Edible flowers have played an important role in the culinary traditions of several ancient civilizations, including Rome, Greece, and China. These cultures used flowers not just to add flavor but also to improve the dish's appearance. The medieval feast that included venison grilled with marigolds and salads prepared with violets is mentioned in early European manuscripts. These works come from Europe. Roses, for example, were used in ancient Rome to add taste and sweetness to various foods. They were included in beverages, salads, purees, omelets, and desserts. There have been documented instances of the use of edible flowers by indigenous societies. In France during the Middle Ages, the flowers of the calendula plant, also consumed as *Calendula officinalis*, were used as an ingredient in salads.

## Review of Literature

In light of the unique nature of edible flowers, the authors conducted a comprehensive review of the relevant literature resources to categorize the various types of flowers. In the 11<sup>th</sup> century, dairy products were flavored with spices and flowers made from ironwood, which may

have contributed to the seeming unfamiliarity of the practice.

The culinary application of several different flowers kicked off a fruitful association that influenced the consumption culture of edible flowers such as roses, jasmine, and others for an enterprise culture of flavoring oils, spirits, and essences in the late 15<sup>th</sup> century.

The same positive emphasis is placed on the usage of night jasmine in Assam, where it is used in the preparation of stir-fries and cakes, in the seasoning of a traditional dish known as Khar, as well as the primary attractions of fish curries and in the tossing of plain rice.

The discovery of the existence of Sanai KePhool brought attention to a traditional tribal delicacy consisting of sensitive buds of the red silk cotton tree that are used in the preparation of delectable curries, stir-fries, koftas, and pakodas.

Cooking mutton with tamarind leaves, also known as chigoor, brings their inherent tenderness.

Another delectable flower is the roselle, which in Andhra Pradesh is referred to as gongura.

Concerned with public acceptability and advertising by demand,

The prevalence of the Mahua tree, also known as the Indian butter tree, can be found in the tribal belt of western India. This region is famous for the intoxicating properties of Mahua flowers, which are great in the provision of liquor. Mahua is also important in various tribal festivals and celebrations, such as Sarhul and Chaitra Parva.

### **The Therapeutic Uses of Edible Flowers**

The significance of edible flowers to people’s health benefits goes beyond the flavor, color, texture, taste, and look of the culinary appeal they provide. You might say that these are characteristics of the edible potential of the flowers that are accessible. The following is a list for the convenient reference of some edible flowers that have been researched for their unique health benefits. Several works of Indian literature from the ancient and medieval periods mention edible flowers as a significant source of nutritional value. This contrasts with the current, rapidly expanding practice of eating flowers worldwide. The Mahua flower comes in third place on the list of flowers investigated in this research, after the banana bloom and the moringa flower in terms of how well-known they are. The general populace may be unaware of the therapeutic virtues of Rose, Papaya flower, Tamarind flower, and Jasmine flowers; nonetheless, these characteristics have been recorded.

<b>Flowers</b>	<b>Health benefits</b>
Amaranth flowers	Calcium and protein both have a role in the prevention of osteoporosis. Digestion is improved, blood pressure is lowered, varicose veins are eliminated, and the walls of blood vessels are strengthened thanks to fiber and minerals. Anti-oxidant presence contributes to maintaining a supple and youthful appearance in the skin.
Gongura flowers	Taking vitamins might help ward off a cold or cough Ulcers in the mouth, relief from heartburn, and easier urination.
Hibiscus flowers	It contains a low number of calories, a high fiber concentration, and a variety of beneficial anti-oxidants, plus it helps with weight reduction.

	Nourishes the production of collagen, increases elasticity, makes the skin smoother and lessens the appearance of wrinkles.
Jasmine flowers	Tea is known for its ability to reduce blood pressure, boost the immune system, and improve mood. It delays the aging process, alleviates sleeplessness, promotes weight reduction, and lowers cholesterol levels
Night flowering jasmine/ parijatak	It alleviates dry cough and helps to strengthen the immune system. Protects against diabetes and nourishes hair
Papaya flower	Diabetes patients might benefit from the leaves, while dengue sufferers could utilize the flowers Eliminates lung infections and ailments associated with the liver
Rose flowers	Consuming rose petals regularly might assist the body in preserving normal cholesterol levels. Reduces inflammation as well as soreness Natural calming agent and sedative in nature Promotes a healthy heart and the body's natural resistance to illness
Tamarind flowers	Aids with digestion and maintains normal insulin levels Safe for diabetics and effective in preventing urinary tract infections in women

### Handling edible flowers

- It is essential to have a comprehensive understanding of the edible quotient to determine the appropriate type of edible flower; in other words, species with well-established edibility reputations must be used to determine whether the effects of human consumption are positive or negative.
- According to several studies, the stamens and styles of some flowers contain allergenic components and should thus be removed.
- As a chemical residue, consuming food tainted with fertilizers and pesticides, whether in excessive amounts or at all, is hazardous to human health.
- Certain edible flowers must be quite tasteless, while others have a highly harsh flavor.

### Objectives/ Scope of Study

This study will also include the banana blossom, Mahua, and moringa flowers used as edible flowers:

- To discover the introduction of three new edible flowers to the Indian plate and palate.
  - To investigate the medicinal health benefits that may be provided to people
  - To analyze the strategic application in both the environmental and gastronomic evaluations
- These flowers are grown locally and regionally and are a staple crop in many communities that cultivate and use them in various culinary specialties.

