

Abir Gulal

**Biodiversity
for
Natural Colours**



NAVDANYA



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सागे भेज दे

ऊंट चढ़ी घर आवे लाडो
सागे नहीं भेजूं रे
रूण जुण रूण जुण बैल जुड़ादियुं
लहरियो लादियो रे
के सागे भेज दे

वाहु वाहु के सागे भेज दे
रंग रंगीली होली आई रे
के सागे भेज दे

म्हारी लाडो नवा दिनां में
नौमन मेहुन्दी मांडे रे
अरे दसमन मेहुन्दी लाय मेल दियो
बैठी मांडे रे, के सागे भेज दे
वाहु वाहु सागे भेज दे.....

म्हारी लाडो नवा दिनां में
नौमन लाडो खार्वे रे
अरे दसमन.....
बैठी खार्वे रे, के सागे भेज दे
वाहु-वाहु सागे भेज दे.....

Preface

Navdanya has always been a pioneer in promoting biodiversity based products, be it by way of agricultural produce or natural alternatives to toxic chemical products.

***Abir Gulal** is yet another step in this direction. We are making available safe and natural colours so that people can plan an ecological Holi with biodiversity-based colours that will neither harm their health nor the Earth that sustains us.*

Our team at Navdanya — Upasana, Anusuya, Anuradha, Srilata, Maya, Janaki and Satyasan — has worked on a “Holi footing” to compile this booklet which resurrects collective memory, ecological ways of preparing colours, both for playing Holi and for natural dyes.

We would also like to acknowledge those people and organizations whose pathbreaking contributions in this area of sustainable biodiversity has guided our research: PPST, Madras; Indian Council of Forestry Research & Foundation, Dehradun; Arya Vaidya Sala, Kottakal; ToxicsLink, Delhi; Vegetable Dye Research and Development Society, Dhaka. The Internet was also a major source of information. We gratefully acknowledge all the sites, too many to name individually, that carry information on natural dyes and Holi.



What is Navdanya?

Navdanya is a movement to protect earth's diversity. Working closely with awakened village communities on seed banks and genetic resource conservation, Navdanya aims at integration: from the seed to the table, from the farmers' fields to parliaments, ministries and international fora.

The Navdanya Movement is broadbased and dynamic, where members work together to create a harmonious world. A plentiful and beneficent earth that provides all we need, as we care for it and are sensitive to its needs. An earth equally shared with all species. With a discipline born of understanding, a caring born of insight.

The Navdanya Movement invites involvement as well as continuous and critical self-appraisal.

Navdanya's on-going activities include a conservation farm in Dehradun. Promoting and supporting community conservation initiatives in Tamil Nadu, Karnataka, Orissa, Bengal, Ladakh, Madhya Pradesh, Garhwal Himalayas. Workshops and seminars on seeds, patenting and organic farming. Promoting decentralisation and democratisation of rights to natural resources and biodiversity. The production and marketing of organic foods, to help the farmer and give the consumer access to clean and nutritious food.

Navdanya invites you to join this movement. Do call us, meet us, and join us in our endeavour to create the harmony which alone can ensure the survival of our beautiful planet and all that live on it.



holi hai Bhai! holi hai!

Holi is one of the important festivals amongst the innumerable festivals of India and easily, the most colourful. It is celebrated on the twelfth day of the waxing moon of the month of *Phalgun*, the ninth month of *Vikrami Samvat*. If we look closely, most of India's festivals are biodiversity-linked and Holi is no exception. Since times immemorial, Holi has been celebrated to say good-bye to the harsh winter and welcome Spring, also called *Rituraj*, the King of all seasons. This is also a time to reap the golden harvest of rabi crops like wheat and barley, etc. after the hard toil of the long and cold winter by the majorly agrarian society of our ancient country. So to celebrate the advent of spring and say thank you to bountiful Nature for a good harvest, people celebrate Holi. They light huge bonfires at *nukkads* (cross-roads) at night and place a plant of sugarcane in the middle of the fire. At some places, sheaves of newly harvested wheat, barley and green gram are roasted in the bonfire and eaten.

Rangon Ki Doli hai!

Dhulendi, a day after Holi is burnt, is the actual festival of colours, when people forget all the differences of age, caste and creed and indulge in playing colours- *abir gulal*- with gay abandon and fervour. There is also lots of singing and dancing accompanying the celebrations. *Phaags* or Holi-songs are sung with the accompaniment

of *Dholak*, a traditional musical instrument. Role- reversals, assertion of feminism, fools' conferences and *Hasya-Sammelans* are some other aspects of this multi- faceted festival of biodiversity. On this occasion, people exchange greetings by visiting the houses of their friends and relatives.

Dushton Ka Naash hai!

As is common with other festivals, Holi too has its fair share of mythological legends associated with the celebration of the victory of Good over Evil. The most popular is that of *Hiranyakashyap*, his sister *Holika* and son, *Prahlad*. The bonfire lit on this day represents *Holika*, the evil side and the unscathed sugarcane symbolizes *Prahlad*, the good side.

Another popular legend is that of the demonic *Putana*, who wanted to kill baby *Krishna* on the order of *Kansa*, the King of Mathura. When *Putana*, also called Holi, put the child to her poison- smeared breast, the baby, said to be the incarnation of Lord Vishnu, sucked her out of life.

Saat Suron Ki Toli hai!

The festival of Holi brings out the latent feeling of harmony and brotherhood amongst the people of India. Though playing with colours is common everywhere, each region has evolved its own way of celebrating Holi. The *Lathmar Holi* of Barsana and Nandgaon is the most famous regional Holi celebration and draws a horde of tourists every year.

At Anandpur Sahib in Punjab, Sikhs celebrate a special festival called *Hola Mohalla* on the day after Holi. It marks a display of ancient martial arts and mock battles. The Holi celebrations in Bengal are marked by performances of *Dolothsava* in which the image of Lord Vishnu is swayed in decorated swings and coloured powder is offered to God.

In South India, Holi is not celebrated with as much fervour as in North India, though some adventurous people do indulge in merry-making and playing with coloured water. The peasants/labourers go from house to house singing folksongs and asking for small tips.

Holi is now gradually assuming the status of a national festival celebrated by all sections of society.



सरजू के तीर

ये दो राज दुलारे होली
खेलत सरजू के तीर ।

राम के हाथ कनक पिचकारी
लक्ष्मण हाथ अबीर ।

राम के भीगे लतपत पणिया
सीता के भीगे चीर ।

भरत के हाथ लाल गुलाल
शत्रुघ्न हाथ अबीर ।

सरजू रंग गयो नीर ।

Rangon Ka Atyachar hai!

The Holi celebrations are linked closely with the nature. The riot of colours on Holi matches the riot of flowers of spring in full bloom. Earlier, the coloured powders used for playing Holi used to be made from flowers, roots and herbs that were based on the bio-diversity and the bounty of the nature. These colours worked as softeners for the winter-dried skin but now synthetic ingredients are used for the purpose. The plants from which these colours were derived were endowed with therapeutic values and had some sacred value also.

Forgetting the gifts of nature, we have found synthetic and toxic substitutes to traditional colours, which not only harm our health but are hazardous to Nature also. The Holi revelers innocently throw coloured water from *Pichkaari* (a traditional device to spray coloured water from a distance keeping oneself safe) and smear *Gulal* (coloured powder) at each other, little knowing that these colours may harm them physically and may impair them even permanently. This is because these seemingly harmless, “pleasing to eye” colours contain cheap materials like mica, acids, alkali, pieces of glass, which not only induce skin disorders like abrasion, irritation, itching but also impair vision, cause respiratory problems and also cancer.

