



## Traditional cuisine used during harvest festivals in India

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### Abstract

India is known for its rich culture, festivals, rituals, traditions, and religious functions, which makes it a radiant nation. Harvest festivals are celebrated vibrantly in India and they signify a mythological legend. This study deals with the plants consumed as food during various harvest festivals and their benefit to humans. The most commonly consumed traditional food during festivals, includes the ingredients like Rice, Moong dal, Ghee, Jaggery, Sesame, Mustard, Peanut, etc. These edibles have various health benefits in human life and are also useful in rehabilitating diseases. This research assists the contemporary generation to understand the consequences of our archaic traditions, as there is a decline in their knowledge regarding our culture and traditions.

**Keywords:** harvest festival, traditional food, culture, India

### Introduction

Mankind has been mesmerized by Mother Nature since he evolved from his primitive ancestors. Plants provided him with food, curative medicine, and shelter, which is perhaps the reason why he worshiped plants rather than the animals which too accorded him with food. worshiping the plants aided in their preservation from getting extinct<sup>[1]</sup>.

Harvest festivals are celebrated worldwide. In India, the time of celebration differs based on climatic zone and harvest time. The harvest festival is a gesture of gratitude to God, for Nature's bountiful blessings. Though the harvest festival is celebrated at a different times, offering food to the Sun god with the staple crop is familiar.

Any traditional function without plants is flawless, many plant species are used traditionally for religious functions. The easy availability of plants makes them a part of every

occasion. WHO states that, approximately 21,000 plant species have the potential for being used as medicinal plants. Awareness regarding such plants is recorded in religious books and passed on to successive generations<sup>[2]</sup>. Our ancestors were experts in using these herbs in various festivals, some were used as blood purifiers as they eliminated the metabolic toxins (blood cleansers), some improved immunity, and some showed antibiotic properties. In India, food culture is shaped by climate, land and access to natural resources.

The harvest festival is not only restricted to India, but many other countries like Argentina, Thailand, Greece, Italy, Israel, Indonesia, the United Kingdom, etc., do celebrate the harvest festivals. Table 1 shows different harvest festivals celebrated in various states of India, they are celebrated indifferent monthss, due to climatic diversity.

**Table 1:** List of harvest festivals celebrated in India

Sl no.	Harvest festivals	States
1	Makara sankranti	Gujarat, Kerala, Tamil Nadu, Haryana, Himachal, West Bengal, and Punjab
2	Baisakhi	Punjab and Haryana
3	Lohri	Punjab
4	Maundy Thursday	Kerala
5	Nuakhai (Nuakhai Parab or Nuakhai Bhetghat.)	Orissa
6	Gudi padwa	Maharashtra
7	Onam	Kerala
8	Pongal	Tamil Nadu
9	Ugadi	Andhra Pradesh and Karnataka
10	Puthari	Karnataka

Food and celebrations are intertwined for eternity. Studying and knowing about the seasons is important to make an efficient diet plan for individual food and its usage, as food is specific to the season. The food system can deliver numerous biological functions through dietary components in the human body. Three pulses Urad (*Vigna mungo*), Mung (*Vigna radiate*), and Masoor (*Lens culinaris*) were the most commonly used grain legumes during Yajurveda.

Indian cuisine consists of Rice, Moong dal, Ghee, Jaggery, Sesame, Mustard, and Peanut as major ingredients which

are rich sources of proteins and carbohydrates. A variety of dishes prepared from them give different flavors which stimulate our sensory buds. Some are fried, some boiled, and some are roasted for the traditional preparation.

This research contributes to the growing call for a better understanding of how these traditional diets play an important role in our routine life.

## Materials and Methods

### Study area

The survey was done among various categories of the populace in respect of their traditional knowledge, about the harvest festivals and rituals that are celebrated in their states. The data regarding the cuisines and the plants used were collected through personal interviews with elderly people, local informers, Ayurveda doctors, specialized professors, and information was gathered from different Websites and recorded to intensify the study [3, 4, 5, 6, 7, 8].

### Data collection

Hundred people from different states of India were interviewed about the role of plants used during various harvest festivals and their medicinal uses. The survey was done as a part of a project by students belonging to different states. Table 2 exhibits the ratio of men and women interviewed (15%, and 85% respectively). The interview questions were about festivals, cuisines prepared, parts of the plant used, medicinal properties, and their significance in human health.