### Methodology

Fair usage is essentially the essence of both the environmental assessment and the culinary



evaluation that describes the current status of possible edible flowers. The following is a study that includes a concise anatomical section as well as information on the culinary and medical applications of the three flowers:

#### **A. Banana Blossom**

##### **Scientific name: *Musa acuminata colla***

An edible and advantageous ingredient, this portion of the banana flower that may be eaten is found here.

The banana tree, a recurrent herb, is noteworthy in the degree to which all of its components are employed for purposes other than consumption, personal preferences, and health benefits.

##### **A1. Produce**

The banana plant is a perennial that only flowers once and then dies. This either enters the culinary part of the growing area via the purchase of already established trends or through the internal creation of medicinal applications. It is grown mostly in tropical and tropical regions in India, especially in Andhra Pradesh, Gujarat, Karnataka, Maharashtra, and Tamil Nadu. It blooms throughout the year, but most of its rains appear when there is precipitation.

##### **a. Fruit**

Banana is a highly delectable and all-time favorite to a greater mass of people; that is had ripe in many instances and also in a raw state as vegetables. Bananas are also consumed in their unripe stage as vegetables. The control of weight, as well as cholesterol and diabetes, are among the health benefits.

##### **b. Leaves**

Banana leaves are traditionally used as thalis and plates across southern India. This practice is known as “leaves.” Banana leaves are a rich source of natural anti-oxidants known as polyphenols. They have special use in preparing some foods, such as patranimachchi, in which fish is steamed after being wrapped in banana leaf and cooked in the same manner as certain sweets.

##### **c. Stalk**

The edible stalk includes the bark and the stem to the core. It is an excellent source of fiber, potassium, and vitamin B6. It is possible to cook it in various ways, such as fried meals with gravy, which are common in Indian cuisine. It has a very useful function in the control of cholesterol, blood pressure, and kidney stones.

##### **d. Blossom**

The banana flower is one of the three samples we analyze for this study. The flowers of bananas have the shape of fingers, are juicy and delicious, and have a fleshy center that serves as the basis for the banana. The flowers are on separate plants, yet each plant may produce either male or female flowers. The flowers are clustered in an elongated structure called a raceme; the raceme’s tip is where the male flowers are located, while the raceme’s structure is where the female flowers are. The fact that each plant produces just one inflorescence is one of its most attractive characteristics. As the fruits continue to mature and add their weight, the flowering stalk will finally bend downward.

## **A2. Culinary use of Banana Blossom in Indian Cuisine**

It is essential to select, wash, and clean any fruit, vegetable, or edible flower completely before beginning any preparation. This is particularly true for edible flowers. This banana bloom or flower may be prepared using a range of different cooking techniques, which adds to the variation in the taste and texture of the delicacy that is tailored to fit the palette.

- i. **Frying**  
Depending on your preference, these florets may be fried either raw or ripe, with or without batter.
- ii. **Boiling**  
When it is boiled, the texture becomes smoother and easier to combine with other ingredients.
- iii. **Steaming**  
This helps the food adopt the form of the wrapping it was given.
- iv. **Stir fry**  
One of the most popular meals is a version of stir fry that includes various spices and coconut.
- v. **Sun-Dried**  
Although fresh banana flowers are most often available, an equally large-scale reserve of sundried banana blossoms is kept for usage all year and in any region worldwide.
- vi. **Steeping**  
Steeping is a distinctive procedure that involves drying or roasting the flowers before placing them in a tea bag. The resulting infusion produces a tea with a taste reminiscent of banana blossoms.
- vii. Raw consumption is also an option.

## **A3. Health Benefits of Banana Blossom**

Phosphorous, calcium, potassium, copper, magnesium, and iron are some of the essential minerals that can be found in abundance in the banana flower. Other essential minerals include magnesium and potassium. The following is a list of the health benefits:

- Boosts the immune system
- Helpful for those with diabetes, cancer, and heart problems
- Assists in the processes of digestion and kidney function.
- Assists women experiencing problems with lactation and menstruation.

The banana flower is regarded as a great food due to the abundance of various nutrients, minerals, protein, and fiber. As a result, it may serve as a suitable replacement for vegan fish and meat.

## **B. Moringa Flower**

### **Scientific name: Moringa Oleifera**

Drumstick tree, Horseradish tree, and Ben oil tree are other names often used to refer to the Moringa. It is a tropical tree, yet it is hard enough to withstand drought. Moringa is a tree native to India, and every component of this plant has either a nutritional or a commercial benefit.

### **a. Leaves**

Moringa flowers are used in cooking and consumed like any other vegetable. Other uses include

drying the ingredient, grinding it into a powder, and using it in soups, sauces, and curries. They are a source of nutrients such as vitamins A, B, and C, iron, potassium, calcium, and nine necessary amino acids. In terms of the amount of protein they contain, they are an alternative to meat, fish, and eggs.

**b. Seed pod**

Seed pods, commonly known as drumsticks, may be eaten raw, boiled, or crushed before consumption. They are prepared into a sauce by the cooking process. After being cooked, they become an excellent source of several nutrients, including vitamin C, dietary fiber, potassium, magnesium, and manganese. These seed pods have been shown to alleviate digestive problems and protect against colon cancer. In addition to its use as a treatment for snakebites, toothaches, and malaria, Moringa roots are a source of the polyphenols that give the plant its medicinal roots.

In addition to its use as a treatment for snakebites, toothaches, and malaria, Moringa roots are a source of the polyphenols that give the plant its medicinal roots.

**c. Bark**

Studies have revealed that bark may treat gastrointestinal difficulties, anemia, diabetes, indigestion, eye ailments, and cardiovascular problems.