Inka Kya Vichar hai!

According to the study conducted by Vatavaran and Toxics Link, there are three categories of colours available in the market- pastes, dry powder and water colours- all of which are hazardous. The hazard increases when these are mixed with oil and applied to the skin and these “rogue” chemicals sneak easily through the skin into the body system.

PASTES

Holi pastes contain very toxic chemicals that can have severe health effects as follows:-

Colour	Chemical	Health effects
Black	Lead Oxide	Renal failure
Green	Copper Sulphate	Eye allergy, puffiness and temporary blindness
Silver	Aluminium Bromide	Carcinogenic
Blue	Prussian Blue	Contact dermatitis
Red	Mercury Sulphite	Highly toxic, can cause skin cancer

(Source: Vatavaran)

DRY COLOURS (GULAL)

Commercially available dry colours or *gulals* have two components- a colourant that is toxic and a base which could either be asbestos or silica, both of which are capable of causing health hazards. While silica may dry as well as chap the skin, asbestos, which is a known human carcinogen, gets built up in the body tissue. The major constituents of the colourants in *gulals* are mostly heavy metals that are known systemic toxins.

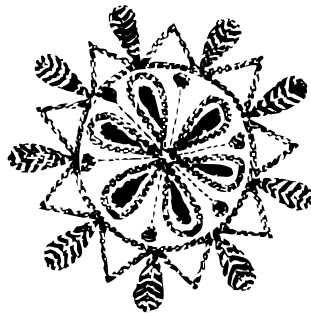
Health Effects of Heavy Metals

Heavy metals	Health effects
Lead	Learning disability
Chromium	Bronchial asthma, pneumonia
Cadmium	Allergies
Nickel	Itai Itai disease (fragile bones)
Mercury	Minimata disease
Copper	Adverse effects on eyes, skin, respiratory system, liver and the kidneys
Zinc	Metal fume fever, dryness and irritation of throat, cough, fatigue, fever, chills & sweats
Iron	Fever, skin becomes sensitive to light

(Source: Down to Earth)

WATER COLOURS

Gentian violet is the most widely used colour concentrate during Holi. But this innocuous concentrate can cause skin discolouration, dermatitis, develop skin allergy or irritation of the mucous membrane. It is very toxic in concentrated form and can lead to keratoconjunctivitis and dark purple staining of the cornea. These colours have an alkaline base which can cause injury, the severity of which depends upon the area of contact and the degree of penetration.



आई रे होली आई

हो मोरी भीजे ऐशम चुनर
ओ में कैसे खेलूं होली
होली आई रे आई रे होली आई रे आई रे
आई रे आई रे होली आई रे

जाव जाव मोरी लतपत सारी
रंग डारी मोरी कृष्ण मुरारी
श्याम री सेंगे जब जैगें घर
मत कर बारा जोरी रे
हो मोरी भीजे

श्याम सखा संग धूम मचावत
खूब अबीर गुलाल उड़ावत
उड़त गुलाल लाल मचे बादल
कुमकुम की गती न्यारी रे
हो मोरी भीजे

Phoolon Ki Bahar hai! Rangon Se Nikhar hai!

The most obvious alternative to a chemical, toxic Holi is a return to the traditional natural sources of colours, obtained from leaves, flowers, roots and other products of our rich biodiversity. This colourful festival can be celebrated with all the fervour and gaiety with these eco-friendly colours, and at the same time, help in preserving our traditions and biodiversity as well.

You can make natural, non-toxic Holi colours very simply in the home itself with a number of plants sources as given in the list below. These plants have also been traditionally used to extract vegetable dyes. The local or vernacular names and some simple steps to make these colours are also being provided for your convenience. These are but a few numbers of plants to start with. Actually, you should not limit yourselves to this list. Any plant source having colourful foliage or flowers found in your surroundings can be used for making Holi colours. What is needed is just a bit of innovativeness and sheer doggedness to play only safe and natural Holi. So start drying flowers, leaves and fruits now or whenever they blossom to be able to play Holi the way it has always been played and also encourage the children to adopt a plant to make their own natural and safe Holi colours.

Remember that you must always dry the flowers and the leaves in the shade so that they do not lose their original colour.

RED/CRIMSON/SCARLET

The sheer vibrancy of red has given this colour a very special place in Indian life. Red is considered auspicious – the colour associated with the female principle – *Shakti*.

This is also the choice colour for bridal wear, the colour that embodies action, optimism, and often aggressive ambition. Being the colour of blood, red symbolizes life itself in all its different facets.

1. **HOLLYHOCK** (*Althea rosea*)

Family: Malvaceae

Parts used: Flowers

Flowering: Feb–March

Method: The large red flowers, if soaked overnight in water, will give red coloured water.

Other Uses: They are considered emollient♣, demulcent♦ and diuretic♥, used in chest complaints.

2. **MOUNTAIN EBONY** (*Bauhinia variegata*)

Family: Caesalpiniaceae

Local names: Ben- Raktakanchan;

Guj- Kovindara; Hin- Kachnar;

Kan- Arisinatige; Mal-

Chuvannamandaram; Mar-

Raktakanchan; San- Kovidara;

Tam- Shemmandarai;

Tel- Devakanchanamu

Parts used: Flowers and Bark

Flowering: March–April

Method: The fragrant, large pink or white flowers can be used to get coloured water by soaking overnight in water.

Other Uses: Roots are carminative, their decoction prevents obesity on consumption. Flower buds are pickled and eaten as vegetable. Dried buds are used for diarrhoea, dysentery and piles. Flowers are laxative♣.



Bauhinia variegata

♣ softening ♦ soothing
♥ promoting the flow of urine
♠ having the action of loosening the bowel

Seeds yield a fatty oil. Bark yields a fibre; also used for dyeing and tanning. Leaves are used as fodder. Wood is used for agricultural implements.

Cultural Value: It has often been depicted on Buddhist sculptures. The flowers are offered to Lord Vishnu on *Vaikuntha Chaturdashi Vrata*.

3. **BEET ROOT** (*Beta vulgaris*)

Family: Chenopodiaceae

Local names: Hin- Chukander

Parts used: Roots and leaves

Method: The dried roots or leaves, when powdered, will give red coloured powder. The roots can be sliced and boiled in water to get red coloured water.

Other Uses: Roots are eaten boiled or in salads. Leaves are eaten as spinach. By-products of beet sugar industry are tops, the pulp or slices, the filter cake and molasses. Tops and pulp are used as stock feed and filtrate as manure.



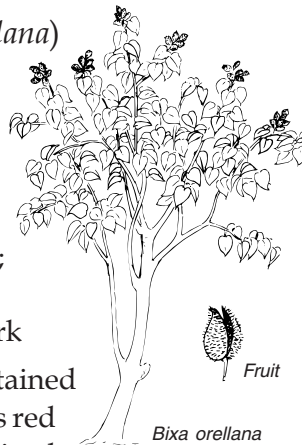
4. **ANNATTO PLANT** (*Bixa orellana*)

Family: Bixaceae

Local names: Hin- Sinduria, Latkan; Kan- Kappumankala, Rangamali; Mal- Kuppamannal, Kurannumannal; San- Sinduri; Tam- Sappira virai, Uragumanjal; Tel- Jaffracettu

Parts used: Fruits, roots and bark

Method: The Annatto dye obtained from the fruit pulp can be used as red powder. The powder can be mixed with fuller's earth to get red paste to use as colour concentrate for making water colour.