### Statistical analysis

Types of food consumed during various harvest festivals were analyzed by Relative Importance (RI) and utilization frequency indices [9].

**Table 2:** Demographic information of the informants.

Variables	Informant Category	Number
Gender	Male	15
	Female	85
Category of people	Students	30
	Ayurveda doctors	10
	local informers	20
	elderly people	20
	specialized professors	20

### Cuisine prepared during harvest festivals

Traditional foods are representative of the traditions and many groups of people follow this culture [10, 11]. Following are the harvest festivals celebrated in India

**1. Makarasankranti / Suggi habba:** According to Hindu mythology, during Makarasankranti the Sun enters the zodiac sign of Capricorn or Makar which marks the end of winter and the beginning of spring i.e. longer days. The onset of spring and the end of winter leads to joy, fun, and festive celebration. The food items prepared during this festival include-

1. Ellu Bella (Sesame and Jaggery)- During Makarashanthi, consuming Ellu bella is a part of the tradition. The consumption of this product, beat the winter by providing heat and energy to the body. Sesames and jaggery sweets work well to provide a perfect sugar substitute.
2. Sesame seeds strengthen bones, boost hair quality, control blood sugar and keep skin healthy, as they are loaded with protein, Calcium, Iron, Magnesium, Manganese, Phosphorus, Vitamin B1, Zinc, Molybdenum, Selenium, and dietary fibre. Til (Sesame) laddu is packed with unsaturated fats. Consumption of til laddoo minimizes the risk of heart disease by reducing cholesterol levels.

3. Obatu is a dish composed of Channa dal (Bengal gram), and Jaggery. Channa dal which is rich in plant proteins, vitamins, and fibre, aids in improving digestion, weight loss, reduction of bad cholesterol, and fatty liver. It is an anti-diabetic, alongside an excellent source of Iron, hence improving haemoglobin level.

**2. Baisakhi** (or Vaisakhi): is a two- fold celebration of harvest festival and new year bash for Sikhs (Punjabis). People celebrate nature's gratuity with a festive dish. The edibles prepared are

1. Phirni is a thick and creamy pudding prepared from grounded Basmati rice.
2. Kada Prasad is a sort of Semolina halva prepared with an equal quantity of whole-wheat flour, sugar, and clarified butter.

**3. Lohri:** Lohri is derived from the word "Tilohri", 'til' means Sesame, and 'rorhi' means Jaggery. Punjabis celebrate Lohri on the eve of Makarsankranti. Lohri is associated with 'Winter Solstice' (which denotes the beginning of the shortest day and the longest night). This festival indicates the end of winter and the arrival of spring. On this day Jaggery, peanuts, til ki chikki, and popcorn is offered to the fire as a way of paying gratitude to Nature. The traditional Punjabi menu includes Sarson da saag and Makki di roti, til ki barfi, gur ki roti, makhana ki kheer, panjiri, pinni, till laddoo, gondh laddoo, gajar ka halwa, murmure ke laddoo, and ganne ki kheer.

1. Makki ki roti (Maize flatbread) and Sarson da saag (Mustard green curry), is the main dish Prepared during Lohri and served with butter. Sarso da saag is jam-packed with anti-oxidants like vitamins A, C, E, and K, hence consumption of this prevents damage due to oxidative stress.
2. Ladoos made of Jaggery and Sesame are rich in minerals, they cleanse the body as well as keep the body warm.
3. Chewing sugarcane or consuming sugarcane juice help treat urinary tract infections and provide a boost of antioxidants. The diuretic properties of sugarcane help in the proper functioning of the kidney. It has zero content of fat, cholesterol, fibre, protein, and minerals like Sodium, Potassium, Calcium, Magnesium, and Iron. The alkaline nature of it helps to maintain the acidic level of the body.
4. As per Ayurveda, Gond helps to boost energy and increase stamina. It's used to treat low Vitamin D levels in the body. The lubricating nature of gond helps to reduce back pain, and boost stamina. It helps postpartum women to regain their strength and improves lactation.
5. Makhana having a neutral taste is an excellent source of nutrients and an antioxidant. It's rich in Calcium, protein, carbohydrates, Phosphorous, Iron, Thiamine, and Zinc. It helps stabilize blood sugar, supports weight loss, and anti-aging, and promotes heart health.