**d. Seed**

The seeds may be eaten like peas, boiled and crushed, or roasted like nuts. These three preparation methods are all possible.

- e. They are an excellent source of nutrients such as calcium, potassium, protein, vitamin C, and omega-3 fatty acids.
- f. The refined oil that was extracted is resistant to becoming rancid.
- g. It can be used both as a biofuel as well as a fertilizer

**B1. Produce**

We are dealing with an ongoing process in which the edibility of the food and people's views of it are always shifting in reaction to the diverse array of ingredient options. Moringa cultivation can be found all over India, but the southern states of Andhra Pradesh, Telangana, Tamil Nadu, Kerala, and Karnataka are home to the greatest concentrations of the plant. Moringa is also thought to have originated in the foothills of the Himalayas in Odisha and West Bengal, both of which offer a great deal of variety and satiety in their cuisine. The flowers of the moringa tree are perennial in conditions that are mostly tropical.

**B2. Culinary Use in Indian Cuisine**

The most frequent way of preparing the moringa flowers is to stir fry them into thoran, a dry side dish. In addition to their use in new applications, these flowers may also be steeped to make a tea with a taste similar to moringa. Indian pancakes and bread may benefit from adding sautéed flowers, improving the food's taste.

**i. Frying**

Two different types of frying: Bengali-style batter fried (Bengal-Sohjnephuler bora) and shallow fried (Kerala-Thoran)

**ii. Stir-frying**

Poriyal and Sindhi Swanjhro are two examples of dishes that may be stir-fried.

**iii. Steeping**

Moringa-flavored tea, sweetened with honey or sugar, maybe steeped.

**iv. Dried**

for use in the future and usage generally throughout

**v. Boiling**

E.g., Rasam.

**vi. Raw**

It can be consumed raw in salads and juices, particularly when used as a garnish for any meal.

**B3. Health Benefits**

The flowers of the moringa tree are an excellent source of calcium, vitamin A, and vitamin C, as well as a small amount of potassium, iron, and amino acids. The following is a list of some of the benefits to one's health:

- It helps maintain bone health, eyesight, and injury recovery
- Cleanses the body and aids in recovery from colds
- Help the body recover from sickness and minimize the risk of inflammation occurring.
- Reduce the likelihood of inflammation occurring.
- Effective in the treatment of malaria, aches, obesity, and diabetes

It is possible that using this flower will have a negative impact. Since the moringa flower could have properties that inhibit fertility, it should be avoided by women trying to become pregnant. However, because of the large source of nutrients that it contains, it is also considered to be a superfood.

**C. Mahua Flower**

**Scientific name: Madhuca Longifolia**

The Madhuca Longifolia tree is a multifunctional tree that has been recognized as a driver of change because it serves three key tasks that are necessary for the requirements of the tribal society. These tasks include providing diet, feed, and energy. The Mahua tree's flower is the most valuable component in and of itself. In addition, fruits, flowers, and leaves are cut up to feed cattle. Antheraeapaphia, a moth, creates tassar silk by feeding on the plant's leaves.

**a. Leaves**

These aid in the healing of wounds, exhibit anti-oxidant and cytotoxic action, and speed up the process.

**b. Fruitlet**

It can be eaten raw or cooked, and the pulp is a source of sugar. On the other hand, the dry husk is a source of the fermentation used to make alcoholic beverages. The bark is said by the tribal people to be able to control diarrhea.

**c. Seed**

It is generally agreed that seeds are the single most important natural source of hard fat. The extracted oil is put to use in the kitchen as well as in the production of chocolates.



#### **d. Blossoms**

Blossoms, a source of vitamins, minerals, and sugar, are used to manufacture a variety of sweet treats like halwa, kheer, and barfi, amongst others.

##### **C1. Produce**

In India's many states, including "Uttar Pradesh, Andhra Pradesh, Chhattisgarh, MP, Odisha, Jharkhand, Maharashtra, Gujarat, Rajasthan, Bihar, West Bengal, and Karnataka," Mahua trees are abundant.

##### **C2. Culinary Use in Indian Cuisine**

###### **i. Boiling**

Cooking it at a high temperature softens it and makes it more edible.

###### **ii. Roasting**

Caramelize to provide the necessary crunchiness.

###### **iii. Sun-drying**

For usage at a later time and all over

###### **iv. Pureed**

When pureed, it may be used to create sweet pancakes and a variety of other delicacies

###### **v. Batter Fried**

To create fritters

###### **vi. The manufacture of alcoholic drinks and alcohol, with 20–40% alcohol**

##### **C3. Health benefits**

Flowers of the Mahua tree are an excellent source of vitamins C and A, as well as calcium and phosphorus, with just trace amounts of proteins and fats.