Other Uses : The roots, bark and seeds are antiperiodic♣, antipyretic♦ and astringent. They are useful in intermittent fevers and gonorrhoea♥. The pulp surrounding the seed is a mosquito repellent, and is useful to treat dysentery. The non-toxic dye, Annatto is used for colouring edible materials.

Cultural Value: The red Annatto dye is used as *roli*, one of the items of worship and as *kumkum* or *sindoor*.

5. **SAFFLOWER** (*Carthamus tinctorius*)

Family: Asteraceae

Local names: San- *Kusumbha*; Hin- *Kusum*, *Kameh*; Ben- *Kusum*; Mar- *Kardai*; Tel- *Kushumba*; Guj- *Kusumbho*; Kan- *Kusume*; Tam- *Sendurakam*.

Parts used: Flowers

Flowering: February–April

Method : The dried and ground flower heads are mixed with fuller's earth (*multani mitti*) and boiled to give the paste a deep red hue. This red paste is used as colour concentrate to be mixed with water when needed.

Other Uses: Flower heads are a source of a red and yellow dye called safflower, which is used for colouring butter, liqueurs and candles; also employed in cosmetic industry in the production of rouge. The best varieties are Bengalese and Iranian. Fruits produce a drying oil suitable for use in paints and varnishes and linoleum and other similar products. Also used for edible purposes. Oil is applied to sores and rheumatic swellings. Oil cake is excellent as cattle feed.

Cultural Value: The flowers are used in religious worship.

♣ preventing the action of loosening the bowel

♦ counteracting fever

♥ an inflammatory disease of the genitourinary passages characterized by pain and discharge

6. **INDIAN CORAL TREE** (*Erythrina indica*)

Family: Papilionaceae

Local names: Ben- *Birsing*; Guj- *Maruka, Kalyana marukku*; Hin- *Palita madar*; Kan- *Dudup*; Mar- *Panaraweo*; Ori- *Madar*; Santhal- *Chaldua, Paldua*; Tam- *Badidapu, Barjapu, Badise, Mahaumeda, Barijamu, Badapu, Madugu*; Tel- *Haliwara, Lalivana, Paliwara*.

Parts used: Flowers and bark

Flowering: March-April

Method: The beautiful red flowers yield a rich red powder on drying and grinding.

Other Uses: Leaves and tender shoots are consumed as a pot- herb; leaves are also used as cattle- fodder. Leaves are considered laxative and diuretic, applied externally in venereal buboes♣. Bark yields a fibre used for cordage. Seeds are poisonous when raw; may be eaten after boiling and roasting. They contain a fixed oil.

Cultural Value: The flowers are used for worshipping Lord Shiva and Lord Vishnu.

7. **SPIKED GINGER LILY** (*Hedychium spicatum*)

Family: Zingiberaceae

Local names: Hin, Ben, Mar & Guj- *Kapirakachari*; San- *Karpurakachali, Gandashati*; Tam- *Shimai, kichchilik, Kizhangu*; Kan- *Gandashati*; Pun & Kumaon Hills- *Sheduri, Sitruti*.

Parts used: Rhizomes

Flowering: August

Method: The aromatic rhizomes are dried and powdered to make *Abir*, a



Hedychium spicatum

♣ inflammatory swelling of lymph glands

fragrant coloured powder by mixing with some red dye like Annatto or Kamala.

Cultural Value : Abir is also used in religious ceremonies and festivals such as *Ganesh Chaturthi*.

8. CHINESE HIBISCUS/SHOE FLOWER

(*Hibiscus rosa sinensis*)

Family: Malvaceae

Local names: Hin- Jasut, Jasum;

San- Japa, Java, Rudra

pushpam; Ben- Joba; Mar-

Dasindacha phula; Guj- Jasuva;

Tel- Japa, Pushpamu, Jasavanda,

Dasana; Tam- Semparuthi; Kan-

Dasavala; Mal- Chembaruthi; Ori-

Mondaro; Assam- Joba; Pun- Jasun.



Hibiscus rosa sinensis

Parts used: Flowers

Flowering: Almost throughout the year

Method: The flowers will turn the water a rich red when soaked overnight. The flowers can also be dried and formed into powder.

Other Uses: Flowers are eaten raw or pickled. They also yield a dye used to blacken shoes, hair and eyebrows. Their decoction is given in bronchial catarrh*.

Cultural Value: The Hibiscus is dedicated to the Goddess Durga. The leaves and flowers are offered to Lord Shiva and Gowri on *Nitya Somavara Vrata*.

9. KAMALA TREE (*Mallotus philippensis*)

Family: Euphorbiaceae

Local names: Almora- Roli; Assam- Gangai, Jaggru,

Puddum; Ben- Kamalagundi, Tung, Dholasindua; Kan-

Chandrahittu, Honne, Etnalige, Hullichellu, Kapila, Kesari,

* inflammation of a mucous membrane, usually associated with an increase in the amount of normal secretion of mucus

Kunkuma, Munnaga, Punnaga, Purashatunga, Suraparni, Suvarnakesari, Vasare; Darjeeling- Sinduri; Garo- Chinderpang, Machugan; Guj- Kapilo; Hin- Kamala, Kambhal, Kamela, Kamud, Rauni, Rohni, Roli, Rora; Kumaon- Rauni, Reru, Roli; M.P.- Chamargular, Ningur, Rouni, Rori; Mal- Chenkolli, Kapila, Kuramatukka, Manjana, Maunana, Ponnakam, Ponni, Ponagam, Tavitu; Mar- Shindur; North West- Purvahung, Sindurai; Ori- Bosontogundi, Kunkumo, Punango, Sinduri; Pun- Kamal, Reini, Rulya; Santhal- Rora; Tam- Avam, Kamala, Kambosam, Kapila, Kungumam, Manjanai suvangesari, Tavatti; Tel- Adavigubbatuda, Benduruppa, Chendiramu, Kunkuma, Nagarkta, Sinduri, Tunga, Vasantagandham; Urdu- Kalileh.

Parts used: Fruits

Flowering: October–December

Method: The red powder from the surface of ripe fruits forms *kamala* dye, which can be used as dry red/orange colour. If the crushed fruit is soaked in water, it will immediately change its colour to orange-red.

Other Uses: The red dye obtained from fruits is used in dyeing of silk and wool. Drug Kamela from fruits is used for destroying tapeworms and externally in treatment of skin diseases. Seed oil is used in paints and varnishes and seed- cake is used as manure.

Cultural Value: The flowers are offered during *Mangala Gowri Puja*.

10. RED SANDERS/RED SANDAL WOOD

(Pterocarpus santalinus)

Family: Fabaceae

Local names: San- Raktachandan; Hin- Bijasal, Asan, Lalchandan, Bibla; Guj- Biyo, Hiradakham; Tel- Yegi, Peddagi; Tam- Vengal; Kan- Honne bange; Mal- Venga;

Ori- *Begsara*; Trade- *Bijasal*.

Parts used: Wood

Flowering: July–August

Method: The dried and powdered bark will yield a fragrant red coloured powder, which can be mixed with water to get coloured water. Fuller's earth with a little water can be added to the powder to get red paste to use as colour concentrate.

Other uses: Wood is ground and used for dyeing wool, cotton and leather and staining other woods; santalin is the colouring principle. Wood dust is used as cosmetic for making masks and face packs. Wood tonic and diaphoretic* paste is applied to inflammations and to forehead in headache. Decoction of fruits is used in chronic dysentery. Leaves are used as cattle fodder. Wood from trees is used as fuel and for charcoal making.

Cultural Value: The red paste made by rubbing the wood upon a moist stone is used by Hindus for making marks on forehead after bathing.