**4. Maundy Thursday:** It is celebrated by Christian community all over the world during the holy week. During this festival, unleavened bread (Passover meal) is consumed. Unleavened bread is made without adding yeast. According to Mosaic law, removing yeast from the house has become symbolic of removing sin. A similar tradition of

Passover meal is named Pasaha Appam and Paal is prepared in India, especially in Kerala. The whole Christian community awaits the flavour of the traditional unleavened bread or Pasaha Appam.

1. Pasaha Appam- It is prepared using rice flour, lentil, cumin and garlic, which has become the trademark of Christian homes in Kerala. A replica of the cross made of palm leaves is placed at the centre of Appam.
2. Paal is made with rice flour, jaggery and coconut milk. The fermentation of food is completely avoided.
3. Immuno-compromised people cannot consume fermented food, as it may cause allergies and symptoms like bloating, headache, infections from probiotics etc. Hence non-fermented food is very healthy for all. Jaggery, coconut milk and rice benefits are explained earlier.

**5. Naukhai:** Naukhai is the harvest festival of Western Odisha. 'Nua' means new, and 'Khai' means to eat. Naukhai falls on Bhadraba Shuklapakhyia Panchami tithi, which is followed by Ganesha Chaturthi. Celebration is incomplete without a sweet dish, Nua Bhaat (rice), Sweet dishes like arisa, Kakra, Amanda, chakli, mug-bara, are prepared during this festival.

**6. Gudi padwa:** Telangana, Andhra Pradesh and Karnataka celebrate this fiesta as Ugadi, whereas Maharashtra and Goa celebrate it as 'Gudi Padwa'. As per the Hindu lunar calendar, gudi padwa marks the onset of Chaitra month, and the beginning of the spring season.

Popular dishes prepared are Puran Poli, Kaju Modak, Coconut Laddoo, Shrikhand, Kesari Bhaat, Sweet Shakarpare, Banana Sheera and Basundi, Shrikhand poori, Puran Poli, Sadha bhat, varieties of vada, Kadhi, and amras with desi ghee.

1. Consuming Gur (Jaggery) and Chana (Bengal gram) together boost to fight constipation. The richness of fibre in Chana dal aids in proper digestion. The minerals present in Jaggery helps digestive enzymes stimulate bowel movements to relieve constipation.
2. Amras prepared from Mango, protect against Anaemia, Cholera, and Tuberculosis. Rich anti-oxidants and beta carotene bestow healthy eyes. Abundant contents of Magnesium and Potassium assist to prevent muscle cramps.
3. Kaju (Cashew) is endowed with proteins, fats, carbohydrates, fibres, Copper, Magnesium, Manganese, Vit K, B6, Phosphorous, and Zinc. The fats present in it help to improve good cholesterol and reduction of bad cholesterol in the body. It is a good antidiabetic, antioxidants, and also prevents cardiovascular disease.
4. Coconut contains ample amount of Copper, Iron and Magnesium, which improves the bone structure and prevents osteoporosis. They are good antioxidants and aid in the formation of red blood cells, and selenium. Its antimicrobial properties help to maintain oral health. The presence of medium-chain fatty acids (MCFAs) supports the digestion of animal fats.
5. Banana is a super-food which provides good stamina, strengthens bones, and boosts energy in athletes. It controls high blood pressure, and the ample amount of fibre present in banana, aids in good digestion as well as weight loss. They are rich in Folate, antioxidants, vitamin C, and Potassium, beside this it also contain

sleep-promoting nutrients like Magnesium, Tryptophan, Vitamin B6, Carbohydrates, and Potassium.

6. Potato is rich in Iron, Phosphorous, Calcium, Magnesium, and Zinc. It strengthens the body to build and sustain the bone structure. Potassium encourages vasodilation and is a good antioxidant.

**7. Onam:** Onam denotes the beginning of the annual harvest season in Kerala. It is celebrated for 10 days and each day of the harvest festival marks the progress of Mahabali's journey back home and its significance. During this festival, several traditional rituals are performed like pookalam, Sadhya, Snake boat races, Onappottan, Kaazhchakkula, Puli Kali, Kaikottikkali, etc.

1. Sadhya is served on fresh banana leaves. The leaf contains a natural antioxidant called polyphenols, when warm food is served on the leaf, the antioxidant is absorbed in the food, which provides all necessary benefits.
2. Onam festival is known for its sumptuous food, around 25 cuisines are prepared, which includes boiled red rice served with uppari, papad, sambar, kaalan, aviyaal, parippu, pullisseri, pickles, rasam, khichadi, coconut chutney, buttermilk, and Payasam, etc. The significance of food items is mentioned in the other festivals.