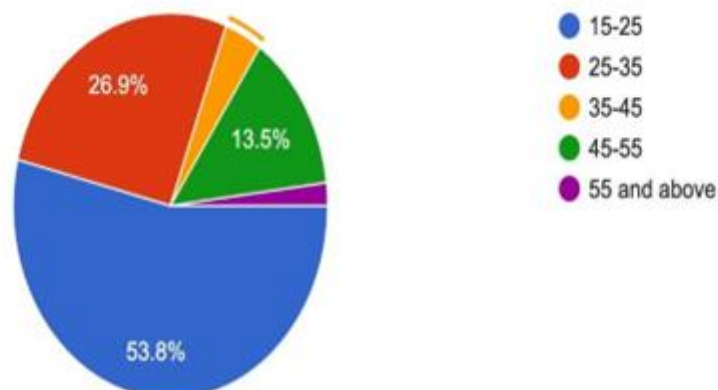
- Facilitates the act of lactation
- It is capable of acting as both an anti-oxidant and an astringent.
- It helps with problems relating to the heart, skin, eyes, and piles
- Roasted flowers are an effective treatment for bronchitis

##### **Material and Methods**

The survey questionnaire was developed especially for this study and included questions about awareness, patterns of consumption, and applications in Indian cuisine. The hotel sector places a premium on quality above all other considerations. It involves quality features such as the product's or service's capacity, assurance, tangibility, and appropriate responsiveness to the user's needs. This reduced the framework's scope since it matched the client's expectations and perceptions. The information needed for this study was gathered using the online questionnaire technique from a total of 52 respondents.

## Data Collected

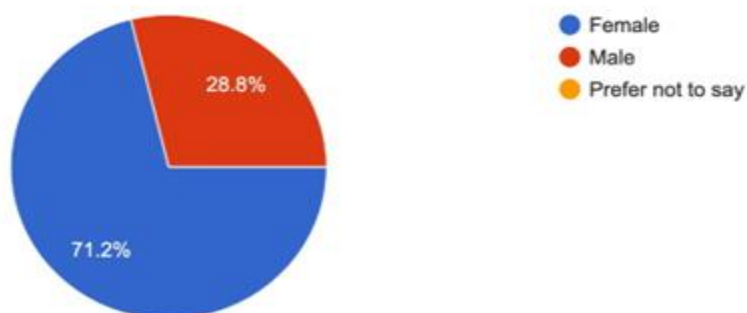
### Demographic Profile



**Figure 1: Age Group of the Respondents**

#### Interpretation:

A total of 52 respondents participated in the survey. Out of which majority of the respondents- 53.8% (28 people) are from the age group of 15-25 years, 26.9% from the 25-35 year age group, and 13.5% are 45-55 years. Very few respondents belong to the age group of 35-45 & 55 and above.



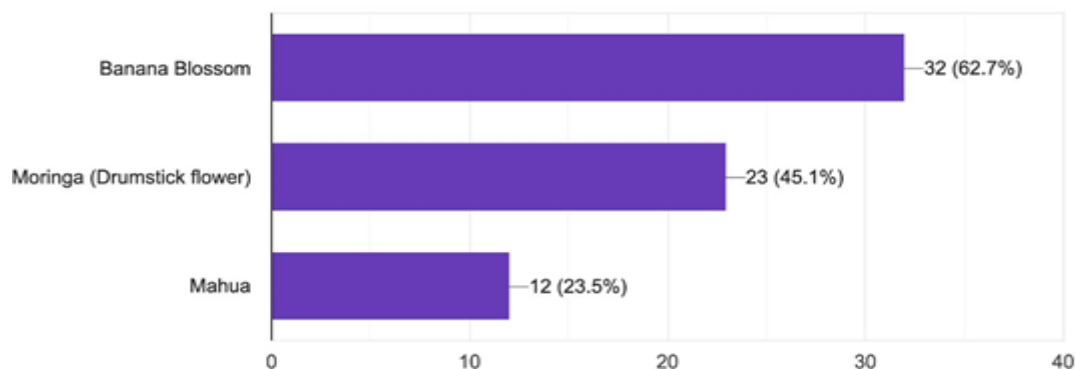
**Figure 2: Gender of the Respondents**

#### Interpretation:

The majority, 71.2% (37 no.) respondents are women, and 28.8% (15 no.) are men.

#### Data Analysis

#### 1. Among the following, which flower edible usage are you aware of?

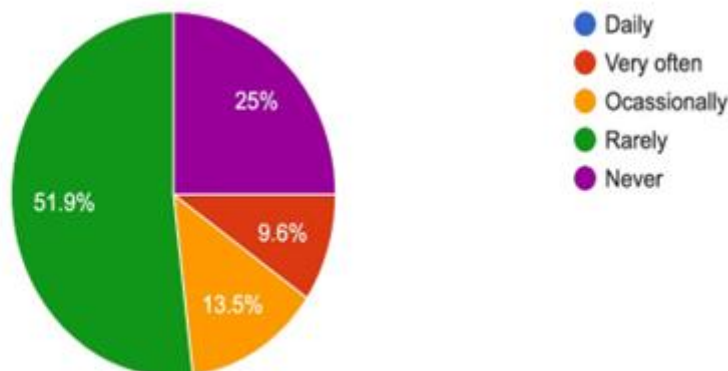


**Figure 3: Awareness of the edible flowers**

**Interpretation:**

Out of all the respondents, the majority of the people, i.e., 62.7% (32 no.), know about Banana Blossom, while 45.1% are aware of Moringa and 23.5% are aware of Mahua.