11. ROSE TREE/TREE RHODODENDRON

(*Rhododendron arboreum*)

Family: Ericaceae

Local names: Ben- *Baras*; Hin- *Burans*;

Kashmiri- *Chhan*, *Chiu*, *Kamri*;

Khasi- *Tin-saw*; Kumaoni- *Brus*,

Buras; Lepcha- *Etok*

Parts used: Flowers and leaves

Flowering: Mainly during

March–May, occasionally

during July–August



Rhododendron arboreum

Method: The flowers, if soaked

overnight in water, by morning will turn the water red.

* a drug which induces perspiration

Other uses: The flowers are sour to taste and eaten; also made into preserves and petals are used for making cold drinks. The viscid tender leaves are eaten cooked as a vegetable.

Cultural Value: The flowers are used for offering to Gods at temples in the hills.

YELLOW/ORANGE

Yellow is the colour of life – giving Sun – the colour of vital strength, protective wisdom, of love, of safety. Shades of yellow and orange represent movement, warmth, healing and vitality.

1. BLACK BABOOL/INDIAN GUM (*Acacia arabica*)

Family: Mimosaceaea

Local names: Ben- Babla, Babul, Kikar; Kan- Babbuli, Bobbili, Barbura, Barbara, Gobbali; Guj- Babalia, Babal; Hin- Babal, Babul, Babur, Kikar; M.P.- Babul; Mal- Karivelam; Mar- Babbul, Vedibbul; Tam- Iramangadam, Karuvel, Karuvelam; Tel- Barburamu, Nallatumma, Nellatumma, Tumma; Ori- Babulo, Baburo, Baburi; Pun- Babla, Babul, Kikar; Santhal- Gabur; Urdu- Babul.

Parts used: Flowers, Bark, Gum, Pods without seeds

Flowering: April–May

Method: The yellow flowers can be dried and ground to get dry powder.

Other Uses: Babul gum is used for calico printing and dyeing, as sizing material for silk and cotton, and in paper manufacture.

Cultural Value: In Bundelkhand girls decorate the spiny green branches of Babul with colourful flowers at the time of the festival called *Mamulin*. They offer various fruits to the tree for the fulfillment of their wishes. The flowers are used in worship.

2. CASSIE FLOWER/SPONGE TREE

(*Acacia farnesiana*)

Family: Mimosaceae

Local names: Ben- *Gaya babul*; Kan- *Jali, Kasthuri gobali*; Guj- *Ghandhelo kair, Ganda babul, Gikikar, Passibabul, Vilayathi babul/kikar, Gub babul*; Mal- *Pievlam*; Mar- *Guodoya boburo, Ganddho guanria*; San- *Gabur*; Tam- *Kadivvel, Kasthurivvel, Pivel, Vetumul, Veduvali*; Tel- *Arimdamu, Kampu- Tumma, Kasthuritumma, Murikitumma*; Naga- *Tumma, Pikitumma, Piyyatumma*.

Parts used: Flowers and Cones

Flowering: Chiefly during September–February

Method: The yellow flowers, dried and ground, will yield dry yellow powder.

Other Uses: Flowers are the source of cassie perfume. Pods contain tannin and seed a fatty oil. Tender leaves are used in chutneys. Wood is used for tent-pegs and knees of ships. Tree also yields a gum.

Cultural Value: The flowers are used in worship.

3. BAEL FRUIT (*Aegle marmelos*)

Family: Rutaceae

Local names: San- *Bilva*; Hin, Ben & Mar- *Bel*; Guj- *Bil*; Tel- *Maredu*; Tam & Mal- *Vilvam*; Kan- *Balpatre*

Parts used: Fruit rind

Fruiting: May–June

Method: The rind of the fruit can be dried and ground to form yellow coloured powder.

Other Uses: Unripe or half-ripe fruits are astringent, digestive and stomachic, used for diarrhoea and dysentery. Gummy substance around the



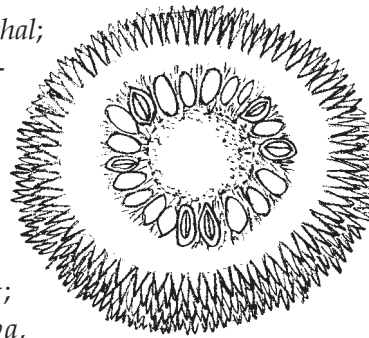
seeds is used as an adhesive. Also used as a varnish for pictures and adds brilliance to water paints. Ripe fruits are also used to prepare a delicious indigenous cold-drink.

Cultural Value: This is one of the most sacred of Indian trees, cultivated near temples and dedicated to Shiva, whose worship cannot be complete without its leaves.

4. JACKFRUIT (*Artocarpus integrifolia*)

Family: Moraceae

Local names: Assam- Kanthal;
Ben- Kanthal, Kathal; Bom-
Panas; Guj- Vanas; Kan-
Halasina, Jaca, Kantakapha,
Kujje, Kuvi, Panash; Hin-
Chakki, Kanthal, Kathal,
Panasa; Lepcha- Kathari,
Marsyarpot, Ramsukung;
Mal- Chakka, Palava,
Itichchakka, Khandakiphala,



Artocarpus integrifolia

Kantaki, Kottachakka, Pilava, Varikka; Mar- Panas;
Nepal- Rukkathar; Tam- Murasambalam, Palasu, Pagal,
Palavu, Panasam, Sira, Tagar, Vasukkai, Verppala; Tel-
Panasa, Verupanasa; Ori- Ichdopholo, Kontokalo, Panoso;
Santhal- Kanthar; Urdu- Katahal

Parts used: Wood (dust)

Method: The wood dust will form a yellow coloured powder.

Other Uses: Unripe fruit is used as vegetable, or pickled; ripe ones are eaten fresh. Seeds are rich in starch. Wood is used for general carpentry work.

Cultural Value: This species is often depicted on Buddhist sculptures. The plant is associated with the star *Uttarashada* and *Mithuna Raasi*.

5. **FLAME OF THE FOREST** (*Butea monosperma*)

Family: Papilionaceae

Local names: Ben, Deccan & Mar- Palash; Guj- Khakra; Kan- Bharma Vriksha, Muttala, Mutthuga, Palasa; Tam- Parasa; Bihar- Faras, Paras; Hin- Chichra, Desuka jhad, Dhak, Kakria, Kankria, Palas, Tesu; Kutch- Hakar, Palas; Kumaoni- Dhak, Palas; Lepcha- Lahokunj;

M.P.- Chinta, Chiula, Purohapalas; Mal- Brahmabriksham, Kinshukam, Mukkappuyam, Mariku, Palasi, Palasinjamata, Puppalasi, Shamata; Ori- Kinjuko, Palaso; Santhal- Murup; Urdu- Palashpapra.

Parts used: Flowers, tree gum

Flowering: February–April

Method: Tesu or Palash has traditionally been associated with Holi for making coloured water. The dried flowers can be powdered to obtain dry colour or else, the flowers can be soaked overnight in water to obtain yellow coloured water.

Other Uses: Flowers yield a brilliant, but very fugitive yellow colouring matter. Leaves are much used throughout the country for making platters, cups, etc. Dried leaves are used as *bedi* wrappers. Young shoots yield a fibre used for ropes. Root bark yields a coarse fibre used for cordage and caulking boats. Bark astringent is used for piles, tumours and menstrual disorders. Tree yields a gum called Butea gum or Bengal kino which is astringent and is used in diarrhoea. When seeds are pounded with lemon juice, they act as a powerful rubefacient successfully used as a cure for a form of herpes called *Dhobi's* itch.



Butea monosperma

They yield fatty oil 18%. Wood pulp is suitable for newsprint manufacture.