**8. Pongal:** It is a Dravidian harvest festival showing gratitude to the life-nurturing Sun god, the farm animals and people who support agriculture are venerated, all those who helped the farmer in his pursuits. It is a more than 1000 years old festival, which denotes the beginning of spring and end of winter.

During this festival raw turmeric rhizome is tied around the mouth of the new mud pot on an open fire. Sugarcane and flowers are decorated to bring the festive jubilant. It signifies a new and bountiful beginning, and adds an ancient charm to the festival. The first ray of sunlight is welcomed by offering Pongal (sweet pongal).

Mango and Neem leaves are hung around to ward off disease. The floor is decorated by drawing beautiful kolams, especially rice flour is used to draw as it provides foodstuff for the tiniest creature.

1. Sweet Pongal – Sweet dish made up of rice and mung dal, enriched with dry fruits like nuts, and resins dunked in ghee. This is presented to Sun god as gratitude.
2. Ven Pongal – A delicious South Indian breakfast comprised of rice and yellow moong lentils is prepared.
3. Ghee, a clarifying butter is rich in fat, it contains high concentrations of monounsaturated Omega-3s. These healthy fatty acids support a sound heart and cardiovascular system. Ghee in daily diet helps to reduce unhealthy cholesterol levels.
4. Moong Dal consists of Vitamins (A, B, C, and E), minerals like Iron, Calcium, and Potassium. It is low-fat food, rich in proteins, and fibre, hence avoid weight loss,

**9. Ugadi:** The festival of Ugadi indicates the arrival of the spring season. The term "Ugadi" has its origin in two Sanskrit words- uga (age) and adi (beginning): "the beginning of a new age". It symbolizes both the New Year and harvesting season in Karnataka.

1. The dishes prepared on this occasion emphasized the six different and distinct flavors of human life, named Bevu Bella or Ugadi Pachhadi. Bevu (Neem) indicates bitterness and Bella (Jaggery) sweetness. Neem flower/buds, tamarind, unripe mango, chilli powder, salt and jaggery are used to prepare this dish. Each ingredient signifies distinct taste. The bitterness of Neem symbolizes the difficulties in life, the sourness of Tamarind illustrates challenges, spicy Chilli powder indicates angry or upsetting moments, tangy unripe Mango signifies surprises, salt represents an interest in life, and the sweetness of jaggery stands for happiness in life. Neem is considered to be an insecticide, and good for health. Jaggery increases haemoglobin in the blood and provides additional energy for the body. Consuming neem and jaggery together, during summer, helps to ward off many diseases.

**10. Puthari:** It is celebrated during Kodava month by the Coorg people as gratitude for another plentiful year. It falls at the end of November and the beginning of December.

Puthari celebrates the new crop of rice that promises a year of abundance.

Puthari means “new rice” it is a traditional harvest festival of Coorg. On maturity of crop, the appearance of the full moon in the sky indicates the rice crop is ready for harvest. The Coorg people with their customary gusto express their gratitude.

1. Two special types of desserts prepared during this festival are thambutt (made from roasted rice flour and mashed banana) and rice payasam.
2. The other foodstuffs prepared are akki roti, puttari kalonji, payasam, yam, coconut, sesame, ghee, jaggery, and honey.

Banana leaves, green mango, and colourful flowers are used to decorate the house and the lane leading to the field.

Table 3 explains that the staple food of Indian cuisines, are mainly cereals and pulses, which are a rich source of carbohydrates and proteins. Indian dishes are incomplete without sweets, and food adjuncts that add additional flavor to the food and act as good appetizers.