**2. How often are flowers being cooked/eaten at your home?**

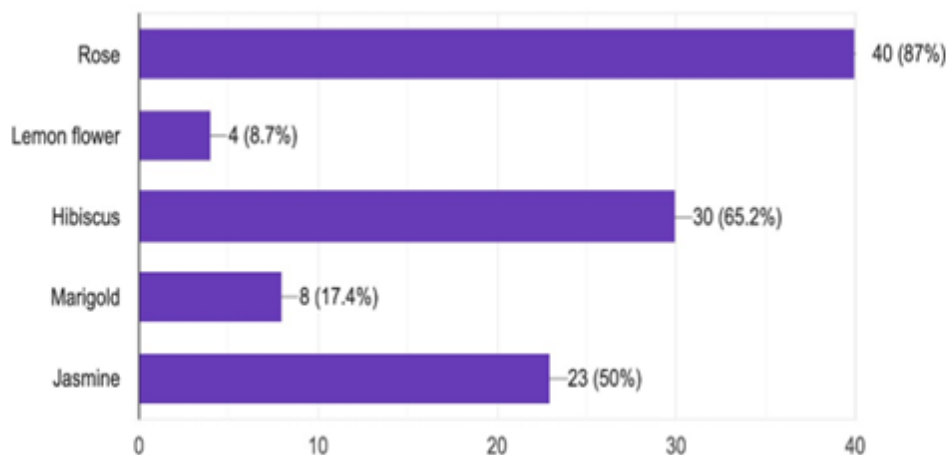


**Figure 4. Handling/ consuming edible flowers**

**Interpretation:**

Out of 52 responses, 27 people (51.9%) RARELY consume edible flowers at home, while 25% never used to handle or consume edible flowers at home. 13.5% used them occasionally, while 9.6% consumed them very often. Nobody consumes them daily.

**3. Which of the following flowers do you happen to grow at your home?**

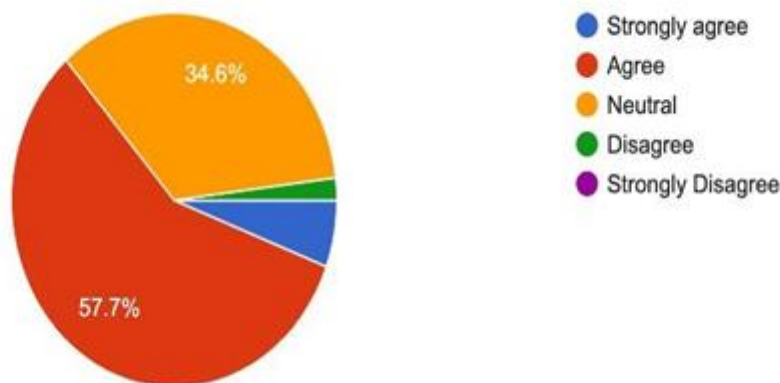


**Figure 5: Grow edible flowers at home**

**Interpretation:**

Forty-six respondents answered this question out of a total of 52. Among all the given flower options, the rose seems to be the most bright flower to grow at home, with 40 people (87%) selecting it followed by the Hibiscus flower, which 65.2% of respondents preferred. Jasmine is the 3<sup>rd</sup> popular option, as almost 50% prefer to grow it at home, while Marigolds are preferred by 117.4%, and 8.7% of respondents preferred the Lamon flower.

#### 4. Including flowers in your day-to-day diet is beneficial for your health?

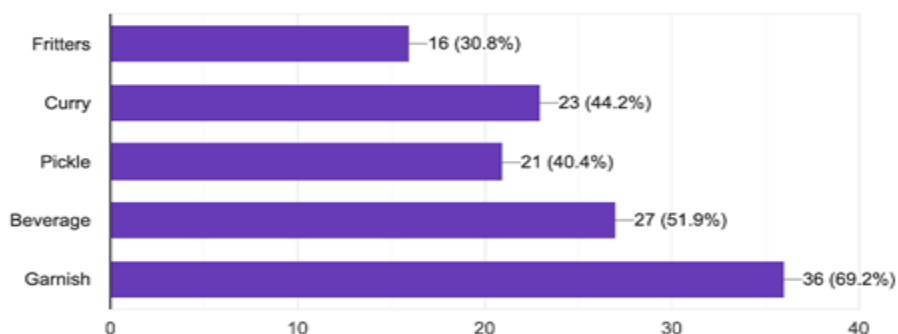


**Figure 6: Include edible flowers in day-to-day diet**

#### Interpretation:

Only 5.8% (3 people) Strongly Agree with the benefits of consuming edible flowers, but the majority of them-57.7% (30 people) agree.

#### 5. Edible flowers can be used as/in

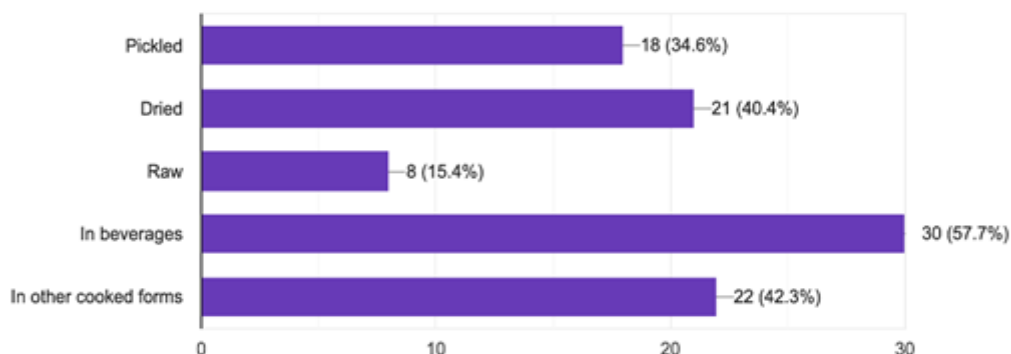


**Figure 7: Uses of edible flowers**

#### Interpretation:

Out of all the respondents, 36 people (69.2%) opting edible flowers for GARNISH, 51.9% used them as a Beverage, 44.2% used them while preparing curry, 40.4% used them as Pickles, and the listed percentage of respondents, i.e., 30.8% used edible flowers as Fritters.