Cultural Value: The beautiful tree is sacred to *Soma* (Moon). The flowers are offered to gods. The *Palash* is sometimes represented as a sacred tree of Buddhists.

6. **INDIAN LABURNUM** (*Cassia fistula*)

Family: Caesalpiniaceae

Local names: Ben- *Sundali, Amultas*; Guj- *Garmala*; Hin- *Amaltas, Girimalah*; Kan- *Kakke*; Mar- *Bahava*; San- *Suvarnaka, Rajataru*; Tam- *Konnel*; Tel- *Rela*

Parts used: Flowers and fruits

Flowering: May–August

Method: The yellow flowers can be soaked overnight in water to get yellow coloured water in the morning or they can be dried and ground to get yellow powder.

Other Uses: Fruit- pulp is used as purgative♣; laxative for habitual constipation. Bark is used for tanning. Wood is used for house posts, ploughs, tool- handles and wheels; also for furniture, decorative paneling and carving.

Cultural Value: The flowers are used in religious ceremonies by Hindus.

7. **TURMERIC** (*Curcuma domestica*)

Family: Zingiberaceae

Local names: Ben- *Haldi, Pitras*; Guj- *Halada*; Hin- *Haldi*; Mal- *Mannal, Marinalu*; Mar- *Halede*; Pun- *Haldar, Halja*; Tam- *Manjal*; Tel- *Pampi, Pasupu*; Urdu- *Haladi*; San- *Haridra*; Kan- *Arashina, Acishina*.

Parts used: Rhizomes

Flowering: September–October

Method: The dried rhizomes can be powdered to obtain yellow powder colour. However, if a pinch of

♣ same as laxative

lime is added to *haldi* water, the colour of water will change to red.

Other Uses: Turmeric powder obtained from rhizomes is used as a condiment and a colouring agent; a stimulant, tonic and stomachic. Turmeric is used in compositions to heal sprains and bruises.

Cultural Value: The plant is auspicious for the Hindus. Most of the rituals in India are performed with turmeric in one form or the other. To get rid of the influence of evil spirits as well as for bringing happiness and prosperity, turmeric is offered to Fire Gods or the Demons. Offering turmeric to womenfolk is a routine household function in marriage ceremonies.

8. **HENNA** (*Lawsonia inermis*)

Family: Lythraceae

Local names: San- Mendika; Ben- Mehdi, Shudi; Guj- Mendi; Hin- Hepa, Mehndi, Mhindi; Kan- Goranta, Goranthu, Korate, Madranga; M.P.- Mehndi; Mal- Mayilanji, Pontalasi; Mar- Mendhi; Ori- Mehendi, Monjuati, Olata, Rongota; Santhal- Mihindi; Tam- Aivanam, Aivani, Karandam, Kurinji, Pidai, Ponninpovalamarudondri, Marudondri, Mayilainandi; Tel- Goranta, Krommi, Kuravakamu, Maida, Pachapeddegoranta; Urdu- Mehendi.

Parts used: Leaves and roots

Method: Dried leaves, finely ground and mixed with little water, make a very good paste.

Other Uses: Leaves are used for colouring palms of hands, soles and nails; also for dyeing hair, beard and eyebrows for personal adornment. Henna leaves are also used as prophylactic against skin troubles. Flowers as well as leaves yield essential oils. Seeds contain a fatty oil used for anointing.

9. **SOUTH INDIAN MAHUA/BUTTER TREE**

(*Madhuca longifolia/Bassia latifolia*)

Family: Sapotaceae

Local names: Hin- Mahua, Mohwa; Ben- Mahwa, Maul, Mahula; Mar- Mahwa, Mohwra; Guj- Mahuda; Tel- Ippa; Tam- Illupei, Elupa; Kan- Hippe; Mal- Poonam, Ilupa; Ori- Mahula, Moha, Madgi.

Parts used: Bark and fruits

Flowering: February-April

Method: The yellow/ orange ripe fruits boiled or soaked overnight in water will give yellow coloured water.

Other Uses: Seeds are a source of Mahua oil, used chiefly in the manufacture of laundry soaps and to some extent for edible purposes after refining. Tribal people also use the oil for massage in cases of limb weakness. Mahua cake is used as manure. It possesses insecticidal and pesticidal properties. Mahua flowers are rich in sugars, used in the preparation of distilled liquors and vinegar. The flowers are also mixed in flour to make *chapatis*. Spent flowers are used as feed. Well-seasoned wood is suitable for agricultural implements.

Cultural Value: This plant is associated with the star *Revati* one of the stars in the almanac; and the presiding deity is *Pushpa*.

10. **MARIGOLD (*Tagetes erecta*)**

Family: Asteraceae

Local names: Ben- Genda; Guj- Guljharo, Makkamala; Hin- Genda, Kalaga, Gulatora, Lalamuraga, Makhmali; Mar- Makhmala, Rojiachaphul, Zendu; Ori- Gendu; Pun- Genda, Mentok, Sadbarji, tangla; Tel- Banti; Urdu- Genda.



Tagetes erecta

Parts used: Flowers

Flowering: October–January

Method: The dried flowers when ground will give a good yellow/orange powder.

Other Uses: The marigold flower paste is also used as a face pack. Flowers, leaves and stems yield an essential oil, called Tagetus oil. An infusion of the plant is used against rheumatism, cold and bronchitis; root extract is laxative. Marigold plants are also a source of soil fertility in agriculture and in control of pests.

Cultural Value: Garlands made with the flowers are employed for decorating idols of Hindu Gods in temples; flowers are distributed by the priests to the followers after the end of the religious ceremonies.

11. CORAL/NIGHT FLOWERING JASMINE

(*Nyctanthes arbortristis*)

Family: Oleaceae

Local names: Ben- Harsingar, Sephalika, Singhar; Kan-Goli, Harsringi, Hursing, Parijata; Guj- Jayaparvati; Hin- Har, Harsingar, Harasli, Kuri, Binari, Saherwa, Saihari, Seoli, Siharu; M.P.- Shiralli; Ori- Godokodiko, Gunjoseyoli, Singaroharo; Pun- Harsingar, Kuri, Laduri, Pakura, Shaili; Santhal- Saparam; Tam- Manjatpu, Parisadam, Pavalamalligai, Sudam, Tira; Tel-Kapilanagadustu, Karuchiya, Krishnaveni, Krishnaverri, Pagadamalli, Parijatamu, Sepali, Sepalika, Sretasurasha; Urdu- Gulejafari, Harsingar

Parts used: Flowers

Flowering: September–October

Method: The flowers are soaked overnight in water to obtain orange coloured water in the morning. The yellow corolla tubes (in center of the flower)

when dried and ground gives an orange coloured powder.

Other Uses: Flowers contain an essential oil, similar to jasmine. Seeds yield a fixed oil, bark is used for tanning. Corolla tubes contain a colouring matter, nycanthin, which is identical with alpha- crocetin from saffron. Leaves are antibillious and expectorant, used in rheumatism and fevers. Bark contains alkaloids, one of which stimulates the ciliary movement of oesophagus. Powdered seeds are used for the scurpy infection of the scalp.

Cultural Value: According to Hindu Mythology, the plant was brought from heaven by *Krishna* for his wife *Satyabhama*.

GREEN

Green is the colour of life, fertile with hope and optimism- the colour of vibrant spring and rejuvenation and reconstruction. Sea green is darker than all green colours. It symbolizes envy with strength, while olive green has negative vibrations. Apple green is a colour of hopefulness and genuine expectations and the aura of emerald green is the most volatile.