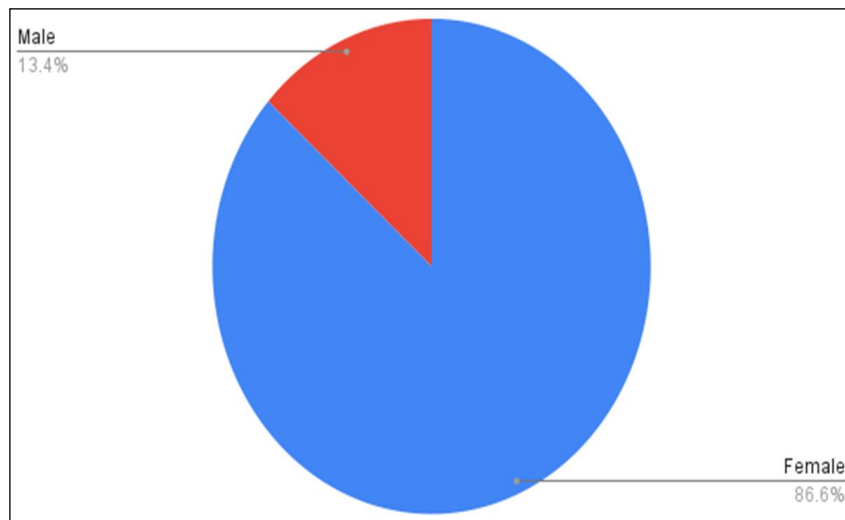
**Table 3:** Festivals and cuisine.

Sl no.	Festival name	Food/ Dishes prepared
1	Makarāsankranti / suggi habba	Ellu bella, jagerry, sesame laddu, obbattu
2	Pongal	Ven pongal, sweet pongal, ghee
3	Lohri	Sarson da saag, Makki di roti, til ki barfi, gur ki roti, makhana ki kheer, panjiri, pinni, till laddoo, gondh laddoo, gajar ka halwa, murmure ke laddoo, ganne ki kheer.
4	Baisakhi	Phirni and khada prasad
5	Gudi padwa	Kothimbir Vadi, Batata Vada, Sabudana Vada, Chakli, Poori Bhaji, Batata Bhaji and Masala Bhaat, Pura Poli, Kaju Modak, Coconut Laddoo, Shrikhand, Kesari Bhaat, Sweet Shakarpare, Banana Sheera and Basundi.
6	Naukhai	Arisa Pitha, Nua Bhaat, a, Jau, Tomato Khatta
7	Puthari	Thambitu, kari, puttari,
8	Onam	boiled red rice served with appam, aviyal, parippu, pullisseri, olan, khichadi, coconut chutney, pappad, buttermilk and Payasam
9	Maundy Thursday	Pasaha appam and Pal
10.	Ugadi	Bevu Bella, obattu, sweets

**Results and discussions**

The present study reveals the knowledge of edibles prepared in the majority of the festivals in different states of India and their beneficiary output. The role of plants and their uses during various festivals is unknown to many people. The

survey discloses that women have better knowledge regarding the culture, heritage, and traditional food items when compared to men as seen in Fig 1.



**Fig 1:** Ethnobotanical knowledge of Male and females about harvesting food.

The survey was done on ten distinct harvest festivals celebrated in different states of India. The statistical analysis signifies that the population which responded to this survey was from the Southern part of India, hence,

Makarasankranti and Onam festivals exhibit a higher percentage of celebration compared to other harvest festivals (Fig 2).