#### 6. How would you like to consume a flower?

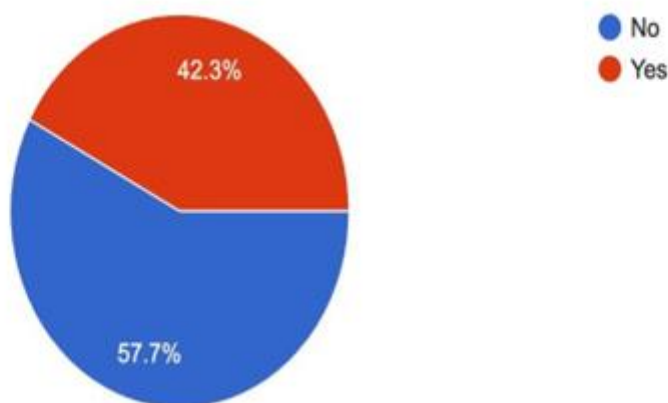


**Figure 8: consumption pattern of edible flowers**

**Interpretation:**

Most people (30 out of 52) would like to consume edible flowers in beverages, and the least (8 out of 52) would consume them raw. Of the other respondents, 42.3% used them in other cooked forms, 40.4% used them as Dried, and 34.6% used them as Pickled.

**7. Are locally grown edible flowers easily available in your city?**

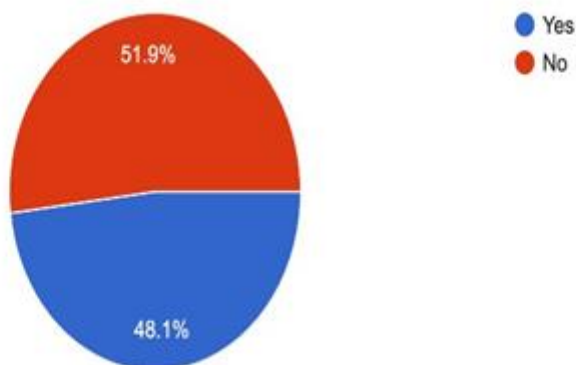


**Figure 9: Easy availability of edible flowers**

**Interpretation:**

57.7% (30) people either do not avail themselves of the edible flowers in the various cities or are unaware of their availability. In comparison, 42.3% said locally grown edible flowers are easily available in their city.

**8. Do you know any recipes that include flowers like Banana blossom, moringa (Drumstick flower), or Mahua?**

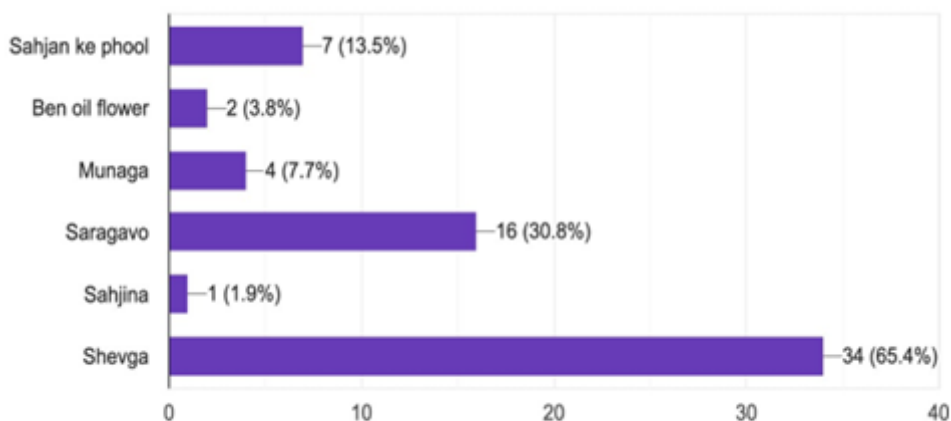


**Figure 10: Knowledge of recipes for edible flowers**

**Interpretation:**

25 out of 52 know any recipes that include flowers like Banana blossom, moringa (Drumstick flower), or Mahua, while 27 have no knowledge of edible flower recipes.

**9. Which other names of the Moringa flower are you aware of?**

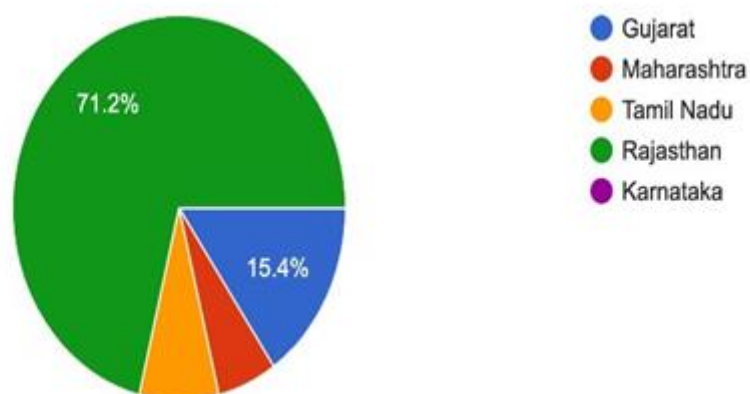


**Figure 11: Awareness of names of Moringa flower**

**Interpretation:**

The majority of the people-34 out of 52, are aware of the name SHEVGA which is generally used in Maharashtra. After that, 16 people were aware of the name SARAGAVO which is commonly used in Gujarat, followed by 13.5% as Sahjan kaPhool, 7.7% as Munaga, and 3.8% as Ben oil flower.