1. FLAMBOYANT FLAME TREE/ GULMOHAR (*Delonix regia*)

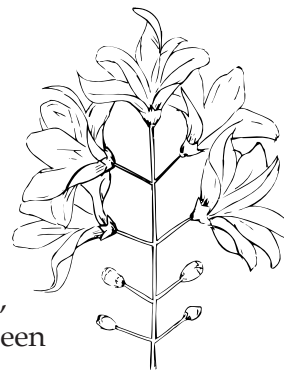
Family: Caesalpiniaceae

Local names: Hin- *Gulmohar*; Tel-
Shima sankesula; Tam- *Mayarum*.

Parts used: Leaves and Tree Gum

Flowering: April-June

Method: Dried and powdered leaves,
when applied to skin, will give a green
colour.



Delonix regia

Other Uses: Seeds contain gum, may find use in food industries.

2. **BANYAN** (*Ficus bengalensis*)

Family: Moraceae

Local names: Ben- Bar, Bot; Guj- Vad, Vadlo, War; Hin- Bar, Bargad, Bor; Kan- Ala, Alada, Vatam; Mal- Ala, Vatam; Mar- Vada, Vadlo, Vor; Tam- Al, Alam; Tel- Marri, Peddamarri, Vati.

Parts used: Bark and leaves

Method: The leaves can be dried and powdered to make dry green colour.



Ficus bengalensis

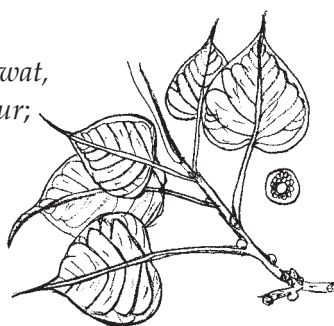
Other Uses: Banyan is the keystone tree that supports myriad life forms. Fruits are eaten in times of scarcity. Leaves are lopped for fodder. Latex is applied in rheumatism and lumbago. Wood is suitable for paper pulp; also used for furniture. Fibre from bark and aerial roots is made into coarse ropes.

Cultural Value: According to Hindu Mythology the Banyan tree is viewed as the male to the Pipal. It is considered as sin to destroy either of these trees.

3. **PEEPAL** (*Ficus religiosa*)

Family: Moraceae

Local names: Ben- Ashathwa, Aswat, Asud, Asvattha; Cachar- Barbur; Guj- Pipal; Hin- Pipal; Kol- Hesar; Kan- Arali, Ashwattha, Rang, Basri, Arle, Haspath, Ragi, Asvalt; Mar- Pimpala; Nepal- Pipli; Ori- Zari; Pun- Pipal, Bhor; Santhal- Hesak; Sind- Pipur; Surat- Jari, Pimpal,



Ficus religiosa

Piplo; Tam- *Arasa, Aswartham*; Tel- *Ashwatham, Bodi*
Parts used: Bark and leaves

Method: The leaves can be dried and powdered to make dry green colour, as in Banyan.

Other Uses: Fruit and tender buds are eaten in times of scarcity, and are laxative. The leaves are lopped for fodder. Hardened latex is used to fill up cavities in hollow ornaments; is also a source of bird-lime. Wood is used for packing cases and occasionally for felloes of wheels, spoons and bowls; also suitable for match boxes. Bark yields a fibre, formerly used for paper.

Cultural Value: Millions of Hindus for centuries have worshipped several trees of which Peepal has been supposed to be supreme.

4. **WHEAT** (*Triticum aestivum*)

Family: Graminae

Local names: Hin- *Gahun, Kanak*; Pun- *Kanak*.

Parts used: Tender green plant and grains

Planting time: October–November

Method: The plants when green can be dried and ground into a powdered form which would give a green coloured powder.

Other Uses: The grains are ground into flour, which is used to make *chapatis* and bread, a staple food of a major population percentage of the country.

Wheat has always been an important food crop, of which there were more than 33 distinct varieties. Monoculture of High Yielding Varieties of wheat has not just destroyed this diversity, but has also destroyed millet varieties that it replaced and food diversity as well. It has also threatened crops traditionally grown with wheat such as bathua and sarson as weeds to be destroyed.

BLUE/PURPLE/VIOLET

Blue is the colour of sensitivity, serenity, enthusiasm, duty, devotion and dedication. Purple is a royal blue colour and represents prestige and power while, violet is most soothing and harmonious for glory, grandeur, greatness. It promotes higher and nobler ideas.

1. APARAJITA (*Clitoria ternatea*)

Family: Fabaceae

Local names: Hin & Ben- Aparajit; Mar-Gokurna; Tam- Kakkanam; San-Vishnu kranta, Gokurna.

Parts used: Flowers

Flowering: July-September

Method: The flower if dried and ground will give blue and indigo colour.

Other Uses: Roots are powerful cathartic* and diuretic. Seeds contain a fixed oil. Both seeds and root- bark contain tannin. Leaves are used as fodder.

Cultural Value: The beautiful blue flowers are held sacred to the Goddess Durga. They are offered to Lord Vishnu on *Shree Narasinha Jayanti Vrata* and *Shree Anantapadmanabha Vrata*, Satyanarayana on *Shree Satyanarayana Vrata* and Ganapati on *Sankashta Chaturthi Vrata*.

2. NATAL/BEN INDIGO (*Indigofera sumatrana*)

Family: Fabaceae

Local names: Hin & Ben- Neel; Tam- Nili, Avudi; Tel & Kan- Nili

Parts used: Leaves



Clitoria ternatea

* having the power of cleansing the bowels-purgative

Method: The leaves are soaked in water for seven days and then boiled till evaporation of all the water. The remainder extract is dried to get blue paste or powder. Crushed berries or fruits can also be used in place of leaves. This paste is mixed with water when needed. The *Kachha Neel* can also be bought from grocers, beaten and powdered to obtain blue powder or paste.



Indigofera sumatrana

Other Uses: It is grown mainly as a green manure crop; preceding cotton, maize and sugarcane.

The Indigo story exemplifies how trade oriented use of biodiversity can impact livelihoods. When indigo cultivation was forced on Indian farmers to promote British needs of trade during the colonial period, it led to farmer's debts, land alienation, hunger, famine and finally the Indigo Revolt in the 18th Century, which led to its collapse in the world markets. However, indigo is making a comeback as a natural dye of choice as people's ecological awareness increases.

3. **GREEN EBONY** (*Jacaranda mimosaeifolia*)

Family: Bignoniaceae

Local Name: Neeli Gulmohar

Parts used: Flowers

Flowering: March-June

Method: Drying and grinding of lilac- blue flowers in shade will give a very good blue powder.

4. **BLACK/JAVA PLUM** (*Syzygium cumini*)

Family: Myrtaceae

Local names: Hin- Jaman; Ben- Kalajam, Jam; Guj- Jambu;

Mar- Jambul; Tel- Neeredu; Tam- Neredam, Naval, Sambal;

Kan- Nerale; Mal- Perinnaral; Ori- Jamo; Pun- Jammu;

Nepal- *Kalajam*; Andaman- *Thabye jamun*

Fruiting: May–June

Parts used: Bark and seeds

Method: The seeds of the fruit can be taken out and the pulp can be dried and powdered to get a purple coloured powder.

Other Uses: Leaves form palatable fodder for cattle, sheep and goats; tassar silk worms feed on foliage; also used as green manure. Seeds are used as feed for livestock. Bark is used in tanning and for colouring fishing nets. Decoction of bark and that of powdered seeds are used in diabetes. Blossoms are an important source of honey.

Cultural Value: This tree is sacred and worshipped by Hindus. It is said that God *Megh* had been transformed into a Jambul tree. The colour of the fruit being dark like that of Lord *Krishna*, this tree is very dear to him. The leaves are used as platters and for pouring libations.