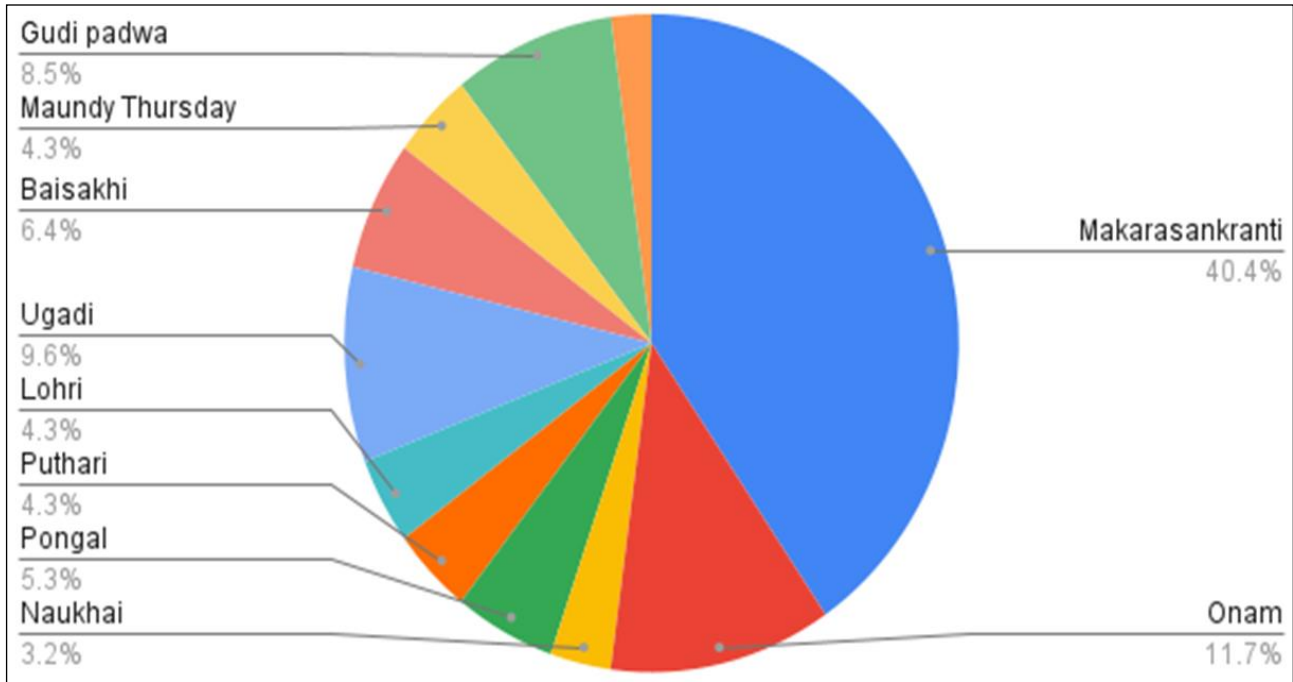


Fig 2: Number of harvest festivals celebrated according to the survey.

Food and celebration are the two faces of coin which shares an inseparable bond from an aeon ago. According to the survey conducted the top seven food items used in the

preparation of various dishes are rice, moong dal, ghee, jaggery, sesame, mustard, and peanut (Fig 3).