**10. Which of the following state is not a prominent producer of Banana Blossom?**

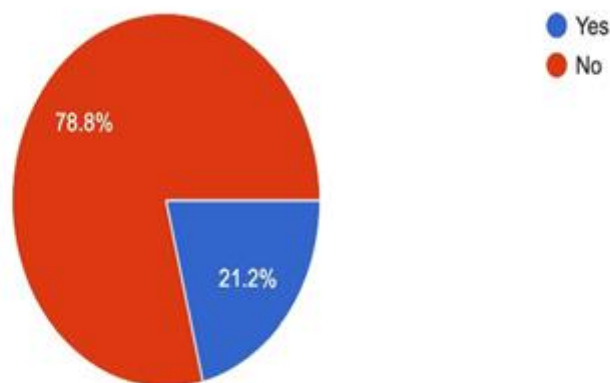


**Figure 12: Producer of Banana Blossom**

**Interpretation:**

Amongst the given states, RAJASTHAN is not a prominent producer of Banana blossom, which 71.2% of people (37 no.) have correctly opted for.

**11. Do you know any other uses of Mahua flower other than culinary?**

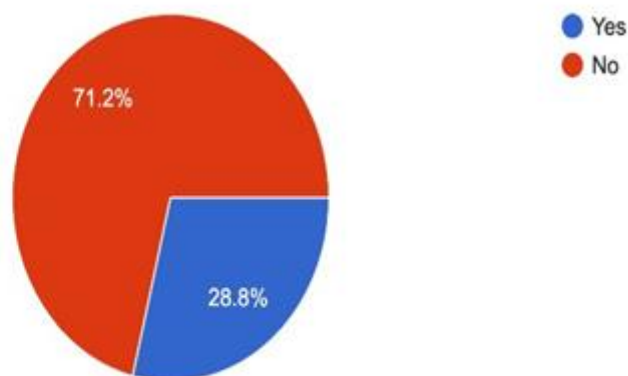


**Figure 13: Uses of Mahua flower other than culinary use**

**Interpretation:**

Only 21.2% of respondents know the uses of Mahua flower other than culinary use, while the majority, 41 out of 52 respondents (78.8%), are not aware of any other uses (like medicinal) of Mahua flower

**12. Are you aware of the Liquor Mahua?**

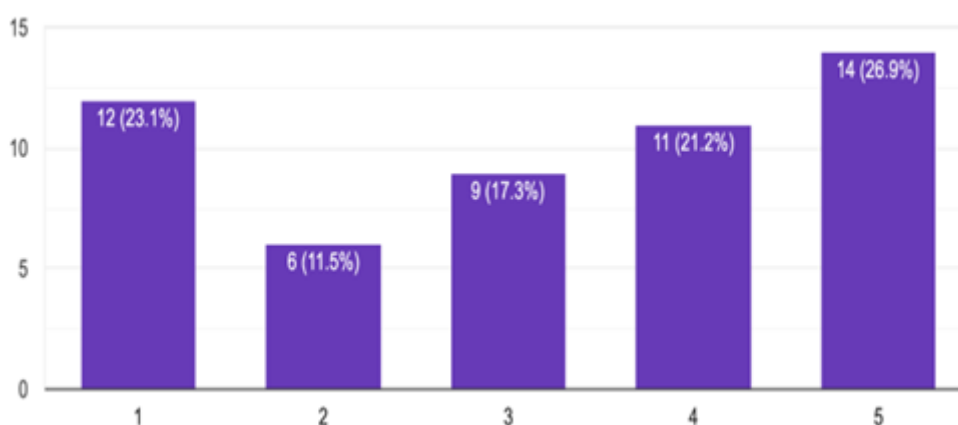


**Figure 14: Awareness of Mahua flower liquor**

**Interpretation:**

Only 28.8% of respondents know of Mahua flower's uses other than culinary use, while the majority 37 out of 52 respondents (71.2%), are unaware of the liquor prepared from Mahua flower.

**13. On a scale of 1-5, how willing are you to try flower-based alcohol?**

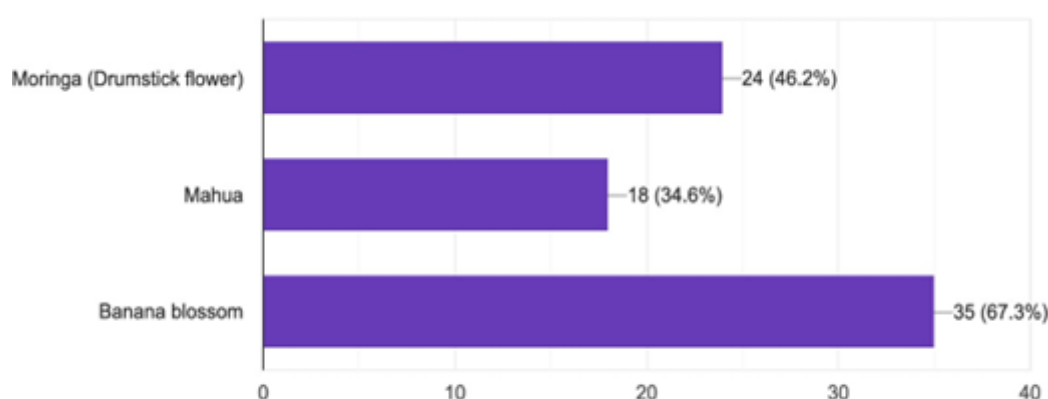


**Figure 15: Willingness to try flower-based alcohol**

**Interpretation:**

14 out of 52 are most likely to try the Mahua liquor, whereas 12 are least likely to try it.