5. **RED CREEPER** (*Vitex negundo*)

Family: Verbanaceae

Local names: Ben- *Nirgundi, Nishinde*; Kan- *Bilanekki, Karilakki, Lakki, Lakkili*; Guj- *Nagaol, Nagda, Nirgari*; Hin- *Mewri, Mengar, Sambhal, Shiwali, Sindhuca*; Kumaoni- *Shiwali*; Mal- *Indrani, Nochi*; Mar- *Lingur, Nirguda*; Ori- *Bengundia, Indrani*; Pun- *Bankabu, Marwa, Mora, Swanjan*; Tam- *Nirkkundi, Sinduvaram, Tiriburamerittan*; Tel- *Nellavavili, Vavali*

Parts used: Flowers and Leaves ash

Flowering: Almost throughout the year; but mainly April–July

Method: The bluish- purple flowers are soaked in water to get bluish water or may be dried and powdered to get blue powder.

Other Uses: Leaves and roots possess tranquilizing effects and form a constituent of *visha garbha thaila*. Leaves yield an essential oil. Roots act as tonic and febrifuge♣. Seeds are eaten after boiling. Young shoots are used for making baskets.

Cultural Value : The leaves are offered to Lord Shiva and Gowri on *Nitya Somavara Vrata*.

BLACK/BROWN

The Black colour stands for dignity, dynamic action, profundity, formality and convention. In its lighter shades of brown, it represents dependability and sincerity.

1. CUTCH TREE (*Acacia catachu*)

Family: Mimosaceae

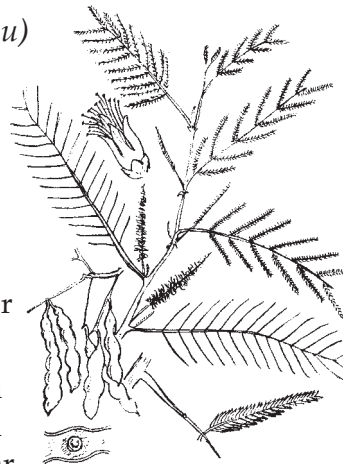
Local names: San- *Khadira*; Hin, Ben & Mar- *Khair*; Tel- *Sandra*; Tam- *Karangalli*; Kan- *Kachu*

Parts used: Bark

Method : The *kattha* that is used in *pan*, when mixed with water will give a black colour.

Other Uses: The plant is a source of catechu, obtained from heartwood of 20-30 year old trees. Catechu is marketed

in the form of *kattha*, used in *pan* preparations. Another preparation called *kheersal* is used medicinally for sour throat and cough.



2. RICE (*Oryza sativa*)

Family: Poaceae

Local names: Ben- *Chal*; Guj- *Choka, Dangar*; Hin- *Dhan, Chawal*, Kan- *Nellu, Akki, Bhatta*; Mal- *Ari*; Mar- *Dhan*,

♣ anything which reduces fever

Tandula, Bhat; San- Dhanya, Vrihi; Tam- Arisi, Nello;
Tel- Biyyamu, Vadlu, Varidhanyamu.

Parts used: Rice bran and grains

Method : Keep the bran in an earthen pot and keep the pot on fire, make space in the middle and light fire from the middle as well as from below. When the bran burns fully, it forms a fine powder. The powder can be used as black colour to be applied on others during Holi.

Other Uses: It is one of the oldest food crops. Rice straw is employed as fodder, and is suitable for manufacture of straw- boards, paper and mats. Rice-bran oil is used for soaps and cosmetics. Rice husk is put to many uses.

Cultural Value: The plant with inflorescence is held sacred as a symbol of Goddess Lakshmi, who is the presiding deity of wealth and all crop plants. The Sanskrit name *Dhanya* means the supporter or nourisher of mankind. There is a taboo on consuming new rice until it is offered to Lord Vishnu. Paddy is worshipped by Hindus on different ceremonial occasions.

India is both a centre of origin and a centre of diversity of rice. The Madhya Pradesh region alone had developed over 10,000 varieties of indica rice, of which less than a quarter are found today. This mass extinction of thousands of indigenous rice varieties has been the result of monoculture of High Yielding Varieties of the Green Revolution.

Today these varieties are threatened by yet another technology- the Gene Revolution. Rice, being the most important food crop of the world, is the target of numerous patents by giant agribusiness and seed corporations, who tinker with its genes to claim

ownership of it, while creating new hazards to the environment, as well as to human, cattle, bird and insect health.

3. **INDIAN GOOSEBERRY** (*Phyllanthus emblica*)

Family: Euphorbiaceae

Local names: Assam- *Amlaki*; Ben- *Ambolati, Amla*; Kan- *Amlaka, Chattu, Dadi, Nelli*; Deccan- *Amla*; Garo- *Ambari*; Guj- *Amali, Bhoza*; Hin- *Amlaci, Amla, Anvula*; M.P.- *Amla*; Mar- *Anvala, Aonli, Arola*; Ori- *Khondana, Anola*; Pun- *Ambal, Amla*; Santhal- *Meral*; Tam- *Amalagam, Andakoram, Indul*; Tel- *Amalakamu, Amalaki, Nelli, Pullayusirika, Triphalamu, Usririka*; Urdu- *Anwala*

Parts used: Fruit, Bark

Fruiting: September–October

Method: The dried fruits are boiled in water in an iron vessel to obtain black coloured water. The dried fruits can also be powdered to obtain black powder.

Other Uses: The fruits are sour and astringent, cooling, diuretic; eaten raw or cooked, also pickled; a rich source of vitamin C. Seeds yield a fixed oil. Fruits, bark and leaves are rich in tannin. Wood is used for agricultural implements.

Sacred Value: The leaves of this tree are offered to the Lord on *Shree Satyanarayana Vrata* and *Gowri* on *Nitya Somvara Vrata*. The fruits and the flowers are also used in worship.



होली में खेलूंगी

होली में खेलूंगी श्याम से डट के
अबीर गुलाल केंसर रंग डाखं
और रंग डाखं में गागर पलट के
ओ श्याम मोरी भरी पिचकारी
गारी में दूंगी जी घूँघट पलट के

Holi Ke Pakwan hain...

Holi is not a festival of fasting but of feasting. While families, friends, and neighbours get together to enjoy this festival of colours, traditional delicacies are prepared in advance and served while playing Holi. The special food items that are prepared for Holi are *Gujjia*, *Papri*, *Kanji ke vade*, *Meethi roti*, and *Malpua*. *Thandai* or *Bhang* (for those who prefer alcoholic beverages) is also served with the food. The ingredients used to prepare these food items are high in nutritional value and form part of our traditional food culture. These days attempts are being made to displace traditional food cultures in favour of junk food culture. Eating our traditionally appropriate food helps not only in preserving our biodiversity but also in maintaining livelihoods.

RECIPES

Gujjia

(Makes about 40 gujjias)

Ingredients:

500 gms *maida* (flour)

1 kg *khoya*

3 tsp. *kismis* (raisins)

200 gms almonds (cut into thin strips)

6 tsp. cooking oil (keep some aside for deep frying)

200 ml water

500 gms sugar

Gujjia mould

Method:

Mix six tsp. of oil well with the *maida*. Add some water and knead into soft dough. Cover with a damp cloth and set aside. Put the *khoya* in a deep-frying pan and fry to a light brown colour. Add sugar into the *khoya*

and mix well. Add almonds and *kismis*. Fry for a few minutes and remove from the fire. Let it cool. Make small balls from the dough. Take one ball and roll out the kneaded dough into a chapati, thicker and smaller than a normal *chapati* and keep the *chapati* on the open *gujjia* mould. Fill half the *chapati* with the *khoya* mixture, wet the edges of *chapati* with water and close the mould. Remove the extra *chapati* sticking out of the mould. Repeat the process with other balls. Deep fry these *gujjias*, a few at a time, till they are a deep golden brown. Store for use in an airtight container.