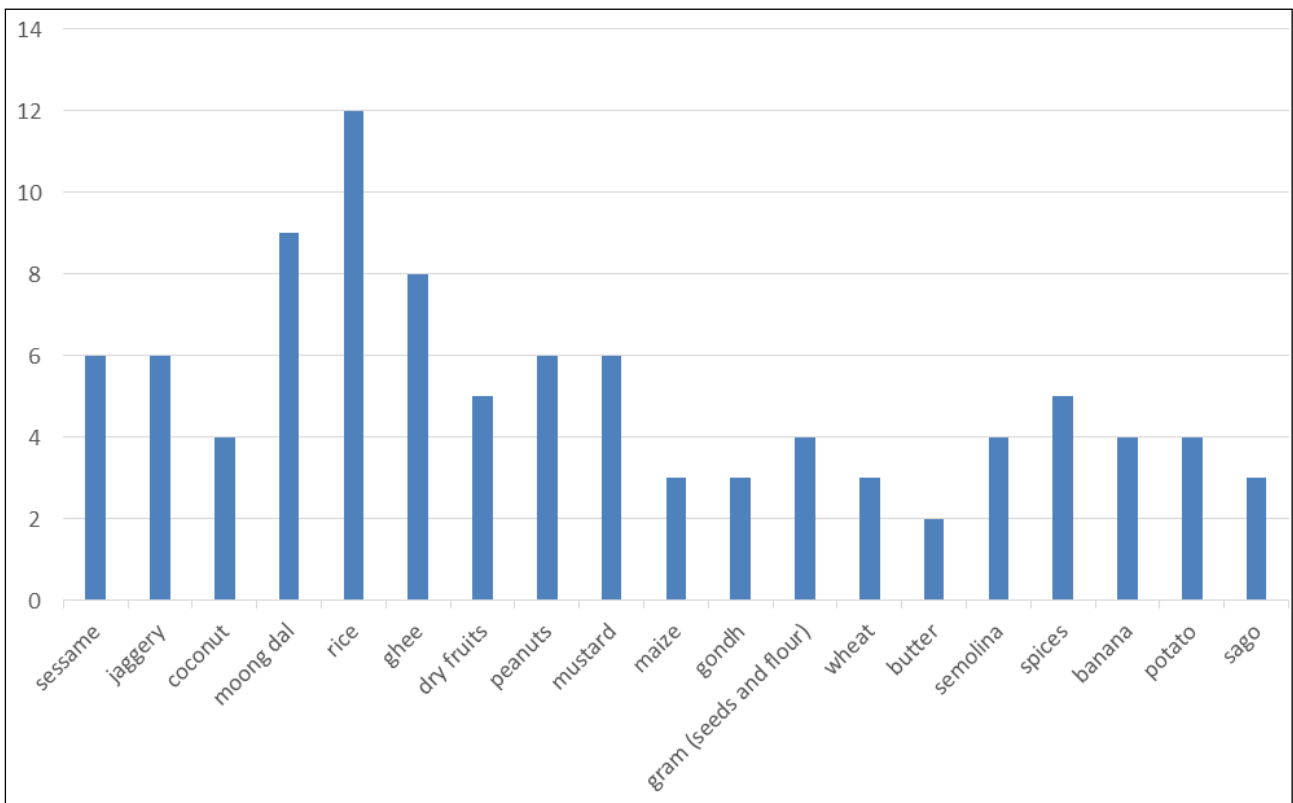


Fig 3: Food consumed during various harvest festivals.



### Nutritional values and significance

Rice is a versatile grain consumed by people around the world due to its easy accessibility. It is gluten-free and rich in dietary carbohydrates, that helps in replenishing muscle glycogen. It is the powerhouse of energy that is easy to digest and also keeps the gut healthy. It contains diuretic and digestive quality thus aiding in relieving constipation.

Ghee is a golden ingredient of India's culinary heritage. It is a superfood used by ayurvedic practitioners as it has multiple benefits like antioxidant, anti-inflammatory, cure coronary disorders, enhances immunity and digestive power by stimulating hormones. Consuming a part of ghee in the diet reduces the glycemic index of the meal. It helps in detoxification as well as in the reduction of bad cholesterol levels (LDL) and increases good cholesterol levels (HDL).

Jaggery has immense health benefits which endorse Ayurveda to use for therapeutic and pharmaceutical purposes. Jaggery is an immune-boosting food, rich in antioxidant property and iron content hence it prevents anemia and acts as a good body cleanser.

Sesame is a common component of cuisines across the world. It consists of high energy sources with several benefits like anti-oxidants, anti-diabetic, anti-cancer, anti-inflammatory, and anti-microbial activities. It lowers blood sugar, and is rich in fibre content. It plays an immense role in the reduction of cholesterol and triglycerides and helps in hormone balance.

Mustard are condiment consumed in small amounts, it has a plethora of health benefits, loaded with vitamins and minerals. It prevents cancer, indigestion, cardiovascular diseases, and arthritis. It relieves headaches, and strengthens bones, teeth, gums, and cure respiratory disorders.

Peanuts are commonly called "Almonds of the poor", as their nutritive value is similar to almonds and is affordable. They are a magnificent source of plant-based protein, rich in fibre, vitamins, and minerals. Richness in vitamin B1, niacin, and folate sharpens the brain. It is good for diabetic patients, and aids in maintaining a healthy weight. Being rich in antioxidants it boosts immunity. Regular consumption of this helps in strengthening bones.

Moong dal is a key component of a wholesome meal and is rich in protein. Its cooling nature prevents heat strokes. It is a good anti-oxidant, anti-diabetic, and is rich in Potassium, Magnesium, and Fiber. It lowers cholesterol thus reducing heart disease, and blood pressure, Moong dal aids digestive health, being rich in folate it is recommended during pregnancy for healthy fetal growth.

Cooking reduces the trypsin inhibitors in all legumes.<sup>12</sup> Rice along with dals improves the nutritional, and protein efficiency value. Indian traditional foods are recognized as a functional food because of the presence of functional components such as body healing chemicals, antioxidants, dietary fibres and probiotics. It also aids in weight management, blood sugar maintenance, and immunity of the body.

### Conclusion

The harvest festival is an exuberant time for Indians as it brings the entire family and community together. We are astonished to be a part of such a rich and holistic tradition. For agriculture, this particular fiesta is of great importance, where everyone wonders at Nature's richness as it plays a nurturing role.

The splendid plentiful Nature is a heritage that should be conserved for future generations, not be spoiled. Festival promotes our culture, heritage, and ethnic food. In this respect, this research article interrogates the relationship between harvest festivals, and traditional knowledge about food. The role of understanding the traditional food in human welfare, will encourage the future generation to carry on our traditional customs and beliefs.

### Acknowledgement

We would like to thank the Stakeholders for giving us informative information and enabling us to conduct this survey successfully.

### Declarations

#### Competing interests

The authors declare that they do not have competing interests.

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