**14. If given a choice, which flower would you like to be served?**



**Figure 16: Choice of edible flowers**

**Interpretation:**

Out of 52 respondents, 10 chose to try all three flowers; 20 chose to try only Banana blossoms, 11 chose only Moringa, and 6 chose only Mahua.

**Discussion & Conclusion**

From the present research, it can be concluded that:

- a) Even though it has a high quantity of nutritious value and may be used in various culinary uses, the Mahua flower is the least well-known of all the edible flowers in the world.
- b) Compared to other consumable forms, the acceptance of edible flowers in beverages is higher. This is because more information was learned about the availability of the flowers.
- c) People may have heard of the flowers that have been listed above, but the culinary usage of these flowers is not addressed even on a local level. As a result, many people are unaware of these flowers' medicinal and culinary uses.
- d) The cooking procedures for all of the flowers mentioned above invested in such recipes are virtually the same; nevertheless, the consequences of the same approach differ depending on



the flower used or the components combined with it.

- e) According to the research that was carried out, it was discovered that the preparation of all of these flowers is dependent on the actions that are taken to contribute to the efforts to become independent and diverse of the related stakeholders use at the macro level; these actions are kept as simple and elegant as possible to maintain the natural flavors that are present in the flowers as well as the nutrients that are present in them.
- f) According to the survey that was carried out, most of the respondents were between the ages of 15 and 25. The youth of this country are knowledgeable of the usage and ready to explore during stretching and assessing the impact of the country's rich cultural heritage (here, talking about the traditional edible flowers). As a result, it is recommended that awareness be spread about the same through social media, which is the much-needed conceptual skill medium. According to the studies conducted, many individuals today are familiar with edible flowers and how they may be used in the culinary arts; nevertheless, further research is still required. Existing facts about edible flowers need to be clarified, such as the risks associated with their consumption and what are truly edible flowers since there are identical species for which one is edible, and the other is not. If the culinary world is prepared for this acceptance, then this query has to make logical sense. Questions of a more particular nature, such as whether flowers are edible or the possible risks, have not yet been adequately addressed. There is a segment of the population that consumes edible flowers. Still, for this market to grow, there has to be more research, more studies, and more dissemination of this information, which will make it possible to manage edible flower production more effectively and efficiently. In this regard, having a general perception of society is more important than having intellectual skills. It is important to refer to the fact that in addition to the statistical significance, certain issues may have motivated the responses relating specifically to individual likes and dislikes. In this regard, we need a general perception of society rather than intellectual skills. Last but not least, the environmental scanning system analyzes the consumption patterns of edible flowers.

### References

1. Chiu, B et. Al. (2021). Exploring the use of *Moringaoleifera* as a vegetable in Agua Caliente Nueva, Jalisco, Mexico: A qualitative study. *Food Frontiers*. 10.1002/fft2.103.
2. Orhan E. et.al.(2015). Tyrosinase and Cholinesterase Inhibitory Potential and Flavonoid Characterization of *Viola odorata* L. (Sweet Violet): Enzyme In hibitory Effect of *Viola odorata*. *Phytotherapy research: PTR*. 29. 10.1002/ ptr.5378.
3. Mlcek, J. et.al. (2011). Fresh edible flowers of ornamental plants-A new source of nutraceutical foods. *Trends in Food Science & Technology*. 22. 561-569. 10.1016/j.tifs.2011.04.006.
4. Luana F. et.al. (2019). An Overview on the Market of Edible Flowers. *Food Reviews International*. 36. 1-18. 10.1080/87559129.2019.1639727.
5. Bisht V. etal. (2019). Mahua an important Indian species: A review. *J Pharmacogn Phytochem* 2018; 7(2): 3414-3418.
6. Guiné P.F. et.al. (2020). "Edible Flowers, Old Tradition or New Gastronomic Trend: A First Look at Consumption in Portugal versus Costa Rica" *Foods* 9, no. 8: 977. <https://doi.org/10.3390/foods9080977>.

7. Web Reference (cited on 10<sup>th</sup> November 2022) available at: <https://food.ndtv.com/food-drinks/banana-flower-or-kele-ka-phool-how-to-cook-this-marvelous-vegetable-1414823>.
8. Web Reference (cited on 10<sup>th</sup> November 2022) available at: [https://www.medicalnewstoday.com/articles/319916#\\_noHeaderPrefixedContent](https://www.medicalnewstoday.com/articles/319916#_noHeaderPrefixedContent)
9. Web Reference (cited on 12<sup>th</sup> November 2022) available at: <https://www.gardeningknowhow.com/ornamental/trees/moringa/about-moringa-trees.htm>.
10. Web Reference (cited on 14<sup>th</sup> November 2022) available at: <https://www.thehindu.com/life-and-style/food/on-the-table-moringa-flowers/article22618945.ece>.
11. Web Reference (cited on 12<sup>th</sup> November 2022) available at: <https://lifeandtrendz.com/moringa-flower-and-its-5-miraculous-health-benefits/>
12. Web Reference (cited on 10<sup>th</sup> November 2022) available at: [https://specialtyproduce.com/produce/Moringa\\_Flowers\\_16553.php](https://specialtyproduce.com/produce/Moringa_Flowers_16553.php).
13. Web Reference (cited on 19<sup>th</sup> November 2022) available at: <https://www.thehindu.com/life-and-style/food/locally-grown-globally-appreciated-super-foods/article26742899.ece>