Papri

Ingredients:

½ kg *besan*
1 tsp. mustard oil
1 tsp. (heaped) salt
1 small tsp. red chilly powder
1 cup water
1 tsp. *methi* leaves(chopped fine)
¼ kg *maida*

Method:

Take *besan*, salt, red chilli powder and oil and mix well. Knead the mixture into dough and in between add the *methi* leaves. Make the dough into a big round ball and throw the dough on the plate to soften it. This should be done for about seven minutes. Heat the oil in a deep-frying pan, rub some heated oil on your palm and roll out the dough into a long strip one-inch thick. Cut the roll into inch size pieces. Flatten each piece out into a round shape and roll it into small *chapatis*. Lightly dust both sides of the *chapatis* with *maida*. Fry very lightly, turning the flame from medium to low as required. Do not let the *papris* turn brown or red. They should look

golden yellow when ready. Drain oil and store in an airtight container.

Kanji ke Vade

(Makes about 1 kg.)

Ingredients:

1 kg *urad dal*
2 pcs (small) *hing*
3 tsp. salt
4 tsp. *rai* (finely ground)
2 tsp. red chilly (pounded)
6 jugs water (1 jug = 6 glasses)
Oil for deep-frying
Whole red chilies for garnish

Method:

Soak *urad dal* overnight and grind to a fine paste. It should have the consistency of cake batter. Whisk this to fluffiness. Heat oil well in a frying pan. Take a piece of wet cloth on your left palm. This allows the *vadas* to slide off into the pan without difficulty. Put some of the mixture onto the cloth and flatten it, shaping it into round one-inch *vadas*. Slide these off one by one into the oil, and deep fry. They should be fried through and through, and have a golden brown colour. Take care not to make the *vadas* too thick. Keep a *tawa* on the fire and put the crystals of *hing* on it. Take a *matka* or an earthenware pot, and as soon as the *hing* emits an aroma, turn the *matka* upside down on the *tawa* to soak up the smell. Take it off the fire and fill it with warm water. Mix the *rai*, salt, red chili powder and whole red chilies into the water. The fried *vadas* are now put into the *matka*. The top of the *matka* is covered with a clean muslin cloth and securely tied. The *matka* is left out in the sun during the day for eight days. It is then ready to be served.

Meethi Roti

Ingredients :

500 gms wheat flour
3 tsp. *ghee*
150 gm sugar
10 gms *saunf*
Water as required
Thread

Method :

Mix the sugar with three cups of water. Boil to make a fine, thin syrup and let it cool for a while. Take the flour in a vessel and mix this syrup thoroughly and knead. After it is mixed thoroughly, add *ghee* and knead again to make hard dough like for *puris*. Roll the dough into small balls and make into *chapatis* with a rolling-pin, but shorter and very thick than normal *chapatis*. Tie the thread over the *chapati* from all sides and cook the *chapati* over the *tawa* using a small quantity of *ghee* on both sides. The thread will not break or burn if you are making it on the day of Holi. Here the thread symbolizes the unscathed *Prahalad*, who didn't get burned in the fire, while, *Holika* was consumed by it in spite of having a *Vardan* of immunity from fire. Cook all the *chapatis* like this and store in casserole. Serve hot with pickle or curd.

Malpua

Ingredients :

1 cup *maida*
1 cup *suzi*
1 cup sugar
1 tsp. cardamom powder
10 gm *saunf* (fennel)
15 gm *kharbooj* seeds (skinned)
Water as required, oil for deep-frying

Method:

First prepare thin sugar syrup with one-cup sugar and one and a half cups of water by boiling sugar in water. Let it cool, then mix it with *maida* and *suzi*. Mix thoroughly adding little amount of water to make a semi-liquid paste as in case of *pakor*s. Also add *saunf*, powdered cardamom and *kharbooja* seeds. This will give good flavour and aroma to the *malpuas*. Heat the oil for deep-frying. Then take small amount of paste in a ladle and pour from above making a round shape like a filled circle. Let it fry from both sides to a crisp, golden-brown colour. Similarly, deep-fry the remaining *malpuas* and serve hot.

Bhang Thandai

As a dietary supplement and tasty treat, *bhang* is still prepared and served as it has been for millennia throughout the Himalayan foothills. Using a mortar and pestle, the buds and leaves of Cannabis are squashed and ground into a green paste, to which milk, *ghee*, and spices are added. This *bhang* paste is made into a nutritious, refreshing drink, *Thandai*- a healthy alternative to alcohol. *Bhang* is also mixed with *ghee* and sugar to make a tasty green *Halwa*, and into peppery, chewy little balls called *Goalees*. The following recipe of *Thandai* doesn't use *bhang* paste, however, *bhang* paste can be added to get *Bhang Thandai*.

Ingredients:

(Makes 8 glasses)

1½ litre water

1½ cups sugar

1 cup milk

1 tsp. almonds

1 tsp. *kharbooj/tarbooj* seeds skinned

½ tsp. *khuskhus* (poppy seeds)

½ tsp. *saunf* (aniseed)

½ tsp. rose water (optional)

½ tsp. cardamom powder or 15 whole pods
1 tsp. peppercorns whole
¼ cup dried or fresh rose petals (gulkand variety)

Method:

Soak sugar in ½ litre of the water. Keep aside. Wash and clean all other dry ingredients, except cardamom if using powder. Soak in 2 cups of remaining water. Keep aside. Allow all soaked items to stand for at least 2 hours. Grind all soaked ingredients to a very fine paste (not sugar), mix remaining water to this paste. Use a stone grinder if possible. Strain the liquid through a muslin cloth. Add remaining water and keep on pressing the paste till the residue becomes dry and husk-like. Add milk, sugar and rosewater to the extracted liquid. If using cardamom powder mix it with milk. Mix well. Chill for about a hour or two before serving.



Koshishen Abhi Aur Bhi Hain!

Going natural this Holi and ever after is but a small, tentative step towards the greater goal of preservation of biodiversity and sustainable development. By taking an oath to play only with natural colours on Holi this year onwards, we would be committing ourselves to protecting trees that are essential for our survival on this earth. If we want to live in harmonious coexistence with nature, it is required of us to exert ourselves to protect our biodiversity, since it is the source of food, medicines, clothes, shelter and livelihood of the majority of the people in the country. Biodiversity can only exist when biodiversity-based products continue to be in demand.

We, the family of Navdanya, are committed towards conserving biodiversity through promoting producer-consumer linkages. We have been trying to achieve this goal by promoting organic foods and natural products. Their production conserves biodiversity on our farms forests and commons but needs consumer support to propel the movement forward.

*In fact, the proceeds of the sales of **Abir Gulal** will go to establish seed banks for plants that provide natural colours and dyes. To protect nature's diversity, your health and the environment through your consumption patterns, come join us and be a part of this mass movement. Your ecological consumption is therefore critical to the conservation of diverse plants that are the colours of life.*

आई बहार सकल बन फूलें

फगवा ब्रज देखन को चलो री
फगवा में मिलेंगे कुंवर कान्ह
जहां बाट चलन बोलें कगवा

आई बहार सकल बन फूलें . . .
रसीले लाल को ले अगवा

फगवा ब्रज देखन को चलो री



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